

Curriculum Maps 2016-2017

▷ Supporting Advanced Learners Toward Achievement ◁

SALTA

5th

Grade

- English Language Arts
- Math
- Content Integration



CANYONS
School District

CURRICULUM MAP CANYONS SCHOOL DISTRICT

Curriculum Mapping Purpose

Canyons School District's curriculum maps are standards-based maps driven by the Utah Core Standards and implemented using Pearson Reading Street for ELA and enVision 2.0 for mathematics. Student's achievement is increased when both teachers and students know where they are going, why they are going there, and what is required of them to get there.

Curriculum Maps are a tool for:

- **ALIGNMENT:** Provides support and coordination between concepts, skills, standards, curriculum, and assessments
- **COMMUNICATION:** Articulates expectations and learning goals for students
- **PLANNING:** Focuses instruction on standards and targeted skills
- **COLLABORATION:** Promotes professionalism and fosters dialogue between colleagues about best practices pertaining to sequencing, unit emphasis and length, integration, and review strategies
- **SCAFFOLDED INSTRUCTION AND GROUPING STRUCTURES:** The organization of a scaffolded classroom includes whole group, small group (e.g., teacher-led skill-based, cooperative learning), partner, and independent work where students are provided support towards mastery. As students assume more responsibility for the learning, gradual support is decreased in order to shift the responsibility for learning from the teacher to the students.

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2016 - 2017 School Year Calendar

K - 12

August 2016							September 2016							October 2016							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
	1	2	3	4	5	6					1	2	3							1	
7	8	9	10	11	12	13	4	5	6	7	8	9	10	2	3	4	5	6	7	8	
14	15	16	17	18	19	20	11	12	13	14	15	16	17	9	10	11	12	13	14	15	
21	22	23	24	25	26	27	18	19	20	21	22	23	24	16	17	18	19	20	21	22	
28	29	30	31				25	26	27	28	29	30		23	24	25	26	27	28	29	
														30	31						
November 2016							December 2016							January 2017							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
		1	2	3	4	5					1	2	3	1	2	3	4	5	6	7	
6	7	8	9	10	11	12	4	5	6	7	8	9	10	8	9	10	11	12	13	14	
13	14	15	16	17	18	19	11	12	13	14	15	16	17	15	16	17	18	19	20	21	
20	21	22	23	24	25	26	18	19	20	21	22	23	24	22	23	24	25	26	27	28	
27	28	29	30				25	26	27	28	29	30	31	29	30	31					
February 2017							March 2017							April 2017							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
		1	2	3	4					1	2	3								1	
5	6	7	8	9	10	11	5	6	7	8	9	10	11	2	3	4	5	6	7	8	
12	13	14	15	16	17	18	12	13	14	15	16	17	18	9	10	11	12	13	14	15	
19	20	21	22	23	24	25	19	20	21	22	23	24	25	16	17	18	19	20	21	22	
26	27	28					26	27	28	29	30	31		23	24	25	26	27	28	29	
May 2017							June 2017							(Note: School emergency closure days will be made up first on Presidents Day and then during Spring Recess)							
S	M	T	W	T	F	S	S	M	T	W	T	F	S								
	1	2	3	4	5	6					1	2	3								
7	8	9	10	11	12	13	4	5	6	7	8	9	10								
14	15	16	17	18	19	20	11	12	13	14	15	16	17								
21	22	23	24	25	26	27	18	19	20	21	22	23	24								
28	29	30	31				25	26	27	28	29	30									

- New Teacher Orientation
- Teachers at School (contract days)
- Start and End of School Year
- First Day of School for Kindergarten
- K-8 Trimester End
- Midterm Quarters
- Quarter Term End

- No Student Day
- No Student Day K-8
- Parent/Teacher Conferences

Red A Day
Black B day

SALTA INTRO

1

New Teacher Orientation

Teachers at School (Contract Days)

First Day of School

First Day of School for Kindergarten

Labor Day Recess

No Student Day

Midterm Quarter

Parent/Teacher Conferences High Schools

Parent/Teacher Conferences Middle Schools

Parent/Teacher Conferences Elementary Schools

Early Out Elementary Schools

No Student Day (Compensatory Day)

Fall Recess

End of 1st Quarter Term

No Student Day

Trimester End Date K-8

Thanksgiving Recess

Midterm Quarter

Winter Recess

Martin Luther King Jr. Day Recess

End of 2nd Quarter Term

No Student Day

No Student Day

Parent/Teacher Conferences High Schools

Parent/Teacher Conferences Middle Schools

Parent/Teacher Conferences Elementary Schools

Early Out Elementary Schools

No Student Day (Compensatory Day)

Presidents' Day Recess

Midterm Quarter

Trimester End Date K-8

End of 3rd Quarter Term

Spring Recess

Midterm Quarter

Memorial Day Recess

No Student Day Grades K-8

Last Day of School

*Every Friday is an Elementary Student Early Out Day

**June 2 Directed Data Day for elementary and middle schools only

***Elementary early out Sept 29 and Feb 16

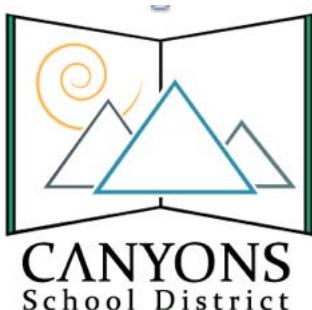
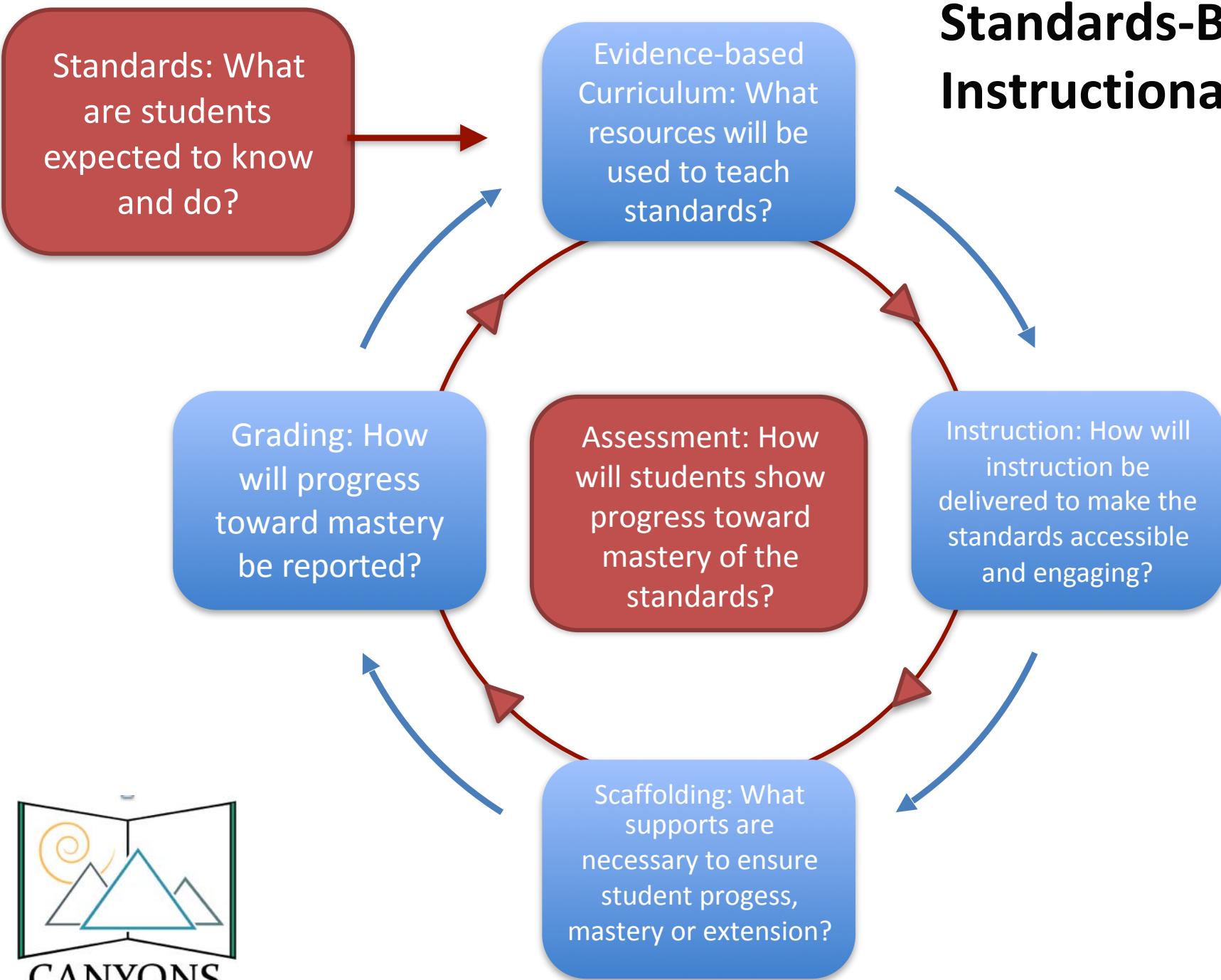
****This calendar is not for Brighton students.

Aug 18
Aug 19, 22, 23
Aug 24
Aug 29
Sept 5
Sept 23
Sept 23
Sept 26, 27
Sept 27, 28
Sept 28, 29
Sept 29
Sept 30
Oct 20, 21
Oct 31
Nov 4
Nov 21
Nov 23 - 25
Dec 7
Dec 22-Jan 2
Jan 16
Jan 18
Jan 20
Feb 10
Feb 13, 14
Feb 14, 15
Feb 15, 16
Feb 16
Feb 17
Feb 20
Feb 22
Mar 2
Mar 27
Apr 3 - 7
May 5
May 29
Jun 2
Jun 7

Canyons School District Academic Framework to Support Effective Instruction

Multi-Tiered System of Supports (MTSS) for Academics and Behavior				
Multi-Tiered System of Support	(1) Providing high quality core instruction (and intervention) matched to students' needs	(2) using data over time (i.e. rate of learning, level of performance, fidelity of implementation)	(3) to make important educational decisions.	
 CANYONS School District	<ul style="list-style-type: none"> All CSD students and educators are part of ONE proactive educational system. Evidence-based instruction and interventions are aligned with rigorous content standards. <p> • Culture centers around building positive relationships, setting high expectations, and committing to every student's success. • Ongoing, targeted, quality professional development and coaching supports effective instruction for ALL students. • Leadership at all levels is vital. </p>	<ul style="list-style-type: none"> Data are used to guide instructional decisions, and allocate resources. CSD educators use assessments that are reliable, valid, and connected to standards 	<ul style="list-style-type: none"> CSD educators problem solve collaboratively to meet student needs. 	
Core Expectations for ALL Teachers in the Classrooms and Common Areas				
Standards for Instruction	Evidence-based Instructional Priorities	Time Allocation for Instruction	Teacher Learning Data	Student Performance Data
Standards clarify what we want students to learn and do.	Planning, instruction, and assessment techniques to increase student engagement and achievement.	School culture ensures that instructional time is maximized to increase student growth.	Teacher learning and professional growth fostered through public practice and ongoing feedback.	Student academic and behavioral performance is assessed using a variety of reliable and valid methods.
Curriculum maps with common pacing guides Instructional content aligned with the Utah Core Standards Scientifically research-based programs Standards-based grades and report cards Cognitive Rigor (Depth of Knowledge – DOK) International Society for Technology in Education Standards (ISTE) School-wide Positive Behavioral Interventions and Supports (PBIS) World-class Instructional Design and Assessment (WIDA) Federal and state requirements (IEP, 504, ELs)	Classroom Positive Behavioral Interventions and Supports (PBIS) Explicit Instruction (I, We, Y'all, You) Instructional Hierarchy: Acquisition, Automaticity, Application (AAA) Systematic Vocabulary Development Maximizing Opportunities to Respond (OTR) Feedback Cycle Scaffolded Instruction & Grouping (SIG) Structures	Master schedule takes into consideration the learning needs of the student population. Scheduling is ensured for: <ul style="list-style-type: none"> Intervention and skill-based instruction Special Education services English Language Development (ELD) Classroom instructional time is prioritized for instruction of standards Individual and team planning time is used to intentionally increase the application of evidence-based instructional priorities and standards for instruction	Annual setting of goals and documentation of progress (e.g. CSIP, LANDTrust, CTess) Supporting teacher growth Formalized protocols and checklists to monitor and support implementation Public practice applications: <ul style="list-style-type: none"> Coaching cycles with peer coaches, teacher specialists, achievement coach, and/or new teacher coach Instructional Professional Learning Communities (IPLCs) Learning walkthroughs and targeted observations Lesson Study Video Analysis 	Assessment practices: <ul style="list-style-type: none"> Inform instruction Provide feedback about learning to students, parents, and teachers Build student efficacy Monitor student achievement and behavioral growth Celebrate teaching and learning successes Assessment Types: <ul style="list-style-type: none"> Classroom Assessing Teams and Schoolwide Assessment Districtwide Standards-based Benchmarks Comprehensive Assessments Screening Assessments (DIBELS, SRI, SMI) Specialized Assessments (WIDA, IDEA, eligibility assessment, Phonics surveys)
Public Practice and Coaching Supports SALTA INTRO				

Standards-Based Instructional Cycle



INSTRUCTIONAL PRIORITIES

Techniques to Increase Student Achievement and Engagement

Classroom Positive Interventions & Supports (PBIS)

Effect Size: .52

Explicit Instruction (I do, We do, Y'all Do, You do)

Effect Size: .57

Instructional Hierarchy (Acquisition, Automaticity, Application)

Effect Size: .57

Systematic Vocabulary Development

Effect Size: .67

Maximizing Opportunities to Respond (OTR)

Effect Size: .60

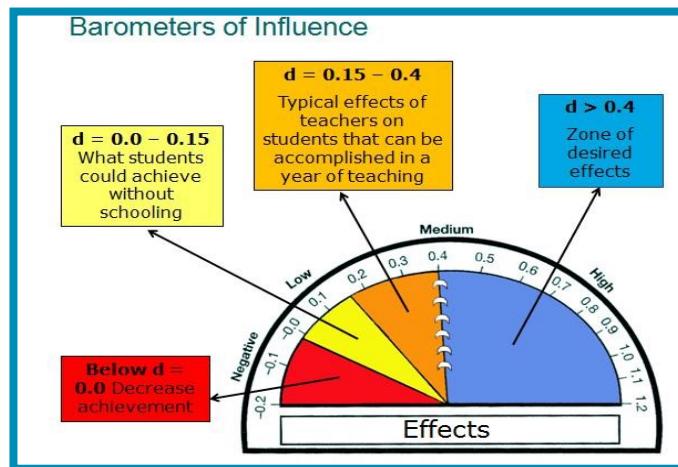
Feedback Cycle

Effect Size: .75

Scaffolded Instruction & Grouping

Effect Size: .49

Our time with students is limited and valuable. Every minute we spend with them should be spent using the practices that are most likely to be successful. This requires us to shift our perspective from looking at instructional practices that work to looking at what instructional practices work BEST.



Works Best?

Meta-analysis offer the strongest evidence base for determining what works best. "A Meta-analysis is a summary, or synthesis of relevant research findings. It looks at all of the individual studies done on a particular topic and summarizes them." (Marzano, 2000). A meta-analysis is simply, a study of studies. Meta-analysis explain the results across studies examined using effect size (ES). Average effects for instruction is 0.20 to 0.40 growth per year (Hattie, 2009). Thus the hinge point for determining what works best is 0.40. Instructional practices above the 0.40 have a high likelihood of increasing learning than those practices below the hinge-point (Hattie, 2009).



INSTRUCTIONAL PRIORITIES

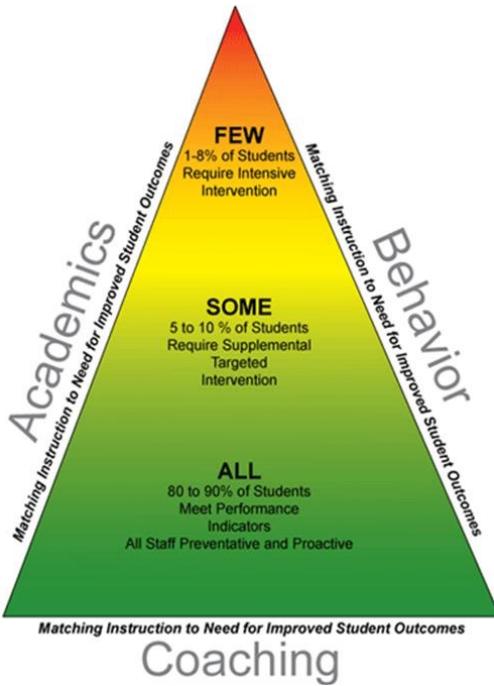
Techniques to increase Student Achievement and Engagement

Overview

Priority	Critical Actions for Educators
Classroom Positive Behavioral Interventions and Supports (PBIS)	<ul style="list-style-type: none"> *Clearly identify behavior expectations and explicitly teach them to your students. *Implement reinforcement system for appropriate behavior and routinely evaluate the system for effectiveness. *Recognize students for positive behavior. *Systematically correct problem behaviors.
Explicit Instruction (I do, We do, Y'all do, You do)	<ul style="list-style-type: none"> *Give clear, straightforward, and unequivocal directions. *Explain, demonstrate and model. Introduce skills in a specific and logical order. Support this sequence of instruction in your lesson plans. *Break skills down into manageable steps. Review frequently. *Demonstrate the skills for students and give opportunity to practice skills independently.
Instructional Hierarchy: Acquisition, Automaticity, then Application (AAA)	<ul style="list-style-type: none"> *Explicitly teach a skill to students by explaining, demonstrating, and modeling. *Build the skill through practice and use, to gain automaticity. *Provide students with multiple opportunities to apply the skill.
Systematic Vocabulary Development	<ul style="list-style-type: none"> *Explicitly teach critical vocabulary before students are expected to use it in context. *Teach students to say, define, and use critical vocabulary in discreet steps. *Explicitly teach common academic vocabulary across all content areas.
Maximizing Opportunities to Respond (OTR)	<ul style="list-style-type: none"> *Actively engage ALL students in learning; students are active when they are saying, writing, or doing. *Pace instruction to allow for frequent student responses. *Call on a wide variety of students throughout each period.
Feedback Cycle	<ul style="list-style-type: none"> *Provide timely prompts that indicate when students have done something correctly or incorrectly. *Give students the opportunity to use the feedback to continue their learning process. *End feedback with the student performing the skill correctly and receiving positive acknowledgement.
Scaffolded Instruction and Grouping Structures	<ul style="list-style-type: none"> *Present information at various levels of difficulty. *Use data to identify needs and create small groups to target specific skills. *Frequently analyze current data and move students within groups depending on their changing needs.

CLASSROOM PBIS

Effect Size: 0.52



The heart of classroom management is developing routines and organizing environments that promote student success through the active teaching of positive social behaviors.

A well-implemented positive classroom management system will:

- Increase positive behavior in students
- Help students feel more positive towards their teacher, administrator and school
- Help students feel safer in school
- Increase time for academic instruction and decrease teacher time spent correcting problem behaviors

PBIS, or Positive Behavioral Interventions and Supports, is an evidence-based system that helps define the key components of a well-managed classroom. The key components include:

- Clearly establishing classroom rules
- Explicitly teaching rules
- Reinforcing positive behaviors and correcting negative behaviors
- Creating a supportive classroom



Instructional Priorities

CLASSROOM PBIS

Effect Size: 0.52

Key Component	Definition
Clearly Establishing Student Rules	<ul style="list-style-type: none"> • Select 3-5 positively stated and easily remembered rules that align with the school-wide rules <ul style="list-style-type: none"> • For example: If the school-wide rules are to Be Safe, Be Kind, Be Responsible. It is appropriate to adopt these same rules for your classroom, and add one or two additional rules that fit the needs of your setting if necessary. It is important to explicitly describe what these rules look like in your classroom. • Publicly post rules in the classroom in a prominent location. • Determine which routines are needed for your classroom (a routine is a set of skills explicitly taught to students to help them be successful with following the rules). Examples may include: <ul style="list-style-type: none"> • Walking in the hallway • Classroom exit • Starting and ending class • Sharpening pencils • Going to the restroom • Transitioning from one activity to the next • Technology use in the classroom
Explicitly Teaching Rules	<ul style="list-style-type: none"> • Explicitly teach classroom rules and routines to students. <ul style="list-style-type: none"> • Define and model positive examples and non-examples of what the rules look like in the classroom. • Have students model and practice performing the desired behaviors. • Provide positive feedback and corrective feedback as needed during practice of the desired behaviors. • Review and practice the rules with students throughout the school year. <ul style="list-style-type: none"> • Rules should be reviewed more comprehensively at the beginning of each year, after significant breaks in the school schedule (e.g. Thanksgiving, Winter, Spring), and as needed. • Example Routine <ul style="list-style-type: none"> • Classroom exit: Describe and model the routine to students, have students practice lining up, and going back to their seats. It is important that 100% of students demonstrate the behavior correctly. This may require multiple practice opportunities while providing positive and corrective feedback.

CLASSROOM PBIS

Effect Size: 0.52

Key Component	Definition
Reinforcing Positive Behaviors and Correcting Negative Behaviors	<ul style="list-style-type: none"> • It is important to publicly recognize positive behavior, while individually providing corrective feedback when needed. Students should be monitored closely while in the classroom and feedback should be given often. Public positive statements often prompt other students to exhibit the desired behavior. <ul style="list-style-type: none"> • Example: "I really like the way Sarah is waiting for instructions. She has her materials ready, and she's sitting quietly at her desk." • When correcting negative behavior, provide a precision request to students (whole group) to describe desired behavior. Based on student response, provide positive feedback to the group. If undesired behaviors continue follow-up with a statement of the desired behavior directed to the target student in a private manner as needed. Give the student an opportunity to comply and perform the behavior correctly, and then reward the student with positive feedback. <ul style="list-style-type: none"> • Example: "I need everyone to be in their seats, have materials ready, and wait quietly for instructions." Teacher observes Sarah talking during the transition, so he/she approaches Sarah quietly. "Sarah, the rule in our class is to wait quietly for instructions. I need you to show me how you sit quietly for instructions." While Sarah is performing the desired behavior, you might say, "Sarah, I appreciate how you are waiting quietly. Great job."
Creating a Supportive Classroom	<p>Creating a safe and respectful learning environment allows students to feel supported while learning. It is necessary for teachers to find opportunities to establish positive connections with all students. A teacher's daily interactions influence the students' perception of safety and sense of trust. Considerations for creating a supportive classroom include:</p> <ul style="list-style-type: none"> • Make personal connections with students • Help students feel like they belong • Establish clear classroom norms to demonstrate respect for others • Create consistent rules, routines, and arrangements (fosters predictability) • Weave positive feedback into daily interactions with students and parents • Be available for students (e.g. to ask questions, seek guidance) • Actively listen • Set a positive tone for learning and problem solving • Be aware of your personal emotions, assumptions, and biases and how they may impact your interactions with students

EXPLICIT INSTRUCTION

Effect Size: 0.57

Explicit instruction is a systematic method of teaching with emphasis on proceeding in small steps, checking for student understanding, and achieving active and successful participation by all students.

Student Feedback/Checks for Understanding



The model is generally characterized with the following components: I Do, We Do, Y'all Do, and You Do. Teachers use student feedback to determine how to progress through the model. For instance, if students are in the "We Do" phase, and the teacher has determined that students aren't understanding, they should move back to the "I Do" phase to provide more examples.

Explicit Instruction	
I Do (Modeling)	Demonstrate & Describe Use Think-Alouds Involve Students
We Do (Guided Practice)	Heavily Scaffolded with Prompts <ul style="list-style-type: none"> • Tell them what to do. • Ask them what to do. • Remind them what to do. Continual Checks for Understanding
Y'all Do (Group Practice)	Practice Skill in Small Groups/Partners Continual Checks for Understanding Use Precision Partnering
You Do (Individual Practice)	Monitored Individual Practice Show Mastery of Skill

Critical Actions for Educators

- *Give clear, straightforward, and unequivocal directions.
- *Explain, demonstrate and model. Introduce skills in a specific and logical order. Support this sequence of instruction in your lesson plans.
- *Break skills down into manageable steps. Review frequently.
- *Demonstrate the skills for students and then give the opportunity to practice skills independently.
- *I do, We Do, Y'all Do, You Do.



INSTRUCTIONAL HIERARCHY

Effect Size: 0.57

Critical Actions for Educators

- *Explicitly teach a skill to students by explaining, demonstrating, and modeling.
- *Build the skill through practice and use, to gain automaticity.
- *Provide students with multiple opportunities to apply the skill.

Learners follow predictable stages. To begin, the learner is usually halting and uncertain as she tries to use a new skill. With feedback and a lot of practice, the learner becomes increasingly accurate, then automatic (fluent), and confident in using the skill.

Acquisition, automaticity, and application are progressive stages of the instructional hierarchy. Each stage requires its own set of pedagogical approaches and assessment strategies.

The learning stages, along with the goal of each phase and the teacher and student actions present in each stage are listed in the table below.



Accurate at Skill

- If no, teach skill.
- If yes, move to automaticity.



Automatic at Skill

- If no, teach automaticity.
- If yes, move to application.



Able to Apply Skill

- If no, teach application.
- If yes, move to higher level/concept or repeat cycle with new knowledge.

INSTRUCTIONAL HIERARCHY

Effect Size: 0.57

Learning Stage	Goal	Teacher and Student Actions
Acquisition <ul style="list-style-type: none"> First learning stage Teacher feedback to increase accuracy Typically associated with DOK 1 	The student can perform the skill accurately with little adult support. If goal met proceed to automaticity stage; if not teach skill.	<ul style="list-style-type: none"> Teacher actively demonstrates target skill Teacher uses 'think-aloud' strategy-- especially for thinking skills that are otherwise covert Student has models of correct performance to consult as needed (e.g., correctly completed math problems on board) Student gets feedback about correct performance Student receives praise, encouragement for effort Students take notes, outlines, points
Automaticity <ul style="list-style-type: none"> Builds habits and fluent skills through repetition and deliberate practice with timely and descriptive feedback Typically associated with DOK 2 	The student has learned skill well enough to retain, to combine with other skills, and is as fluent as peers. If observed proceed to application; if not continue or move back to acquisition.	<ul style="list-style-type: none"> Teacher structures learning activities to give student opportunity for active (observable) responding Student has frequent opportunities to drill (direct repetition of target skill) and practice (blending target skill with other skills to solve problems) Student gets feedback on fluency and accuracy of performance Student receives praise, encouragement for increased fluency
Application <ul style="list-style-type: none"> Applying knowledge or skills to relevant application Typically associated with DOK 3 & 4 	The student uses the skill across situations and settings solving real life problems. If observed, move to new skills and knowledge or move to a higher level concept; if not observed try again or go back to building automaticity.	<ul style="list-style-type: none"> Teacher structures academic tasks to require that the student use the target skill regularly in assignments Student receives encouragement, praise for using skill in new settings, situations Teacher works with parents to identify tasks that the student can do outside of school to practice target skill Teacher helps student to articulate the 'big ideas' or core element(s) of target skill that the student can modify to face novel tasks, situations Encourage student to set own goals for adapting skill to new and challenging situations.

EXPLICIT VOCABULARY

Effect Size: 0.57

Explicit vocabulary instruction is clear, concise vocabulary instruction presenting the meaning and contextual examples of a word through multiple exposures. It is not the traditional procedure of having students copy a list of words, looking up words, copying definitions, or memorizing definitions.

Systematic vocabulary instruction increases reading comprehension, allows for greater access to content material, increases growth in vocabulary knowledge, and supports struggling readers.

Effective vocabulary/academic language instruction comes down to:

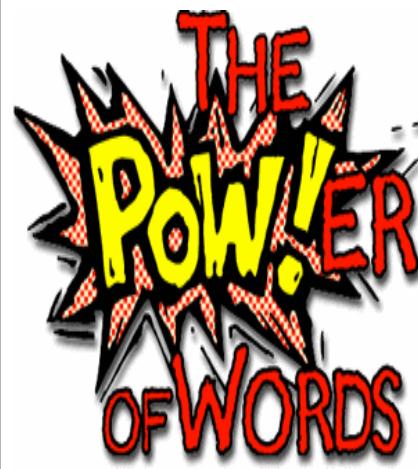
- Connection: Connect the new word to what the student knows, which helps to build the “semantic network” in the brain.
- Use: Academic speaking and writing is constructed as we apply it, not by simply memorizing.

Teacher should explicitly teach words that are:

- Based on essential concepts
- Unknown
- Critical to the future
- Difficult to obtain independently (or through context)

Critical Actions for Educators

- *Explicitly teach critical vocabulary before students are expected to use it in context.
- *Teach students to say, define, and use critical vocabulary in discrete steps.
- *Explicitly teach common academic vocabulary across all content areas.



Basic Instructional Protocol

- | | |
|----------------------------------------------------|-----------------------------------------------|
| 1. Introduce the word | 5. Check students' understanding |
| 2. Provide student friendly definition of the word | 6. Deepen students' understanding |
| 3. Identify word parts, families, and origin | 7. Check students' understanding |
| 4. Illustrate word with examples | 8. Review and coach use (possible extensions) |

OPPORTUNITIES TO RESPOND

Effect Size: 0.57

Critical Actions for Educators

- *Actively engage ALL students in learning; students are active if they are saying, writing, or doing.
- *Pace instruction to allow for frequent student responses.
- *Call on a wide variety of students throughout each period.



Maximizing the opportunities to respond in a classroom increases students' engagement. Engagement allows for positive interactions between teacher and student, creates opportunities for teachers to provide authentic feedback on learning, and decreases inappropriate student behavior.

Students are engaged through opportunities to respond when they are saying, writing, or doing (Feldman). When tied to learning objectives, these opportunities give the teacher and students feedback on their learning and understanding.

Engagement opportunities can be focused on an individual student or a group of students. Each of these approaches has different purposes. The teacher may choose to use a group OTR to minimize the risk the student feels in responding and to increase engagement for all students. Through group OTRs, students not only receive feedback from the teacher, but their peers as well as they hear and see other student responses. When seeking individual student understanding, teachers may choose to use individual OTRs.

Opportunities to respond can be verbal or non-verbal. Verbal responses help students to summarize and share their thoughts with others while non-verbal responses can increase writing skills or give students the opportunity to move around the room.

Structured Non-Verbal	Structured Verbal	Structured Writing	Structured Reading
<ul style="list-style-type: none"> • Cold Calling (Teacher Chosen) • Cold Calling (Random) • Choral Response • Think Pair Share • Precision Partner • Small Group Discussion 	<ul style="list-style-type: none"> • Hand Signals • Point at Something • 4 Corners • Response Cards • White Boards • Student Response System 	<ul style="list-style-type: none"> • Note-Taking: Cloze, Cornell • Graphic Organizer • Sentence Starter/ Quick Write • White Boards • Summarizing • Technology 	<ul style="list-style-type: none"> • Partner Reading w/ Comprehension Strategy • Choral Reading • Cloze Reading Guide • Model Reading Strategies • Task for each Reading Segment

FEEDBACK

BETWEEN TEACHERS & STUDENTS

Effect Size: 0.75

Feedback lets the learner know whether or not a task was performed correctly, and how it might be improved. Feedback is most effective when it is clear, purposeful, compatible with prior knowledge, immediate, and non-threatening.

Feedback from Students:

Educational research indicates that feedback is one of the most powerful drivers of student achievement. John Hattie's synthesis of the overall effect size of feedback is very high ($ES = .75$). He states that feedback from students as to what they understand, when they are not engaged, where they make errors, and when they have misconceptions helps make student learning visible to the teacher.

Feedback to Students:

Positive academic and behavioral feedback, or teacher praise has been statistically correlated with student on-task behavior (Apter, Arnold & Stinson, 2010) and has strong empirical support for both increasing academic and behavioral performance and decreasing problem behaviors (Gable, Hester, Rock & Hughes, 2009). With regard to reprimands and corrective feedback, there is a continued assertion that teachers maintain a ratio of praise to correction at 3:1 or 4:1 (Gable, Hester, Rock, & Hughes, 2009; Stichter, Lewis, & Wittaker, 2009).

Feedback Types:

Critical Actions for Educators

- *Provide timely prompts that indicate when students have done something correctly or incorrectly.
- *Give students the opportunity to use the feedback to continue their learning process.
- *End feedback with the student performing the skill correctly and receiving positive acknowledgement.

Type	Description	Example	Non-Example
Positive	Teacher indicates that a target academic or social behavior is correct.	"Correct! 7×4 is 28"	"Johnny, pick up your pencil off the floor please"
Corrective	Teacher indicates that a behavior is incorrect.	"That's not quite right, let me give you another clue . . ."	"Try harder on your math worksheet; I know you can do better."
Harsh	Teacher shows frustration or is critical of the student.	I can't believe you still can't figure this out!	"Let me give you another clue . . ."
Neutral	Teacher redirects the student or describes what she would like the student to do.	"Johnny, turn to page 4 and start reading."	"Nice work! You really showed justification for your reasons."

FEEDBACK CYCLE

Effect Size: 0.75

	Example	Non-Example
Corrective Sequence	<ul style="list-style-type: none"> • Teacher provides an opportunity to respond • Student responds incorrectly • Teacher indicates that the response was not correct and provides an opportunity for correction • Student gives correct response • Teacher affirms that response was correct 	<ul style="list-style-type: none"> • Teacher provides an opportunity to respond • Student responds incorrectly • Teacher indicates that the response was not correct but does not provide an opportunity for the student to answer correctly
Expansive Sequence	<ul style="list-style-type: none"> • Teacher provides an opportunity to respond • Student response is a partial response or could be expanded into a higher quality response • Teacher affirms response and provides guidance for expansion/refinement • Student revises or elaborates upon previous response • Teacher acknowledges response as an improvement 	<ul style="list-style-type: none"> • Teacher provides an opportunity to respond • Student response is a partial response or could be expanded into a higher quality response • Teacher affirms response but does not provide guidance for expansion/refinement
Challenge Sequence	<ul style="list-style-type: none"> • Teacher provides an opportunity to respond • Student response is fully correct • Teacher affirms student response and asks a more difficult question on the same topic as a follow up • Student answers • Teacher responds with positive or corrective feedback 	<ul style="list-style-type: none"> • Teacher provides an opportunity to respond • Student response is fully correct • Teacher affirms student response but does not ask a more difficult question on the same topic as a follow up

SCAFFOLDING & GROUPING

Effect Size: 0.57

Scaffolding is a process in which students are given support until they can apply new skills and strategies independently (Rosenshine & Meister, 1992). When students are learning new or challenging task, they are given more assistance. As they begin to demonstrate task mastery, the assistance or support is decreased gradually in order to shift the responsibility for learning from the teacher to the students. Thus, as the students assume more responsibility for learning, the teacher provides less support.

Structure of the Scaffolded Classroom:

The organization of the scaffolded classroom includes whole group, small group (skill-based or station teaching), partners, and independent work. The scaffolding supports that will be put in place for diverse learners should include interventions for striving and accelerated learners. When using small groups, identify the groups as skill-based or station teaching. Skill-based groups are organized homogeneously based upon the needs of students. Station teaching groups are organized heterogeneously to create diverse groups.

Types of Scaffolds

Scaffold	Ways to use Scaffolds in an Instructional Setting
Advance Organizers	Tools used to introduce new content and tasks to help student learn about the topic: Venn diagrams to compare and contrast information; flow charts to illustrate processes; organizational charts to illustrate hierarchies; outlines that represent content; mnemonics to assist recall; statements to situate the task or content; rubrics that provide task expectations.
Checklists	Prepare a list of items required, things to be done, or points to be considered; used as a reminder as the student proceeds through the learning task.
Collaborative Grouping	Having students work in partners or small groups with students who can support/model students who may struggle with content.
Concept and Mind Maps	Maps that show relationships: Partially or completed maps for students to complete; students create their own maps based on their current knowledge of the task or concept.
Cue Cards	Prepared cards given to individual groups of students to assist in their discussion about a particular topic or content area: Vocabulary words to prepare for exams; content-specific stem sentences to complete; formula to associate with a problem; concepts to define.
Examples	Samples, specimens, illustrations, problems, modeling: Real objects; illustrative problems used to represent something. Demonstrate and model how to do something, giving an example of what it should look like.
Explanations	More detailed information to move students along on a task or in their thinking of a concept: Written instructions for a task; verbal explanation of how a process works.

Critical Actions for Educators

- *Present information at various levels of difficulty.
- *Use data to identify needs and create small groups to target specific skills.
- *Frequently analyze current data and move students within groups depending on their changing needs.

Scaffold		Ways to use Scaffolds in an Instructional Setting
Handouts		Prepared handouts that contain task and content-related information, but with less detail and room for student note taking.
Images and Multimedia		Providing an image or other graphic representation, such as a video, that represents the word(s)/concept(s) being taught in conjunction with the explicit vocabulary routine can help to support students in learning new vocabulary and concepts. Images help provide a non-linguistic representation and allow students to recall the term more readily. This technique can be used with any Reading Street Vocabulary (Amazing Words, Story/Lesson Vocabulary), Math Vocabulary, or Content Vocabulary or concepts.
Manipulatives		Manipulatives, such as markers, toothpicks, blocks, or coins, are used to support hands-on learning and provide concrete models to help students solve problems and develop concepts. The students can manipulate the items to increase their understanding and come to accurate conclusions. May also include virtual manipulatives.
Pair-Share		Pose a problem, students have time to think about it individually, and then they work in pairs to solve the problem and share their ideas with the class. Providing think time increase the quality of the response.
Precision Partnering		Strategically appointed partners with assigned roles.
Previewing Text		Before reading a text, preview the text by providing students with an overview/synopsis of the text. This will allow students to know what to expect when they are reading and give them background knowledge to help them understand the text.
Prompts		A physical or verbal cue to remind—to aid in recall of prior or assumed knowledge. Physical: Body movements such as pointing, nodding the head, eye blinking, foot tapping. Verbal: Words, statements and questions such as "Go," "Stop," "It's right there," "Tell me now," "What toolbar menu item would you press to insert an image?" "Tell me why the character acted that way."
Question Cards		Prepared cards with content and task-specific <i>questions</i> given to individuals or groups of students to ask each other pertinent questions about a particular topic or content area.
Question Stems		Incomplete sentences which students complete: Encourages deep thinking by using higher order "What if" questions.
Realia		Anytime the real object, concept, or phenomena can be presented with the actual object helps to support learners in acquiring new ideas and concepts. For example, when teaching about the three types of rocks, having examples of those types for students to see and touch can help them to make deeper connections.
Rubrics		A rubric is an easily applicable form of authentic assessment. A rubric simply lists a set of criteria, which defines and describes the important components of the work being planned or evaluated.
Sentence Frames		Sentence frames provide an opportunity for students to use key vocabulary while providing a structure that may be higher than what they could produce on their own. For example, if students are to compare two ocean creatures, they might say something like "Whales have lungs, but fish have gills." In the preceding sentence, the simple frame is "_____ have _____, but _____ have _____. Note the sentence can be filled in with any content; this differs from cloze sentences that often have only a few possibilities.
Setting & Reviewing Objectives		Providing students with a purpose and intended outcome will help students to know what to focus their attention on and what they should be learning. Having student self-assess their progress towards the objectives at the end of the lesson will provide the teacher with information on their current levels of understanding.
Socratic Seminar		The purpose of a Socratic Seminar is to achieve a deeper understanding about the ideas and values in a text. In the Seminar, participants systematically question and examine issues and principles related to a particular content, and articulate different points-of-view. The group conversation assists participants in constructing meaning through disciplined analysis, interpretation, listening, and participation.
		Prepare several questions in advance in addition to questions that students may bring to class. Questions should lead participants into the core ideas and values and to the use of the text in their answers. Questions must be open-ended, reflect genuine curiosity, and have no "one-right answer."
Stories		Stories relate complex and abstract material to situations more familiar with students: Recite stories to inspire and motivate learners.
Student Work Exemplars		Providing students with example student work samples can provide models for students to use to support their development of the skill. For example, an anchor paper for a writing assignment of how a sample student responded to the assignment previously will provide an example of what the assignment looks like.
Visual Scaffolds		Pointing to call attention to an object; representational gestures (holding curled hands apart to illustrate roundness; moving rigid hands diagonally upward to illustrate steps or process), diagrams such as charts and graphs; methods of highlighting visual information.

KINDERGARTEN ½ Day MASTER SCHEDULE COMPONENTS 2016-2017

REGULAR SCHOOL DAY MONDAY-THURSDAY		FRIDAY		30 MINUTES- 1 DAY PER WEEK BRAIN BOOSTER	
70 MINUTES	LITERACY BLOCK <ul style="list-style-type: none"> • Get Ready to Read • Read and Comprehend • Language Arts • Skill-Based Instruction <ul style="list-style-type: none"> • ELD • SPED 	60 MINUTES	LITERACY BLOCK <ul style="list-style-type: none"> • Get Ready to Read • Read and Comprehend • Language Arts • Skill-Based Instruction <ul style="list-style-type: none"> • ELD • SPED 	70 MINUTES	LITERACY BLOCK <ul style="list-style-type: none"> • Get Ready to Read • Read and Comprehend • Language Arts • Skill-Based Instruction <ul style="list-style-type: none"> • ELD • SPED
30 MINUTES	MATH BLOCK <ul style="list-style-type: none"> • Review or Preteach • Vocabulary and Fluency Practice • Lesson Objectives • Concept /Skill Development and Application <ul style="list-style-type: none"> Skill-Based Instruction 	30 MINUTES	MATH BLOCK <ul style="list-style-type: none"> • Review or Preteach • Vocabulary and Fluency Practice • Lesson Objectives • Table time/Concept/Skill Development and Application 	30 MINUTES	MATH BLOCK <ul style="list-style-type: none"> • Review or Preteach • Vocabulary and Fluency Practice • Lesson Objectives • Concept /Skill Development and Application • Skill-Based Instruction
30 MINUTES	ORAL LANGUAGE BLOCK <ul style="list-style-type: none"> • PLAN • DO • REVIEW 	30 MINUTES	ORAL LANGUAGE BLOCK <ul style="list-style-type: none"> • PLAN • DO • REVIEW 	30 MINUTES	BRAIN BOOSTER CHOICES <ul style="list-style-type: none"> • PE/Playworks • Technology • Arts/BTS • Media • STEM
30 MINUTES	FLEX TIME <ul style="list-style-type: none"> • Recess • Extended Literacy, Numeracy or Oral Language Block 			30 MINUTES	FLEX TIME <ul style="list-style-type: none"> • Oral Language Block • Recess

Title I Full Day Kindergarten MASTER SCHEDULE COMPONENTS 2016-2017

Regular School Day MONDAY-THURSDAY		FRIDAY SCHEDULE	2 HOUR BLOCK 1 DAY PER WEEK BRAIN BOOSTER	1 HOUR BLOCK 2 DAYS PER WEEK BRAIN BOOSTER	40 MINUTE 3 DAYS PER WEEK BRAIN BOOSTER					
30	135 MINUTES	LITERACY BLOCK • Get Ready to Read • Read and Comprehend • Language Arts • Skill-Based Instruction • SPED • Content Integration	135 MINUTES	LITERACY BLOCK • Get Ready to Read • Read and Comprehend • Language Arts • Skill-Based Instruction • SPED • Content Integration	120 MINUTES	LITERACY BLOCK* • Get Ready to Read • Read and Comprehend • Language Arts • Skill-Based Instruction • SPED	125 MINUTES	LITERACY BLOCK • Get Ready to Read • Read and Comprehend • Language Arts • Skill-Based Instruction • SPED • Content Integration	135 MINUTES	LITERACY BLOCK • Get Ready to Read • Read and Comprehend • Language Arts • Skill-Based Instruction • SPED • Content Integration
30	30	ELD • Language Central	30	ELD • Language Central	20	ELD • Language Central	30	ELD • Language Central	30	ELD • Language Central
30	75 MINUTES	MATH BLOCK • Review or Preteach • Vocabulary and Fluency Practice • Lesson Objectives • Concept /Skill Development and Application • Skill-Based Instruction	75 MINUTES	MATH BLOCK • Review or Preteach • Vocabulary and Fluency Practice • Lesson Objectives • Concept /Skill Development and Application • Skill-based Instruction	50 MINUTES	MATH BLOCK* • Review or Preteach • Vocabulary and Fluency Practice • Lesson Objectives • Concept /Skill Development and Application • Skill-Based Instruction <i>*Compacted based on student need</i>	65 MINUTES	MATH BLOCK • Review or Preteach • Vocabulary and Fluency Practice • Practice • Lesson Objectives • Concept /Skill Development and Application • Skill-Based Instruction	75 MINUTES	MATH BLOCK • Review or Preteach • Vocabulary and Fluency Practice • Lesson Objectives • Concept /Skill Development and Application • Skill-Based Instruction
55	55	RECESS 15 MIN AM or PM LUNCH and RECESS 40 MIN	55	RECESS 15 MIN AM or PM LUNCH and RECESS 40 MIN	55	RECESS 15 MIN AM or PM LUNCH and RECESS 40 MIN	55	RECESS 15 MIN AM or PM LUNCH and RECESS 40 MIN	55	RECESS 15 MIN AM or PM LUNCH and RECESS 40 MIN
45-60		ORAL LANGUAGE BLOCK • Plan, Do, Review		ORAL LANGUAGE BLOCK Plan, Do, Review	30	ORAL LANGUAGE BLOCK Plan, Do, Review	60	ORAL LANGUAGE BLOCK Plan, Do, Review	60	ORAL LANGUAGE BLOCK Plan, Do, Review
40-55 MINUTES		FLEX TIME • Science • Social Studies		BRAIN BOOSTER CHOICES • PE/Playworks • Technology • Arts/BTS • Media STEM	120 MIN.	BRAIN BOOSTER CHOICES • PE/Playworks • Technology • Arts/BTS • Media STEM	60 MIN.	BRAIN BOOSTER CHOICES • PE/Playworks • Technology • Arts/BTS • Media STEM	40 MIN.	BRAIN BOOSTER CHOICES • PE/Playworks • Technology • Arts/BTS • Media STEM

1ST-5TH GRADE MASTER SCHEDULE COMPONENTS 2016-2017

Intensified Plan MONDAY-THURSDAY		Regular School Day MONDAY-THURSDAY	FRIDAY SCHEDULE	2 HOUR BLOCK 1 DAY PER WEEK BRAIN BOOSTER	1 HOUR BLOCK 2 DAYS PER WEEK BRAIN BOOSTER	40 MINUTE 3 DAYS PER WEEK BRAIN BOOSTER					
180-205 MINUTES	LITERACY BLOCK <ul style="list-style-type: none">• Get Ready to Read• Read and Comprehend• Language Arts• Skill-Based Instruction<ul style="list-style-type: none">• ELD• SPED• Content Integration	180 MINUTES	LITERACY BLOCK <ul style="list-style-type: none">• Get Ready to Read• Read and Comprehend• Language Arts• Skill-Based Instruction<ul style="list-style-type: none">• ELD• SPED• Content Integration	150 MINUTES	LITERACY BLOCK <ul style="list-style-type: none">• Get Ready to Read• Read and Comprehend• Language Arts• Skill-Based Instruction<ul style="list-style-type: none">• ELD• SPED• Content Integration	135 MINUTES	LITERACY BLOCK* <ul style="list-style-type: none">• Get Ready to Read• Read and Comprehend• Language Arts• Skill-Based Instruction<ul style="list-style-type: none">• ELD• SPED*Compacted based on student need	150 MINUTES	LITERACY BLOCK <ul style="list-style-type: none">• Get Ready to Read• Read and Comprehend• Language Arts• Skill-Based Instruction<ul style="list-style-type: none">• ELD• SPED• Content Integration	180 MINUTES	LITERACY BLOCK <ul style="list-style-type: none">• Get Ready to Read• Read and Comprehend• Language Arts• Skill-Based Instruction<ul style="list-style-type: none">• ELD• SPED• Content Integration
90 MINUTES	MATH BLOCK <ul style="list-style-type: none">• Review or Preteach• Vocabulary and Fluency Practice• Lesson Objectives• Concept /Skill Development and Application• Skill-Based Instruction	90 MINUTES	MATH BLOCK <ul style="list-style-type: none">• Review or Preteach• Vocabulary and Fluency Practice• Lesson Objectives• Concept /Skill Development and Application• Skill-based Instruction	90 MINUTES	MATH BLOCK <ul style="list-style-type: none">• Review or Preteach• Vocabulary and Fluency Practice• Lesson Objectives• Concept /Skill Development and Application• Skill-based Instruction	75 MINUTES	MATH BLOCK* <ul style="list-style-type: none">• Review or Preteach• Vocabulary and Fluency Practice• Lesson Objectives• Concept /Skill Development and Application• Skill-Based Instruction<ul style="list-style-type: none">*Compacted based on student need	90 MINUTES	MATH BLOCK <ul style="list-style-type: none">• Review or Preteach• Vocabulary and Fluency Practice• Lesson Objectives• Concept /Skill Development and Application• Skill-Based Instruction	90 MINUTES	MATH BLOCK <ul style="list-style-type: none">• Review or Preteach• Vocabulary and Fluency Practice• Lesson Objectives• Concept /Skill Development and Application• Skill-Based Instruction
55 MIN	RECESS 15 MIN AM or PM LUNCH and RECESS 40 MIN	55 MIN	RECESS 15 MIN AM or PM LUNCH and RECESS 40 MIN	55 MIN	RECESS 15 MIN AM or PM LUNCH and RECESS 40 MIN	55 MIN	RECESS 15 MIN AM or PM LUNCH and RECESS 40 MIN	55 MIN	RECESS 15 MIN AM or PM LUNCH and RECESS 40 MIN	55 MIN	RECESS 15 MIN AM or PM LUNCH and RECESS 40 MIN
45-70 MIN	FLEX TIME <ul style="list-style-type: none">• Science• Social Studies	70 MINUTES	FLEX TIME <ul style="list-style-type: none">• Science• Social Studies	55 MIN	120 MINUTES	10 MIN	BRAIN BOOSTER CHOICES <ul style="list-style-type: none">• PE/Playworks• Technology• Arts/BTS• Media• STEM	60 MINUTES	BRAIN BOOSTER CHOICES <ul style="list-style-type: none">• PE/Playworks• Technology• Arts/BTS• Media• STEM	40 MINUTES	BRAIN BOOSTER CHOICES <ul style="list-style-type: none">• PE/Playworks• Technology• Arts/BTS• Media• STEM
							FLEX TIME <ul style="list-style-type: none">• Content Integration	40 MIN	FLEX TIME <ul style="list-style-type: none">• Content Integration• Science• Social Studies	30 MIN	FLEX TIME <ul style="list-style-type: none">• Science• Social Studies

Scheduling ELA Special Education Services for Title 1 Elementary Schools (For Students with IEP Reading/Writing Goals)

	Students needing Resource Instruction for Reading/Writing	Students needing ELD Instruction AND Resource Instruction for Reading/Writing
When to provide Special Education Services <i>(Service minutes determined by IEP team based on student need)</i>	<p>During Reading Skill- Based Instruction (SBI) – (45 minutes)</p> <ul style="list-style-type: none"> • The Special Education Teacher (and if needed, Special Education Paraeducator) will provide ELA Services during SBI time • Service minutes are determined by IEP team • Service minutes can be up to 45 minutes a day during SBI time • If the IEP team determines a student needs more service time for ELA, choose from the following options: <p><u>1st option:</u> During Science and Social Studies</p> <p><u>2nd option:</u> During Content Integration (20-30 minutes)</p> <p><u>3rd option:</u> During Language Arts Block (35-45 minutes)</p>	<p><u>*1st option:</u> During Science and Social Studies</p> <p><u>2nd option:</u> During Content Integration (20-30 minutes)</p> <p><u>3rd option:</u> During Language Arts Block (35-45 minutes)</p> <p>*All students need access to the Core Curriculum. In order to provide Special Education services to students needing both SPED and ELD services, please choose from the above 3 options, with option 1 being the least impactful to a student's access to the Core Curriculum.</p>

Scheduling Math Special Education Services for Title 1 Elementary Schools (For Students with IEP Math Goals)

	Students needing Special Education Services for Math	Students needing additional math Special Education Instruction <i>(As determined by IEP team)</i>
When to provide Special Education Services <i>(Special education service minutes determined by IEP team based on student need)</i>	<p>1st option: During Math Skill-Based Instruction (SBI) – (30-45 minutes)</p> <ul style="list-style-type: none">• The Special Education Teacher (and if needed, Special Education Para-educator) will provide Math Services during SBI time• Service minutes are determined by IEP team• Service minutes can be up to 45 minutes a day during SBI time <p>2nd option: During Math Core Instruction in the General Education Classroom (45-60 minutes) push-in model</p> <p>3rd option: Combination of SBI and Core Instruction push-in</p>	<p>If the IEP team determines a student needs more service time for Math, choose from the following options:</p> <p>*1st option: During Science and Social Studies</p> <p>2nd option: During Content Integration (20-30 minutes)</p> <p>*All students need access to the Math Core Curriculum.</p>

Canyons School District
Elementary Assessment Calendar 2016-17

AUGUST	Aug. 24	Start of School Year
	Aug. 24-26	Kindergarten DIBELS Next and DIBELS Math (Individual appointments - No school for K)
	Aug 29 – Sept 6	Reading Inventory/SRI - Grades 4 and 5
SEPTEMBER	Sept. 7 – 29	DIBELS Next - Grades 1-3 (All Students); Grades 4-5 (Only students that score Below Basic on Reading Inventory/SRI)
	Sept. 7 – 29	DIBELS Math - Grades 1-5 (All Students)
OCTOBER	Oct 3 – 28	AAPPL Testing - Dual Immersion Schools Only
NOVEMBER		
DECEMBER	Dec 7 – 21	Reading Inventory/SRI - All Students Grades 4 and 5
JANUARY	Jan 4 – Jan 24	DIBELS Next - Grades 1-3 (All Students); Grades 4-5 (Only students that score Below Basic on Reading Inventory/SRI)
	Jan 4 – Jan 24	DIBELS Math - Grades 1-5 (All Students)
	Jan 9 – Mar 10	WIDA ACCESS Online Testing – English Learner Students K – 5
FEBRUARY		
MARCH	Mar 21 – 31	Grade 5 Keyboarding Assessment (Data Due Apr 7 th)
APRIL	Apr. 17 - 26	Reading Inventory/SRI - Grades 4 and 5
	Apr 24 – Jun 2	SAGE Summative Testing - Grades 3 – 5
MAY	May 8 – 26	DIBELS Next - Grades 1-3 (All Students); Grades 4-5 (Only students that score Below Basic on Reading Inventory/SRI on latest test)
	May 8 – 26	DIBELS Math - Grades 1-5 (All Students)
JUNE	June 7	End of School Year

ELA District-Wide Standards-Based Benchmarks Elementary			
Grade	Benchmark #1 Due by:	Benchmark #2 Due by:	Benchmark #3 Due by:
K	NA	NA	NA
1 st	NA	March 13-17	May 8-12
2 nd	Nov. 7- Dec 2	Jan. 17-Feb 9	March 13-31
3 rd	Nov. 7-Dec 2	Jan. 17-Feb 9	March 13-31
4 th	Nov. 7-Dec 2	Jan. 17-Feb 9	March 13-31
5 th	Nov. 7-Dec 2	Jan. 17-Feb 9	March 13-31

ASSESSMENT CHANGES:
 There are many changes to testing this school year. Canyons has moved to DIBELS Next and DIBELS Math for fall, midyear and spring. Finally, AAPPL testing for DUAL Immersion schools has been moved to the fall as directed by the Utah Board of Education.

Math District-Wide Standards-Based Benchmarks Elementary				
Grade	Benchmark #1 Due by:	Benchmark #2 Due by:	Benchmark #3 Due by:	Benchmark #4 Due by:
K	NA	NA	NA	NA
1 st	November 11	February 24	April 28	June 6
2 nd	November 11	February 9	April 28	June 6
3 rd	November 11	February 3	April 14	June 6
4 th	November 11	February 3	April 21	June 6
5 th	November 11	March 3	April 28	June 6

CSD Assessment System

In a balanced assessment system, teachers use classroom assessments, team assessments, interim assessments, and comprehensive assessments to monitor and enhance student learning in relation to the state standards and goals for student proficiency (Schneider, Egan, & Julian, 2013). This level of balancing requires educators to understand and maximize the role of assessment for feedback and assessment for verification (Schimmer, 2016). In other words, assessment is viewed as teaching in that we engage in accurate assessment processes, day by day and moment by moment, rather than curriculum coverage (Erkens, 2016). Canyons School District System of Assessment outlines an integrated assessment system to support educators with gathering evidence of student thinking patterns in order to plan instructional responses before, during, and after instruction has taken place.

Assessment Uses

- measure effectiveness of instructional programs for all subgroups of students
- compare levels of achievement across grades, schools, districts, states
- identify gaps in student learning to inform class, team, school, and district supports
- set goals for class, team, school, and district improvement
- share information with stakeholders
- celebrate teaching and learning successes

Classroom Assessing Classroom assessing occurs when teachers plan and implement frequent checks for understanding to inform and modify instruction in the moment (instructional agility), within the context of the expected learning.

Purpose	Classroom assessing occurs when teachers plan and implement frequent checks for understanding to inform and modify instruction in the moment (instructional agility), within the context of the expected learning.
Focus	Assessing learning objectives and skills for immediate instructional adjustment
Assessment Tools	<ul style="list-style-type: none">• Instructional Priorities• Observations• Paired discussions• Quickwrites• Whiteboard responses• Exit tickets• Student self-assessments• Questioning• Performance Tasks• Progress monitoring
Who Uses the Data	<ul style="list-style-type: none">• Teacher• Students
Frequency	<ul style="list-style-type: none">• Ongoing during instruction

School-wide and Team Assessments are collaboratively designed by teachers to provide timely information about student learning in order to plan and adjust instruction or evaluate focused skill/strategy.

6/09/16

Assessment supports for School-wide and Team Assessments from Reading Street and enVision 2.0



Realize platform is the online support for access for the Reading Street and enVision 2.0. Teachers can access materials in their grade-level account.

To log in: <http://pearsonrealize.com>

User Name: SchoolNameCSD03 (insert your school name)
e.g., ParkLaneCSD03

Password: Canyons0grade
e.g., Canyons03

Reading Street Test Type	Description
Weekly Tests	<ul style="list-style-type: none"> • Multiple-choice tests administered on Day 5 • Measure students' understanding of each week's introduced vocabulary words, word analysis skills, and comprehension skills • Help identify students who have mastered each week's words and skills and students who may need intervention
Unit Tests	<ul style="list-style-type: none"> • Multiple-choice and constructed-response tests administered throughout the year, at the end of each six-week unit • Measure students' abilities to apply target comprehension skills and other literacy skills taught during each unit • Help make instructional decisions for each student • Provide feedback about the effectiveness of your instruction and help to plan instruction for the next unit
Fresh Reads for Fluency and Comprehension	<ul style="list-style-type: none"> • Multiple-choice and constructed-response tests administered throughout the year, each week after students have been taught the comprehension skill lesson • Give students opportunities to practice the target and review comprehension skills of the week with new selections matched to their instructional reading levels • Provide checks for oral reading fluency
enVision 2.0 Test Type	Description
Quick Check	<ul style="list-style-type: none"> • Three problems within Independent Practice, Math Practice and Problem Solving to check for student understanding • Assess students' understanding of the lesson content and support building skill-based math groups
Math Practices Proficiency Rubric	<ul style="list-style-type: none"> • Rubrics designed to monitor development of proficiency with mathematical practice standards
Topic Assessment	<ul style="list-style-type: none"> • Multiple-choice administered throughout the year, at the end of each topic. • Measure students' skills and ability of math content standards • Help make instructional decisions for each student • Provide feedback about the effectiveness of instruction and help plan instruction for the next topic
Performance Assessment	<ul style="list-style-type: none"> • Alternative assessments that measure student skill with open ended and short answer assessment items • Students engage in the mathematical practice standards by explaining thinking

District-Wide Standards-Based Benchmarks are designed to assess mastery of targeted standards at set points in time.

The ELA benchmarks will be given 3 times per year during these windows:

ELA District-Wide Standards-Based Benchmarks			
Grade Level	Benchmark #1	Benchmark #2	Benchmark #3
Kindergarten	NA	NA	NA
1 st	NA	March 13-17	May 8-12
2 nd	Nov. 7-Dec 2	Jan. 17-Feb 9	March 13-31
3 rd	Nov. 7-Dec 2	Jan. 17-Feb 9	March 13-31
4 th	Nov. 7-Dec 2	Jan. 17-Feb 9	March 13-31
5 th	Nov. 7-Dec 2	Jan. 17-Feb 9	March 13-31

The Math benchmarks will be given 4 times per year

Math District-Wide Standards-Based Benchmarks				
Grade Level	Benchmark #1 Due by:	Benchmark #2 Due by:	Benchmark #3 Due by:	Benchmark #4 Due by:
Kindergarten	NA	NA	NA	NA
1 st	November 11	February 24	April 28	June 6
2 nd	November 11	February 9	April 28	June 6
3 rd	November 11	February 3	April 14	June 6
4 th	November 11	February 3	April 21	June 6
5 th	November 11	March 3	April 28	June 6

Reassessing Mastery

Use assessments to help identify skill deficits that are preventing students from mastering standards. Planning to address skill deficits should also include a plan to evaluate mastery once the skills have been retaught. Reassessing mastery utilizes assessment strategies that include direct observation during whole group and small group instruction. Also consider previewing upcoming units to determine if the skill and standard will be further reviewed and make note of students who will need additional practice opportunities.

Tracking Learning

There is a strong correlation between student achievement and a student's involvement in his or her progress. Having students track their learning using a simple graph and setting goals for each assessment is an easy way to involve students. This provides students with a clear purpose and provides them feedback on their current learning progress.

Comprehensive Assessments are designed to measure the degree to which students have mastered content standards or achieved college and careers readiness. See Assessment calendar for SAGE dates.

Screening Assessments are designed to efficiently identify students who are at academic risk in reading and math who may need additional intervention. These assessments are standardized and brief. DIBELS and SRI are the screening instruments used in CSD. The following pages have the DIBELS screening targets.

Canyons School District Elementary Screening Targets

Kindergarten--Math

DIBELS Math Measure	Performance Description	Fall * Score	Winter Score	Spring Score
Beginning Quantity Discrimination (BQD)	Benchmark	5 +	8 +	12 +
	Below	2 – 4	5 – 7	9 – 11
	Well Below	0 – 1	0 – 4	0 – 8
Number Identification Fluency (NIF)	Benchmark	6 +	15 +	25 +
	Below	4 – 5	8 – 14	14 – 24
	Well Below	0 – 3	0 – 7	0 – 13
Next Number Fluency (NNF)	Benchmark	5 +	11 +	13 +
	Below	2 – 4	8 – 10	10 – 12
	Well Below	0 – 1	0 – 7	0 – 9
DIBELS Math Composite Score	Benchmark	26 +	72 +	88 +
	Below	15 – 25	51 – 71	67 – 87
	Well Below	0 – 14	0 – 50	0 – 66

Kindergarten--Literacy

DIBELS Next Measure	Performance Description	Fall* Score	Winter Score	Spring Score
Letter Naming Fluency (LNF)	No Benchmarks	No Benchmarks	No Benchmarks	No Benchmarks
First Sound Fluency (FSF)	Benchmark	10 +	30 +	Not Administered
	Below	5 – 9	20 – 29	
	Well Below	0 – 4	0 – 19	
Phoneme Segmentation Fluency (PSF)	Benchmark	Not Administered	20 +	40 +
	Below		10 – 19	25 – 39
	Well Below		0 – 9	0 – 24
Nonsense Word Fluency—Correct Letter Sounds (NWF-CLS)	Benchmark	Not Administered	17 +	28 +
	Below		8 – 16	15 – 27
	Well Below		0 – 7	0 – 14
DIBELS Next Composite Score	Benchmark	26 +	122 +	119 +
	Below	13 – 25	85 – 121	89 – 118
	Well Below	0 – 12	0 – 84	0 – 88

*Note. Well Below Benchmark for Fall for a Kindergarten student may indicate minimal access to instruction.

Canyons School District Elementary Screening Targets
 First Grade--Math

DIBELS Math Measure	Performance Description	Fall Score	Winter Score	Spring Score
Number Identification Fluency (NIF)	Benchmark	25 +	Not Administered	Not Administered
	Below	15 – 24		
	Well Below	0 – 14		
Next Number Fluency (NNF)	Benchmark	12 +	Not Administered	Not Administered
	Below	8 – 11		
	Well Below	0 – 7		
Advanced Quantity Discrimination (AQD)	Benchmark	10 +	19 +	21 +
	Below	6 – 9	14 – 18	16 – 20
	Well Below	0 – 5	0 – 13	0 – 15
Missing Number Fluency (MNF)	Benchmark	4 +	8 +	10 +
	Below	2 – 3	5 – 7	7 – 9
	Well Below	0 – 1	0 – 4	0 – 6
Computation (COMP)	Benchmark	5 +	10 +	15 +
	Below	3 – 4	7 – 9	11 – 14
	Well Below	0 – 2	0 – 6	0 – 10
DIBELS Math Composite Score	Benchmark	124 +	44 +	56 +
	Below	88 – 123	33 – 43	44 – 55
	Well Below	0 – 87	0 – 32	0 – 43

First Grade--Literacy Note: NWF = Nonsense Word Fluency

DIBELS Next Measure	Performance Description	Fall Score	Winter Score	Spring Score
Letter Naming Fluency (LNF)	No Benchmarks	No Benchmarks	Not Administered	Not Administered
Phoneme Segmentation Fluency (PSF)	Benchmark	40 +	Not Administered	Not Administered
	Below	25 – 39		
	Well Below	0 – 24		
Nonsense Word—Correct Letter Sounds (NWF-CLS)	Benchmark	27 +	43 +	58 +
	Below	18 – 26	33 – 42	47 – 57
	Well Below	0 – 17	0 – 32	0 – 46
Nonsense Word—Whole Words Read (NWF-WWR)	Benchmark	1 +	8 +	13 +
	Below	0	3 – 7	6 – 12
	Well Below	N/A	0 – 2	0 – 5
Oral Reading — Words Read Correctly (DORF-WRC)	Benchmark	Not Administered	23 +	47 +
	Below		16 – 22	32 – 46
	Well Below		0 – 15	0 – 31
Oral Reading—Accuracy (DORF-Accuracy)	Benchmark	Not Administered	78% +	90% +
	Below		68% – 77%	82% – 89%
	Well Below		0% – 67%	0% – 81%
DIBELS Next Composite Score	Benchmark	113 +	130 +	155 +
	Below	97 – 112	100 – 129	111 – 154
	Well Below	0 – 96	0 – 99	0 – 110

Canyons School District Elementary Screening Targets

Second Grade--Math

DIBELS Math Measure	Performance Description	Fall Score	Winter Score	Spring Score
Computation (COMP)	Benchmark	7 +	11 +	16 +
	Below	4 – 6	8 – 10	12 – 15
	Well Below	0 – 3	0 – 7	0 – 11
Concepts and Applications (C&A)	Benchmark	15 +	23 +	33 +
	Below	8 – 14	15 – 22	22 – 32
	Well Below	0 – 7	0 – 14	0 – 21
DIBELS Math Composite Score	Benchmark	30 +	48 +	66 +
	Below	20 – 29	34 – 47	48 – 65
	Well Below	0 – 19	0 – 33	0 – 47

Second Grade--Literacy

DIBELS Next Measure	Performance Description	Fall Score	Winter Score	Spring Score
Nonsense Word—Correct Letter Sounds (NWF-CLS)	Benchmark	54 +	Not Administered	
	Below	35 – 53		
	Well Below	0 – 34		
Nonsense Word—Whole Words Read (NWF-WWR)	Benchmark	13 +	Not Administered	
	Below	6 – 12		
	Well Below	0 – 5		
Oral Reading — Words Read Correctly (DORF-WRC)	Benchmark	52 +	72 +	87 +
	Below	37 – 51	55 – 71	65 – 86
	Well Below	0 – 36	0 – 54	0 – 64
Oral Reading—Accuracy (DORF-Accuracy)	Benchmark	90% +	96% +	97% +
	Below	81% – 89%	91% – 95%	93% – 96%
	Well Below	0% – 80%	0% – 90%	0% – 92%
Retell Fluency— (RF)	Benchmark	16 +	21 +	27 +
	Below	8 – 15	13 - 20	18 - 26
	Well Below	0 – 7	0 – 12	0 – 17
DIBELS Next Composite Score	Benchmark	141 +	190 +	238 +
	Below	109 – 140	145 – 189	180 – 237
	Well Below	0 – 108	0 – 144	0 – 179

Canyons School District Elementary Screening Targets

Third Grade--Math

DIBELS Math Measure	Performance Description	Fall Score	Winter Score	Spring Score
Computation (COMP)	Benchmark	14 +	22 +	29 +
	Below	9 – 13	16 – 21	22 – 28
	Well Below	0 – 8	0 – 15	0 – 21
Concepts and Applications (C&A)	Benchmark	23 +	36 +	40 +
	Below	13 – 22	22 – 35	26 – 39
	Well Below	0 – 12	0 – 21	0 – 25
DIBELS Math Composite Score	Benchmark	52 +	81 +	99 +
	Below	36 – 51	57 – 80	74 – 98
	Well Below	0 – 35	0 – 56	0 – 73

Third Grade--Literacy

DIBELS Next Measure	Performance Description	Fall Score	Winter Score	Spring Score
Oral Reading — Words Read Correctly (DORF-WRC)	Benchmark	70 +	86 +	100 +
	Below	55 – 69	68 – 85	80 – 99
	Well Below	0 – 54	0 – 67	0 – 79
Oral Reading—Accuracy (DORF-Accuracy)	Benchmark	95% +	96% +	97% +
	Below	89% – 94%	92% – 95 %	94% – 96%
	Well Below	0% – 88%	0 % – 91%	0% – 93%
Retell Fluency (RF)	Benchmark	20 +	26 +	30 +
	Below	10 – 19	18 – 25	20 – 29
	Well Below	0 – 9	0 – 17	0 – 19
DIBELS Maze (Daze) Adjusted Score	Benchmark	8 +	11 +	19 +
	Below	5 – 7	7 – 10	14 – 18
	Well Below	0 – 4	0 – 6	0 – 13
DIBELS Next Composite Score	Benchmark	220 +	285 +	330 +
	Below	180 – 219	235 – 284	280 – 329
	Well Below	0 – 179	0 – 234	0 – 279

Canyons School District Elementary Screening Targets

Fourth Grade--Math

DIBELS Math Measure	Performance Description	Fall Score	Winter Score	Spring Score
Computation (COMP)	Benchmark	18 +	31 +	46 +
	Below	13 – 17	21 – 30	33 – 45
	Well Below	0 – 12	0 – 20	0 – 32
Concepts and Applications (C&A)	Benchmark	32 +	43 +	69 +
	Below	21 – 31	27 – 42	44 – 68
	Well Below	0 – 20	0 – 26	0 – 43
DIBELS Math Composite Score	Benchmark	77 +	83 +	117 +
	Below	52 – 76	55 – 82	81 – 116
	Well Below	0 – 51	0 – 54	0 – 80

Fourth Grade--Literacy

Literacy Measure	Performance Description	Fall Score	Winter Score	Spring Score
Reading Inventory (SRI)—Lexile Scores	Advanced	Level Not Available		886 +
	Proficient	Level Not Available		770 – 885
	Basic	Level Not Available		500 – 769
	Below Basic	Level Not Available		0 – 499
DIBELS Oral Reading: Words read correctly (DORF-WRC)	Benchmark	90 +	103 +	115 +
	Below	70 – 89	79 – 102	95 – 114
	Well Below	0 – 69	0 – 78	0 – 94
DIBELS Oral Reading: Accuracy (DORF-Accuracy)	Benchmark	96% +	97% +	98% +
	Below	93% – 95%	94% – 96%	95% – 97%
	Well Below	0% – 92%	0% – 93%	0% – 94%
Retell Fluency (RF)	Benchmark	27 +	30 +	33 +
	Below	14 – 26	20 – 29	24 – 32
	Well Below	0 – 13	0 – 19	0 – 23
DIBELS Maze (Daze) Adjusted Score	Benchmark	15 +	17 +	24 +
	Below	10 – 14	12 – 16	20 – 23
	Well Below	0 – 9	0 – 11	0 – 19
DIBELS Next Composite Score	Benchmark	290 +	330 +	391 +
	Below	245 – 289	290 – 329	330 – 390
	Well Below	0 – 244	0 – 289	0 – 329

Canyons School District Elementary Screening Targets

Fifth Grade--Math

DIBELS Math Measure	Performance Description	Fall Score	Winter Score	Spring Score
Computation (COMP)	Benchmark	27 +	50 +	56 +
	Below	18 – 26	31 – 49	38 – 55
	Well Below	0 – 17	0 – 30	0 – 37
Concepts and Applications (C&A)	Benchmark	25 +	37 +	58 +
	Below	15 – 24	23 – 36	38 – 57
	Well Below	0 – 14	0 – 22	0 – 37
DIBELS Math Composite Score	Benchmark	58 +	93 +	114 +
	Below	38 – 57	63 – 92	81 – 113
	Well Below	0 – 37	0 – 62	0 – 80

Fifth Grade--Literacy

Literacy Measure	Performance Description	Fall Score	Winter Score	Spring Score
Reading Inventory (SRI)—Lexile Scores	Advanced	Level Not Available	981 +	
	Proficient	Level Not Available	865 – 980	
	Basic	Level Not Available	600 – 864	
	Below Basic	Level Not Available	0 – 599	
DIBELS Oral Reading: Words Read Correctly (DORF-WRC)	Benchmark	111 +	120 +	130 +
	Below	96 – 110	101 – 119	105 – 129
	Well Below	0 – 95	0 – 100	0 – 104
DIBELS Oral Reading: Accuracy (DORF-Accuracy)	Benchmark	98% +	98% +	99% +
	Below	95% – 97%	96% – 97%	97% – 98%
	Well Below	0% – 94%	0% – 95%	0% – 96%
Retell Fluency (RF)	Benchmark	33 +	36 +	36 +
	Below	22 – 32	25 – 35	25 – 35
	Well Below	0 – 21	0 – 24	0 – 24
DIBELS Maze (Daze) Adjusted Score	Benchmark	18 +	20 +	24 +
	Below	12 – 17	13 – 19	18 – 23
	Well Below	0 – 11	0 – 12	0 – 17
DIBELS Next Composite Score	Benchmark	357 +	372 +	415 +
	Below	258 – 256	310 – 371	340 – 414
	Well Below	0 – 257	0 – 309	0 – 339

Progress Monitoring

What is progress monitoring? Progress monitoring is “a scientifically based practice that is used to assess students’ academic performance and evaluate the effectiveness of instruction.” (National Center on Student Progress Monitoring, 2016). Progress monitoring involves frequent measurement of student performance for the purpose of evaluating a student’s growth toward a targeted objective. For example, the trajectory of reading growth can be measured with the weekly administration of reading probes. This is a powerful use of formative evaluation that can be highly motivating to students as they self-monitor their progress. Progress monitoring is an assessment strategy that has been demonstrated to have a high effect size on student achievement, particularly when data are graphed, shared with students, and decision rules are used to determine when an intervention is working or when interventions should be intensified.

Why progress monitor? Best practice indicates that students who are significantly behind in basic foundational skills, such as reading and math, should receive **intensified instruction** accompanied by frequent progress monitoring for the purpose of evaluating a student’s growth toward a targeted objective and **adjusting instruction** based on resulting student growth. For example, the rate of improvement can be measured with weekly administration of reading probes. This is a powerful use of formative evaluation and makes skill improvement visible to teacher and student alike. Being able to see progress is highly motivating; lack of progress prompts problem-solving and joint responsibility (student, teachers, and where possible, parents) to find a solution. Progress monitoring is essential for examining the effectiveness of Tier 2 and Tier 3 interventions within a Multi-Tiered System of Support (MTSS).

Who is progress monitored? Students who perform at grade-level (i.e. are meeting benchmarks) should not be progress monitored. Screening three times per year is enough to make sure these students are continuing on an appropriate trajectory. Students who are currently performing below or well-below benchmark on curriculum-based measures (e.g. DIBELS Next, DIBELS Math) should be progress monitored weekly, bi-weekly or monthly, depending on how far behind students are and the resources available for progress monitoring and intensified interventions. Ideally, students who are well below benchmark and are receiving intensive interventions should be progress monitored weekly with a curriculum-based measure. Once students are consistently performing above benchmark levels, progress monitoring is no longer necessary. As a very general rule of thumb, in elementary schools, one would expect the number of students requiring progress monitoring to be between 10% and 25% of the total student population. For some highly impacted schools with large numbers of ELs and/or high poverty, the percentage may be higher. However, keep in mind that progress monitoring too many students eats up resources that could be used for intensifying interventions for students who need it most.

Who conducts the progress monitoring assessment? Ideally, the teachers primarily responsible for a given student’s intensive intervention should conduct the progress monitoring. This could be a classroom teacher, a special education teacher, or an intervention specialist. However, instructional assistants and specialized staff who instruct students may also progress monitor students. In any case, in order to best inform decision making, data from progress monitoring should be shared with all teachers responsible for a student’s learning, the student, and the parents of that student. It is the combination of all of these individuals that makes a collaborative intervention team. If a teacher or staff member progress monitors 1-2 students per group per day, 10-20 students could potentially be monitored biweekly.

When to progress monitor within the school day? Each site will need to identify appropriate times to progress monitor students. Some suggested times for progress monitoring include: during skills-based instruction, during entrance and exit tasks, etc.



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Advanced Learner Services in Canyons School District

Definition

SALTA, advanced learner services in the Canyons School District, is a Latin-based word that means “leap” which stands for *Supporting Advanced Learners Toward Achievement*.

Mission Statement

To support teachers and administrators with rigorous curriculum, instruction, and assessment focusing on depth, complexity, higher-order thinking skills, and creativity to meet the needs of gifted and advanced learners by providing a continuum of extended learning activities, enrichment opportunities, and appropriately challenging curriculum.

Program Philosophy and Beliefs

Canyons School District administration and teachers believe that gifted and talented students have unique cognitive, academic, creative, and social needs. Students have a right to varied programming which is appropriate to their cognitive and academic abilities, thus optimizing learning opportunities. Programming must strive to offer a challenging learning environment that focuses on high achievement and is responsive to individual student needs. Canyons School District supports the use of research and evidence-based learning strategies, which provide a strong correlation between delivery of instruction and student learning outcomes. With these values at the forefront, Canyons School District continues to develop a continuum of SALTA services ranging from district-wide programs, school-specific services, and magnet schools.

SALTA Goals

Goal 1: Meet the needs of “gifted and talented” students.

Goal 2: Offer advanced learning opportunities at every school and grade-level.

Goal 3: Prepare all students with the skills necessary to be college and career ready.

Goal 4: Provide opportunities for students to focus on application of materials being learned, depth and complexity of those materials, and provide students with extended learning opportunities using the grade level Common Core State Standards as the foundation.

Goal 5: Ensure that ALL students are ready to begin higher-level courses in the secondary setting.

SALTA Magnet Services

SALTA (Supporting Advanced Learners Toward Achievement) Magnet Services are designed to serve students in grades 1-5 who demonstrate high cognitive and academic ability when compared with others of their age, experience, and/or environment. Students in a SALTA Magnet classroom require learning experiences beyond what is typically provided in the regular classroom. In the SALTA Magnet Program the pace of the curriculum is designed to meet the needs of advanced learners with an emphasis on depth and complexity, application of learning materials, higher order thinking skills, and creativity.

SALTA Focus

DEPTH

Refers to approaching or studying something from the concrete to the abstract, from the known to the unknown.

Requires students to examine topics by determining the facts, concepts, generalization, principles and theories related to them.

COMPLEXITY

Complexity is the why and how approach that connects and bridges to other disciplines to enhance the meaning of a unit of study.

Complexity encourages students to:

- Relate concepts and ideas at a more sophisticated level
- See associations among diverse subjects, topics or levels
- Find multiple solutions from multiple points of view

Complexity has three major dimensions:

- Relationships Over Time: Between the past, present and future, and within a time period
- Relationships From Different Points of View: Multiple perspectives, opposing viewpoints, differing roles and knowledge
- Interdisciplinary Relationship: With, between and across the disciplines

HIGHER ORDER THINKING SKILLS

Higher order thinking skills include critical, logical, reflective, metacognitive, and creative thinking.

Higher order thinking skills are activated when individuals encounter unfamiliar problems, uncertainties, questions, or dilemmas.

"In teaching for thinking, the concern is NOT how many answers students know, but what they do when they do NOT know; the goal is not merely to reproduce knowledge, but to create knowledge and grow in cognitive abilities." (*Best Practices in Gifted Education: An Evidence-Based Guide*, 2007)

Supporting Framework for Depth, Complexity, and Higher Order Thinking Skills taken from "Hess' Cognitive Rigor Matrix."

SALTA Individualized Learning Plan

An **Individualized Learning Plan**, or *ILP* is a written record of gifted and talented programming for each student in the Canyons School District SALTA magnet program. The *ILP* is meant to follow the student throughout their school years and is to be used to plan and make educational decisions.

The *ILP* is a record of SALTA programming services and is meant to be a connection between the student performance profile created at the time of identification for SALTA magnet services and the student's progress in the program. *ILP*'s aid the teacher in providing a challenging learning environment that focuses on high achievement and is responsive to individual student needs. Your child's *ILP* will include the specific programs and practices that will be utilized to **Extend** and **Supplement** your child's **Core** instruction.

All SALTA students are taught the Utah **Core** standards, which are evidence-based, aligned with expectations for success in college and the work place, and allow students to compete internationally. The new standards stress rigor, depth, clarity, coherence, and 21st century skills, drawing from the National Assessment of Educational Progress (NAEP) Frameworks in Reading and Writing and the Trends in International and Science Study (TIMMS) report in Mathematics.

Extensions of core standards provide students with activities that are added to **Core** to deepen understanding. Examples of curriculum supports that may be used to **Extend** the core include:

- Research and Inquiry Skills from Reading Street
- Project-Based Learning
- District supported Extended Learning Activities
- Math Exemplars
- Extending the Challenge in Mathematics by Dr. Linda Sheffield

Supplemental curriculum supports are used to challenge students beyond the **Extend** and **Core** supports. *Junior Great Books* will be used as a supplement for SALTA English Language Arts. *Math M²: Mentoring Young Mathematicians* and *Math M³: Mentoring Mathematical Minds*, as well as *Mathematics Units for High Ability Learners* will be used as a supplement for SALTA math.

Depth, complexity, higher-order thinking skills, and creativity are the programming focus in SALTA to support gifted and talented learners. This focus ensures that the needs of SALTA students are being met and that the curriculum maintains a high level of rigor.

Each student will work towards a "Challenge" goal in English Language Arts and Math and an "Improvement" goal in English Language Arts and Math. A Challenge goal is meant to extend a student's thinking in any area of strength or interest. An Improvement goal is meant to address an area of need for the student, or an area in which the student needs to improve. Challenge and Improvement goals will be articulated on the *ILP*. Additional goals may be added if appropriate.

At the beginning of each school year, the student's current teacher in conjunction the student's parents will review the previous year's *ILP* and set new goals. The *ILP* will then be reviewed at each parent-teacher conference in conjunction with the Canyons School District report card and adjustments will be made as needed.

Writing S.M.A.R.T. Goals

Goals on an *ILP* should be simplistically written and clearly define what the student is going to do.

The purpose of SMART goals in the *ILP* is to inspire students toward new levels of learning and growth. SMART goals provide clear instructional and effective guidance for each student in the SALTA Magnet Program. SMART goals provide a measure of where we believe the student will progress as a result of programming. Results of SMART goals provide the student with an indicator of success, self-efficacy, and next steps.

A **S.M.A.R.T.** goal is defined as one that is **Specific**, **Measurable**, **Attainable**, **Results-oriented & relevant**, and **Time-bound**.

S	Specific
M	Measurable
A	Attainable
R	Results-oriented & Relevant
T	Time-bound

Specific: Goals should be simplistically written and clearly define what you are going to do. The goal should answer questions such as **how much, for whom, for what?**

Measurable: Goals should be measurable so that you have tangible evidence that you have accomplished the goal. The goal has an outcome that can be assessed or measured in some way. **Which requirements will be met?**

Attainable: An attainable goal has an outcome that is realistic given the current situation, resources and time available.

Results-oriented & Relevant: A results orientated and relevant goal helps maintain focus on the mission or the “bigger picture.” **Why-the specific reasons or purposes of accomplishing the goal.**

Time-bound: A time-bound goal includes realistic timeframes. Sometimes timeframes are imposed. When that is the case, carefully consider what is attainable within the imposed timeframe. The goal should have a clearly defined time frame including a deadline date. **When will it happen?**

Not a SMART goal:

(Student) will improve his/her writing skills.

Does not identify a measurement or time frame, nor identify why the improvement is needed or how it will be used.

SMART goal:

At the end of the first semester, (student) will touch-type a passage of text at a speed of 20 words per minute, with no more than 10 errors, with progress measured on a five-minute timed test.

(Student) will improve his/her writing and spelling skills so he/she can write a clear, cohesive, and readable paragraph consisting of at least 3 sentences, including compound and complex sentences that are clearly related by the end of the 2nd semester.

Examples of S.M.A.R.T. Goals

Challenge Goals

A challenge goal is meant to extend a student's thinking in any area of strength or interest.

Math

Susie will improve her ability to justify her mathematical thinking through writing to a level four by January using the writing rubrics in enVision or Exemplars.

Dorothy will deepen her math knowledge by passing the post test in the Math M3 unit with a score of 90% or greater by the end of the unit.

English Language Arts

Johnny will improve the number of times he participates in Shared Inquiry discussions in small group from 2 times to 5 times during each 30 minute session.

Paul will be able to focus ideas to a level 4 in an expository composition with well supported facts from the Expository Composition rubric found in Reading Street by January 15.

Improvement Goals

An improvement goal is meant to address an area of need for the student, or an area in which the student needs to improve.

Math

Susie will improve her ability to justify her mathematical thinking through writing to a level three by January using the writing rubrics in enVision or Exemplars.

Corky will improve his fluency with multiplication within 100 math facts by passing an progress monitoring probe every two weeks until mastery is reached or April 1.

English Language Arts

Paul will be able to focus ideas to a level 3 in an expository composition with well supported facts from the Expository Composition rubric found in Reading Street by January 15.

Bronson will have organization within the opinion essay with ideas that are presented in logical order to a level 3 from the Persuasive Essay rubric found in Reading Street by January.

Behavior

Sharon will complete three tasks daily as assigned and tracked by the teacher until the next parent teacher conference in March.

Evidence of Progress RIOT

Evidence of progress on a SALTA *ILP* is measured using the RIOT model. The RIOT model helps teachers work efficiently and quickly to decide what relevant information to collect on student academic performance and behavior. The RIOT model is not itself a data collection instrument. It is an organizing framework or heuristic that can enhance the quality of data collected.

The RIOT model includes four potential sources of student information: **R**eview, **I**nterview, **O**bserve, and **T**est.

R	Review
I	Interview
O	Observe
T	Test (Includes Rubrics)

Review: Reviewing information consists of examining past or present records collected on the student. Examples include report cards, office disciplinary referral data, state test results, attendance records, curriculum-based measurement (CBM) testing, common formative assessments (CFA's), and summative assessments. Less obvious examples include student work samples, physical products of teacher interventions (e.g., a sticker chart used to reward positive student behaviors), and emails sent by a teacher to a parent detailing concerns about a student's study and organizational skills.

Interview: Interview targets can include teachers, paraprofessionals, administrators, and support staff in the school setting who have worked with or had interactions with the student in the present or past. Prospective interview candidates can also consist of parents and other relatives of the student as well as the student himself or herself. Interviews can be conducted face-to-face, via telephone, or email correspondence. Interviews can be structured (using a pre-determined series of questions) or follow an open-ended format, with questions guided by information supplied by the respondent.

Observation: Direct observation of the student's academic skills, study and organizational strategies, degree of focus and attention, and general conduct can be useful information. Observations can be structured (e.g., tallying the frequency of call-outs or calculating the percentage of on-task intervals during a class period) or less structured (e.g., observing a student and writing a running narrative of the observed events). Other examples of observation include a teacher keeping a frequency count of the times that he/she redirects an inattentive student to task during a certain time period or a school psychologist observing the number of intervals a student talks with peers during independent seatwork. Less obvious examples of observation include having a student rate his/her own academic performance or behavior (self-monitoring) and encouraging a parent to send to school narrative observations of the student's typical routine for completing homework.

Test: A test or examination is an assessment intended to measure a student's knowledge, skill, and/or aptitude. Testing takes many different forms and is conducted in a variety of ways. Examples of tests include curriculum-based measurements, formative and summative assessments, and the use of rubrics.

SALTA Individualized Learning Plan (ILP)

Plan Year					
Student Name					
Student ID #					
Grade	<input type="checkbox"/> 1 st	<input type="checkbox"/> 2 nd	<input type="checkbox"/> 3 rd	<input type="checkbox"/> 4 th	<input type="checkbox"/> 5 th
School	<input type="checkbox"/> Peruvian Park Elementary			<input type="checkbox"/> Sunrise Elementary	
Other Services	<input type="checkbox"/> IEP	<input type="checkbox"/> 504		<input type="checkbox"/> ELL	

Student Profile

Program Entrance Date: _____

Qualification Testing Date: _____

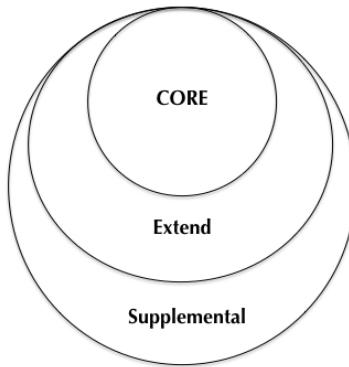
Cognitive (CogAT 6)	Academic (SAGES-2) [If Applicable]		Academic (IOWA-E) [If Applicable]
Verbal Percentile Rank		Math/Science Percentile Rank	Reading Percentile Rank
Quantitative Percentile Rank			Math Percentile Rank
Nonverbal Percentile Rank		Language Arts/Social Studies Percentile Rank	Social Studies Percentile Rank
Composite Percentile Rank			Science Percentile Rank
Other Assessments:	Scores:		Word Analysis Percentile Rank
			Vocabulary Percentile Rank

Present Levels of Academic Performance

DIBELS	Computation		SRI (4 th – 5 th)
Fall	Fall		Fall
Winter	Winter		Winter
Spring	Spring		Spring

SALTA Programming

Depth, Complexity, Higher Order Thinking Skills, Creativity

English Language Arts		Math
CORE: -Reading Street		CORE: -enVision w/Math Investigations
EXTEND: -Reading Street w/Research & Inquiry Skills (R&I Skills) -Project-Based Learning (PBL) -Extended Learning Opportunities (ExLO)		EXTEND: -Math Exemplars -Extending the Challenge (A & B), Sheffield (ExCh) -Extended Learning Opportunities (ExLO) -Project-Based Learning (PBL)
SUPPLEMENTAL: -Jr. Great Books		SUPPLEMENTAL: -Math M ² & M ³ -Mathematics Unit for High-Ability Learners

Extend and Supplemental material support(s) marked below align to S.M.A.R.T goal(s) that will demonstrate student growth. (Mark at least one).

Extend

<input type="checkbox"/> R&I Skills	<input type="checkbox"/> PBL	<input type="checkbox"/> ExLO	<input type="checkbox"/> Exemplars	<input type="checkbox"/> ExCh	<input type="checkbox"/> ExLO	<input type="checkbox"/> PBL
Supplemental			Supplemental			
<input type="checkbox"/> Jr. Great Books			<input type="checkbox"/> Math M ² or M ³			
					<input type="checkbox"/> High-Ability Learners Unit	

Student SMART Goals

Specific	Measureable	Attainable	Results-oriented & Relevant	Time-bound
Initial Conference Date:				
<u>ENGLISH LANGUAGE ARTS</u>				
SMART Goal:				
Evidence of Progress: (Describe Below) <u>R</u> eview <u>I</u> nterview <u>O</u> bservation <u>T</u> est (Includes Rubrics)				
<u>R</u> eview				
<u>I</u> nterview				
<u>O</u> bservation				
<u>T</u> est (Includes Rubrics)				
Follow-up Conference Date:				
Describe Progress:				
Final Notes:				

Student SMART Goals

Specific	Measureable	Attainable	Results-oriented & Relevant	Time-bound
Initial Conference Date:				
<u>MATH</u>				
SMART Goal:				
Evidence of Progress: (Describe Below) <u>R</u> eview <u>I</u> nterview <u>O</u> bservation <u>T</u> est (Includes Rubrics)				
<u>R</u> eview				
<u>I</u> nterview				
<u>O</u> bservation				
<u>T</u> est (Includes Rubrics)				
Follow-up Conference Date:				
Describe Progress:				
Final Notes:				

Student SMART Goals

Specific	Measureable	Attainable	Results-oriented & Relevant	Time-bound
Initial Conference Date:				
<u>OTHER</u> Other Goal "Areas" may include Social/Behavioral, ELA, Math, Content Integration, Science, Social Studies, etc. Goal must be school related.				
Area:				
SMART Goal:				
Evidence of Progress: (Describe Below) <u>R</u> evi <u>w</u> <u>I</u> nter <u>i</u> ve <u>O</u> bservation <u>T</u> est (Includes Rubrics)				
<u>R</u> evi <u>w</u>				
<u>I</u> nter <u>i</u> ve				
<u>O</u> bservation				
<u>T</u> est (Includes Rubrics)				
Follow-up Conference Date:				
Describe Progress:				
Final Notes:				

Signature Page

Initial Conference

Date: _____

Student _____

Parent _____

Teacher _____

Other>Title _____

Follow-up Conference

Date: _____

Student _____

Parent _____

Teacher _____

Other>Title _____

Homework—What Works?

Research indicates that when homework is carefully planned, there can be significant benefits to student achievement such as: increased time on task, readiness for classroom instruction, supports self-regulation, and develops traits of independence and responsibility.

Homework Characteristics:

- Build fluency
- Apply knowledge
- Reviewing and practicing past learning
- Extend learning across topics and disciplines

Rick Wormeli



Key Findings of Homework Research

Purpose

Homework needs a clear purpose and should be able to be completed *without* assistance. Homework should focus on the process of learning rather than the final result (Schimmer, 2016).

Valid purposes for homework include:

1. Practicing a skill or process that students can do independently, but not fluently;
2. Elaborating on information that has been addressed in class to deepen students' knowledge; and,
3. Providing opportunities for students to explore topics of their own interest (Vatterott, 2009).

CSD resources that align to these purposes include the [ELA Homework Skills](#) pages and the [enVision Daily Common Core Review Sheet](#). Additionally, [Reflex Math](#) is an effective tool for allowing students to develop their fluency in the basic operations.

- Homework provides formative data for teachers and learners when it becomes a tool for continuing the learning the next day (Erkens, 2016).
- "Homework is most effective when it covers material already taught. Material that was taught the same day is not as effective as an assignment given to review and reinforce skills learned previously" (AFT, 2006)
- "Homework is also most effective when it is used to reinforce skills learned in previous weeks or months" (AFT, 2006). This will provide additional reinforcement to build automaticity in the concept being practiced.

Time and Communication

- Shorter, more frequent homework is better than longer assignments given infrequently (Vatterott, 2009).
- Homework should be time-based. This means students should be given a specific amount of time to complete it and stop when that time is up. The general rule of thumb in elementary is 10 minutes per grade level (Cooper, 2001).
- Simple feedback keeps the focus on learning (Hattie, 2008). For example, when providing feedback on math homework it would be best to review student responses prior to math instruction. If a common error is found in student work, then take a few minutes to explain to the students that many students in the class missed the problem and we are going to take a few minutes to learn from our errors. If it is only a small group of students who missed the skill, then provide additional instruction to those students in a small group setting.
- Parents should be made aware of the purpose of the homework assignments, the length of time the student should spend, and the expectations. Parents should feel free to call a halt to homework assignments if their child is getting frustrated, spending an inordinate amount of time on homework, or obviously doesn't understand what to do. Sending a note or an email to the teacher is entirely appropriate and teachers should respond positively.

The overall message of homework research is the right amount of homework that is high quality, provides timely feedback, and is purposeful can be beneficial for learning and too much homework has negative effects on student achievement.

Creating a Classroom Culture for Structured Interactions

Arrange Classroom	Examples
Seating to be conducive to structured interactions with pairs and groups	<ul style="list-style-type: none"> • Maintain visibility to teacher • Maintain visibility to reference points, (e.g., whiteboard, response frames, anchor charts etc.) • Possible seating arrangements <ul style="list-style-type: none"> ◦ rows – one partner to the left and one partner behind ◦ tables - one partner across and one beside ◦ chevron – one partner to the side and one behind
Assign and Alternate Partners	Examples
<ul style="list-style-type: none"> • First few days of school, look for ways to use random partnering • Allow for students to partner with at least 2 different classmates • Allow for students to experience different individuals 	<u>Partnering Strategies:</u> <ol style="list-style-type: none"> 1. Assign partners 2. Designate 1s and 2s/As and Bs (no 3's – have second 2) 3. Provide question or discussion topic 4. Assign which partner should go first 5. State how much time will be allotted <ul style="list-style-type: none"> * structure Academic Language – (see sentence frames) 6. Circulate to monitor discussions 7. Call on 1-4 individuals who had good answers; make it look random (no hands up) 8. Ask who else has something different to add
Consider Variables in Partnerships	Examples
<ul style="list-style-type: none"> • Use data to determine how to best assign partners (avoid pairing high performing students with low performing students). • Teach expectations for absences - have substitute partners identified 	<ul style="list-style-type: none"> • ELL proficiency • Communicative competence • Reading and writing proficiency • Attendance • Maturity • Behavioral needs <p>- Assign partners taking into consideration literacy and language skills. Rank your students numerically from highest (1, 2, 3) to lowest (28, 29, 30). #1 is paired with #16, #2 is paired with 17, #3 is paired with #18, #15 is paired with #30, and so on. - Observe how these partners work together and adjust as needed.</p>
Establish, Teach and Reinforce Expectations	Examples
<ul style="list-style-type: none"> • Foster setting that collaborative interactions are the expectation <ul style="list-style-type: none"> ◦ Model ◦ Teach ◦ Provide practice ◦ Provide a reference for the expectations 	<u>Use the 4 L's</u> <ol style="list-style-type: none"> 1. Look at partner 2. Lean toward partner 3. Lower your voice 4. Listen attentively
Listening accountability	Examples
Utilize strategies to elicit democratic contributions	<ul style="list-style-type: none"> • Preselect initial reporters from the partnership • Invite contributions from students that have not had the opportunity • Randomly select students by using a name card • Allow for students to report their partner's idea • Cue partners A or B to stand and ask for one of the student's standing to report out

Adapted from Kate Kinsella, 2015

Academic Language

(a.k.a. Academic English)

"Closely related to text complexity and inextricably connected to reading comprehension is a focus on academic vocabulary: words that appear in a variety of content areas (such as ignite and commit) ... their use extends across reading, writing, speaking, and listening." (corestandards.org, May, 2015)

Academic Language is "the oral and written text required to succeed in school that entails deep understanding and communication of the language content within a classroom environment." (wida.us, 2012).

Academic language is often described as the more *formal* 'language of school and testing' contrasting the *informal* language spoken on the school bus, playground or while students are in the hallways with friends. Like this sentence, and others found in textbooks and on assessments, academic language is more formal in tone and structures and includes words, phrases and sentences that are information dense (Childress, 2013). Academic language is often thought of as just the unfamiliar or technical vocabulary associated with content area lessons, however it is much more than words!

Academic language instruction should be integrated into the core curriculum and explicitly taught throughout the day. Teachers should be models of academic language all day long. Students with language deficits do not need to master conversational oral English before they are taught the features of academic English.

Academic Language IS	Academic Language is NOT
<ul style="list-style-type: none">Used in both writing and speakingDifferent from social conversationsA register of language for specific purposes (text message vs essay)Much broader than a focus on "correct" usageBuilt around meaning and purpose	<ul style="list-style-type: none">Just writtenJust formal languageJust words or specialized vocabularyJust the use of standard ("correct") formsJust linguistic forms without meaning or purpose

What makes language sound academic?		
Everyday Language	VS	Academic Language
Casual language spoken with or to peers or adults with whom you feel close <i>"You guys get it?"</i>	VS	Spoken with or by teachers, principals, authority figures <i>"Do you understand what the text is saying?"</i>
More informal with simple grammatical structures <i>I thought the author did a great job making the characters real to me.</i>		More formal with complex grammatical structures <i>The author skillfully captured the essence of each character through vivid descriptions.</i>
Shorter and incomplete sentences <i>"Thanks!"</i>		Longer and complete sentences <i>"I appreciate your help with this."</i>
Repetition of words <i>"And then...and then...and then"</i>		Variety of words <i>"First...then...finally...consequently"</i>
Less sophisticated vocabulary <i>This shows</i> <i>It's about</i>		More sophisticated vocabulary <i>Your response demonstrates, illustrates, portrays</i> <i>It concerns, It's in regards to</i>
Sentences start with conjunctions such as ' and ', ' but ' and ' because '		Sentences start with transitions such as ' however ' and ' in addition to '
Actions through verbs <i>solve, fail, discover</i> <i>"Solve the problem."</i>		Actions turned into nouns to build concepts <i>solution, failure, discovery</i> <i>"Find a solution to the problem."</i>
Active voice more common <i>John purchased five books.</i>		Passive voice more common. <i>Five books were purchased by John.</i>
Shorter noun phrases <i>The dog</i>		Longer noun phrases <i>The drooling, long-eared Labrador pup</i>
Use of slang <i>"My bad!"</i>		No slang <i>"I made a mistake."</i>

Adapted from: Jennifer Childress, Assoc. Professor, Art Education, The College of Saint Rose 10/8/13
<https://communications.madison.k12.wi.us/what-is-academic-language>

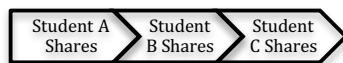
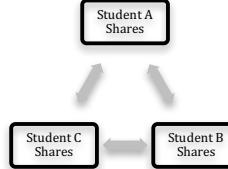
Structures to Support Academic Language

Reading and writing float on a sea of talk. ~ James Britton

All language learners need access to instruction that clearly connects the four domains of language: listening, speaking, reading and writing. This is especially important for English Language Learners (ELLs). While ‘student talk’ takes time that we often do not feel we have enough of, it is an absolute necessity. Developing oracy through **structured and intentionally planned academic discussion** is critical to achieve our goal of high-level literacy.

Output VS Interaction

Adapted from Oakland Unified School District

	What is it?	Example	Benefit
Output	Students sharing their answer to a prompt.	<i>“Share one consequence the Great Depression had on the United States with your group.”</i> 	Good practice to support the more challenging task of authentic interaction .
Interaction	Students working together to co-construct meaning . When students interact, they challenge each other, elaborate, clarify responses and build on one another’s ideas.	<i>“Decide which consequence of the Great Depression had the most impact on the United States.”</i> 	Deeper meaning and concept building and understanding develops

Teacher Responsibilities	Examples
Improve Academic Discussion and Discourse	Student Alternatives to “I don’t know,” “What,” or “Huh?” <ul style="list-style-type: none"> • May I please have more information? • May I have some more time to think? • Would you please repeat the question? • Where can I find information? • May I ask a friend for help?
Use prompts and questioning to maximize participation and elaboration. (Asking meaningful, challenging, and open-ended questions)	Teacher prompts to increase elaboration <ul style="list-style-type: none"> • Tell us more. • Would you like to ask me a question? • Would you say that again? • Give us another example to help us understand. • I’d like to hear what others are thinking about Joe’s comment. • Take your time. I can see you have more to say about this. • Where can we find that information you just brought up?

Fisher & Frey, Educational Leadership, Speaking Volumes, November 2014, Volume 72 pages 18-23

Webb's Depth of Knowledge (DOK)

Webb's Depth of Knowledge (DOK) provides a vocabulary and a frame of reference that connects the type of thinking with the complexity of the task. Using DOK levels offers a common language to understand "rigor," or cognitive demand, in assessments, as well as curricular units, lessons, and tasks. Consequently, teachers need to develop the ability to design questions, tasks and classroom assessments for a greater range of cognitive demand. Most often a scaffolded support is needed to help students organize or break down information. All learners K-12 should experience a variety of DOK levels.

Depth of Knowledge Generalizations:

If there is one correct answer, it is most likely a DOK 1 or DOK 2.

- DOK 1: Either you know it or you don't
- DOK 2: Make connections with known information

If there is more than one answer, requiring supporting evidence, it is a DOK 3 or DOK 4.

- DOK 3: Interpret implied information, provide supporting evidence and reasoning. Explain not just HOW but WHY for each step and decision made
- DOK 4: Includes all of DOK 3 and the use of multiple sources/data/ texts

DOK Level 1: Recall & Reproduction	
Students are to recall or reproduce knowledge and /or skills. Content involves working with facts, terms, details and calculations. Level 1 items have a correct answer with nothing to reason or figure out.	
Teacher Role	Student Role
Questions to direct or focus attention, shows, tells, demonstrates, provides examples, examines, leads, breaks down, defines	Recognizes, responds, remembers, memorizes, restates, absorbs, describes, demonstrates, follows directions, applies routine processes, definitions, and procedures
Possible Task and Products	
<ul style="list-style-type: none">• Fill in the blank• Quiz• Calculate, compute• Oral reading fluency• Decoding words• Write complete sentences• Document with highlighting/ citing/ annotating sources• Locate and recall quotes• Recite math facts, poems etc.	<ul style="list-style-type: none">• Write a list of key words about . . .• Memorize lines• Complete basic calculation tasks (e.g., add, subtract, divide, multiply)• Complete measurement tasks using rulers or thermometers• Read for fact/details or plot• Locate or retrieve information in verbatim form to answer a question
Potential Questions	
Can you recall _____? When did _____ happen? Who was_____? How can you recognize_____? What is ____? How can you find the meaning of _____?	Can you select _____? How would you write _____? What might you include on a list about _____? Who discovered ____? What is the formula for ____? Can you identify ____?

Hess, 2013. Adapted from A Guide for Using Webb's Depth of Knowledge with Common Core State Standards

Webb's Depth of Knowledge (DOK)

DOK Level 2: Skill/Concept	
Includes the engagement of mental processing beyond recalling, reproducing or locating an answer. This level generally requires students to compare and contrast, cause and effect, classify, or sort items into meaningful categories, describe or explain relationships, provide examples and non-examples.	
Teacher Role	Student Role
Provides questions to differentiate, infer, or check conceptual understanding, models, organizes/reorganizes, explores, possible options or connections, provides, examples and non-examples	Solves routine problems/tasks involving multiple decisions points and concepts, constructs models to show relationships, demonstrates use of conceptual knowledge, compiles and organizes, illustrates with examples or models and examines.
Possible Tasks and Products	
<ul style="list-style-type: none"> • Timeline • Number line • Graphic organizer • Science logs • Concept Maps • Captioned Story Board • Use a Venn Diagram that shows how two topics from the same source are the same and different 	<ul style="list-style-type: none"> • Write a summary • Explain a series of steps used to find a solution • Sequence of events using a graphic organizer • Explain the meaning of a concept using words, objects and/or visuals • Complex calculations involving decision points • Conduct, collect, and organize data
Potential Questions:	
What other way could you solve/find out ____? What is your prediction and why? How would you organize ____ to show ____? Can you explain how ____ affected ____? How would you apply what you learned to develop ____? How would you compare ____ and contrast ____? How would you classify?	What facts are relevant to show ____? How or why would we use ____? What examples or non-examples can we find? What is the relationship between ____ and ____? How would you summarize? How are ____ alike and different? What do you notice about ____? How would you estimate ____?

Hess, 2013. Adapted from *A Guide for Using Webb's Depth of Knowledge with Common Core State Standards*

Webb's Depth of Knowledge (DOK)

DOK Level 3: Strategic Thinking and Reasoning

Stating reasons and providing relevant supporting evidence are key markers of DOK 3 tasks. The expectation established for tasks at this level require an in-depth integration of conceptual knowledge and multiple skills to reach a solution or produce a final product. DOK 3 tasks focus on in-depth understanding of **one** text, **one** data set, **one** investigation, or **one** key source.

Teacher Roles	Student Role
Questions to probe reasoning and underlying thinking, asks open-ended questions, acts as a resource and coach, provides criteria and examples for making judgments and supporting claims. Encourages multiple approaches and solutions and determines when in depth exploration is appropriate.	Uncovers and selects relevant and credible supporting evidence for analyses, critiques, debates, claims and judgments, plans, initiates questions, disputes, argues, tests ideas/solutions, sustains inquiry into topics or deeper problems, applies to the real world.

Possible Tasks and Products:

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">• Complex graph• Analyze survey results• Multiple paragraph essay or short story• Fact-based argument• Chart and draw conclusions about data sets• Investigation• Drawing conclusions from text or data sets• Generalize from a set of evidence or data• Justification of the solution to a problem• Debate from a given perspective | <ul style="list-style-type: none">• Design a questionnaire to gather information• Survey classmates/industry members to find out what they think about a particular topics• Make a flow chart to show the critical stages.• Participate in a discussion that represents different viewpoints• Write a opinion essay• Convince others with evidence• Solve non-routine problems• Interpret information from a complex graph |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Potential Questions

- | | |
|--------------------------------------------------|------------------------------------------------------------------|
| How is ___ related to ___? | How can you prove that your solution is reasonable? |
| What are the possible flaws in ___? | What evidence can you find to support ___? |
| What is the theme/lesson-learned ___? | What ideas justify ___? |
| How would the moral change if ___? | What conclusions can you draw? |
| What underlying bias is there ___? | What information can you draw on to support your reason for ___? |
| What inferences will these facts support ___? | How would you ___ to create a different ___? |
| How does the author create tension/suspense ___? | What is the best answer and why? |
| What is the author's reasoning for ___? | Can you elaborate on your reason and give examples? |

Hess, 2013. Adapted from *A Guide for Using Webb's Depth of Knowledge with Common Core State Standards*

Webb's Depth of Knowledge (DOK)

DOK Level 4: Extended Thinking

Stating reasons and providing relevant supporting evidence are key markers of DOK 4 tasks. The expectation established for tasks at this level require an in-depth integration of conceptual knowledge and multiple skills to reach a solution or produce a final product. DOK 4 tasks focus on in-depth understanding of **multiple** texts, **multiple** data sets, **multiple** investigations, or **multiple** key sources.

Teacher Roles	Student Role
Questions extend thinking and broaden perspectives; facilitates teaming, collaboration and self-evaluation of students.	Designs, takes risks, researches synthesizing multiple sources, collaborates, plans, organizes, modifies, creates concrete tangible products.
Possible Tasks and Products:	
<ul style="list-style-type: none">• Presentation—using diverse media formats• Research report synthesizing multiple sources• Essay (informational, narrative or opinion) using multiple sources• Multiple data sources synthesized to develop original graphs• Assessment based on application of the content knowledge	<ul style="list-style-type: none">• Applying information from more than one discipline to solve non-routine problems in novel or real-world situations.• Tasks that require making multiple strategic and procedural decisions as new information is processed• Tasks that require multiple roles and collaboration with others. (peer revision, editing of a script)• Tasks that draw evidence from multiple sources to support solutions/conclusions
Potential Questions—all require multiple sources for evidence	
<p>What changes would you make to solve or address this major issue/problem _____?</p> <p>Can you propose an alternate solution?</p> <p>Do you agree with the actions, outcomes, or decisions?</p> <p>How would you prove or disprove?</p> <p>Can you assess the value or importance of?</p>	

Hess, 2013. Adapted from *A Guide for Using Webb's Depth of Knowledge with Common Core State Standards*

Table 1: Math Descriptors – Applying Depth of Knowledge Levels for Mathematics (Webb, 2002) & NAEP 2002 Mathematics Levels of Complexity (M. Petit, Center for Assessment 2003, K. Hess, Center for Assessment, updated 2006)

Level 1 Recall	Level 2 Skills/Concepts	Level 3 Strategic Thinking	Level 4 Extended Thinking
<p>a. Recall, observe, or recognize a fact, definition, term, or property</p> <p>b. Apply/compute a well-known algorithm (e.g., sum, quotient)</p> <p>c. Apply a formula</p> <p>d. Determine the area or perimeter of rectangles or triangles given a drawing and labels</p> <p>e. Identify a plane or three dimensional figure</p> <p>f. Measure</p> <p>g. Perform a specified or routine procedure (e.g., apply rules for rounding)</p> <p>h. Evaluate an expression</p> <p>i. Solve a one-step word problem</p> <p>j. Retrieve information from a table or graph</p> <p>k. Recall, identify, or make conversions between and among representations or numbers (fractions, decimals, and percents), or within and between customary and metric measures</p> <p>l. Locate numbers on a number line, or points on a coordinate grid</p> <p>m. Solve linear equations</p> <p>n. Represent math relationships in words, pictures, or symbols</p> <p>o. Read, write, and compare decimals in scientific notation</p>	<p>a. Classify plane and three dimensional figures</p> <p>b. Interpret information from a simple graph</p> <p>c. Use models to represent mathematical concepts</p> <p>d. Solve a routine problem requiring multiple steps/decision points, or the application of multiple concepts</p> <p>e. Compare and/or contrast figures or statements</p> <p>f. Construct 2-dimensional patterns for 3-dimensional models, such as cylinders and cones</p> <p>g. Provide justifications for steps in a solution process</p> <p>h. Extend a pattern</p> <p>i. Retrieve information from a table, graph, or figure and use it solve a problem requiring multiple steps</p> <p>j. Translate between tables, graphs, words and symbolic notation</p> <p>k. Make direct translations between problem situations and symbolic notation</p> <p>l. Select a procedure according to criteria and perform it</p> <p>m. Specify and explain relationships between facts, terms, properties, or operations</p> <p>n. Compare, classify, organize, estimate, or order data</p>	<p>a) Interpret information from a complex graph</p> <p>b) Explain thinking when more than one response is possible</p> <p>c) Make and/or justify conjectures</p> <p>d) Use evidence to develop logical arguments for a concept</p> <p>e) Use concepts to solve non-routine problems</p> <p>f) Perform procedure with multiple steps and multiple decision points</p> <p>g) Generalize a pattern</p> <p>h) Describe, compare, and contrast solution methods</p> <p>i) Formulate a mathematical model for a complex situation</p> <p>j) Provide mathematical justifications</p> <p>k) Solve a multiple- step problem and provide support with a mathematical explanation that justifies the answer</p> <p>l) Solve 2-step linear equations/inequalities in one variable over the rational numbers, interpret solution(s) in the original context, and verify reasonableness of results</p> <p>m) Translate between a problem situation and symbolic notation that is not a direct translation</p> <p>n) Formulate an original problem, given a situation</p> <p>o) Analyze the similarities and differences between procedures</p> <p>p) Draw conclusion from observations or data, citing evidence</p>	<p>a) Relate mathematical concepts to other content areas</p> <p>b) Relate mathematical concepts to real-world applications in new situations</p> <p>c) Apply a mathematical model to illuminate a problem, situation</p> <p>d) Conduct a project that specifies a problem, identifies solution paths, solves the problem, and reports results</p> <p>e) Design a mathematical model to inform and solve a practical or abstract situation</p> <p>f) Develop generalizations of the results obtained and the strategies used and apply them to new problem situations</p> <p>g) Apply one approach among many to solve problems</p> <p>h) Apply understanding in a novel way, providing an argument/justification for the application</p> <p>NOTE: Level 4 involves such things as complex restructuring of data or establishing and evaluating criteria to solve problems.</p>

Table 1: Sample Depth-of-Knowledge Level Descriptors for Reading
(Based on Webb and Wixson, K. Hess, Center for Assessment/NCIEA, 2004)

Level 1 Recall of Information	Level 2 Basic Reasoning	Level 3 Complex Reasoning	Level 4 Extended Reasoning
<ul style="list-style-type: none"> a. Read words orally in isolation b. Read words orally in connected text c. Read multi-syllabic words d. Locate or recall facts or details explicitly presented in text e. Identify or describe characters, setting, sequence of events f. Use language structure (pre/suffix) or word relationships (synonym/antonym) to determine meaning of words g. Select appropriate words to use in context (e.g., content-specific words, shades of meaning) when intended meaning is clearly evident 	<ul style="list-style-type: none"> a. Use context cues or resources to identify the meaning of unfamiliar words b. Predict a logical outcome based on information in a reading selection c. Make basic inferences or draw basic conclusions about information presented in text (e.g., According to this report, what caused ___?) d. Recognizing appropriate generalizations about text (e.g., possible titles, main ideas) e. Identify and summarize the major events, problem, solution, conflicts in a literary text f. Determine whether a text is fact or fiction g. Distinguish between fact and opinion h. Describe the characteristics or features of various types of text i. Obtain information using text features of informational text (e.g., Table of Contents, sidebar, chart) j. Organize information presented in informational text using mapping, charting, or summarizing k. Locate information to answer questions related to explicit or implicit central ideas in informational texts l. Identify use of literary devices (e.g., imagery, idioms, exaggeration, alliteration, etc.) 	<ul style="list-style-type: none"> a. Explain, generalize, or connect ideas, using supporting evidence from the text or from other sources b. Draw inferences about author's purpose, author's message or theme (explicit or implied) c. Make and support inferences about implied causes and effects d. Describe how word choice, point of view, or bias affects the interpretation of a reading selection e. Summarize or compare information within and across text passages f. Analyze interrelationships among elements of the text (plot, subplots, characters, setting) g. Analyze or interpret use of author's craft (literary devices) to analyze or critique a literary text 	<ul style="list-style-type: none"> a. Compare or analyze multiple works by the same author, including author's craft b. Compare or analyze multiple works from the same time period or from the same genre c. Gather, analyze, organize, and interpret information from multiple (print and non print) sources for the purpose of drafting a reasoned report d. Evaluate the relevancy and accuracy of information from multiple (print and non print) sources (e.g., verifying factual information or assertions with other sources; researching the source of information)

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Table 1: Sample Depth-of-Knowledge Level Descriptors for Social Studies
(Based on Webb, Karin Hess, 2005, National Center for Assessment www.nciea.org)

Level 1 Recall of Information	Level 2 Basic Reasoning	Level 3 Complex Reasoning	Level 4 Extended Reasoning
<ul style="list-style-type: none"> a. Recall or recognition of: fact, term, concept, trend, generalization, event, or document b. Identify or describe features of places or people c. Identify key figures in a particular context meaning of words d. Describe or explain: who, what, where, when e. Identify specific information contained in maps, charts, tables, graphs, or drawings 	<ul style="list-style-type: none"> a. Describe cause-effect of particular events b. Describe or explain: how (relationships or results), why, points of view, processes, significance, or impact c. Identify patterns in events or behavior d. Categorize events or figures in history into meaningful groups e. Identify and summarize the major events, problem, solution, conflicts f. Distinguish between fact and opinion g. Organize information to show relationships h. Compare and contrast people, events, places, concepts i. Give examples and non-examples to illustrate an idea/concept 	<ul style="list-style-type: none"> a. Explain, generalize, or connect ideas, using supporting evidence from a text/source b. Apply a concept in other contexts c. Make and support inferences about implied causes and effects d. Draw conclusion or form alternative conclusions e. Analyze how changes have affected people or places f. Use concepts to solve problems g. Analyze similarities and differences in issues or problems h. Propose and evaluate solutions i. Recognize and explain misconceptions related to concepts 	<ul style="list-style-type: none"> a. Analyze and explain multiple perspectives or issues within or across time periods, events, or cultures b. Gather, analyze, organize, and synthesize information from multiple (print and non print) sources c. Make predictions with evidence as support d. Plan and develop solutions to problems e. Given a situation/problem, research, define, and describe the situation/problem and provide alternative solutions f. Describe, define, and illustrate common social, historical, economic, or geographical themes and how they interrelate

Table 1: Detailed Descriptors of Depth-of-Knowledge Levels for Science
 (K. Hess, Center for Assessment, based on Webb, update 2005)

Level 1 Recall & Reproduction	Level 2 Skills & Concepts	Level 3 Strategic Thinking	Level 4 Extended Thinking
<ul style="list-style-type: none"> a. Recall or recognize a fact, term, definition, simple procedure (such as one step), or property b. Demonstrate a rote response c. Use a well-known formula d. Represent in words or diagrams a scientific concept or relationship e. Provide or recognize a standard scientific representation for simple phenomenon f. Perform a routine procedure, such as measuring length g. Perform a simple science process or a set procedure (like a recipe) h. Perform a clearly defined set of steps i. Identify, calculate, or measure <hr/>	<ul style="list-style-type: none"> a. Specify and explain the relationship between facts, terms, properties, or variables b. Describe and explain examples and non-examples of science concepts c. Select a procedure according to specified criteria and perform it d. Formulate a routine problem given data and conditions e. Organize, represent, and compare data f. Make a decision as to how to approach the problem g. Classify, organize, or estimate h. Compare data i. Make observations j. Interpret information from a simple graph k. Collect and display data <hr/>	<ul style="list-style-type: none"> a. Interpret information from a complex graph (such as determining features of the graph or aggregating data in the graph) b. Use reasoning, planning, and evidence c. Explain thinking (beyond a simple explanation or using only a word or two to respond) d. Justify a response e. Identify research questions and design investigations for a scientific problem f. Use concepts to solve non-routine problems/more than one possible answer g. Develop a scientific model for a complex situation h. Form conclusions from experimental or observational data i. Complete a multi-step problem that involves planning and reasoning j. Provide an explanation of a principle k. Justify a response when more than one answer is possible l. Cite evidence and develop a logical argument for concepts m. Conduct a designed investigation n. Research and explain a scientific concept o. Explain phenomena in terms of concepts 	<ul style="list-style-type: none"> a. Select or devise approach among many alternatives to solve problem b. Based on provided data from a complex experiment that is novel to the student, deduct the fundamental relationship between several controlled variables. c. Conduct an investigation, from specifying a problem to designing and carrying out an experiment, to analyzing its data and forming conclusions d. Relate ideas <i>within</i> the content area or <i>among</i> content areas e. Develop generalizations of the results obtained and the strategies used and apply them to new problem situations

Hess' Cognitive Rigor Matrix & Curricular Examples: Applying Webb's Depth-of-Knowledge Levels to Bloom's Cognitive Process Dimensions - *Reading*

Revised Bloom's Taxonomy	Webb's DOK Level 1 Recall & Reproduction	Webb's DOK Level 2 Skills & Concepts	Webb's DOK Level 3 Strategic Thinking/ Reasoning	Webb's DOK Level 4 Extended Thinking
Remember Retrieve knowledge from long-term memory, recognize, recall, locate, identify	<ul style="list-style-type: none"> ○ Recall, recognize, or locate basic facts, details, events, or ideas explicit in texts ○ Read words orally in connected text with fluency & accuracy ○ Define terms 			
Understand Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion), predict, compare/contrast, match like ideas, explain, construct models	<ul style="list-style-type: none"> ○ Identify or describe literary elements (characters, setting, sequence, etc.) ○ Select appropriate words when intended meaning/definition is clearly evident ○ Describe/explain who, what, where, when, or how 	<ul style="list-style-type: none"> ○ Specify, explain, show relationships; explain why, cause-effect ○ Give non-examples/examples ○ Summarize results, concepts, ideas ○ Make basic inferences or logical predictions from data or texts ○ Identify main ideas or accurate generalizations of texts ○ Locate information to support explicit-implicit central ideas 	<ul style="list-style-type: none"> ○ Explain, generalize, or connect ideas using supporting evidence (quote, example, text reference) ○ Identify/ make inferences about explicit or implicit themes ○ Describe how word choice, point of view, or bias may affect the readers' interpretation of a text 	<ul style="list-style-type: none"> ○ Explain how concepts or ideas specifically relate to <i>other</i> content domains or concepts ○ Develop generalizations of the results obtained or strategies used and apply them to new problem situations
Apply Carry out or use a procedure in a given situation; carry out (apply to a familiar task), or use (apply) to an unfamiliar task	<ul style="list-style-type: none"> ○ Use language structure (pre/suffix) or word relationships (synonym/antonym) to determine meaning of words 	<ul style="list-style-type: none"> ○ Use context to identify the meaning of words/phrases ○ Obtain and interpret information using text features 	<ul style="list-style-type: none"> ○ Apply a concept in a new context 	<ul style="list-style-type: none"> ○ Illustrate how multiple themes (historical, geographic, social) may be interrelated
Analyze Break into constituent parts, determine how parts relate, differentiate between relevant-irrelevant, distinguish, focus, select, organize, outline, find coherence, deconstruct (e.g., for bias or point of view)	<ul style="list-style-type: none"> ○ Identify whether specific information is contained in graphic representations (e.g., map, chart, table, graph, T-chart, diagram) or text features (e.g., headings, subheadings, captions) 	<ul style="list-style-type: none"> ○ Categorize/compare literary elements, terms, facts, details, events ○ Identify use of literary devices ○ Analyze format, organization, & internal text structure (signal words, transitions, semantic cues) of different texts ○ Distinguish: relevant-irrelevant information; fact/opinion ○ Identify characteristic text features; distinguish between texts, genres 	<ul style="list-style-type: none"> ○ Analyze information within data sets or texts ○ Analyze interrelationships among concepts, issues, problems ○ Analyze or interpret author's craft (literary devices, viewpoint, or potential bias) to critique a text ○ Use reasoning, planning, and evidence to support inferences 	<ul style="list-style-type: none"> ○ Analyze multiple sources of evidence, or multiple works by the same author, or across genres, time periods, themes ○ Analyze complex/abstract themes, perspectives, concepts ○ Gather, analyze, and organize multiple information sources ○ Analyze discourse styles
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique			<ul style="list-style-type: none"> ○ Cite evidence and develop a logical argument for conjectures ○ Describe, compare, and contrast solution methods ○ Verify reasonableness of results ○ Critique conclusions drawn 	<ul style="list-style-type: none"> ○ Evaluate relevancy, accuracy, & completeness of information from multiple sources ○ Draw & justify conclusions ○ Apply understanding in a novel way, provide argument or justification for the application
Create Reorganize elements into new patterns/structures, generate, hypothesize, design, plan, produce		<ul style="list-style-type: none"> ○ Generate conjectures or hypotheses based on observations or prior knowledge and experience 	<ul style="list-style-type: none"> ○ Synthesize information within one source or text ○ Develop a complex model for a given situation ○ Develop an alternative solution 	<ul style="list-style-type: none"> ○ Synthesize information across multiple sources or texts ○ Articulate a new voice, alternate theme, new knowledge or perspective

Hess' Cognitive Rigor Matrix & Curricular Examples: Applying Webb's Depth-of-Knowledge Levels to Bloom's Cognitive Process Dimensions - *Writing*

Revised Bloom's Taxonomy	Webb's DOK Level 1 Recall & Reproduction	Webb's DOK Level 2 Skills & Concepts	Webb's DOK Level 3 Strategic Thinking/ Reasoning	Webb's DOK Level 4 Extended Thinking
Remember Retrieve knowledge from long-term memory, recognize, recall, locate, identify				
Understand Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion), predict, compare/contrast, match like ideas, explain, construct models	<ul style="list-style-type: none"> ○ Describe or define facts, details, terms ○ Select appropriate words to use when intended meaning/definition is clearly evident ○ Write simple sentences 	<ul style="list-style-type: none"> ○ Specify, explain, show relationships; explain why, cause-effect ○ Give non-examples/examples ○ Take notes; organize ideas/data ○ Summarize results, concepts, ideas ○ Identify main ideas or accurate generalizations of texts 	<ul style="list-style-type: none"> ○ Explain, generalize, or connect ideas using supporting evidence (quote, example, text reference) ○ Write multi-paragraph composition for specific purpose, focus, voice, tone, & audience 	<ul style="list-style-type: none"> ○ Explain how concepts or ideas specifically relate to <i>other</i> content domains or concepts ○ Develop generalizations of the results obtained or strategies used and apply them to new problem situations
Apply Carry out or use a procedure in a given situation; carry out (apply to a familiar task), or use (apply) to an unfamiliar task	<ul style="list-style-type: none"> ○ Apply rules or use resources to edit specific spelling, grammar, punctuation, conventions, word use ○ Apply basic formats for documenting sources 	<ul style="list-style-type: none"> ○ Use context to identify the meaning of words/phrases ○ Obtain and interpret information using text features ○ Develop a text that may be limited to one paragraph ○ Apply simple organizational structures (paragraph, sentence types) in writing 	<ul style="list-style-type: none"> ○ Revise final draft for meaning or progression of ideas ○ Apply internal consistency of text organization and structure to composing a full composition ○ Apply a concept in a new context ○ Apply word choice, point of view, style to impact readers' interpretation of a text 	<ul style="list-style-type: none"> ○ Select or devise an approach among many alternatives to research a novel problem ○ Illustrate how multiple themes (historical, geographic, social) may be interrelated
Analyze Break into constituent parts, determine how parts relate, differentiate between relevant-irrelevant, distinguish, focus, select, organize, outline, find coherence, deconstruct (e.g., for bias, point of view)	<ul style="list-style-type: none"> ○ Decide which text structure is appropriate to audience and purpose 	<ul style="list-style-type: none"> ○ Compare literary elements, terms, facts, details, events ○ Analyze format, organization, & internal text structure (signal words, transitions, semantic cues) of different texts ○ Distinguish: relevant-irrelevant information; fact/opinion 	<ul style="list-style-type: none"> ○ Analyze interrelationships among concepts, issues, problems ○ Apply tools of author's craft (literary devices, viewpoint, or potential dialogue) with intent ○ Use reasoning, planning, and evidence to support inferences made 	<ul style="list-style-type: none"> ○ Analyze multiple sources of evidence, or multiple works by the same author, or across genres, or time periods ○ Analyze complex/abstract themes, perspectives, concepts ○ Gather, analyze, and organize multiple information sources
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique			<ul style="list-style-type: none"> ○ Cite evidence and develop a logical argument for conjectures ○ Describe, compare, and contrast solution methods ○ Verify reasonableness of results ○ Justify or critique conclusions 	<ul style="list-style-type: none"> ○ Evaluate relevancy, accuracy, & completeness of information from multiple sources ○ Draw & justify conclusions ○ Apply understanding in a novel way, provide argument or justification for the application
Create Reorganize elements into new patterns/structures, generate, hypothesize, design, plan, produce	<ul style="list-style-type: none"> ○ Brainstorm ideas, concepts, problems, or perspectives related to a topic or concept 	<ul style="list-style-type: none"> ○ Generate conjectures or hypotheses based on observations or prior knowledge and experience 	<ul style="list-style-type: none"> ○ Develop a complex model for a given situation ○ Develop an alternative solution 	<ul style="list-style-type: none"> ○ Synthesize information across multiple sources or texts ○ Articulate a new voice, alternate theme, new knowledge or perspective

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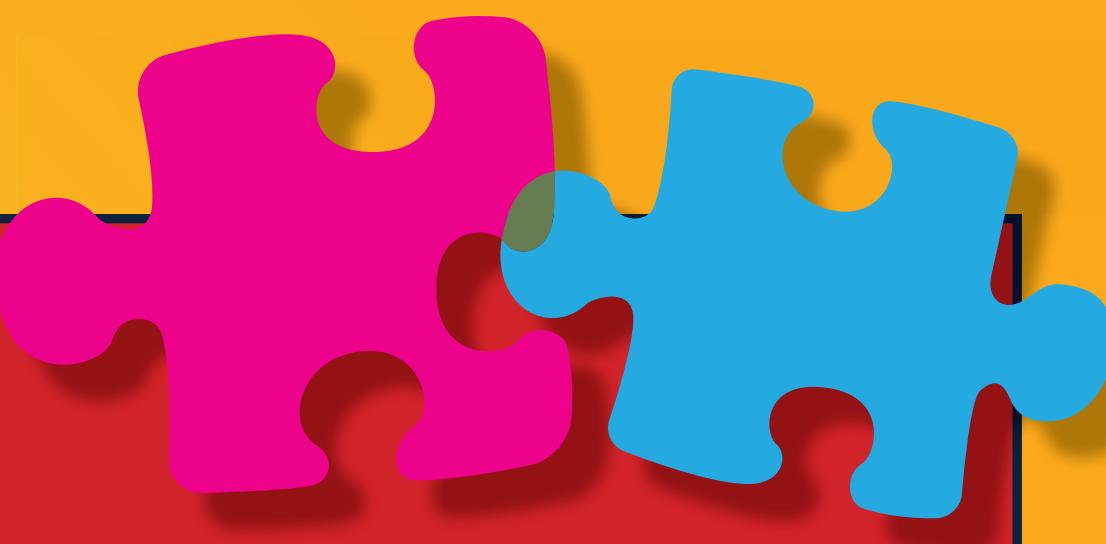
For full article, go to www.nciea.org

Hess' Cognitive Rigor Matrix & Curricular Examples: Applying Webb's Depth-of-Knowledge Levels to Bloom's Cognitive Process Dimensions – **Math/Science**

Revised Bloom's Taxonomy	Webb's DOK Level 1 Recall & Reproduction	Webb's DOK Level 2 Skills & Concepts	Webb's DOK Level 3 Strategic Thinking/ Reasoning	Webb's DOK Level 4 Extended Thinking
Remember Retrieve knowledge from long-term memory, recognize, recall, locate, identify	<ul style="list-style-type: none"> ○ Recall, observe, & recognize facts, principles, properties ○ Recall/ identify conversions among representations or numbers (e.g., customary and metric measures) 			
Understand Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion (such as from examples given), predict, compare/contrast, match like ideas, explain, construct models	<ul style="list-style-type: none"> ○ Evaluate an expression ○ Locate points on a grid or number on number line ○ Solve a one-step problem ○ Represent math relationships in words, pictures, or symbols ○ Read, write, compare decimals in scientific notation 	<ul style="list-style-type: none"> ○ Specify and explain relationships (e.g., non-examples/examples; cause-effect) ○ Make and record observations ○ Explain steps followed ○ Summarize results or concepts ○ Make basic inferences or logical predictions from data/observations ○ Use models /diagrams to represent or explain mathematical concepts ○ Make and explain estimates 	<ul style="list-style-type: none"> ○ Use concepts to solve <u>non-routine</u> problems ○ Explain, generalize, or connect ideas <u>using supporting evidence</u> ○ Make <u>and justify</u> conjectures ○ Explain thinking when more than one response is possible ○ Explain phenomena in terms of concepts 	<ul style="list-style-type: none"> ○ Relate mathematical or scientific concepts to other content areas, other domains, or other concepts ○ Develop generalizations of the results obtained and the strategies used (from investigation or readings) and apply them to new problem situations
Apply Carry out or use a procedure in a given situation; carry out (apply to a familiar task), or use (apply) to an unfamiliar task	<ul style="list-style-type: none"> ○ Follow simple procedures (recipe-type directions) ○ Calculate, measure, apply a rule (e.g., rounding) ○ Apply algorithm or formula (e.g., area, perimeter) ○ Solve linear equations ○ Make conversions among representations or numbers, or within and between customary and metric measures 	<ul style="list-style-type: none"> ○ Select a procedure according to criteria and perform it ○ Solve routine problem applying multiple concepts or decision points ○ Retrieve information from a table, graph, or figure and use it solve a problem requiring multiple steps ○ Translate between tables, graphs, words, and symbolic notations (e.g., graph data from a table) ○ Construct models given criteria 	<ul style="list-style-type: none"> ○ Design investigation for a specific purpose or research question ○ Conduct a designed investigation ○ Use concepts to solve non-routine problems ○ <u>Use & show reasoning, planning, and evidence</u> ○ Translate between problem & symbolic notation when not a direct translation 	<ul style="list-style-type: none"> ○ Select or devise approach among many alternatives to solve a problem ○ Conduct a project that specifies a problem, identifies solution paths, solves the problem, and reports results
Analyze Break into constituent parts, determine how parts relate, differentiate between relevant-irrelevant, distinguish, focus, select, organize, outline, find coherence, deconstruct	<ul style="list-style-type: none"> ○ Retrieve information from a table or graph to answer a question ○ Identify whether specific information is contained in graphic representations (e.g., table, graph, T-chart, diagram) ○ Identify a pattern/trend 	<ul style="list-style-type: none"> ○ Categorize, classify materials, data, figures based on characteristics ○ Organize or order data ○ Compare/ contrast figures or data ○ Select appropriate graph and organize & display data ○ Interpret data from a simple graph ○ Extend a pattern 	<ul style="list-style-type: none"> ○ Compare information within or across data sets or texts ○ Analyze and <u>draw conclusions from data, citing evidence</u> ○ Generalize a pattern ○ Interpret data from complex graph ○ Analyze similarities/differences between procedures or solutions 	<ul style="list-style-type: none"> ○ Analyze multiple sources of evidence ○ analyze complex/abstract themes ○ Gather, analyze, and evaluate information
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique			<ul style="list-style-type: none"> ○ <u>Cite evidence and develop a logical argument</u> for concepts or solutions ○ Describe, compare, and contrast solution methods ○ <u>Verify reasonableness of results</u> 	<ul style="list-style-type: none"> ○ Gather, analyze, & evaluate information to draw conclusions ○ Apply understanding in a novel way, provide argument or justification for the application
Create Reorganize elements into new patterns/structures, generate, hypothesize, design, plan, construct, produce	<ul style="list-style-type: none"> ○ Brainstorm ideas, concepts, or perspectives related to a topic 	<ul style="list-style-type: none"> ○ Generate conjectures or hypotheses based on observations or prior knowledge and experience 	<ul style="list-style-type: none"> ○ Synthesize information within one data set, source, or text ○ Formulate an original problem given a situation ○ Develop a scientific/mathematical model for a complex situation 	<ul style="list-style-type: none"> ○ Synthesize information across multiple sources or texts ○ Design a mathematical model to inform and solve a practical or abstract situation



I CAN...go deeper and rock the rigor!



Revised Bloom's Taxonomy	1 Webb's DOK Level 1 Recall & Reproduction	2 Webb's DOK Level 2 Skills & Concepts	3 Webb's DOK Level 3 Strategic Thinking/Reasoning	4 Webb's DOK Level 4 Extended Thinking
Remember Retrieve knowledge from long-term memory, recognize, recall, locate, identify	<ul style="list-style-type: none"> 0 I can... find or recall facts, details, and definitions in a text or on a website. 0 I can... recall math facts. 			
Understand Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion), predict, observe, compare/contrast, match like ideas, explain, construct models	<ul style="list-style-type: none"> 0 I can... explain who, what, where, when, or how after reading, listening to, or viewing. 0 I can show relationships using numbers, symbols, and pictures. 	<ul style="list-style-type: none"> 0 I can ... summarize the sequence of events or state the main idea. 0 I can... provide examples and non-examples to show I understand a concept. 0 I can... show how two ideas connect. 0 I can...specify and explain relationships. 	<ul style="list-style-type: none"> 0 I can ...identify the lesson learned or theme and use evidence from the text to support my interpretation. 0 I can... solve a problem one way and explain my reasoning using another strategy. 0 I can...develop a presentation for a specific purpose and audience. 	<ul style="list-style-type: none"> 0 I can... use examples to explain how ideas in one text specifically connect to another text. 0 I can... write a report using more than one resource or more than one concept.
Apply Carry out or use a procedure in a given situation; carry out (apply to a familiar task), or use (transfer) to an unfamiliar or non-routine task	<ul style="list-style-type: none"> 0 I can... apply spelling rules to edit my work. 0 I can...calculate, measure, or follow a rule – like rounding a number or finding the average. 0 I can... solve an equation. 	<ul style="list-style-type: none"> 0 I can...locate and use data in a table or graph to solve a word problem. 0 I can... use the clues in a text to figure out what a new word means. 0 I can... use captions and graphics to find more information. 	<ul style="list-style-type: none"> 0 I can...plan how I would collect and analyze data to answer a question. 0 I can...revise the words and visuals in an advertisement for a new audience. 	<ul style="list-style-type: none"> 0 I can...identify a real-world problem, and plan and conduct an investigation to show how the problem could be solved. 0 I can... use what I learned to find other solutions.
Analyze Break into constituent parts, determine how parts relate, differentiate between relevant-irrelevant, distinguish, focus, select, organize, outline, find coherence, deconstruct (e.g., for bias, point of view, approach/strategy used)	<ul style="list-style-type: none"> 0 I can ... find and record data from a weather map. 0 I can... identify a pattern or trend. 0 I can... list the best key words to use for an Internet search. 	<ul style="list-style-type: none"> 0 I can ... compare and contrast weather data from two regions or two states. 0 I can ... compare two characters in a story. 0 I can... sort objects by different features. 0 I can...extend a pattern. 0 I can...interpret a simple graph or visual. 	<ul style="list-style-type: none"> 0 I can...figure out if there is conflicting or confusing information in one text and explain my reasoning. 0 I can...interpret a political cartoon and use factual information to support my reasoning. 0 I can...generalize a pattern. 	<ul style="list-style-type: none"> 0 I can ... compare styles or themes in two books by the same author. 0 I can...gather and analyze information from many sources to find the best evidence to support an opinion. 0 I can... break down opposing claims or arguments.
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique	<ul style="list-style-type: none"> 0 I can...complain that the weather is not good for skiing. 0 I can...state that I like or don't like something and not back up my opinion. 0 I can...state a claim that something is true or not true without giving any justification. 		<ul style="list-style-type: none"> 0 I can ...explain why I'm planning my ski vacation in Utah, using evidence from historical weather patterns. 0 I can... find possible flaws in an experiment or a solution. 	<ul style="list-style-type: none"> 0 I can... use historical weather data from multiple places to choose the best location for my next ski vacation.
Create Reorganize elements into new patterns/structures/ or schemas, generate, hypothesize, design, plan, produce	<ul style="list-style-type: none"> 0 I can...brainstorm what I know - ideas, concepts, or perspectives on a topic 	<ul style="list-style-type: none"> 0 I can ... use facts, observations, and what I know to make a prediction or state an hypothesis. 0 I can... tell you WHY a claim or opinion might be believable. 	<ul style="list-style-type: none"> 0 I can ... re-present an author's idea in my own way. 0 I can ... develop a model or a media message that shows a stated perspective or a new solution. 0 I can...justify a claim with hard evidence. 	<ul style="list-style-type: none"> 0 I can...write a sequel to a story, with a logical story line for the main character 0 I can...use historical facts to develop believable historical fiction. 0 I can...use historical weather data from multiple sources to choose the best location for my next ski vacation.



- 1. Students' languages and cultures are valuable resources to be tapped and incorporated into schooling.**
Escamilla & Hopewell (2010); Goldenberg & Coleman (2010); Garcia (2005); Freeman, Freeman, & Mercuri (2002); González, Moll, & Amanti (2005); Scarcella (1990)
- 2. Students' home, school, and community experiences influence their language development.**
Nieto (2008); Payne (2003); Collier (1995); California State Department of Education (1986)
- 3. Students draw on their metacognitive, metalinguistic, and metacultural awareness to develop proficiency in additional languages.**
Cloud, Genesee, & Hamayan (2009); Bialystok (2007); Chamot & O'Malley (1994); Bialystok (1991); Cummins (1978)
- 4. Students' academic language development in their native language facilitates their academic language development in English. Conversely, students' academic language development in English informs their academic language development in their native language.**
Escamilla & Hopewell (2010); Gottlieb, Katz, & Ernst-Slavit (2009); Tabors (2008); Espinosa (2009); August & Shanahan (2006); Genesee, Lindholm-Leary, Saunders, & Christian (2006); Snow (2005); Genesee, Paradis, & Crago (2004); August & Shanahan (2006); Riches & Genesee (2006); Gottlieb (2003); Schleppegrell & Colombi (2002); Lindholm & Molina (2000); Pardo & Tinajero (1993)
- 5. Students learn language and culture through meaningful use and interaction.**
Brown (2007); Garcia & Hamayan, (2006); Garcia (2005); Kramsch (2003); Díaz-Rico & Weed (1995); Halliday & Hasan (1989); Damen (1987)
- 6. Students use language in functional and communicative ways that vary according to context.**
Schleppegrell (2004); Halliday (1976); Finocchiaro & Brumfit (1983)
- 7. Students develop language proficiency in listening, speaking, reading, and writing interdependently, but at different rates and in different ways.**
Gottlieb & Hamayan (2007); Spolsky (1989); Vygotsky (1962)
- 8. Students' development of academic language and academic content knowledge are inter-related processes.**
Gibbons (2009); Collier & Thomas (2009); Gottlieb, Katz, & Ernst-Slavit (2009); Echevarria, Vogt, & Short (2008); Zwiers (2008); Gee (2007); Bailey (2007); Mohan (1986)
- 9. Students' development of social, instructional, and academic language, a complex and long-term process, is the foundation for their success in school.**
Anstrom, et.al. (2010); Francis, Lesaux, Kieffer, & Rivera (2006); Bailey & Butler (2002); Cummins (1979)
- 10. Students' access to instructional tasks requiring complex thinking is enhanced when linguistic complexity and instructional support match their levels of language proficiency.**
Gottlieb, Katz, & Ernst-Slavit (2009); Gibbons (2009, 2002); Vygotsky (1962)



Can Do Descriptors: Grade Level Cluster PreK-K

For the given level of English language proficiency and with visual, graphic, or interactive support through Level 4, English language learners can process or produce the **language** needed to:

	Level 1 Entering	Level 2 Beginning	Level 3 Developing	Level 4 Expanding	Level 5 Bridging	Level 6 - Reaching
LISTENING	<ul style="list-style-type: none"> Match oral language to classroom and everyday objects Point to stated pictures in context Respond non-verbally to oral commands or statements (e.g., through physical movement) Find familiar people and places named orally 	<ul style="list-style-type: none"> Sort pictures or objects according to oral instructions Match pictures, objects or movements to oral descriptions Follow one-step oral directions (e.g., “stand up”; “sit down”) Identify simple patterns described orally Respond with gestures to songs, chants, or stories modeled by teachers 	<ul style="list-style-type: none"> Follow two-step oral directions, one step at a time Draw pictures in response to oral instructions Respond non-verbally to confirm or deny facts (e.g., thumbs up, thumbs down) Act out songs and stories using gestures 	<ul style="list-style-type: none"> Find pictures that match oral descriptions Follow oral directions and compare with visual or nonverbal models (e.g., “Draw a circle under the line.”) Distinguish between what happens first and next in oral activities or readings Role play in response to stories read aloud 	<ul style="list-style-type: none"> Order pictures of events according to sequential language Arrange objects or pictures according to descriptive oral discourse Identify pictures/realia associated with grade-level academic concepts from oral descriptions Make patterns from real objects or pictures based on detailed oral descriptions 	
SPEAKING	<ul style="list-style-type: none"> Identify people or objects in illustrated short stories Repeat words, simple phrases Answer yes/no questions about personal information Name classroom and everyday objects 	<ul style="list-style-type: none"> Restate some facts from illustrated short stories Describe pictures, classroom objects or familiar people using simple phrases Answer questions with one or two words (e.g., “Where is Sonia?”) Complete phrases in rhymes, songs, and chants 	<ul style="list-style-type: none"> Retell short narrative stories through pictures Repeat sentences from rhymes and patterned stories Make predictions (e.g. “What will happen next?”) Answer explicit questions from stories read aloud (e.g., who, what, or where) 	<ul style="list-style-type: none"> Retell narrative stories through pictures with emerging detail Sing repetitive songs and chants independently Compare attributes of real objects (e.g., size, shape, color) Indicate spatial relations of real-life objects using phrases or short sentences 	<ul style="list-style-type: none"> Tell original stories with emerging detail Explain situations (e.g., involving feelings) Offer personal opinions Express likes, dislikes, or preferences with reasons 	

The Can Do Descriptors work in conjunction with the WIDA Performance Definitions of the English language proficiency standards. The Performance Definitions use three criteria (1. linguistic complexity; 2. vocabulary usage; and 3. language control) to describe the increasing quality and quantity of students' language processing and use across the levels of language proficiency.

Can Do Descriptors: Grade Level Cluster PreK-K

For the given level of English language proficiency and with visual, graphic, or interactive support through Level 4, English language learners can process or produce the **language** needed to:

	Level 1 Entering	Level 2 Beginning	Level 3 Developing	Level 4 Expanding	Level 5 Bridging	Level 6 - Reaching
READING	<ul style="list-style-type: none"> Match icons and symbols to corresponding pictures Identify name in print Find matching words or pictures Find labeled real-life classroom objects 	<ul style="list-style-type: none"> Match examples of the same form of print Distinguish between same and different forms of print (e.g., single letters and symbols) Demonstrate concepts of print (e.g., left to right movement, beginning/end, or top/bottom of page) Match labeled pictures to those in illustrated scenes 	<ul style="list-style-type: none"> Use pictures to identify words Classify visuals according to labels or icons (e.g., animals v. plants) Demonstrate concepts of print (e.g., title, author, illustrator) Sort labeled pictures by attribute (e.g., number, initial sound) 	<ul style="list-style-type: none"> Identify some high-frequency words in context Order a series of labeled pictures described orally to tell stories Match pictures to phrases/short sentences Classify labeled pictures by two attributes (e.g., size and color) 	<ul style="list-style-type: none"> Find school-related vocabulary items Differentiate between letters, words, and sentences String words together to make short sentences Indicate features of words, phrases, or sentences that are the same and different 	
WRITING	<ul style="list-style-type: none"> Draw pictures and scribble Circle or underline pictures, symbols, and numbers Trace figures and letters Make symbols, figures or letters from models and realia (e.g., straws, clay) 	<ul style="list-style-type: none"> Connect oral language to print (e.g., language experience) Reproduce letters, symbols, and numbers from models in context Copy icons of familiar environmental print Draw objects from models and label with letters 	<ul style="list-style-type: none"> Communicate using letters, symbols, and numbers in context Make illustrated “notes” and cards with distinct letter combinations Make connections between speech and writing Reproduce familiar words from labeled models or illustrations 	<ul style="list-style-type: none"> Produce symbols and strings of letters associated with pictures Draw pictures and use words to tell a story Label familiar people and objects from models Produce familiar words/phrases from environmental print and illustrated text 	<ul style="list-style-type: none"> Create content-based representations through pictures and words Make “story books” with drawings and words Produce words/phrases independently Relate everyday experiences using phrases/short sentences 	

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Can Do Descriptors: Grade Level Cluster 1-2

For the given level of English language proficiency and with visual, graphic, or interactive support through Level 4, English language learners can process or produce the **language** needed to:

	Level 1 Entering	Level 2 Beginning	Level 3 Developing	Level 4 Expanding	Level 5 Bridging	Level 6 - Reaching
LISTENING	<ul style="list-style-type: none"> Follow modeled, one-step oral directions (e.g., “Find a pencil.”) Identify pictures of everyday objects as stated orally (e.g., in books) Point to real-life objects reflective of content-related vocabulary or oral statements Mimic gestures or movement associated with statements (e.g., “This is my left hand.”) 	<ul style="list-style-type: none"> Match oral reading of stories to illustrations Carry out two- to three-step oral commands (e.g., “Take out your science book. Now turn to page 25.”) Sequence a series of oral statements using real objects or pictures Locate objects described orally 	<ul style="list-style-type: none"> Follow modeled multi-step oral directions Sequence pictures of stories read aloud (e.g., beginning, middle, and end) Match people with jobs or objects with functions based on oral descriptions Classify objects according to descriptive oral statements 	<ul style="list-style-type: none"> Compare/contrast objects according to physical attributes (e.g., size, shape, color) based on oral information Find details in illustrated, narrative, or expository text read aloud Identify illustrated activities from oral descriptions Locate objects, figures, places based on visuals and detailed oral descriptions 	<ul style="list-style-type: none"> Use context clues to gain meaning from grade-level text read orally Apply ideas from oral discussions to new situations Interpret information from oral reading of narrative or expository text Identify ideas/concepts expressed with grade-level content-specific language 	
SPEAKING	<ul style="list-style-type: none"> Repeat simple words, phrases, and memorized chunks of language Respond to visually-supported (e.g., calendar) questions of academic content with one word or phrase Identify and name everyday objects Participate in whole group chants and songs 	<ul style="list-style-type: none"> Use first language to fill in gaps in oral English (code switch) Repeat facts or statements Describe what people do from action pictures (e.g., jobs of community workers) Compare real-life objects (e.g., “smaller,” “biggest”) 	<ul style="list-style-type: none"> Ask questions of a social nature Express feelings (e.g., “I’m happy because...”) Retell simple stories from picture cues Sort and explain grouping of objects (e.g., sink v. float) Make predictions or hypotheses Distinguish features of content-based phenomena (e.g., caterpillar, butterfly) 	<ul style="list-style-type: none"> Ask questions for social and academic purposes Participate in class discussions on familiar social and academic topics Retell stories with details Sequence stories with transitions 	<ul style="list-style-type: none"> Use academic vocabulary in class discussions Express and support ideas with examples Give oral presentations on content-based topics approaching grade level Initiate conversation with peers and teachers 	

The Can Do Descriptors work in conjunction with the WIDA Performance Definitions of the English language proficiency standards. The Performance Definitions use three criteria (1. linguistic complexity; 2. vocabulary usage; and 3. language control) to describe the increasing quality and quantity of students' language processing and use across the levels of language proficiency.

Can Do Descriptors: Grade Level Cluster 1-2

For the given level of English language proficiency and with visual, graphic, or interactive support through Level 4, English language learners can process or produce the **language** needed to:

	Level 1 Entering	Level 2 Beginning	Level 3 Developing	Level 4 Expanding	Level 5 Bridging	Level 6 - Reaching
READING	<ul style="list-style-type: none"> Identify symbols, icons, and environmental print Connect print to visuals Match real-life familiar objects to labels Follow directions using diagrams or pictures 	<ul style="list-style-type: none"> Search for pictures associated with word patterns Identify and interpret pre-taught labeled diagrams Match voice to print by pointing to icons, letters, or illustrated words Sort words into word families 	<ul style="list-style-type: none"> Make text-to-self connections with prompting Select titles to match a series of pictures Sort illustrated content words into categories Match phrases and sentences to pictures 	<ul style="list-style-type: none"> Put words in order to form sentences Identify basic elements of fictional stories (e.g., title, setting, characters) Follow sentence-level directions Distinguish between general and specific language (e.g., flower v. rose) in context 	<ul style="list-style-type: none"> Begin using features of non-fiction text to aid comprehension Use learning strategies (e.g., context clues) Identify main ideas Match figurative language to illustrations (e.g., “as big as a house”) 	
WRITING	<ul style="list-style-type: none"> Copy written language Use first language (L1, when L1 is a medium of instruction) to help form words in English Communicate through drawings Label familiar objects or pictures 	<ul style="list-style-type: none"> Provide information using graphic organizers Generate lists of words/phrases from banks or walls Complete modeled sentence starters (e.g., “I like ____.”) Describe people, places, or objects from illustrated examples and models 	<ul style="list-style-type: none"> Engage in prewriting strategies (e.g., use of graphic organizers) Form simple sentences using word/phrase banks Participate in interactive journal writing Give content-based information using visuals or graphics 	<ul style="list-style-type: none"> Produce original sentences Create messages for social purposes (e.g., get well cards) Compose journal entries about personal experiences Use classroom resources (e.g., picture dictionaries) to compose sentences 	<ul style="list-style-type: none"> Create a related series of sentences in response to prompts Produce content-related sentences Compose stories Explain processes or procedures using connected sentences 	

The Can Do Descriptors work in conjunction with the WIDA Performance Definitions of the English language proficiency standards. The Performance Definitions use three criteria (1. linguistic complexity; 2. vocabulary usage; and 3. language control) to describe the increasing quality and quantity of students' language processing and use across the levels of language proficiency.



Can Do Descriptors: Grade Level Cluster 3-5

For the given level of English language proficiency and with visual, graphic, or interactive support through Level 4, English language learners can process or produce the **language** needed to:

	Level 1 Entering	Level 2 Beginning	Level 3 Developing	Level 4 Expanding	Level 5 Bridging	Level 6 - Reaching
LISTENING	<ul style="list-style-type: none"> Point to stated pictures, words, or phrases Follow one-step oral directions (e.g., physically or through drawings) Identify objects, figures, people from oral statements or questions (e.g., “Which one is a rock?”) Match classroom oral language to daily routines 	<ul style="list-style-type: none"> Categorize content-based pictures or objects from oral descriptions Arrange pictures or objects per oral information Follow two-step oral directions Draw in response to oral descriptions Evaluate oral information (e.g., about lunch options) 	<ul style="list-style-type: none"> Follow multi-step oral directions Identify illustrated main ideas from paragraph-level oral discourse Match literal meanings of oral descriptions or oral reading to illustrations Sequence pictures from oral stories, processes, or procedures 	<ul style="list-style-type: none"> Interpret oral information and apply to new situations Identify illustrated main ideas and supporting details from oral discourse Infer from and act on oral information Role play the work of authors, mathematicians, scientists, historians from oral readings, videos, or multi-media 	<ul style="list-style-type: none"> Carry out oral instructions containing grade-level, content-based language Construct models or use manipulatives to problem-solve based on oral discourse Distinguish between literal and figurative language in oral discourse Form opinions of people, places, or ideas from oral scenarios 	
SPEAKING	<ul style="list-style-type: none"> Express basic needs or conditions Name pre-taught objects, people, diagrams, or pictures Recite words or phrases from pictures of everyday objects and oral modeling Answer yes/no and choice questions 	<ul style="list-style-type: none"> Ask simple, everyday questions (e.g., “Who is absent?”) Restate content-based facts Describe pictures, events, objects, or people using phrases or short sentences Share basic social information with peers 	<ul style="list-style-type: none"> Answer simple content-based questions Re/tell short stories or events Make predictions or hypotheses from discourse Offer solutions to social conflict Present content-based information Engage in problem-solving 	<ul style="list-style-type: none"> Answer opinion questions with supporting details Discuss stories, issues, and concepts Give content-based oral reports Offer creative solutions to issues/problems Compare/contrast content-based functions and relationships 	<ul style="list-style-type: none"> Justify/defend opinions or explanations with evidence Give content-based presentations using technical vocabulary Sequence steps in grade-level problem-solving Explain in detail results of inquiry (e.g., scientific experiments) 	

The Can Do Descriptors work in conjunction with the WIDA Performance Definitions of the English language proficiency standards. The Performance Definitions use three criteria (1. linguistic complexity; 2. vocabulary usage; and 3. language control) to describe the increasing quality and quantity of students' language processing and use across the levels of language proficiency.

Can Do Descriptors: Grade Level Cluster 3-5

For the given level of English language proficiency and with visual, graphic, or interactive support through Level 4, English language learners can process or produce the **language** needed to:

	Level 1 Entering	Level 2 Beginning	Level 3 Developing	Level 4 Expanding	Level 5 Bridging	Level 6 - Reaching
READING	<ul style="list-style-type: none"> Match icons or diagrams with words/concepts Identify cognates from first language, as applicable Make sound/symbol/word relations Match illustrated words/phrases in differing contexts (e.g., on the board, in a book) 	<ul style="list-style-type: none"> Identify facts and explicit messages from illustrated text Find changes to root words in context Identify elements of story grammar (e.g., characters, setting) Follow visually supported written directions (e.g., "Draw a star in the sky.") 	<ul style="list-style-type: none"> Interpret information or data from charts and graphs Identify main ideas and some details Sequence events in stories or content-based processes Use context clues and illustrations to determine meaning of words/phrases 	<ul style="list-style-type: none"> Classify features of various genres of text (e.g., "and they lived happily ever after"—fairy tales) Match graphic organizers to different texts (e.g., compare/contrast with Venn diagram) Find details that support main ideas Differentiate between fact and opinion in narrative and expository text 	<ul style="list-style-type: none"> Summarize information from multiple related sources Answer analytical questions about grade-level text Identify, explain, and give examples of figures of speech Draw conclusions from explicit and implicit text at or near grade level 	
WRITING	<ul style="list-style-type: none"> Label objects, pictures, or diagrams from word/phrase banks Communicate ideas by drawing Copy words, phrases, and short sentences Answer oral questions with single words 	<ul style="list-style-type: none"> Make lists from labels or with peers Complete/produce sentences from word/phrase banks or walls Fill in graphic organizers, charts, and tables Make comparisons using real-life or visually-supported materials 	<ul style="list-style-type: none"> Produce simple expository or narrative text String related sentences together Compare/contrast content-based information Describe events, people, processes, procedures 	<ul style="list-style-type: none"> Take notes using graphic organizers Summarize content-based information Author multiple forms of writing (e.g., expository, narrative, persuasive) from models Explain strategies or use of information in solving problems 	<ul style="list-style-type: none"> Produce extended responses of original text approaching grade level Apply content-based information to new contexts Connect or integrate personal experiences with literature/content Create grade-level stories or reports 	

The Can Do Descriptors work in conjunction with the WIDA Performance Definitions of the English language proficiency standards. The Performance Definitions use three criteria (1. linguistic complexity; 2. vocabulary usage; and 3. language control) to describe the increasing quality and quantity of students' language processing and use across the levels of language proficiency.



Performance Definitions for the Levels of English Language Proficiency in Grades K-12

At the given level of English language proficiency, English language learners will process, understand, produce, or use:

6 Reaching	<ul style="list-style-type: none">specialized or technical language reflective of the content areas at grade levela variety of sentence lengths of varying linguistic complexity in extended oral or written discourse as required by the specified grade leveloral or written communication in English comparable to English-proficient peers
5 Bridging	<ul style="list-style-type: none">specialized or technical language of the content areasa variety of sentence lengths of varying linguistic complexity in extended oral or written discourse, including stories, essays, or reportsoral or written language approaching comparability to that of English-proficient peers when presented with grade-level material
4 Expanding	<ul style="list-style-type: none">specific and some technical language of the content areasa variety of sentence lengths of varying linguistic complexity in oral discourse or multiple, related sentences, or paragraphsoral or written language with minimal phonological, syntactic, or semantic errors that do not impede the overall meaning of the communication when presented with oral or written connected discourse with sensory, graphic, or interactive support
3 Developing	<ul style="list-style-type: none">general and some specific language of the content areasexpanded sentences in oral interaction or written paragraphsoral or written language with phonological, syntactic, or semantic errors that may impede the communication, but retain much of its meaning, when presented with oral or written, narrative, or expository descriptions with sensory, graphic, or interactive support
2 Beginning	<ul style="list-style-type: none">general language related to the content areasphrases or short sentencesoral or written language with phonological, syntactic, or semantic errors that often impede the meaning of the communication when presented with one- to multiple-step commands, directions, questions, or a series of statements with sensory, graphic, or interactive support
1 Entering	<ul style="list-style-type: none">pictorial or graphic representation of the language of the content areaswords, phrases, or chunks of language when presented with one-step commands, directions, WH-, choice, or yes/no questions, or statements with sensory, graphic, or interactive supportoral language with phonological, syntactic, or semantic errors that often impede meaning when presented with basic oral commands, direct questions, or simple statements with sensory, graphic, or interactive support

ISTE Standards Students

1. Creativity and innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

- a. Apply existing knowledge to generate new ideas, products, or processes
- b. Create original works as a means of personal or group expression
- c. Use models and simulations to explore complex systems and issues
- d. Identify trends and forecast possibilities

2. Communication and collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

- a. Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media
- b. Communicate information and ideas effectively to multiple audiences using a variety of media and formats
- c. Develop cultural understanding and global awareness by engaging with learners of other cultures
- d. Contribute to project teams to produce original works or solve problems

3. Research and information fluency

Students apply digital tools to gather, evaluate, and use information.

- a. Plan strategies to guide inquiry
- b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media
- c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks
- d. Process data and report results

4. Critical thinking, problem solving, and decision making

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

- a. Identify and define authentic problems and significant questions for investigation
- b. Plan and manage activities to develop a solution or complete a project
- c. Collect and analyze data to identify solutions and/or make informed decisions
- d. Use multiple processes and diverse perspectives to explore alternative solutions

5. Digital citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

- a. Advocate and practice safe, legal, and responsible use of information and technology
- b. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity
- c. Demonstrate personal responsibility for lifelong learning
- d. Exhibit leadership for digital citizenship

6. Technology operations and concepts

Students demonstrate a sound understanding of technology concepts, systems, and operations.

- a. Understand and use technology systems
- b. Select and use applications effectively and productively
- c. Troubleshoot systems and applications
- d. Transfer current knowledge to learning of new technologies

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English Language Arts 2016-2017



5th

Grade



CANYONS
School District

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ENGLISH LANGUAGE ARTS (ELA) CURRICULUM MAP

CANYONS SCHOOL DISTRICT

Curriculum Mapping Purpose

Canyons School District's language arts curriculum maps are standards-based maps driven by the Utah Core Standards and implemented using Pearson Reading Street ©2011. Student achievement is increased when both teachers and students know where they are going, why they are going there, and what is required of them to get there.

Curriculum Maps are a tool for:

- **ALIGNMENT:** Provides support and coordination between concepts, skills, standards, curriculum, and assessments
- **COMMUNICATION:** Articulates expectations and learning goals for students
- **PLANNING:** Focuses instruction and targets critical information
- **COLLABORATION:** Promotes professionalism and fosters dialogue between colleagues about best practices pertaining to sequencing, unit emphasis and length, integration, and review strategies
- **SCAFFOLDED INSTRUCTION AND GROUPING STRUCTURES:** The organization of a scaffolded classroom includes whole group, small group (e.g., teacher-led skill-based, cooperative learning), partner, and independent work where students are provided support towards mastery. As students assume more responsibility for the learning, gradual support is decreased in order to shift the responsibility for learning from the teacher to the students. (see pages 78-81 for scaffolding ideas)

General Instructions

Pacing

This curriculum map provides guidance for intertwining the Utah Core Standards and the Reading Street curriculum. Following the map will allow students to access all core standards by the end of the year. To support students' mastery of the standards, targeted standards have been identified for each unit. Attending to these targeted standards will allow teachers to focus instruction for the given unit and better assess students' understanding of each standard.

Units

There are six units that are to be covered over the course of the school year. Each unit represents six weeks of instruction.

Big Question and Question of the Week

These questions provide an anchor for a thematic unit of instruction (six weeks) and are represented in the classroom on a Concept Board. Questions are referred to during Content Knowledge, Concept Talk, Concept Mapping, Main Selection, and in content integration when the question supports Science and/or Social Studies standards.

Assessment

Assessment options include student observation, progress monitoring, Weekly Tests, Fresh Reads, Unit Tests, and Writing to Sources Writing Rubrics. Through the use of the Realize platform for online assessment, teachers can access reports to support student goal-setting and assessment. District-wide Standard-based Assessments are used as our common district assessments. DWSBA are mandatory and are given during a common assessment window.

Targeted Technology Standards

In each unit, one of the International Society for Technology in Education (ISTE) Standards is integrated into the ELA block. Resources are available at <http://edtech.canyonsdistrict.org/elementary-curriculum-maps-iste-standards.html> to assist teachers in integrating technology into ELA instruction based on Reading Street units. The school's Educational Technology Specialist can provide additional supports as requested.

Homework

The struggle to develop independent reading skills and language arts skills should occur while the teacher is available to support and scaffold the learning and correct student errors. Work that is sent home for students to complete should consist of concepts and skills that have been taught in class, been practiced, and the student can do independently. Homework should be used to build automaticity of skills already acquired and not for development of new skills without instruction. For appropriate homework practice, please see the HW Study Skill Pages available at <http://csdela.weebly.com/weekly-study-skills-hw-sheets.html>

Evidence-Based Instructional Priorities

Applied to Literacy Instruction

Explicit Instruction

I Do - We Do - Y'all Do - You Do
Model - Guide Practice – Partner - Independent

Systematic

- Focused on critical content
- Skills, strategies, and concepts are sequenced logically
- Break down complex skills
- Lessons are organized and focused
- Instructional routines are used
- Examples and non-examples
- Step-by-step demonstrations

Relentless

- Adequate initial practice
NOTE: Students who struggle may require 10-30 more times as many practice opportunities than their peers.
- Distributed practice--frequent exposure to content/skill over time
- Cumulative review
- Teach to mastery

Engaging

- Increasing Opportunities to Respond
- Explicit Vocabulary Instruction
- Feedback
- Instructional Grouping
- Acquire – Auto – Apply
- Classroom PBIS

Increasing Opportunities to Respond

Saying, Writing, Doing

Group Reading Strategies for Student Engagement

- Model:** All students track as the teacher reads the passage. Teacher emphasizes reading in phrases with expression. "*My turn to model. Everyone tracking.*"
- Choose this strategy when text contains dialogue, advanced punctuation or other content that makes it more difficult for students.
- Echo Reading:** The teacher reads a sentence fluently and immediately the students read it back to the teacher. Keep the time between the model and test very short. All students must track as the teacher or peer reads. "*My turn. Echo read. Everyone tracking.*" (*Model*) "*Tracking back. Your turn, read.*"
- Choral:** Students and teacher read together aloud as all students are tracking. This should be only on short sentences and title. Teacher sets pace. "*Everyone...choral read.*"
- Choose this strategy with text that all students can read.
- Cloze:** Teacher reads and pauses at a word (focused vocabulary words) and students read the word. Continue for a paragraph or so. "*My turn. Everyone tracking. Cloze read....*"
- Partner:** *Partner A* reads a sentence and *Partner B* reads a sentence. Students must track as their partners read.

Explicit Vocabulary Instruction

- Introduce the word**
 - Teacher says the word
 - All students repeat the word
 - Teacher gives a child-friendly definition
 - All students repeat the definition (with teacher guidance)
 - Repeat above steps as necessary
- Demonstrate**
 - Provide an example
 - Provide a non-example
 - Repeat above steps as necessary
- Apply**
 - Students turn to a partner and use the word in a sentence
 - Teacher shares a sentence using the word

Feedback

Instructional Grouping

- Corrective and Affirmative
- Timely and Frequent
- Specific and Reinforcing

- Whole group, Small groups, Partners
- Fluid and flexible
- Skill-Based Small Group Instruction

Acquire – Auto – Apply

- Learn (acquire) the skill
- Build the skill to automaticity
- Apply the skill

Classroom PBIS

- Forming clear behavior expectations
- Explicitly teaching expectations to students
- Reinforcing expectations with students
- Correcting of problem behaviors in a systematic manner

Intensified Systematic Vocabulary Instruction Routine for Building Academic Language

Acquisition DOK 1	<p>Introduction Phase</p> <ol style="list-style-type: none"> 1. Teacher writes/says the word. 2. Students repeat the word. 3. Multisyllabic breakdown 4. Teacher gives a student friendly definition, incorporating synonyms as appropriate. 5. Students restate definition with teacher guidance. 6. Teacher identifies any prefixes, suffixes, base/root words, origin. 	<p>Teacher/Student Responsibilities</p> <p>T: The word is survive. What word? S: Survive. T: Let's clap/tap "survive" into syllables. T & S: "sur" "vive". T: How many syllables? S: 2 syllables T: Where's the syllable break? S: In between sur·vive. T: When people or animals don't die when things are really bad or dangerous, they survive. T & S: So when people or animals don't <u>die</u> when things are really <u>bad</u> or dangerous, they <u>survive</u>.</p> <p>T: The prefix "sur" means over, above or more. The suffix "vive" means to live.</p>
Building Automaticity DOK 2	<p>Demonstration Phase</p> <ol style="list-style-type: none"> 7. Illustrate with examples/non-examples <ol style="list-style-type: none"> a) Concrete examples (<i>realia</i>) b) Visual representations—video, pictures, diagrams, etc. c) Physical gesture d) Verbal Examples 8. Sentence Frames (ex. If I had to survive cold weather, I would need _____). 9. Check for students' understanding by discerning between examples and non-examples (repeat as necessary) 	<p>T: Look at people on this river. It is very dangerous. However, they don't get hurt or die, they survive.</p> <p>S: If I had to survive in cold weather, I would need to wear a <i>warm coat, snow boots, gloves and a hat</i>.</p> <p>T: (Example) If whooping cranes had no food in the winter and all the food was buried in the snow, would they survive? Ones tell your partner why they wouldn't survive.</p> <p>S1: The cranes wouldn't survive because they need food.</p> <p>T: (Non-example) If there was an ample supply of food for the whooping crane would they survive. Twos tell your partner why they would survive.</p> <p>S2: The crane would survive because it has plenty of food and it needs food to survive.</p>
Application DOK 3	<p>Application Phase</p> <ol style="list-style-type: none"> 10. Deepen students' understanding by applying the word in a new context <ol style="list-style-type: none"> a) Teacher asks a deep processing question b) Students responds via a quick write and/or orally with a partner or in a small group or whole group setting. 	<p>T: If a coyote was chasing a rabbit, what could the rabbit do to survive.</p> <p>S: (<i>Student responses will vary, but should demonstrate their level of understanding via their answer</i>)</p>

Reading Street Implementation Assessment

Systematic Use of Materials

- Teacher Edition is being referred to during instruction
- Concept Board is displayed
 - current
 - visible for student use
 - ELL Poster
- A-Z Sound Spelling Cards (1-3) and Alphabet Cards (K) are displayed
- Student editions are easily accessible for use
 - Students reading student editions and/or other RS ancillary materials
- Lesson/Unit is in line with CSD ELA Curriculum Map
- Digital resources from SuccessNet are used, as appropriate, to reinforce instruction

Instructional Routines

- Instructional objectives are
 - posted
 - referred to throughout the lesson
- Instructional content is primarily focused on the lesson in the Teacher's Edition
- Concept Board is being built upon daily as part of instruction
- Teacher uses instructional routines as organized in Teacher's Manual (with additional enhancements such as the
 - intensified routines
 - vocabulary routine
 - group reading strategies
 - sentence frames
- Teacher frequently elicits responses from students:
 - verbal
 - non-verbal
 - physical
 - chorally
 - partners
 - individually
- Teacher provides timely
 - positive
 - corrective feedback to students and
 - provides looped feedback
- Teacher scaffolds and paces instruction based on student responses
- Transitions are smooth and students are clearly following a previously articulated routine

Skill-Based Small Group Instruction

- Small group instruction is included in the daily schedule
- Small group teaching area is
 - well-organized
 - differentiated materials aligned to identified need based on data (e.g., decodable readers, leveled readers, RtI Kit, PALS, FCRR, etc.)
- Teacher provides students with ample feedback loops and opportunities to practice
- Practice Station routines, procedures, and expectations are evident
- Evidence of differentiated practice station activities to support varying student need
- Practice Stations reinforce, review, and/or extend content



English Language Arts Adaptive Testing Item Selection Criteria

Grade 3		
Strands	Min	Max
Reading Standards for Literature	20%	23%
Reading Standards for Informational Text	20%	23%
Listening Comprehension (Informational)	11%	14%
Language	17%	17%
Writing	29%	29%
DOK 1	11%	19%
DOK 2	17%	30%
DOK 3	14%	23%
DOK 4 (Writing)	29%	29%

Grade 4		
Strands	Min	Max
Reading Standards for Literature	20%	23%
Reading Standards for Informational Text	20%	23%
Listening Comprehension (Informational)	11%	14%
Language	17%	17%
Writing	29%	29%
DOK 1	11%	19%
DOK 2	17%	30%
DOK 3	14%	23%
DOK 4 (Writing)	29%	29%

Grade 5		
Strands	Min	Max
Reading Standards for Literature	20%	23%
Reading Standards for Informational Text	20%	23%
Listening Comprehension (Informational)	11%	14%
Language	17%	17%
Writing	29%	29%
DOK 1	11%	19%
DOK 2	17%	30%
DOK 3	14%	23%
DOK 4 (Writing)	29%	29%

Grade 6		
Strands	Min	Max
Reading Standards for Literature	17%	20%
Reading Standards for Informational Text	21%	24%
Listening Comprehension (Informational)	11%	14%
Language (vocabulary, 2 editing items)	17%	17%
Writing	29%	29%
DOK 1	11%	19%
DOK 2	17%	30%
DOK 3	14%	23%
DOK 4 (Writing)	29%	29%

Grade 7		
Strands	Min	Max
Reading Standards for Literature	17%	20%
Reading Standards for Informational Text	21%	24%
Listening Comprehension (Informational)	11%	14%
Language (vocabulary, 2 editing items)	17%	17%
Writing	29%	29%
DOK 1	11%	19%
DOK 2	17%	30%
DOK 3	14%	23%
DOK 4 (Writing)	29%	29%

Grade 8		
Strands	Min	Max
Reading Standards for Literature	17%	20%
Reading Standards for Informational Text	21%	24%
Listening Comprehension (Informational)	11%	14%
Language (vocabulary, 2 editing items)	17%	17%
Writing	29%	29%
DOK 1	11%	19%
DOK 2	17%	30%
DOK 3	14%	23%
DOK 4 (Writing)	29%	29%

Grade 9		
Strands	Min	Max
Reading Standards for Literature	16%	19%
Reading Standards for Informational Text	23%	26%
Listening Comprehension (Informational)	11%	14%
Language (vocabulary, 2 editing items)	17%	17%
Writing	29%	29%
DOK 1	11%	19%
DOK 2	17%	30%
DOK 3	14%	23%
DOK 4 (Writing)	29%	29%

Grade 10		
Strands	Min	Max
Reading Standards for Literature	13%	16%
Reading Standards for Informational Text	26%	29%
Listening Comprehension (Informational)	11%	14%
Language (vocabulary, 2 editing items)	17%	17%
Writing	29%	29%
DOK 1	11%	19%
DOK 2	17%	30%
DOK 3	14%	23%
DOK 4 (Writing)	29%	29%

Grade 11		
Strands	Min	Max
Reading Standards for Literature	13%	16%
Reading Standards for Informational Text	26%	29%
Listening Comprehension (Informational)	11%	14%
Language (vocabulary, 2 editing items)	17%	17%
Writing	29%	29%
DOK 1	11%	19%
DOK 2	17%	30%
DOK 3	14%	23%
DOK 4 (Writing)	29%	29%

NOTE: Writing and DOK 4 reflect 2 essays, each scored on 3 dimensions, for a total of 6 scores

DOK Blueprint : Depth of Knowledge (DOK) is an essential component of ELA instruction. As such, DOK is integrated in all ELA items throughout the Student Assessment of Growth and Excellence (SAGE). All students will see a variety of DOK and item difficulty. For more information about DOK please see: http://static.pdesas.org/content/documents/M1-Slide_22_DOK_Hess_Cognitive_Rigor.pdf

5th Grade

ELA Standards Not Explicitly Represented in the Curriculum Map

There are a few standards that have not been represented as targeted standards in any of the units. Below are those standards and the rationale for not being represented in the maps.

Reading Literature Standard 4: Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.

Reading Informational Text Standard 4: Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.

Language Standard 5.5c: Use relationships between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words.

- *These three standards all attend to various components of word knowledge or vocabulary. Reading Street intertwines these standards throughout each unit over the course of the year and a consistent focus on these standards is essential in order to master many of the other standards.*

Reading Literature Standard 10: By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 4-5 text complexity band independently and proficiently. Continue to develop fluency when reading documents written in cursive.

Reading Informational Text Standard 10: By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4-5 text complexity band independently and proficiently. Continue to develop fluency when reading documents written in cursive.

- *The material taught in the literacy block and the content areas is aimed to helping students achieve Reading Standard 10. It is an on-going target that will be addressed all year long and is the ultimate outcome of instruction.*

Language Standard 1.a: Maintain legible and fluent cursive writing.

Language Standard 2.e: Spell grade-appropriate words correctly, consulting references as needed.

Language Standard 3.b: Compare and contrast the varieties of English (e.g., dialects, registers) used in stories, dramas, or poems.

- *These three standards are an integrated component of the curriculum all year long; thus, it was not necessary to identify these standards as targets.*

Language Standard 2.d: Spell grade-appropriate words correctly, consulting references as needed.

Language Standard 1.i: Correctly use frequently confused words (e.g., to, too, two; there, their)

Language 3: Use knowledge of language and its conventions when writing, speaking, reading, or listening.

a) Choose words and phrases to convey ideas precisely.

b) Choose punctuation for effect.

c) Differentiate between contexts that call for formal English (e.g. presenting ideas) and situations where informal discourse is appropriate (e.g., small group discussions).

- *These three standards are an integrated component of the curriculum all year long; thus, it was not necessary to identify these standards as targets.*

14 Reading Standards for Literature K–5

[RL]

Grade 3 Students:

KEY IDEAS AND DETAILS

- Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text.
- Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.

CRAFT AND STRUCTURE

- Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.
- Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as *chapter*, *scene*, and *stanza*; describe how each successive part builds on earlier sections.
- Distinguish their own point of view from that of the narrator or those of the characters.

INTEGRATION OF KNOWLEDGE AND IDEAS

- Explain how specific aspects of a text’s illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting).
- (Not applicable to literature)
- Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters (e.g., in books from a series).

RANGE OF READING AND LEVEL OF TEXT COMPLEXITY

- By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 2–3 text complexity band independently and proficiently. Recognize and begin to read documents written in cursive.

Grade 4 Students:

- Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
- Determine a theme of a story, drama, or poem from details in the text; summarize the text.
- Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character’s thoughts, words, or actions).

Grade 5 Students:

- Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
- Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.
- Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).

- Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., *Herculean*).
- Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.
- Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.

- Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.
- Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.
- Describe how a narrator’s or speaker’s point of view influences how events are described.

- Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text.
- (Not applicable to literature)
- Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures.

- Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem).
- (Not applicable to literature)
- Compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics.

- By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range. Continue to develop fluency when reading documents written in cursive.

- By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 4–5 text complexity band independently and proficiently. Continue to develop fluency when reading documents written in cursive.

Reading Standards for Informational Text K–5

[RI]

Grade 3 Students:

Grade 4 Students:

Grade 5 Students:

KEY IDEAS AND DETAILS	Grade 4 Students:	Grade 5 Students:
<p>1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.</p> <p>2. Determine the main idea of a text; recount the key details and explain how they support the main idea.</p> <p>3. Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.</p>	<p>1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.</p> <p>2. Determine the main idea of a text and explain how it is supported by key details; summarize the text.</p> <p>3. Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.</p>	<p>1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.</p> <p>2. Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.</p> <p>3. Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.</p>
CRAFT AND STRUCTURE	Grade 4 Students:	Grade 5 Students:
<p>4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a <i>grade 3 topic or subject area</i>.</p> <p>5. Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.</p> <p>6. Distinguish their own point of view from that of the author of a text.</p>	<p>4. Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a <i>grade 4 topic or subject area</i>.</p> <p>5. Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.</p> <p>6. Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.</p>	<p>4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a <i>grade 5 topic or subject area</i>.</p> <p>5. Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.</p> <p>6. Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.</p>

Reading Standards for Informational Text K–5

[RI]

Grade 3 Students:

Grade 4 Students:

Grade 5 Students:

RANGE OF READING AND LEVEL OF TEXT COMPLEXITY

- 10.** By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2–3 text complexity band independently and proficiently. Recognize and begin to read documents written in cursive.

- 10.** By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range. Continue to develop fluency when reading documents written in cursive.

- 10.** By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4–5 text complexity band independently and proficiently. Continue to develop fluency when reading documents written in cursive.

Reading Standards: Foundational Skills (K–5)

[RF]

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
PHONICS AND WORD RECOGNITION <ul style="list-style-type: none"> 3. Know and apply grade-level phonics and word analysis skills in decoding words. <ul style="list-style-type: none"> a. Identify and know the meaning of the most common prefixes and derivational suffixes. b. Decode words with common Latin suffixes. c. Decode multisyllable words. d. Read grade-appropriate irregularly spelled words. 	3. Know and apply grade-level phonics and word analysis skills in decoding words. <ul style="list-style-type: none"> a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context. 	3. Know and apply grade-level phonics and word analysis skills in decoding words. <ul style="list-style-type: none"> a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.
FLUENCY <ul style="list-style-type: none"> 4. Read with sufficient accuracy and fluency to support comprehension. <ul style="list-style-type: none"> a. Read grade-level text with purpose and understanding. b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary. 	4. Read with sufficient accuracy and fluency to support comprehension. <ul style="list-style-type: none"> a. Read grade-level text with purpose and understanding. b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary. 	4. Read with sufficient accuracy and fluency to support comprehension. <ul style="list-style-type: none"> a. Read grade-level text with purpose and understanding. b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

Writing Standards K–5

[W]

Grade 3 Students:

TEXT TYPE AND PURPOSES

1. Write opinion pieces on topics or texts, supporting a point of view with reasons.
 - a. Introduce the topic or text they are writing about, state an opinion, and create an organizational structure that lists reasons.
 - b. Provide reasons that support the opinion.
 - c. Use linking words and phrases (e.g., *because, therefore, since, for example*) to connect opinion and reasons.
 - d. Provide a concluding statement or section.

2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
 - a. Introduce a topic and group related information together; include illustrations when useful to aiding comprehension.
 - b. Develop the topic with facts, definitions, and details.
 - c. Use linking words and phrases (e.g., *also, another, and, more, but*) to connect ideas within categories of information.
 - d. Provide a concluding statement or section.

3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
 - a. Establish a situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally.
 - b. Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations.
 - c. Use temporal words and phrases to signal event order.
 - d. Provide a sense of closure.

Grade 4 Students:

1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
 - a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose.
 - b. Provide reasons that are supported by facts and details.
 - c. Link opinion and reasons using words and phrases (e.g., *for instance, in order to, in addition*).
 - d. Provide a concluding statement or section related to the opinion presented.

2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
 - a. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
 - b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
 - c. Link ideas within categories of information using words and phrases (e.g., *another, for example, also, because*).
 - d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
 - e. Provide a concluding statement or section related to the information or explanation presented.

3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
 - a. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally.
 - b. Use dialogue and description to develop experiences and events or show the responses of characters to situations.
 - c. Use a variety of transitional words and phrases to manage the sequence of events.
 - d. Use concrete words and phrases and sensory details to convey experiences and events precisely.
 - e. Provide a conclusion that follows from the narrated experiences or events.

Grade 5 Students:

1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
 - a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose.
 - b. Provide logically ordered reasons that are supported by facts and details.
 - c. Link opinion and reasons using words, phrases, and clauses (e.g., *consequently, specifically*).
 - d. Provide a concluding statement or section related to the opinion presented.

2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
 - a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
 - b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
 - c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., *in contrast, especially*).
 - d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
 - e. Provide a concluding statement or section related to the information or explanation presented.

3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
 - a. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally.
 - b. Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations.
 - c. Use a variety of transitional words, phrases, and clauses to manage the sequence of events.
 - d. Use concrete words and phrases and sensory details to convey experiences and events precisely.
 - e. Provide a conclusion that follows from the narrated experiences or events.

24 Writing Standards K–5

[W]

Grade 3 Students:

Grade 4 Students:

Grade 5 Students:

PRODUCTION AND DISTRIBUTION OF WRITING

4. With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language Standards 1–3 up to and including grade 3 on page 30.)
6. With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.

4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language Standards 1–3 up to and including grade 4 on page 30.)

6. With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.

4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of Language Standards 1–3 up to and including grade 5 on page 30.)

6. With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.

RESEARCH TO BUILD AND PRESENT KNOWLEDGE

7. Conduct short research projects that build knowledge about a topic.
8. Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.
9. (Begins in grade 4)

7. Conduct short research projects that build knowledge through investigation of different aspects of a topic.

8. Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.

9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
 - a. Apply *grade 4 Reading Standards* to literature (i.e., “Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character’s thoughts, words, or actions].”).
 - b. Apply *grade 4 Reading Standards* to informational texts (e.g., “Explain how an author uses reasons and evidence to support particular points in a text”).

7. Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.

9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
 - a. Apply *grade 5 Reading Standards* to literature (i.e., “Compare and contrast two or more characters, settings, or events in a story or a drama, drawing on specific details in the text [e.g., how characters interact]”).
 - b. Apply *grade 5 Reading Standards* to informational texts (e.g., “Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point[s]”).

RANGE OF WRITING

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Speaking and Listening Standards K–5

[SL]

Grade 3 Students:

COMPREHENSION AND COLLABORATION

1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 3 topics and texts*, building on others' ideas and expressing their own clearly.
 - a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
 - b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
 - c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.
 - d. Explain their own ideas and understanding in light of the discussion.
2. Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

Grade 4 Students:

1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.
 - a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
 - b. Follow agreed-upon rules for discussions and carry out assigned roles.
 - c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.
 - d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.
2. Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Identify the reasons and evidence a speaker provides to support particular points.

Grade 5 Students:

1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly.
 - a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
 - b. Follow agreed-upon rules for discussions and carry out assigned roles.
 - c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.
 - d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.
2. Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.

PRESENTATION OF KNOWLEDGE AND IDEAS

4. Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.
5. Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.
6. Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 3 Language standards 1 and 3 on page 30 for specific expectations.)

4. Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
5. Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.
6. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation. (See grade 4 Language standards 1 and 3 on page 30 for specific expectations.)

4. Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
5. Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.
6. Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation. (See grade 5 Language standards 1 and 3 on page 30 for specific expectations.)

32 Language Standards K–5

[L]

Grade 3 Students:

CONVENTIONS OF STANDARD ENGLISH

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Independently and legibly write all upper- and lower-case cursive letters.
 - b. Produce grade-appropriate text using legible cursive writing.
 - c. Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences.
 - d. Form and use regular and irregular plural nouns.
 - e. Use abstract nouns (e.g., *childhood*).
 - f. Form and use regular and irregular verbs.
 - g. Form and use the simple (e.g., *I walked; I walk; I will walk*) verb tenses.
 - h. Ensure subject-verb and pronoun-antecedent agreement.*
 - i. Form and use comparative and superlative adjectives and adverbs, and choose between them depending on what is to be modified.
 - j. Use coordinating and subordinating conjunctions.
 - k. Produce simple, compound, and complex sentences.

2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
 - a. Capitalize appropriate words in titles.
 - b. Use commas in addresses.
 - c. Use commas and quotation marks in dialogue.
 - d. Form and use possessives.
 - e. Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., *sitting, smiled, cries, happiness*).
 - f. Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing words.
 - g. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.

Grade 4 Students:

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Fluently, independently, and legibly write all upper and lower case cursive letters.
 - b. Produce grade-appropriate text using legible cursive writing.
 - c. Use relative pronouns (*who, whose, whom, which, that*) and relative adverbs (*where, when, why*).
 - d. Form and use the progressive (e.g., *I was walking; I am walking; I will be walking*) verb tenses.
 - e. Use modal auxiliaries (e.g., *can, may, must*) to convey various conditions.
 - f. Order adjectives within sentences according to conventional patterns (e.g., *a small red bag rather than a red small bag*).
 - g. Form and use prepositional phrases.
 - h. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.*
 - i. Correctly use frequently confused words (e.g., *to, too, two; there, their*).*

Grade 5 Students:

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Maintain legible and fluent cursive writing.
 - b. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences.
 - c. Form and use the perfect (e.g., *I had walked; I have walked; I will have walked*) verb tenses.
 - d. Use verb tense to convey various times, sequences, states, and conditions.
 - e. Recognize and correct inappropriate shifts in verb tense.*
 - f. Use correlative conjunctions (e.g., *either/or, neither/nor*).

2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
 - a. Use punctuation to separate items in a series.*
 - b. Use a comma to separate an introductory element from the rest of the sentence.
 - c. Use a comma to set off the words yes and no (e.g., Yes, thank you), to set off a tag question from the rest of the sentence (e.g., *It's true, isn't it?*), and to indicate direct address (e.g., *Is that you, Steve?*).
 - d. Use underlining, quotation marks, or italics to indicate titles of works.
 - e. Spell grade-appropriate words correctly, consulting references as needed.

Language Standards K–5

[L]

Grade 3 Students:

KNOWLEDGE OF LANGUAGE

3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
 - a. Choose words and phrases for effect.*
 - b. Recognize and observe differences between the conventions of spoken and written standard English.

4. Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on *grade 3 reading and content*, choosing flexibly from a range of strategies.
 - a. Use sentence-level context as a clue to the meaning of a word or phrase.
 - b. Determine the meaning of the new word formed when a known affix is added to a known word (e.g., *agreeable/disagreeable, comfortable/uncomfortable, care/careless, heat/preheat*).
 - c. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *company, companion*).
 - d. Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases.

Grade 4 Students:

3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
 - a. Choose words and phrases to convey ideas precisely.*
 - b. Choose punctuation for effect.*
 - c. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion).

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies.
 - a. Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.
 - b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *telegraph, photograph, autograph*).
 - c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.

Grade 5 Students:

3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
 - a. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.
 - b. Compare and contrast the varieties of English (e.g., dialects, registers) used in stories, dramas, or poems.

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 5 reading and content*, choosing flexibly from a range of strategies.
 - a. Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase.
 - b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *photograph, photosynthesis*).
 - c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.

Grade 3 Students:**VOCABULARY ACQUISITION AND USE**

5. Demonstrate understanding of word relationships and nuances in word meanings.
- a. Distinguish the literal and nonliteral meanings of words and phrases in context (e.g., *take steps*).
 - b. Identify real-life connections between words and their use (e.g., describe people who are *friendly* or *helpful*).
 - c. Distinguish shades of meaning among related words that describe states of mind or degrees of certainty (e.g., *knew, believed, suspected, heard, wondered*).
6. Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships (e.g., *After dinner that night we went looking for them*).

Grade 4 Students:

5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
- a. Explain the meaning of simple similes and metaphors (e.g., *as pretty as a picture*) in context.
 - b. Recognize and explain the meaning of common idioms, adages, and proverbs.
 - c. Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).
6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., *quizzed, whined, stammered*) and that are basic to a particular topic (e.g., wildlife, conservation, and endangered when discussing animal preservation).

Grade 5 Students:

5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
- a. Interpret figurative language, including similes and metaphors, in context.
 - b. Recognize and explain the meaning of common idioms, adages, and proverbs.
 - c. Use the relationship between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words.
6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., *however, although, nevertheless, similarly, moreover, in addition*).

Comprehension and Collaboration**Standard 1**

Anchor Standard 1: Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

Kindergarten: Participate in collaborative conversations with diverse partners about *kindergarten topics and texts* with peers and adults in small and larger groups. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). Continue a conversation through multiple exchanges.

1st Grade: Participate in collaborative conversations with diverse partners about *grade 1 topics and texts* with peers and adults in small and larger groups. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). Build on others' talk in conversations by responding to the comments of others through multiple exchanges. Ask questions to clear up any confusion about the topics and texts under discussion.

2nd Grade: Participate in collaborative conversations with diverse partners about *grade 2 topics and texts* with peers and adults in small and larger groups. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). Build on others' talk in conversations by linking their comments to the remarks of others. Ask for clarification and further explanation as needed about the topics and texts under discussion.

3rd Grade: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 3 topics and texts*, building on others' ideas and expressing their own clearly. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. Explain their own ideas and understanding in light of the discussion.

4th Grade: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. Follow agreed-upon rules for discussions and carry out assigned roles. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.

5th Grade: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. Follow agreed-upon rules for discussions and carry out assigned roles. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.

Standard 2

Anchor Standard 2: Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

Kindergarten: Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.

1st Grade: Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

2nd Grade: Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.

3rd Grade: Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

4th Grade: Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

5th Grade: Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

Standard 3

Anchor Standard 3: Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Kindergarten: Ask and answer questions in order to seek help, get information, or clarify something that is not understood.

1st Grade: Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.

2nd Grade: Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.

3rd Grade: Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

4th Grade: Identify the reasons and evidence a speaker provides to support particular points.

5th Grade: Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.

Presentation of Knowledge and Ideas**Standard 4**

Anchor Standard 4: Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

Kindergarten: Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.

1st Grade: Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.

2nd Grade: Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.

3rd Grade: Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

4th Grade: Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.

5th Grade: Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.

Standard 5

Anchor Standard 5: Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

Kindergarten: Add drawings or other visual displays to descriptions as desired to provide additional detail.
1 st Grade: Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.
2 nd Grade: Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.
3 rd Grade: Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.
4 th Grade: Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes
5 th Grade: Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

Standard 6

Anchor Standard 6: Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

Kindergarten: Speak audibly and express thoughts, feelings, and ideas clearly.
1 st Grade: Produce complete sentences when appropriate to task and situation. (See grade 1 Language standards 1 and 3.)
2 nd Grade: Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 2 Language standards 1 and 3.)
3 rd Grade: Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification (See grade 3 Language standards 1 and 3.)
4 th Grade: Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation. (See grade 4 Language standard 1.)
5 th Grade: Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation. (See grade 5 Language standards 1 and 3.)

Key Ideas and Details
Standard 1

Anchor Standard 1: *Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from text.*

Kindergarten: With prompting and support, ask and answer questions about key details in text.
1 st Grade: Ask and answer about key details in text.
2 nd Grade: Ask and answer such questions as <i>who, what, where, when, why, and how</i> to demonstrate understanding of key details in a text
3 rd Grade: Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
4 th Grade: Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
5 th Grade: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

Standard 2

Anchor Standard 2: *Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.*

Kindergarten: With prompting and support, retell familiar stories, including key details.
1 st Grade: Retell stories, including key details, and demonstrate understanding of their central message or lesson.
2 nd Grade: Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral.
3 rd Grade: Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text.
4 th Grade: Determine a theme of a story, drama, or poem from details in the text; summarize the text.
5 th Grade: Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.

Standard 3

Anchor Standard 3: *Analyze how and why individuals, events, or ideas develop and interact over the course of a text.*

Kindergarten: With prompting and support, identify characters, settings, and major events in a story.
1 st Grade: Describe characters, settings, and major events in a story, using key details.
2 nd Grade: Describe how characters in a story respond to major events and challenges.
3 rd Grade: Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.
4 th Grade: Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).
5 th Grade: Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).

Craft and Structure**Standard 4**

Anchor Standard 4: Interpret words and phrases as they are used in text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

Kindergarten: Ask and answer questions about unknown words in text.

1st Grade: Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.

2nd Grade: Describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song.

3rd Grade: Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.

4th Grade: Determine the meaning of words and phrases as they are used in text, including those that allude to significant characters found in mythology (e.g., Herculean).

5th Grade: Determine the meaning of words and phrases as they are used in text, including figurative language such as metaphors and similes.

Standard 5

Anchor Standard 5: Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of text (e.g., a section, chapter, scene or stanza) relate to each other and the whole.

Kindergarten: Recognize common types of texts (e.g., storybooks, poems).

1st Grade: Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.

2nd Grade: Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action.

3rd Grade: Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene and stanza; describe how each successive part builds on earlier sections.

4th Grade: Explain major differences between poems, drama, prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g. casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.

5th Grade: Explain how a series of chapters, scenes or stanzas fits together to provide the overall structure of a particular story, drama, or poem.

Standard 6

Anchor Standard 6: Assess how point of view or purpose shapes the content and style of a text.

Kindergarten: With prompting and support, name the author and illustrator of a story and define the role of each in tell the story.

1st Grade: Identify who is telling the story at various points in a text.

2nd Grade: Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud.

3rd Grade: Distinguish their own point of view from that of the narrator or those of the characters.

4th Grade: Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.

5th Grade: Describe how a narrator's or speaker's point of view influences how event are described.

Integration of Knowledge and Ideas

Standard 7

Anchor Standard 7: Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

Kindergarten: With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts).
1 st Grade: Use illustrations and details in a story to describe its characters, setting, or events.
2 nd Grade: Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting or plot.
3 rd Grade: Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting)
4 th Grade: Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text.
5 th Grade: Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g. graphic novel, multimedia presentation of fiction, folktale, myth, poem).

Standard 8

Anchor Standard 8: Delineate and evaluate the argument and specific claims in a text, including the validity of reasoning as well as the relevance and sufficiency of the evidence.

Kindergarten: Not applicable.
1 st Grade: Not applicable.
2 nd Grade: Not applicable.
3 rd Grade: Not applicable.
4 th Grade: Not applicable.
5 th Grade: Not applicable.

Standard 9

Anchor Standard 9: Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Kindergarten: With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories.
1 st Grade: Compare and contrast the adventures and experiences of characters in stories.
2 nd Grade: Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures.
3 rd Grade: Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters (e.g., in books from a series)
4 th Grade: Compare and contrast the treatment of similar themes and topics (e.g. opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures.
5 th Grade: Compare and contrast stories in the same genre (e.g. mysteries and adventure stories) on their approaches to similar themes and topics.

**Range of Reading and Level of Text Complexity
Standard 10**

Anchor Standard 10: Read and comprehend complex literary and informational texts independently and proficiently.

Kindergarten: Actively engage in group reading activities with purpose and understanding.

1st Grade: With prompting and support, read prose and poetry of appropriate complexity for grade 1.

2nd Grade: By the end of the year, read and comprehend literature, including stories and poetry, in grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range.

3rd Grade: By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 2-3 complexity band proficiently and independently.

4th Grade: By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range.

5th Grade: By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 4-5 text complexity band independently and proficiently.

Key Ideas and Details**Standard 1**

Anchor Standard 1: Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from text.

Kindergarten: With prompting and support, ask and answer questions about key details in a text.
1 st Grade: Ask and answer questions about key details in a text.
2 nd Grade: Ask and answer such questions as <i>who, what, where, when, why, and how</i> to demonstrate understanding of key details in a text.
3 rd Grade: Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
4 th Grade: Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
5 th Grade: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

Standard 2

Anchor Standard 2: Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

Kindergarten: With prompting and support, identify the main topic and retell key details of a text.
1 st Grade: Identify the main topic and retell key details of a text.
2 nd Grade: Identify the main topic of a multi-paragraph text as well as the focus of specific paragraphs within the text.
3 rd Grade: Determine the main idea of a text; recount the key details and explain how they support the main idea.
4 th Grade: Determine the main idea of a text and explain how it is supported by key details; summarize the text.
5 th Grade: Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.

Standard 3

Anchor Standard 3: Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

Kindergarten: With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.
1 st Grade: Describe the connection between two individuals, events, ideas, or pieces of information in a text.
2 nd Grade: Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
3 rd Grade: Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.
4 th Grade: Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.
5 th Grade: Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

Craft and Structure
Standard 4

Anchor Standard 4: Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

Kindergarten: With prompting and support, ask and answer questions about unknown words in a text.
1 st Grade: Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
2 nd Grade: Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.
3 rd Grade: Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
4 th Grade: Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a grade 4 topic or subject area.
5 th Grade: Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.

Standard 5

Anchor Standard 5: Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

Kindergarten: Identify the front cover, back cover, and title page of a book.
1 st Grade: Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.
2 nd Grade: Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.
3 rd Grade: Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.
4 th Grade: Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.
5 th Grade: Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.

Standard 6

Anchor Standard 6: Assess how point of view or purpose shapes the content and style of a text.

Kindergarten: Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text.
1 st Grade: Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.
2 nd Grade: Identify the main purpose of a text, including what the author wants to answer, explain, or describe.
3 rd Grade: Distinguish their own point of view from that of the author of a text.
4 th Grade: Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.
5 th Grade: Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.

Integration of Knowledge and Ideas
Standard 7

Anchor Standard 7: Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.¹

Kindergarten: With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).
1 st Grade: Use the illustrations and details in a text to describe its key ideas.
2 nd Grade: Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
3 rd Grade: Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).
4 th Grade: Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.
5 th Grade: Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

Standard 8

Anchor Standard 8: Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

Kindergarten: With prompting and support, identify the reasons an author gives to support points in a text.
1 st Grade: Identify the reasons an author gives to support points in a text.
2 nd Grade: Describe how reasons support specific points the author makes in a text.
3 rd Grade: Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence).
4 th Grade: Explain how an author uses reasons and evidence to support particular points in a text.
5 th Grade: Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).

Standard 9

Anchor Standard 9: Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Kindergarten: With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
1 st Grade: Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
2 nd Grade: Compare and contrast the most important points presented by two texts on the same topic.
3 rd Grade: Compare and contrast the most important points and key details presented in two texts on the same topic.
4 th Grade: Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.
5 th Grade: Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

**Range of Reading and Level of Complexity
Standard 10**

Anchor Standard 10: Read and comprehend complex literary and informational texts independently and proficiently.

Kindergarten: Actively engage in group reading activities with purpose and understanding.

1st Grade: With prompting and support, read informational texts appropriately complex for grade.

2nd Grade: By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.

3rd Grade: By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2–3 text complexity band independently and proficiently.

4th Grade: By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.

5th Grade: By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4–5 text complexity band independently and proficiently.

Text Types and Purposes

Standard 1

Anchor Standard 1: Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.

Kindergarten: Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., My favorite book is....).

1st Grade: Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.

2nd Grade: Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section.

3rd Grade: Write opinion pieces on topics or texts, supporting a point of view with reasons. Introduce the topic or text they are writing about, state an opinion, and create an organizational structure that lists reasons. Provide reasons that support the opinion. Use linking words and phrases (e.g., because, therefore, since, for example) to connect opinion and reasons. Provide a concluding statement or section.

4th Grade: Write opinion pieces on topics or texts, supporting a point of view with reasons and information. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose. Provide reasons that are supported by facts and details. Link opinion and reasons using words and phrases (e.g., for instance, in order to, in addition). Provide a concluding statement or section related to the opinion presented.

5th Grade: Write opinion pieces on topics or texts, supporting a point of view with reasons and information. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose. Provide logically ordered reasons that are supported by facts and details. Link opinion and reasons using words, phrases, and clauses (e.g., consequently, specifically). Provide a concluding statement or section related to the opinion presented.

Standard 2

Anchor Standard 2: Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

Kindergarten: Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.

1st Grade: Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.

2nd Grade: Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

3rd Grade: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. Introduce a topic and group related information together; include illustrations when useful to aiding comprehension. Develop the topic with facts, definitions, and details. Use linking words and phrases (e.g., also, another, and, more, but) to connect ideas within categories of information. Provide a concluding statement or section.

4th Grade: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. Link ideas within categories of information using words and phrases (e.g., another, for example, also, because). Use precise language and domain-specific vocabulary to inform about or explain the topic. Provide a concluding statement or section related to the information or explanation presented.

5th Grade: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. Develop the topic with facts, concrete details, quotations, or other information and examples related to the topic. Link ideas

within and across categories of information using words, phrases, and clauses (e.g., *in contrast, especially*). Use precise language and domain-specific vocabulary to inform about or explain the topic. Provide a concluding statement or section related to the information or explanation presented.

Standard 3

Anchor Standard 3: Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details and well-structured event sequences.

Kindergarten: Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened.

1st Grade: Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.

2nd Grade: Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure.

3rd Grade: Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. Establish a situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally. Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations. Use temporal words and phrases to signal event order. Provide a sense of closure.

4th Grade: Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. Use dialogue and description to develop experiences and events or show the responses of characters to situations. Use a variety of transitional words and phrases to manage the sequence of events. Use concrete words and phrases and sensory details to convey experiences and events precisely. Provide a conclusion that follows from the narrated experiences or events.

5th Grade: Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. Use concrete words and phrases and sensory details to convey experiences and events precisely. Provide a conclusion that follows from the narrated experiences or events.

Production and Distribution of Writing

Standard 4

Anchor Standard 4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Kindergarten: N/A

1st Grade: N/A

2nd Grade: N/A

3rd Grade: With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

4th Grade: Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

5th Grade: Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

Standard 5

Anchor Standard 5: Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

Kindergarten: With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed.

1st Grade: With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.

2nd Grade: With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing.

3rd Grade: With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language standards 1-3 up to and including grade 3.)

4th Grade: With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language standards 1-3 up to and including grade 4.)

5th Grade: With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of Language standards 1-3 up to and including grade 5.)

Standard 6

Anchor Standard 6: Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Kindergarten: With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.

1st Grade: With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

2nd Grade: With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

3rd Grade: With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.

4th Grade: With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.

5th Grade: With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.

Research to Build and Present Knowledge

Standard 7

Anchor Standard 7: Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

Kindergarten: Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).

1st Grade: Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions).

2nd Grade: Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).

3rd Grade: Conduct short research projects that build knowledge about a topic.

4th Grade: Conduct short research projects that build knowledge through investigation of different aspects of a topic.

5th Grade: Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

Standard 8

Anchor Standard 8: *Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.*

Kindergarten: With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

1st Grade: With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

2nd Grade: Recall information from experiences or gather information from provided sources to answer a question.

3rd Grade: Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.

4th Grade: Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.

5th Grade: Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.

Standard 9

Anchor Standard 9: *Draw evidence from literary or informational texts to support analysis, reflection, and research.*

Kindergarten: N/A

1st Grade: N/A

2nd Grade: N/A

3rd Grade: N/A

4th Grade: *Draw evidence from literary or informational texts to support analysis, reflection, and research. Apply grade 4 Reading standards to literature (e.g., “Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character’s thoughts, words, or actions].”) Apply grade 4 Reading standards to informational texts (e.g., “Explain how an author uses reasons and evidence to support particular points in a text”).*

5th Grade: Draw evidence from literary or informational texts to support analysis, reflection, and research. Apply grade 5 Reading standards to literature (e.g., “Compare and contrast two or more characters, settings, or events in a story or a drama, drawing on specific details in the text [e.g., how characters interact]”). Apply grade 5 Reading standards to informational texts (e.g., “Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point[s]”).

**Range of Writing
Standard 10**

Anchor Standard 10: *Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.*

Kindergarten: N/A

1st Grade: N/A

2nd Grade: N/A

3rd Grade: *Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences*

4th Grade: Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

5th Grade: Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Conventions of Standard English**Standard 1**

Anchor Standard 1: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking

Kindergarten:

- a. With guidance and support, identify and write many upper-and lowercase letters, including those in the student's name.
- b. Use frequently occurring nouns and verbs.
- c. Form regular plural nouns orally by adding /s/ or /es/ (e.g., dog, dogs; wish, wishes).
- d. Understand and use question words (interrogatives) (e.g., who, what, where, when, why, how).
- e. Use the most frequently occurring prepositions (e.g., to, from, in, out, on, off, for, of, by, with).
- f. Produce and expand complete sentences in shared language activities.

1st Grade:

- a. Independently identify and legibly write all upper- and lowercase letters (legibility is defined as the letter being recognizable to readers in isolation from other letters in a word).
- b. Produce grade-appropriate text using legible writing.
- c. Use common, proper, and possessive nouns.
- d. Use singular and plural nouns with matching verbs in basic sentences (e.g., He hops; We hop).
- e. Use personal, possessive, and indefinite pronouns (e.g., I, me, my; they, them, their, anyone, everything).
- f. Use verbs to convey a sense of past, present, and future (e.g., Yesterday I walked home; Today I walk home; Tomorrow I will walk home).
- g. Use frequently occurring adjectives.
- h. Use frequently occurring conjunctions (e.g., and, but, or, so, because).
- i. Use determiners (e.g., articles, demonstratives).
- j. Use frequently occurring prepositions (e.g., during, beyond, toward).
- k. Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to prompts.

2nd Grade:

- a. Fluently, independently, and legibly write all upper- and lowercase letters.
- b. Produce grade-appropriate text using legible writing.
- c. Understand that cursive is different from manuscript.
- d. Use collective nouns (e.g., group).
- e. Form and use frequently occurring irregular plural nouns (e.g., feet, children, teeth, mice, fish).
- f. Use reflexive pronouns (e.g., myself, ourselves).
- g. Form and use the past tense of frequently occurring irregular verbs (e.g., sat, hid, told).
- h. Use adjectives and adverbs, and choose between them depending on what is to be modified.
- i. Produce, expand, and rearrange complete simple and compound sentences (e.g., The boy watched the movie; The little boy watched the movie; The action movie was watched by the little boy).

3rd Grade:

- a. Independently and legibly write all upper-and lower-case cursive letters.
- b. Produce grade-appropriate text using legible cursive writing.
- c. Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences
- d. Form and use regular and irregular plural nouns.
- e. Use abstract nouns (e.g., *childhood*).
- f. Form and use regular and irregular verbs.
- g. Form and use the simple (e.g., *I walked; I walk; I will walk*) verb tenses.
- h. Ensure subject-verb and pronoun-antecedent agreement.
- i. Form and use comparative and superlative adjectives and adverbs, and choose between them depending on what is to be modified.
- j. Use coordinating and subordinating conjunctions.
- k. Produce simple, compound and complex sentences.

4th Grade:

- a. Fluently, independently, and legibly write all upper and lower case cursive letters.
- b. Produce grade-appropriate text using legible cursive.
- c. Use relative pronouns (who, whose, whom, which, that) and relative adverbs (where, when, why).
- d. Form and use the progressive (e.g., *I was walking; I am walking; I will be walking*) verb tenses.
- e. Use modal auxiliaries (e.g., can, may, must) to convey various conditions.
- f. Order adjectives within sentences according to conventional patterns (e.g., *a small red bag rather than a red small bag*).
- g. Form and use prepositional phrases.
- h. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.
- i. Correctly use frequently confused words (e.g., *to, too, two; there, their*).

5th Grade:

- a. Maintain legible and fluent cursive writing.
- b. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences.
- c. Form and use the perfect (e.g., *I had walked; I have walked; I will have walked*) verb tenses.
- d. Use verb tense to convey various times, sequences, states, and conditions.
- e. Recognize and correct inappropriate shifts in verb tense.
- f. Use correlative conjunctions (e.g., either/or, neither/nor).

Conventions of Standard English
Standard 2

Anchor Standard 2: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Kindergarten:

- a. Capitalize the first word in a sentence and the pronoun *I*.
- b. Recognize and name end punctuation.
- c. Write a letter or letters for most consonant and short-vowel sounds (phonemes).
- d. Spell simple words phonetically, drawing on knowledge of sound-letter relationships.

1st Grade:

- a. Capitalize dates and names of people.
- b. Use end punctuation for sentences.
- c. Use commas in dates and to separate single words in a series.
- d. Use conventional spellings for words with common spelling patterns and for frequently occurring irregular words.
- e. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions.

2nd Grade:

- a. Capitalize holidays, product names, and geographic names.
- b. Use commas in greetings and closings of letters.
- c. Use an apostrophe to form contractions and frequently occurring possessives
- d. Generalize learned spelling patterns when writing words (e.g., cage - badge; boy - boil).
- e. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings

3rd Grade

- a. Capitalize appropriate words in titles.
- b. Use commas in addresses.
- c. Use commas and quotation marks in dialogue.
- d. Form and use possessives.
- e. Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., *sitting, smiled, cries, happiness*).
- f. Use spelling patterns and generalizations (e.g., *word families, position-based spellings, syllable patterns, ending rules, meaningful word parts*) in writing words.
- g. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.

4th Grade:

- a. Use correct capitalization.
- b. Use commas and quotation marks to mark direct speech and quotations from a text.
- c. Use a comma before a coordinating conjunction in a compound sentence.
- d. Spell grade-appropriate words correctly, consulting references as needed.

5th Grade:

- a. Use punctuation to separate items in a series.
- b. Use a comma to separate an introductory element from the rest of the sentence.
- c. Use a comma to set off the words yes and no (e.g., *Yes, thank you*), to set off a tag question from the rest of the sentence (e.g., *It's true, isn't it?*), and to indicate direct address (e.g., *Is that you, Steve?*).
- d. Use underlining, quotation marks, or italics to indicate titles of works.
- e. Spell grade-appropriate words correctly, consulting references as needed.

Knowledge of Language**Standard 3**

Anchor Standard 3: *Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.*

Kindergarten: (Begins in grade 2)

1st Grade: (Begins in grade 2)

2nd Grade:

a. Compare formal and informal uses of English.

3rd Grade:

a. Choose words and phrases for effect.

b. Recognize and observe differences between the conventions of spoken and written standard English.

4th Grade:

a. Choose words and phrases to convey ideas precisely.

b. Choose punctuation for effect.

c. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion).

5th Grade:

a. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.

b. Compare and contrast the varieties of English (e.g., dialects, registers) used in stories, dramas, or poems.

Vocabulary Acquisition and Use**Standard 4**

Anchor Standard 4: *Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.*

Kindergarten: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on kindergarten reading and content.

a. Identify new meanings for familiar words and apply them accurately (e.g., knowing duck is a bird and learning the verb to duck).

b. Use the most frequently occurring inflections and affixes (e.g., -ed, -s, re-, un-, pre-, -ful, -less) as a clue to the meaning of an unknown word.

1st Grade: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 1 reading and content, choosing flexibly from an array of strategies.

a. Use sentence-level context as a clue to the meaning.

b. Use frequently occurring affixes as a clue to the meaning of a word.

c. Identify frequently occurring root words (e.g., look) and their inflectional forms (e.g., looks, looked, looking).

2nd Grade: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on **grade 2** reading and content, choosing flexibly from an array of strategies.

- a. Use sentence-level context as a clue to the meaning **of a word or phrase**.
- b. **Determine** the meaning of the **new word formed when a known prefix is added to a known word** (e.g., *happy/unhappy, tell/retell*).
- c. **Use a known root word** as a clue to the meaning of an unknown word with the same root (e.g., *addition, additional*).
- d. **Use knowledge of the meaning of individual words to predict the meaning of compound words** (e.g., *birdhouse, lighthouse, housefly; bookshelf, notebook, bookmark*).
- e. **Use glossaries and beginning dictionaries, both print and digital, to determine or clarify the meaning of words and phrases**.

3rd Grade: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on **grade 3** reading and content, choosing flexibly from an array of strategies.

- a. Use sentence-level context as a clue to the meaning of a word or phrase.
- b. Determine the meaning of the new word formed when a known affix is added to a known word (e.g., *agreeable/disagreeable, comfortable/ uncomfortable, care/ careless, heat/preheat*).
- c. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *company, companion*).
- d. Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases.

4th Grade: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on **grade 4** reading and content, choosing flexibly from an array of strategies.

- a. Use context (e.g., **definitions, examples, or restatements in text**) as a clue to the meaning of a word or phrase.
- b. Use **common, grade-appropriate Greek and Latin affixes and roots** as clues to the meaning of a word (e.g., *telegraph, photograph, autograph*).
- c. **Consult reference materials** (e.g., **dictionaries, glossaries, thesauruses**), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.

5th Grade: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on **grade 5** reading and content, choosing flexibly from an array of strategies.

- a. Use context (e.g., **cause/ effect relationships and comparisons in text**) as a clue to the meaning of a word or phrase.
- b. Use **common, grade-appropriate Greek and Latin affixes and roots** as clues to the meaning of a word (e.g., *photograph, photosynthesis*).
- c. **Consult reference materials** (e.g., **dictionaries, glossaries, thesauruses**), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.

Vocabulary Acquisition and Use
Standard 5

Anchor Standard 5: Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

Kindergarten:

- a. Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent.
- b. Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms).
- c. Identify real-life connections between words and their use (e.g., note places at school that are colorful).
- d. Distinguish shades of meaning among verbs describing the same general action (e.g., walk, march, strut, prance) by acting out the meanings.

1st Grade:

- a. Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent.
- b. Define words by category and by one or more key attributes (e.g., a duck is a bird that swims; a tiger is a large cat with stripes).
- c. Identify real-life connections between words and their use (e.g., note places at home that are cozy).
- d. Distinguish shades of meaning among verbs differing in manner (e.g., look, peek, glance, stare, glare, scowl) and adjectives differing in intensity (e.g., large, gigantic) by defining or choosing them or by acting out the meanings.

2nd Grade:

- a. Identify real-life connections between words and their use (e.g., describe foods that are spicy or juicy).
- b. Distinguish shades of meaning among closely related verbs (e.g., toss, throw, hurl) and closely related adjectives (e.g., thin, slender, skinny, scrawny).

3rd Grade:

- a. Distinguish the literal and nonliteral meanings of words and phrases in context (e.g., take steps).
- b. Identify real-life connections between words and their use (e.g., describe people who are friendly or helpful).
- c. Distinguish shades of meaning among related words that describe states of mind or degrees of certainty (e.g., knew, believed, suspected, heard, wondered)

4th Grade:

- a. Explain the meaning of simple similes and metaphors (e.g., as pretty as a picture) in context
- b. Recognize and explain the meaning of common idioms, adages, and proverbs.
- c. Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms)

5th Grade:

- a. Interpret figurative language, including similes and metaphors, in context.
- b. Recognize and explain the meaning of common idioms, adages, and proverbs.
- c. Use the relationship between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words.

**Vocabulary Acquisition and Use
Standard 6**

Anchor Standard 6: *Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.*

Kindergarten: Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

1st Grade: Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., because).

2nd Grade: Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., When other kids are happy that makes me happy).

3rd Grade: Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships (e.g., After dinner that night we went looking for them).

4th Grade: Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a particular topic (e.g., wildlife, conservation, and endangered when discussing animal preservation).

5th Grade: Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., however, although, nevertheless, similarly, moreover, in addition).

**Print Concepts
Standard 1**

Kindergarten: Demonstrate understanding of the organization and basic features of print. Follow words from left to right, top to bottom, and page-by-page. Recognize that spoken words are represented in written language by specific sequences of letters. Understand that words are separated by spaces in print. Recognize and name all upper and lowercase letters of the alphabet.

1st Grade: Demonstrate understanding of the organization and basic features of print. Recognize the distinguishing features of a sentence (e.g., first word, capitalization, ending punctuation).

2nd Grade: (Not applicable)

3rd Grade: (Not applicable)

4th Grade: (Not applicable)

5th Grade: (Not applicable)

**Phonological Awareness
Standard 2**

Kindergarten: Demonstrate understanding of spoken words, syllables, and sounds (phonemes). Recognize and produce rhyming words. Count, pronounce, blend, and segment syllables in spoken words. Blend and segment onsets and rimes of single-syllable spoken words. Isolate and pronounce the initial medial vowel, and final sounds (phonemes) in three phoneme CVC words. (This does not include CVCs ending in /l/, /r/ or /x/.) Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words.

1st Grade: Demonstrate understanding of spoken words, syllables, and sounds (phonemes). Distinguish long from short vowel sounds in spoken single-syllable words. Orally produce single-syllable words by blending sounds (phonemes), including consonant blends. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. Segment spoken single - syllable words into their complete sequence of individual sounds (phonemes).

2nd Grade: (Not applicable)

3rd Grade: (Not applicable)

4th Grade: (Not applicable)

5th Grade: (Not applicable)

**Phonics and Words Recognition
Standard 3**

Kindergarten: Know and apply grade-level phonics and word analysis skills in decoding words. Demonstrate basic knowledge of on-to-one letter sound correspondences by producing the primary or many of the most frequent sound of each consonant. Associate the long and short sounds with common spellings (graphemes) for the five major vowels. Read common high-frequency words by sight (e.g. the, of, to, you, she, my, are, do, does). Distinguish between similarly spelled words by identifying the sounds of the letters that differ.

1st Grade: Know and apply grade-level phonics and word analysis skills in decoding words. Know the spelling-sound correspondences for common consonant digraphs. Decode regularly spelled one-syllable words. Know final –e and common vowel team conventions for representing long vowel sounds. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word. Decode two-syllable words following basic patterns by breaking the words into syllables. Read words with inflectional endings. Recognize and read grade-appropriate irregularly spelled words.

2nd Grade: Know and apply grade-level phonics and word analysis skills in decoding words. Distinguish long and short vowels when reading regularly spelled one-syllable words. Know spelling-sound correspondences for additional common vowel teams. Decode regularly spelled two-syllable words with long vowels. Decode words with common prefixes and suffixes. Identify words with inconsistent but common spelling-sound correspondences. Recognize and read grade-appropriate irregularly spelled words.

3rd Grade: Know and apply grade-level phonics and word analysis skills in decoding words. Distinguish long and short vowels when reading regularly spelled one-syllable words. Know spelling-sound correspondences for additional common vowel teams. Decode regularly spelled two-syllable words with long vowels. Decode words with common prefixes and suffixes. Identify words with inconsistent but common spelling-sound correspondences. Recognize and read grade-appropriate irregularly spelled words.

4th Grade: Know and apply grade-level phonics and word analysis skills in decoding words. **Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.**

5th Grade: Know and apply grade-level phonics and word analysis skills in decoding words. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.

Fluency Standard 4

Kindergarten: **Read emergent reader texts with purpose and understanding.**

1st Grade: Read with sufficient accuracy and fluency to support comprehension. Read on-level text with purpose and understanding. Read on-level text orally with accuracy, appropriate rate, and expression on successive readings. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

2nd Grade: Read with sufficient accuracy and fluency to support comprehension. Read on-level text with purpose and understanding. Read on-level text orally with accuracy, appropriate rate, and expression on successive readings. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

3rd Grade: Read with sufficient accuracy and fluency to support comprehension. Read on-level text with purpose and understanding. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

4th Grade: Read with sufficient accuracy and fluency to support comprehension. Read on-level text with purpose and understanding. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

5th Grade: Read with sufficient accuracy and fluency to support comprehension. Read on-level text with purpose and understanding. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

SALTA Materials

English Language Arts

CORE

All SALTA students are taught the Utah **CORE** standards. Core standards are evidence-based, aligned with expectations for success in college and the workplace, and will allow students to compete internationally. The new standards stress rigor, depth, clarity, coherence, and 21st century skills, to prepare students for college and careers.

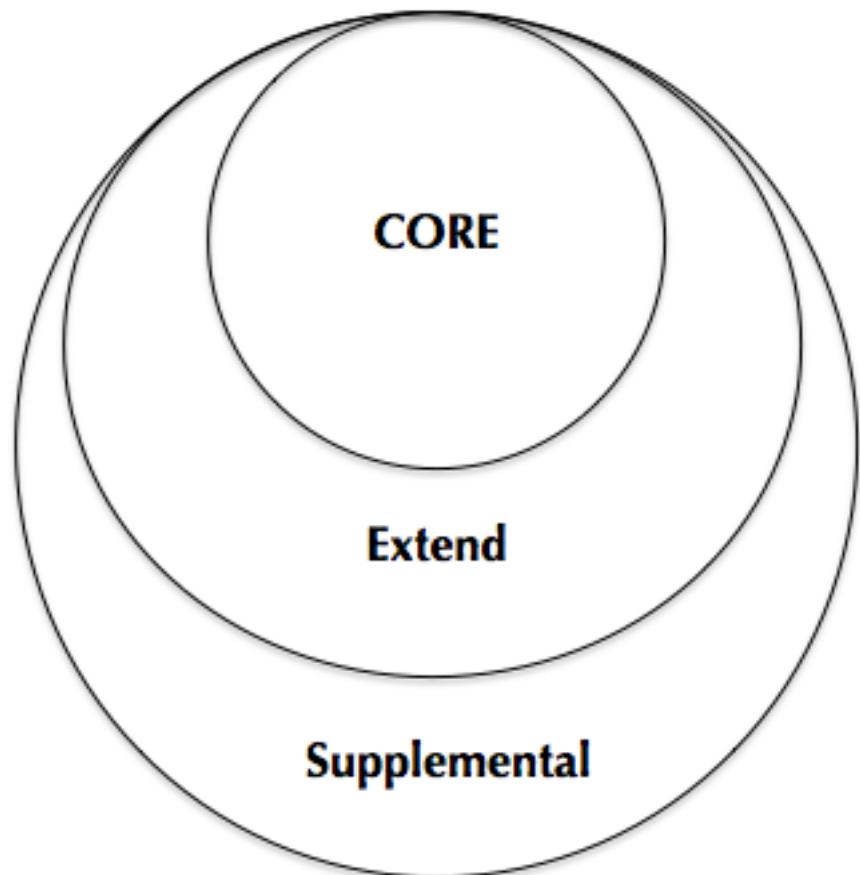
EXTEND

Extension of core standards provides students with activities that are added to **CORE** to enlarge or deepen understanding. Examples of **EXTEND** include:

- Reading Street w/Research & Inquiry Skills (R&I Skills)
- Project-Based Learning (PBL)
- Extended Learning Opportunities (ExLO)

SUPPLEMENTAL

Supplemental resources are materials and activities in addition to ones found in **EXTEND** and **CORE**. Junior Great Books are the supplemental materials for SALTA English Language Arts.



SALTA CSD 3rd – 5th Grade Literacy Block

Literacy Component	Range of Time	Class Configuration	Focus of Instruction
Reading	45-60 minutes	Whole Group Cooperative Groups & Partners	<ul style="list-style-type: none"> • Concept Development • Oral Vocabulary • Phonics • Word Study
Language Arts	30-45 minutes	Whole Group Cooperative Groups & Partners	<ul style="list-style-type: none"> • Comprehension • Lesson Vocabulary • Grammar • Writing
<i>Teach and Model Practice Stations</i>			
Skill-Based Instruction Additional instruction with teacher in Higher Order Thinking and Questioning while students engage in Practice Stations and/or independent activities for research, inquiry, writing and 21st Century skills.	45-60 minutes	Small Groups	Focus of Instruction
	10-15 minutes per group	Group 1 Accurate & Benchmark Rate Met benchmark on DORF and accurate in Fall 95%, Winter 96%, Spring 98%	Comprehension <ul style="list-style-type: none"> • Monitoring for meaning • Identifying, summarizing, and extending main ideas • Self-monitoring and fix-up strategies and awareness of reading for understanding • Teaching important words directly and word-learning strategies • Extended reading and writing opportunities tied to Core subjects • Inquiry based questioning based on Hess' Cognitive Rigor Matrix (Revised Bloom and DOK)
		Group 2 Accurate & Below Benchmark Rate Below benchmark on DORF and accurate in Fall 95%, Winter 96%, Spring 98%	Fluency <ul style="list-style-type: none"> • Building automaticity, but do not ignore making meaning • Repeated readings • Word or phrase level automaticity in addition to passages, if necessary • Grouping words to make meaning, pacing punctuation • Read for main idea, summarizing, and/or text elements • Identify skill deficits and areas of targeted instruction
		Group 3 Inaccurate & Benchmark Rate Met benchmark on DORF and accurate in Fall 95%, Winter 96%, Spring 98%	Digging Deeper into Needs <ul style="list-style-type: none"> • Explicit modeling of accurate reading • Self-monitoring—table tap when student makes an error. This will help the student slow down and read more accurately. • Challenge student to read a portion of the text with 2 or fewer errors • Teach student to adjust rate of reading to type of text and purpose for reading
		Group 4 Inaccurate & Below Benchmark Rate Below benchmark on DORF and less than Fall 95%, Winter 96%, Spring 98% accuracy	Phonics and/or Phonological Awareness <ul style="list-style-type: none"> • Missing phonemic awareness skills • Missing decoding skills • Missing sight words skills • Missing multi-syllabic decoding skills • Applying skills to connected text at instructional level • Building fluency at independent level • Substantial practice applying phonics to new text and writing • Use <i>If-Then Guide for Phonemic Awareness and/or Phonics and Decoding</i> to identify skill deficits and areas of targeted instruction
Content Integration	20-30 minutes	Whole Group Content Reading Groups	Research and Inquiry <ul style="list-style-type: none"> • Accessing informational and literary text in content areas • Writing in the content areas (application of reading)

Grade 5: Five-Day Plan for Reading Street

Literacy Block Component	Day 1	Day 2	Day 3	Day 4	Day 5
<p style="color: red; font-weight: bold;">Get Ready to Read</p> <p style="color: green; font-weight: bold;">Content Knowledge</p> <p style="color: green;">10 min.</p>	<p style="color: green; font-weight: bold;">Content Knowledge</p> <ul style="list-style-type: none"> • Street Rhymes! • Concept Talk • Question of the Week • Build Oral Language • Concept Map <p style="color: green;">15 min.</p>	<p style="color: blue; font-weight: bold;">Content Knowledge</p> <ul style="list-style-type: none"> • Expand the Concept • Question of the Week • Build Oral Language <p style="color: blue;">5 min.</p>	<p style="color: purple; font-weight: bold;">Content Knowledge</p> <ul style="list-style-type: none"> • Expand the Concept • Question of the Week • Build Oral Language <p style="color: purple;">5 min.</p>	<p style="color: orange; font-weight: bold;">Content Knowledge</p> <ul style="list-style-type: none"> • Expand the Concept • Question of the Week • Build Oral Language <p style="color: orange;">5 min.</p>	<p style="color: blue; font-weight: bold;">Content Knowledge</p> <ul style="list-style-type: none"> • Review Concept • Question of the Week • Build Oral Language • Review Amazing Words & Concept Map <p style="color: blue;">5-10 min.</p>
<p style="color: green; font-weight: bold;">Read and Comprehend</p> <p style="color: green; font-weight: bold;">Text-Based Comprehension</p> <p style="color: green;">15 min.</p>	<p style="color: green; font-weight: bold;">Text-Based Comprehension</p> <ul style="list-style-type: none"> • Target Skill & Strategy • Model A Close Read • Model Fluent Reading <p style="color: green;">20 min.</p>	<p style="color: blue; font-weight: bold;">Vocabulary Skill Reread for Fluency</p> <p style="color: blue;">15 min.</p>	<p style="color: purple; font-weight: bold;">Main Selection</p> <ul style="list-style-type: none"> • Access the Main Selection • Close Read the Main Selection <p style="color: purple;">25 min.</p>	<p style="color: orange; font-weight: bold;">Read (paired selection)</p> <p style="color: orange;">Access Text</p> <p style="color: orange;">Close Reading</p> <p style="color: orange;">Fluency</p> <p style="color: orange;">Vocabulary</p> <p style="color: purple;">Listening and Speaking</p> <p style="color: orange;">30 min.</p>	<p style="color: blue; font-weight: bold;">Review:</p> <p style="color: blue;">Text-based Comprehension</p> <p style="color: blue;">Vocabulary</p> <p style="color: blue;">Word Analysis</p> <p style="color: blue;">20 min.</p>
	<p style="color: green; font-weight: bold;">Selection Vocabulary</p> <ul style="list-style-type: none"> • Vocabulary Routine <p style="color: green;">20 min.</p>	<p style="color: blue; font-weight: bold;">Text-Based Comprehension</p> <ul style="list-style-type: none"> • Introduce Main Selection <p style="color: blue; font-weight: bold;">Main Selection</p> <ul style="list-style-type: none"> • Access the Main Selection • Close Read the Main Selection <p style="color: blue;">20 min.</p>	<p style="color: purple; font-weight: bold;">Think Critically</p> <ul style="list-style-type: none"> • Choose 1-3 questions to discuss and write <p style="color: purple;">Retell</p> <p style="color: purple;">5-10 min.</p>	<p style="color: purple; font-weight: bold;">Fluency Reread for Fluency</p> <p style="color: purple;">Research and Study Skills</p> <p style="color: purple;">5-10 min.</p>	<p style="color: blue; font-weight: bold;">Assessment Menu:</p> <p style="color: blue;">Weekly test</p> <p style="color: blue;">Writing to Sources</p> <p style="color: blue;">Four Square</p> <p style="color: blue;">Teacher created tests</p> <p style="color: blue;">Unit tests</p> <p style="color: blue;">20 min.</p>

Grade 5: Five-Day Plan for Reading Street

Literacy Block Component	Day 1	Day 2	Day 3	Day 4	Day 5
30-45 minutes Language Arts	Conventions/Grammar <ul style="list-style-type: none"> • Conventions lesson • Daily Fix-It Research and Inquiry • Identify Question 15 min.	Conventions/ Grammar <ul style="list-style-type: none"> • Conventions lesson • Daily Fix-It • Grammar Jammer Research and Inquiry • Navigate Search 15 min.	Conventions/ Grammar embedded into Authentic Writing Instruction		
	Spelling/Word Study <ul style="list-style-type: none"> • Introduce Spelling on Day 2 with Day 1 lesson 15-20 min.	Spelling/Word Study <ul style="list-style-type: none"> • 5-7 word check on Spelling Patterns with Routine Card #7 from RtI Kit • Handwriting—<i>Model, Practice, and Monitor within Word Study</i> 15 min.	Spelling/Word Study <ul style="list-style-type: none"> • 5-7 word check on Spelling Patterns with Routine Card #7 from RtI Kit • Handwriting—<i>Model, Practice, and Monitor within Word Study</i> 15 min.	Spelling/Word Study <ul style="list-style-type: none"> • Teacher-Created Word Sort • Student Generated Word Sort based on the Spelling pattern (Practice Station) 10 min.	Spelling/Word Study Spelling Post-Test of 10-12 words use words from teacher and student generated lists with targeted spelling pattern 10 min.
	Writing <ul style="list-style-type: none"> • Focus on writing to learn embedded in instruction • Begin product writing on Day 3 	Writing <ul style="list-style-type: none"> • Focus on writing to learn embedded in instruction • Begin product writing on Day 3 	Writing <ul style="list-style-type: none"> • Writing to Sources Lesson • Embedded Conventions Lesson • Include Four-Square Writing Strategy 25 min.	Writing <ul style="list-style-type: none"> • Writing to Sources Lesson • Embedded Conventions Lesson • Include Four-Square Writing Strategy 30 min.	Writing <ul style="list-style-type: none"> • Writing to Sources Lesson • Embedded Conventions Lesson • Include Four-Square Writing Strategy 30 min.

Grade 5: Five-Day Plan for *Reading Street*

Literacy Block Component	Day 1	Day 2	Day 3	Day 4	Day 5
Skill-Based Practice Stations Small Group 45-60 minutes <i>Suggestions for what the other students are doing</i>	<p>Practice Stations</p> <ul style="list-style-type: none"> • Social Studies and/or Science Connections • Extended Learning Opportunities • Practice Station Flipcharts • Writing Assignments • Project-Based Learning Projects • Research and Inquiry Activities • Keyboarding Practice • Targeted Reading with Aligned Purposes and Tasks • Imagine Learning • Reflex Math • Technology Supports—Apps, Websites, etc. 				
Practice Station Ideas Correlated with the Day's Instruction					
	<ul style="list-style-type: none"> • Handwriting Practice • Daily Fix It 	<ul style="list-style-type: none"> • RWN Vocabulary 	<ul style="list-style-type: none"> • Let's Practice It! (Grammar/Conventions) • Think Critically Questions (SE) • Research and Inquiry 	<ul style="list-style-type: none"> • Teacher-Created Word Sorts • Handwriting Practice Sheet • Research and Inquiry • Student Generated Word Sorts 	<ul style="list-style-type: none"> • Fluency Check with a Buddy using Fresh Reads/Assessment Handbook Fluency Passages

Literacy Block Component	Description	Resources
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Grade 5: Five-Day Plan for Reading Street

Content Integration Small Group Whole Group 20-30 minutes	<p>Content integration time in the ELA Block deals with integration of science and social studies content to understand key concepts, principles, generalizations, and theories through the integration of the English Language Arts Standards.</p> <p>The Utah Core states: "By reading texts in history/social studies, science, and other disciplines, students build a foundation of knowledge in these fields that will also give them the background to be better readers in all content areas. Students can only gain this foundation when the curriculum is intentionally and coherently structured to develop rich content knowledge within and across grades. Students also acquire the habits of reading independently and closely, which are essential to their future success."</p> <p>Optimally, this portion of the day involves students reading, writing, listening and speaking about the topics they are learning about in science and social studies instruction time. Teachers can use this time to provide background knowledge and learning activities to prepare their students for their Science/Social Studies instruction. Ideas and resources for integration can be found in your Content Integration Map.</p>	<p>Reinforce/Expand/Extend the Concept</p> <ul style="list-style-type: none">• Content Leveled Readers (SE)• eReaders (digital) <p>Research and Inquiry</p> <ul style="list-style-type: none">• Identify and Focus Topic <p>Science/Social Studies</p> <ul style="list-style-type: none">• Set the stage for Lab or Learning Task
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Intensified Routines

Purpose:

The following routines increase instructional intensity in key academic skills: background knowledge, vocabulary, fluency, and comprehension. In addition to the key areas identified in the Intensified Plan, scaffolding considerations should be made throughout the general 5-Day Plan to provide students with more robust core instruction that support **all** learners. These routines can also be used as scaffolds to increase intensity for students with low language or language acquisition. The routines on the following pages should be used to supplement both the Intensified Plan and the general 5-Day Plan.

Areas of Academic Skills

Concept Talk Intensified Routine: *Think, Discuss, Write, Read, & Share*

The following routine is an enhancement to the instruction provided in Reading Street related to concept talk, which includes the ELL poster, the concept talk video and the concept map. Example Reading Street pre-made sentence frames can be found at:

http://www.californiareading.com/languagecentralk6/sentence_frames.html Although these sentence frames are for the Reading Street 2009 edition, many of them will still apply.

Think, Discuss, Write, Read, Share

	Instructional Plan	Resources
Think	Present the big idea and question of the week and introduce the new concept. Then, ask students to brainstorm and/or complete a quick sketch or write of their ideas related to the question posed.	ELL Poster Concept Board Concept Talk Video
Discuss	Have students partner share their ideas using an intentional structure.	Partner Routines
Write	Next, have students complete a teacher provided sentence frame related to the question with a written response, include a word bank as needed.	Teacher prepared sentence frame (and word bank)
Read	Ask students to read sentence to their partner.	Partner Routine
Share	Cold call or nominate a few students to share their ideas and encourages use of the academic language scripts .	Targeted Academic Language Script

Academic Vocabulary

Academic vocabulary is composed of words and phrases found in all academic texts, such as *analysis, attribute, contrast, discussion, however, and in particular*, and is the cornerstone of academic discussions leading to higher levels of language. Academic vocabulary should be used with speaking, listening, reading and writing of text. Academic vocabulary should be the regular language of the classroom; used by both teachers and students. More information regarding academic vocabulary may be found in the introductory pages of the curriculum map.

Vocabulary

Following the 5-day intensified plan explicitly teach 3-4 of the weekly lesson tested vocabulary words using the [lesson vocabulary template](#) included in this map. The template explicitly provides students with opportunities to hear, speak, see, sketch, and use the words in context. This gives struggling students the multiple exposures they may require to master the new vocabulary.

Tested Vocabulary Review

The intensified plan includes a short vocabulary review on Day 5. For this review, use the questions or sentences from the weeks tested vocabulary instruction as a short, cumulative review of the words to provide additional exposure. Students can refer to the concept board for the vocabulary words.

ELL Poster

Use the ELL poster to build lesson-tested vocabulary and provide opportunities to access academic language with language learners.

	Instructional Plan	Scaffolding Opportunities
Day 1 <i>Done with Concept Talk</i>	Poster Talk Through —use the lesson vocabulary and use the talk through script to demonstrate and show the pictorial representations of the lesson vocabulary.	Check prior knowledge by asking questions directed to language and differentiated levels. Develop concepts and oral vocabulary by rereading Poster Talk Through
Day 2	Teach Lesson Vocabulary — intentionally teach lesson vocabulary. Have students orally practice saying and using the lesson words.	<ul style="list-style-type: none">• Sentence Frames• Precision Partnering• Sketching of concept with oral language• Word Banks• Picture Banks
Day 3 <i>ELL poster day 4</i>	Produce Oral Language — intentional and deliberate oral practice of lesson vocabulary. Reinforce correct usage of the lesson vocabulary words.	<ul style="list-style-type: none">• Sentence Frames• Precision Partnering• Sketching of concept with oral language• Word Banks• Picture Banks

Build Background

	Instructional Plan	Teacher Talk Example
Step 1	Introduce the story and the main topic.	“Today, we are going to read a story about a man who collects rocks.”
Step 2	Use audiovisual supports e.g., short video obtained from the web, realia, podcast, or song.(5 minutes or less)	“Let’s first watch a video about rock collecting to learn more about the process.”
Step 3	Have students answer the questions outlined in the Teacher’s Edition (under Build Background) using response frames related to the question prompts.	Teacher provides a related response frame such as: An example of a special talent is _____. Teacher asks: What is an example of a special talent?”
Step 4	Have students listen to the Background Building Audio CD selection and provide them with a purpose for listening.	“As you listen, be sure to listen for how the rock collector selects and organizes his rocks.” Follow up with a short discussion related to the purpose.

Prereading Strategies

Use the instruction in your teacher’s manual to introduce the genre, set the purpose, make predictions, and align to the week’s comprehension strategy or skill. Additionally, include the strategy response log as a before and during reading tool to help students monitor their comprehension. Before reading, provide students with a summary overview of the text. This will support them in comprehending the selection at higher levels.

Decodable Reader Intensified Routine

In preparation for reading the decodable reader, the teacher previews the text by summarizing the main events or information in the text prior to students reading the text.

After reading the decodable the 1st time aloud as a class, provide students with additional opportunities to reread the text to increase student automaticity. This can be done during practice stations, ELD time or small group work with partners matched precisely using the Tell, Ask, Start Again Routine.

Tell, Ask, Start Again Routine

1. Tell: "That word is _____"
2. Ask: "What word?"
3. Start Again: "Start the sentence again."

Upon finishing 2nd/3rd read, have partners retell the story to each other. Below are possible questions for expository and narrative texts.

Expository	Narrative
<ul style="list-style-type: none">• What was the story mostly about?• What is one thing I learned?• What else did I learn?	<ul style="list-style-type: none">• Who are the characters?• Where did the story happen?• What happened first?• What happened next?• What happened last?

Read Aloud routine		
Teacher Roles	Students' Role	Examples (3 rd grade Gallagher's Picnic)
Teach Amazing Words <ul style="list-style-type: none"> Provide examples, images, gestures and sentence frames 	Say, see, write, hear amazing words <ul style="list-style-type: none"> Act out, write or say amazing words in sentences using sentence frames 	Amazing word: cringed Act out the word When I see a _____ it makes me want to cringe.
Read Story Aloud <ul style="list-style-type: none"> Model appropriate expression Demonstrate a lively, fluent reader 	Be an active listener <ul style="list-style-type: none"> Eyes on the teacher KYHFOOTY Do actions for punctuation 	"Come join our picnic!" Students put one arm up and a fist for a dot to represent an exclamation point
Pause to think aloud <ul style="list-style-type: none"> Use a think aloud voice, gesture or clue 	Identify think aloud <ul style="list-style-type: none"> Gesture when you hear the teacher think aloud 	Point to your head to demonstrate thinking
Comprehensible input <ul style="list-style-type: none"> Use actions and gestures to portray meaning Display an image representing the big idea of the story 	Non verbal student feedback to teacher <ul style="list-style-type: none"> Gesture or raise your hand when very confused 	"He cringed to see Gallagher eat such awful food." Act out what cringing looks like
Point out amazing words <ul style="list-style-type: none"> Use amazing word voice, gesture or clue 	Listen for amazing words <ul style="list-style-type: none"> Gesture or speak when you hear an amazing word 	Stand up when you hear an amazing words Say "amazing" and then the word when you hear an amazing word
Comprehension Check <ul style="list-style-type: none"> Ask clarifying questions Ask for predictions Make connections Use sentence frames 	Partner Share <ul style="list-style-type: none"> Look, lean, lower, listen Say or write complete sentences using sentence frames 	"What could Rafferty's plan be to help Gallagher kick his bad habit" Sometimes I eat _____ and it makes me feel _____

Fluency Reading Routine

Build Fluency Reading with appropriate rate, accuracy, pronunciation, and expression/prosody	
Cloze Reading Preparation: Before class teacher prepares a selection	<ul style="list-style-type: none"> • Chunk text into manageable segments (i.e., use digital projection, text book) • Number the text segments—Students can number using sticky notes/flags • Select 3-5 words per segment (approximately 1 per sentence) to omit as you read aloud. Select words you have pre-taught or words that are meaningful to the content.
1st Read: Oral Cloze— <ul style="list-style-type: none"> • Shared Reading • Teacher Models (I do) 	Use the prepared text excerpt to model fluent reading that sounds like natural speech, at an appropriate pace, pronouncing words accurately, pausing at the end of phrases, interpreting punctuation, and using expression. If text is relatively brief, read the entire text. If it is fairly long and complex, break it into manageable chunks and only read one major chunk at a time. Students track.
2nd Read: Echo Reading with Phrasing (we do)	Read one chunk at a time. Practice appropriate phrasing using choral reading . Break a sentence into logical phrases and read one phrase at a time, before connecting the phrases. Have students echo read each phrase then connect it, following your lead.
3rd Read: Partner Read (ya'll do)	Strategically partner students for fluency practice . Students should be prepared to discuss the main idea after finishing reading the text. Provide a response frame with appropriate standards-based reading comprehension language (e.g., The information in this passage is about _____. This biography focuses on _____.)
4th Read: Independent Silent Reading (you do)	Before students begin to independently silent read, assign a comprehension task for the same passage (e.g., “Identify two important details the author emphasizes about _____.”) verbal or written

Adapted from Kate Kinsella, Ed. D. 2011, *Instructional Routine; building Fluency Before Text Comprehension*.

FLUENCY EXPRESSION RUBRIC

	1	2	3	4
Expression and Volume	Reads in a quiet voice as if to get words out. The reading does not sound natural like talking to a friend.	Reads in a quiet voice. The reading sounds natural in part of the text, but the reader does not always sound like they are talking to a friend.	Reads with volume and expression. However, sometimes the reader slips into expressionless reading and does not sound like they are talking to a friend.	Reads with varied volume and expression. The reader sounds like they are talking to a friend with their voice matching the interpretation of the passage.
Phrasing	Reads word-by-word in a monotone voice.	Reads in two or three word phrases, not adhering to punctuation, stress and intonation.	Reads with a mixture of run-ons, mid sentence pauses for breath, and some chopiness. There is reasonable stress and intonation.	Reads with good phrasing; adhering to punctuation, stress and intonation.
Smoothness	Frequently hesitates while reading, sounds out words, and repeats words or phrases. The reader makes multiple attempts to read the same passage.	Reads with extended pauses or hesitations. The reader has many “rough spots.”	Reads with occasional breaks in rhythm. The reader has difficulty with specific words and/or sentence structures.	Reads smoothly with some breaks, but self-corrects with difficult words and/or sentence structures.
Pace	Reads slowly and laboriously.	Reads moderately slowly.	Reads fast and slow throughout reading.	Reads at a conversational pace throughout the reading.

The purpose of the Fluency Expression Rubric is to provide feedback to students on the pillars of fluency: expression (*prosody*), phrasing, smoothness, and pace.

Scores of 10 or more indicate that the student is making good progress in fluency. Score _____

Scores below 10 indicate that the student needs additional instruction in fluency.

Rubric modified from Tim Rasinski – *Creating Fluent Readers*

Response Frames

A Response frame is:

- different from a sentence stem or frame
- structured topic related scaffold
- carefully and explicitly targets language forms
- provides the opportunity to learn language form in context

Response Frame:	<i>A partner demonstrates active listening when she/he <u>verb+s</u> and <u>verb+s</u></i>	Word Bank:	
Model Response:	<i>A partner demonstrates active listening when she <u>restates</u> my idea and <u>asks</u> clarifying questions.</i>	<u>Casual Verbs</u>	<u>Precise Verbs</u>
		says likes lets helps	replies responds appreciates complements permits

Adapted from Kate Kinsella, Ed. D. 2011, *Instructional Routine; building Fluency Before Text Comprehension*.

Multisyllabic Word Routine

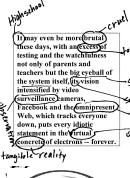
1. When we come to a word we do not know we read word parts. We have to use what we know about sound spellings to help us read the word
2. First, let's underline the vowels
f a n t a s t i c
3. How many syllables does this word have? (*vowel for every syllable*)
4. Let's read the syllables

5. What are the vowel sounds?
 - The vowel is short because it is a closed syllable (fantastic)
 - The vowel is long because . . .
 - it is a vowel pair (steamboat)
 - it is a VCE (milestone)
 - it is an open syllable (silo)
 - The vowel is r-controlled because it is followed by an r (barnyard)
 - The e is silent because it is final syllable after a consonant. (stumble)
6. Let's blend and read the whole word
fantastic

CLOSE READING ROUTINE

Teacher selects short robust passage from the main selection and plans ahead by reading, annotating and preparing text-dependent questions See *Close Reading in Elementary Schools* (Fisher & Frey, 2012)

- Purposefully plan a close read:
- Pick a text excerpt that is short, has some element of complexity (language, structure or task) and is worthy of multiple readings
- Plan the purpose for close reading the text selection (e.g., vocabulary, understanding main ideas, record similarities and differences between . . .)
- Grades K-2, teacher reads aloud initially, annotates wholly or guides student annotation. Students may or may not eventually read independently, depending on text difficulty (e.g., Wizard of Oz in Kindergarten.)
- Grades 3-12, students read independently beginning with first reading, and annotate with increased independence. Readers who cannot initially read independently may be read to, or may encounter the text previously during scaffolded small group reading instruction.

Student Roles	Teacher Roles
 <p>Step 1: First READ Students read annotate</p>	<p>Step 1: Teacher provides a purpose and a structure, for note-taking and/or annotating text.</p> <ul style="list-style-type: none"> Teacher observes where students struggle.
 <p>Step 2: Strategic Partnered Academic Discussion</p>	<p>Step 2: Teacher provides question stem(s) or sentence frame(s) to guide partner interaction.</p>
 <p>Step 3: Quick Write or Share Out-- What are the Key Ideas and Details about the text? What did you learn?</p>	<p>Step 3: Teacher provides question(s) that address key ideas and details of the text, confusing words, general understanding. Students share out or quick write their responses.</p> <ul style="list-style-type: none"> Narrative—characters, setting, plot sequence or summary Expository—Main idea and details or summary
 <p>Step 4: Second READ Students track and following along with the teacher think aloud, annotating as appropriate</p>	<p>Step 4: Teacher led shared reading with think aloud incorporating reading strategies for student engagement. Stop reading periodically to explain your thinking as you resolve difficult words using structural or context clues.</p> <ul style="list-style-type: none"> Model Choral Cloze Echo
 <p>Step 5: Third READ Reread text to find answers to questions and cite and annotate text evidence.</p>	<p>Teacher focuses craft and structure text dependent questions with the think aloud model.</p> <ul style="list-style-type: none"> Word or phrase meanings e.g., academic, literal, nonliteral Point of view
 <p>Step 6: Strategic Partnered Academic Discussion</p>	<p>Step 5: Teacher uses purposeful, planned text dependent questions to:</p> <ul style="list-style-type: none"> Prompt rereading Encourage the use of textual evidence in supporting answers <p>Teacher focuses on integration of knowledge and ideas for students to describe and explain logical connections, reasons with evidence, mood or themes, opinions, intertextual connections, inferences and point of view.</p>
<p>Step 7: Write about it! Students write responses to a teacher provided prompt.</p>	<p>Step 6: Teacher provides question stem(s) or sentence frame(s) to guide partner interaction.</p> <p>Step 7: Teacher provides format for final response and facilitates students with scaffolds as necessary for success. (e.g., a summary in a foursquare, short constructed response, and/or paragraph frame.)</p>

K-5 Retelling/Summarizing: Nonfiction

	Instructional Plan	Teacher Talk Example
Explain	Explain why we summarize/retell.	<i>"To summarize a text means telling what it was about. A summary only includes the main ideas and key details, NOT all details. You want to re-create the text using your own words. This will help you understand the text better."</i>
Build Background	Review nonfiction text to deepen understanding of important concepts.	<i>"Let's quickly review our concept map to activate our prior knowledge. "When I summarize, I ask myself, what is this text mainly about? This text is mainly about _____."</i>
Model	Present retell cards in sequence. Summarize/retell key events (where appropriate emphasize comprehension targeted skill).	<i>"Listen carefully as I summarize, I will tell what happened but will not include every detail we read."</i>
Think	Offer additional processing time before oral practice.	<i>"As I show each retelling card, think about the key details represented."</i>
Guided Partner Interaction	Present retell cards in sequence. Scaffold with response starters, graphic organizers, word banks, etc.	<i>"As I present each card this time, explain to your partner the key detail(s) from the text that each card represents."</i> Teachers can use response frames to target specific skills (sequence, key detail) and structure academic discourse. A: First the author mentioned _____. B: Then, _____. A: Next, _____. B: Finally, _____. "The key detail(s) this card represents from the text is/are _____."
Corrective Feedback	If students have difficulty telling the important parts, model how to find them by pointing to the pictures and talking about what you see.	

K-2 Retelling/Summarizing: NARRATIVE

	Instructional Plan	Teacher Talk Example
Explain	Explain why we retell/summarize.	"To retell means we tell the story in our own words. Before we can retell a story, we need to know the elements of the story and what happened first, next and last."
Build Background	Review text to deepen understanding of important theme concepts.	" <i>This text relates to our unit theme_____.</i> Let's quickly review our concept map to understand how it relates."
Plot	Model how to identify plot. Explain that fiction has a beginning, middle and end.	As I present the retell cards, let's decide what happens in the beginning, middle, and end. "Goldilocks was walking in the forest when she saw an empty house." Was this in the beginning, middle or end? "What happens in the middle? What happens in the end?"
Model	Present retell cards in sequence. Summarize/retell key events (where appropriate emphasize comprehension targeted skill). Use sequence words help to describe the beginning, middle and end.	"When I retell a story, I think about the plot. The plot is what happens in the story. A plot has a beginning, middle and end. Certain words like first, next and last are used to tell when things happen. I will model retelling using my the retell cards." "First, Goldilocks was walking in the forest when she saw an empty house. Next.... Finally....."
Think	Offer additional processing time before oral practice.	"As I show each card, think about the important event it represents."
Guide Interaction	Structure partner interactions. Provide support with response frames.	"Now I want you to retell the story to your partner using the pictures of the retell cards in your text book." A: First, _____. B: Then, _____. A: Next, _____. B: Finally, _____.
Corrective Feedback	If students have difficulty identifying story elements, model how to find them by pointing to the pictures and talking about what you see.	

3-5 Retelling/Summarizing: NARRATIVE

	Instructional Plan	Teacher Talk Example
Explain	Explain why we retell/summarize.	"To retell means we tell the story in our own words. Before we can retell a story, we need to know the elements of the story and what happened first, next and last."
Build Background	Review text to deepen understanding of important theme concepts.	" <i>This text relates to our unit theme _____ . Let's quickly review our concept map to understand how it relates.</i> "
Character and Setting	Model how to identify and describe setting and character.	" <i>The setting is where and when the story takes place. The characters are the people and animals in the story. In this story, there is a little girl named Goldilocks and three bears. The three bears live in the forest.</i> " " <i>The three bears live in the forest. What is the setting? The three bears are characters. Who is another character?</i> "
Plot	Model how to identify plot. Explain that fiction has a beginning, middle and end.	As I present the retell cards, let's decide what happens in the beginning, middle, and end. " <i>Goldilocks was walking in the forest when she saw an empty house.</i> " Was this in the beginning, middle or end? " <i>What happens in the middle? What happens in the end?</i> "
Model	Present retell cards in sequence. Summarize/retell key events (where appropriate emphasize comprehension targeted skill). Use sequence words help to describe the beginning, middle and end.	" <i>When I retell a story, I think about the plot. The plot is what happens in the story. A plot has a beginning, middle and end. Certain words like first, next and last are used to tell when things happen. I will model retelling using my the retell cards.</i> " " <i>First, Goldilocks was walking in the forest when she saw an empty house.</i> <i>Next.... Finally.....</i> "
Think	Offer additional processing time before oral practice.	" <i>As I show each card, think about the important event it represents.</i> "
Guide Interaction	Structure partner interactions. Provide support with response frames.	" <i>Now I want you to retell the story to your partner using the pictures of the retell cards in your text book.</i> " A: First, _____. B: Then, _____. A: Next, _____. B: Finally, _____.
Corrective Feedback	If students have difficulty identifying story elements, model how to find them by pointing to the pictures and talking about what you see.	

Form and Function Writing Routine

Purposes:

1. Review and practice of language forms, functions and vocabulary taught during Reading Street lessons
2. Identify further language forms students may need to be a successful writer.

Routine Terms:

- **Task:** Writing outcome or product aligned to functions identified in standards.
- **Function:** the language purpose for writing (describe, justify, explain, summarize)
- **Form:** vocabulary and language structures needed to successfully complete a writing task
 - **Vocabulary:** Precise vocabulary students need to successfully write about the target language function. (i.e. Content/prompt related, academic vocabulary – because, similar, different, opinion)
 - **Tools for elaboration:** Words, phrases, or forms students need to connect sentences, expand on ideas, and form complete and linked sentences. (however, rather, finally, In addition, “__ and __ are similar in several ways.”)
 - **Conventions:** Grammar, usage, capitalization and punctuation students need. (i.e. past tense verbs, comma usage, capitalize titles, pronoun usage, etc.)

Steps	Instruction	Example
Step 1: Establish Purpose & Task	<ul style="list-style-type: none"> • Establish lesson and language objectives <ul style="list-style-type: none"> ◦ How will students <i>practice and demonstrate</i> understanding of language during this lesson? • Define the lesson task. 	<p>Objective: I can write an opinion using a present-tense verb.</p> <p><i>Yesterday, we discussed your ideas about.... Today we will practice writing a topic sentence that clearly states your opinion.</i></p>
Step 2: Identify and Model Function	<ul style="list-style-type: none"> • Identify and explain the language function associated with the objective. • Analyze written examples that illustrate the identified function. <ul style="list-style-type: none"> ◦ Possible sources: student work samples, exemplars, sections of Reading Street texts, teacher created models, multimedia resources) ◦ <i>Here is my model, "I believe _____. This is a more academic way of saying, "I think we should_____."</i> • Have students practice with model. <ul style="list-style-type: none"> ◦ <i>To get used to writing this way let's practice saying it. Repeat after me and try to use the same expression.....</i> ◦ <i>Partner A, please turn to Partner B and repeat my model to Partner B.</i> • Repeat with additional written models as necessary. 	<p>(Language Function = Justify, Argue,)</p> <p><i>Writers need to justify personal opinions with evidence and reasons. In other words, you have to state your opinion and then support it with details from things you read.</i></p>
Step 3: Identify and model Forms	<ul style="list-style-type: none"> • Direct attention to targeted form in your model. <ul style="list-style-type: none"> ◦ <i>I used the present-tense verb 'believe' in my opinion sentence. Some other verbs I could have used are think and feel.</i> • Practice using the forms orally. <ul style="list-style-type: none"> ◦ <i>Let's repeat my sentence replacing 'believe' with these other verbs. Repeat after me....</i> • Provide additional written examples and language practice opportunities as necessary. • Using frames (sentence, paragraph) that include the forms, ask student to write their own sentences. <ul style="list-style-type: none"> ◦ <i>I _____ (present tense verb – believe, think, feel) _____ should _____.</i> • Practice the sentences students write verbally with a partner. <ul style="list-style-type: none"> ◦ Partner A: Read your sentence to your partner. Partner B: Restate your partner's response or idea. 	<p>Target Form - Present Tense Verbs</p> <p><i>Writers use present-tense verbs when stating an opinion. As we have learned, sometimes we have to add an -s, -es, or -ed but today you are stating your personal opinion using the pronoun 'I', so we will just use the base form of a verb.</i></p> <p><i>I also wanted to point out that I used the word 'should' to show I think this needs to happen.</i></p>
Step 4: Check for Understanding	<ul style="list-style-type: none"> • Use a strategy to verify students understand the process and expected outcomes. <ul style="list-style-type: none"> ◦ Preselect students to share responses, partner nominations, name cards, etc. 	

Small Group Decodable Text Instructional Routine

Basic Guidelines:

1. The first reading of the decodable text should be guided by the teacher to ensure accurate reading of the text
 2. Students should finger-point and read aloud while reading decodable text
 3. All errors are corrected using immediate error correction routine
 4. Students are supported in developing fluent reading of the text

Immediate Error Correction Routine

1. Intervene when an error is heard – Correct even the little words such as ‘a’ and ‘the’ to develop accurate reading skills
 2. Provide Error Correction Support:

To support student correction, say:
“Try that word again.”
If the student is accurate say:
“Now put it in the sentence.”
If the student is inaccurate a second time say:
“That word is What word? Now put it in a sentence.”

3. Reread the sentence--Upon correction of the word, reread the sentence to support comprehension and provide an opportunity to correctly read the word.

Pre-reading	<ol style="list-style-type: none"> Using the word bank, on the front cover of the decodable, and sound spelling card, review the targeted phonics skill. Select 5-7 words and write them while students blend/read the words. Write the high frequency words on index cards. Hold up each card, tell them the word and have students repeat the word. Then, mix up the cards and have students chorally read the words. Next, have students chorally read each line of the word bank. Repeat if needed to build automaticity.
First Read	<ol style="list-style-type: none"> Read the title aloud. Chorally read the text.
Second/Third Read	<p>On-Level or Above Level: Have all students chorally reread the text with a partner. Reader 1 begins reading alternating sentences/pages with Reader 2. On the third read, have Reader 2 start the reading.</p> <p>Below Level: For the second read, have the students echo read the text. The teacher will read a sentence with good expression and intonation and students will echo what the teacher has read. Make sure students are tracking what they are reading with their finger.</p> <p>For the third read, have each student individually whisper read 3-5 lines of the text at a time. When they finish reading the assigned lines, have them place their finger where they stopped. When all students have finished reading, have them choral read the last lines read. Continue in this manner until the text is finished.</p>
Comprehension Check	<p>Teacher models retelling the story in sequence. Then, have students practice retelling the story in sequence. Ask comprehension questions and have student find the answer or information that supports their answer in the text.</p>
Fluency Check	<p>Have students work in partners to do a fluency check. Reader 1 will start at the beginning of the text and read for 60 seconds. While Reader 1 reads, Reader 2 keeps track of any errors Reader 1 makes and helps to keep track of how far Reader 1 got in 60 seconds. Record their rate and errors on a fluency graph. Switch roles.</p>



Language for Academic Discussions

1. Stating Opinions

In my opinion, __.
I (firmly, strongly) believe that __.
I think __ because __.
From my perspective, __.
From my point of view, __.
My opinion on this (issue, topic) is __.

2. Drawing Conclusions

Drawing from experience, I know that __.
My experience with __ indicates that __.
The data suggests that __.
Based on __, I assume that __.
After reading __, I conclude that __.
My analysis of __ leads me to believe that __.

3. Elaborating on Ideas

For (example/instance), __.
A relevant example I heard/read was __.
I have observed that __.
One convincing reason is that __.
A compelling reason is that __.
I experienced this when __.

4. Comparing Ideas

My idea is similar to (Name's).
My response is similar to (Name's).
My stance is comparable to (Name's).
My response is different from (Name's).
My approach is different from (Name's).

5. Agreeing

I agree with (Name) that __.
I completely agree with (Name) that __.
I share your perspective.
I can see your point of view.
My idea builds upon (Name's).

6. Disagreeing

I don't quite agree.
I disagree completely.
I disagree somewhat.
I have a different perspective.
I don't share your point of view.

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Language for Collaboration

1. Requesting Ideas

What should we write?
What do you think makes sense?
What's your idea/opinion?
Do you have a suggestion?
Do you have anything to add?

2. Suggesting Ideas

We could write __.
What if we put __.
I think __ would work well.
We could consider writing __.
I think we should add __.

3. Validating Ideas

That would work.
That makes sense.
That's a great (idea/suggestion).
That's an interesting example.
I share your point of view.

4. Deciding On Ideas

Let's write __.
I'd like to put __.
Let's (use/write/put/add) __.
I think __ is the best __.
Let's combine ideas and put __.

5. Clarifying Ideas

I don't quite understand your __.
In other words, you are saying that __.
What do you mean by __?
So, you think we should __?
Are you suggesting __?

6. Restating Ideas

So, you said that __.
So, you think that __.
So, your idea is that __.
So, your opinion is that __.
So, you're saying that __.

7. Reporting Ideas

We decided (upon/that) __ because __.
One (fact, reason) we considered is __.
Based on __, we determined that __.
After reviewing __, we concluded that __.
Our (response/conclusion/solution) is __.

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Vocabulary Note-taking Guide

A vocabulary note-taking guide, such as the example below, is a scaffold to enhance explicit vocabulary instruction. A note-taking scaffold provides an advanced organizer for the most essential terms, accountability for active engagement, and a reference for later use (Feldman & Kinsella, 2005). This guide helps students understand how words work by including the parts of speech, word meanings, examples, and pictures related to sample sentences. Key words (other than target vocabulary words) are left blank, so that students can focus on comprehending the examples and word meanings. More examples can be found on the CSD website.

Word	Meaning	Examples
aquarium a•qua•ri•um noun  <hr/>	1. Building used for showing collections of live _____, water animals, and water plants 	My daughter loves to watch the _____ at the aquarium . My favorite creature to see at the aquarium is _____. 
dolphins dol•phins noun  <hr/>	1. A small, usually gray sea mammal related to whales with a rounded _____. 	Dolphins have beaklike _____. She got to _____ with dolphins at Sea World. 

Adapted from Kate Kinsella, Ed. D. 2011, *Instructional Routine: High Utility Word Routine and Note-taking Guide*

The Concept Talk Four Square serves as a scaffold for organizing ideas and building sentences around the Question of the Week and discussions during Content Knowledge instruction using Reading Street. This scaffold helps students work through the stages of language. Students begin with listening and speaking, while working towards reading and writing. This could be a tool for culminating ideas throughout the week that lead up to a possible product writing at the end of the week or unit.

We can observe _____ .	We can learn about _____. Knowing about _____ helps us to be able to _____.
We can interact with nature by _____.	We can conserve _____. Conserving _____ is important because _____.
What is the value of looking at patterns in nature? (Question of the Week)	
We can predict / hypothesize _____ . Predicting/hypothesize _____ helps us to _____.	Patterns in nature are important because _____.

Fifth Grade Speaking and Listening Rubric

Standard	Acquiring	Building Automaticity	Application (Standard Met)
<p>SL.5.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 5 topics and texts</i>, building on others' ideas and expressing their own clearly. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. Follow agreed-upon rules for discussions and carry out assigned roles. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. Review the key ideas expressed and draw conclusions</p>	<ul style="list-style-type: none"> • Student comes to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. • Student follows agreed-upon rules for discussions and carry out assigned roles. 	<ul style="list-style-type: none"> • Student comes to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. • Student follows agreed-upon rules for discussions and carry out assigned roles. • Student poses and responds to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. 	<ul style="list-style-type: none"> • Student comes to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. • Student follows agreed-upon rules for discussions and carry out assigned roles. • Student poses and responds to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. • Student reviews the key ideas expressed and draws conclusions in light of information and knowledge gained from the discussions.
<p>SL.5.2 Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.</p>	<ul style="list-style-type: none"> • Student summarizes portions of information in a written text with some accuracy read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. 	<ul style="list-style-type: none"> • Student summarizes a written text accurately read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. 	<ul style="list-style-type: none"> • Student consistently and accurately summarizes a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
<p>SL.5.3 Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.</p>	<ul style="list-style-type: none"> • Student summarizes the points a speaker makes and explains how each claim is supported by reasons. 	<ul style="list-style-type: none"> • Student summarizes the points a speaker makes accurately and explains how each claim is supported by reasons and evidence. 	<ul style="list-style-type: none"> • Student consistently summarizes the points a speaker makes and explains how each claim is supported by reasons and evidence.

SL.5.4 Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.	<ul style="list-style-type: none"> Student reports on a topic or text or using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. 	<ul style="list-style-type: none"> Student reports on a topic or text or present an opinion using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. 	<ul style="list-style-type: none"> Student reports on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
SL.5.5 Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.	<ul style="list-style-type: none"> Student includes visual displays in presentations when appropriate to develop main ideas or themes. 	<ul style="list-style-type: none"> Student sometimes includes multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. 	<ul style="list-style-type: none"> Student consistently includes multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.
SL.5.6 Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation.	<ul style="list-style-type: none"> Student adapts speech and uses formal English when appropriate to task and situation. 	<ul style="list-style-type: none"> Student sometimes adapts speech to a variety of contexts and tasks, using formal English when appropriate to task and situation. 	<ul style="list-style-type: none"> Student consistently adapts speech to a variety of contexts and tasks, using formal English when appropriate to task and situation.

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Basic Guidelines:

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Immediate Error Correction Routine

1. Intervene when an error is heard – Correct even the little words such as ‘a’ and ‘the’ to develop accurate reading skills

2. Provide Error Correction Support:

To support student correction, say:
“Try that word again.”
If the student is accurate say:
“Now put it in the sentence.”
If the student is inaccurate a second time say:
“That word is _____. What word? Now put it in the sentence.”

3. Reread the sentence--Upon correction of the word, reread the sentence to support comprehension and provide an opportunity to correctly read the word.

Pre-reading	<ol style="list-style-type: none"> 1. Using the word bank, on the front cover of the decodable, and sound spelling card, review the targeted phonics skill. Select 5-7 words and write them while students blend/read the words. 2. Write the high frequency words on index cards. Hold up each card, tell them the word and have students repeat the word. Then, mix up the cards and have students chorally read the words. 3. Next, have students chorally read each line of the word bank. Repeat if needed to build automaticity.
First Read	<ol style="list-style-type: none"> 1. Read the title aloud. 2. Chorally read the text.
Second/Third Read	<p>On-Level or Above Level: Have all students chorally reread the text with a partner. Reader 1 begins reading alternating sentences/pages with Reader 2. On the third read, have Reader 2 start the reading.</p> <p>Below Level: For the second read, have the students echo read the text. The teacher will read a sentence with good expression and intonation and students will echo what the teacher has read. Make sure students are tracking what they are reading with their finger.</p> <p>For the third read, have each student individually whisper read 3-5 lines of the text at a time. When they finish reading the assigned lines, have them place their finger where they stopped. When all students have finished reading, have them choral read the last lines read. Continue in this manner until the text is finished.</p>
Comprehension Check	<p>Teacher models retelling the story in sequence. Then, have students practice retelling the story in sequence. Ask comprehension questions and have student find the answer or information that supports their answer in the text.</p>
Fluency Check	<p>Have students work in partners to do a fluency check. Reader 1 will start at the beginning of the text and read for 60 seconds. While Reader 1 reads, Reader 2 keeps track of any errors Reader 1 makes and helps to keep track of how far Reader 1 got in 60 seconds. Record their rate and errors on a fluency graph. Switch roles.</p>

Text Complexity

A critical component of the Utah Core Standards for Reading is the requirement that all students must be able to comprehend texts of steadily increasing complexity as they progress through school. Being able to read complex text independently and proficiently is essential for high achievement in college and the workplace and important in numerous life tasks. Moreover, current trends suggest that if students cannot read challenging texts with understanding—if they have not developed the skill, concentration, and stamina to read such texts—they will read less in general. To grow, our students must read a lot, more specifically they must read a lot of complex texts that offer them new language, new knowledge, and new modes of thought.

In kindergarten and first grade, text complexity comes through the read-aloud experiences students engage in with their teacher. The aim in kindergarten and first grade is for students to build fluency within decodable text as the preparation for reading complex texts beginning in 2nd grade. The table below indicates the Lexile complexity bands for each grade level for which students are to demonstrate a level of proficiency and independence as described in Reading Standard 10.

Grade Band in the Standards	Utah Core Standards Lexile Bands
K-1	NA
2-3	450-790
4-5	770-980

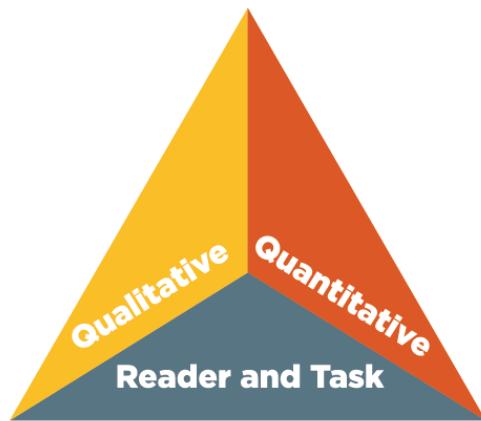
The Utah Core Standards define a three-part model for determining how easy or difficult a particular text is to read as well as grade-by-grade specifications for increasing text complexity in successive years of schooling (Reading standard 10). These are to be used together with grade-specific standards that require increasing sophistication in students' reading comprehension abilities (Reading standards 1–9). In this way, the Standards approach the intertwined issues of what and how students read.

The Three-Part Model Text Complexity

Triangle

(1) **Qualitative Features** refer to those aspects of text complexity best measured or only measurable by an attentive human reader, such as levels of meaning or purpose; structure; language conventionality and clarity; and knowledge demands.

(2) **Quantitative Factors** refer to those aspects of text complexity, such as word length or frequency, sentence length, and text cohesion that are typically measured by computer software for efficiency.



Sources: *Utah Core Standards Appendix A*; *Text Complexity: Raising the Rigor in Reading* by Douglas Fisher, Nancy Frey, and Diane Lapp

(3) Reader and Task Considerations focuses on variables specific to the reader, such as: motivation, background knowledge, experience; and to the particular tasks involved including the purpose and the complexity of the task assigned and the questions posed. Teachers employing their professional judgment, experience, and knowledge of their students and the subject to best make such determinations.

Revisiting How We Match Readers and Texts

“For decades, teachers have been told that quality instruction requires a careful matching of materials to students. The goal has been to select materials that are neither too difficult nor too easy for student. Typically, students are assessed on their ability to orally read and comprehend text. Then, instructional materials are selected to match the students’ current performance” (Fisher, Frey, & Lapp, 2012). The main issue with this approach is it limits what students can read with instruction and creates a divide between what the Standards are calling for and what students’ access. “There is evidence that students learn, and perhaps more, when they are taught from challenging texts”(Morgan, Wilcox, & Eldredge, 2000; O’Connor, Swanson, & Geraghty, 2010).

“Teachers know that when students are asked to read complex texts by themselves, they struggle and often do not succeed because they do no have the appropriate bank of related language, knowledge, skills, or metacognition to be able to comprehend the information (Fisher, Frey, & Lapp, 2012). This challenge can be conquered when teachers provide the needed instructional scaffolds, or supports, to ensure students have greater access to reading materials that would have been initially identified as being too challenging. With the right instruction, a student can learn to read texts that are beyond his or her instructional level and hopefully learn how to support his or her own reading of difficult text when the teacher is no longer at the reader’s side.

In order to prepare our students to meet the expectations of the Utah Core Standards, it is essential that students read a wide range of complex texts. One way to accomplish this is through the reading selections provided in Reading Street, the leveled readers, and the online texts available in Realize. For every Reading Street main selection, a text complexity summary description, like the one on the following page, has been provided on the ELA website. These documents provide the qualitative features, quantitative factors and suggestions for reader and task considerations for each text. Teachers can use them for ideas for the types of support that may be necessary for that text based on its text complexity qualities. Each Reading Street text varies in its text complexity factors and features meaning different supports may be needed depending on the time of year, student background, and prior knowledge.

Sources: *Utah Core Standards Appendix A; Text Complexity: Raising the Rigor in Reading* by Douglas Fisher, Nancy Frey, and Diane Lapp

Grade 5: Ten-Day Instructional Plan for Unit 6

Literacy Block Component	Day 1	Day 2	Day 3	Day 4	Day 5
45-60 minutes Get Ready to Read Content Knowledge	<p>Content Knowledge</p> <ul style="list-style-type: none"> • Street Rhymes • Concept Talk • Question of the Week • Build oral Language • Concept Map <p>Build Oral Vocabulary</p> <ul style="list-style-type: none"> • Amazing Words • Vocab Routine • Read Aloud 	<p>Text Based Comprehension</p> <ul style="list-style-type: none"> • Target Skill & Strategy • Model a Close Read <p>Model Fluent Reading</p>	<p>Content Knowledge</p> <ul style="list-style-type: none"> • Expand the Concept • Question of the Week <p>Build oral Language</p>	<ul style="list-style-type: none"> • Vocabulary skill • Reread for Fluency 	<p>Content Knowledge</p> <ul style="list-style-type: none"> • Expand the Concept • Question of the Week • Build oral Language
 Read and Comprehend Text-Based Comprehension	<p>From Day 1</p> <p>Text-Based Comprehension</p> <ul style="list-style-type: none"> • Check Understanding <p>Retell</p> <p>Main Selection</p> <ul style="list-style-type: none"> • Access the Main Selection • Close Read the Main Selection Reading <hr/> <p>Think Critically</p> <ul style="list-style-type: none"> • Choose 1-3 questions to discuss and write <p>Retell</p> <p>Fluency</p> <p>Reread for Fluency</p>	<p>From Day 1</p> <p>Vocabulary</p> <ul style="list-style-type: none"> • Vocabulary Routine • Word Analysis • Teach • Model • Guide Practice • On their own 	<p>From Day 2</p> <p>Content Knowledge</p> <ul style="list-style-type: none"> • Expand the Concept • Question of the Week <p>Build oral Language</p> <p>Build Oral Vocabulary</p> <ul style="list-style-type: none"> • Amazing Words • Vocab Routine • Add to Concept Map <p>Word Analysis</p> <ul style="list-style-type: none"> • Teach • Model • Guide Practice <p>On their own</p>	<p>From Day 2</p> <ul style="list-style-type: none"> • Introduce Main Selection • Main Selection • Access the Main Selection <p>Close Read the Main Selection</p> <hr/> <ul style="list-style-type: none"> • Science in Reading or Social Studies in Reading or 21st Century Skills 	<p>From Day 3</p> <p>Build Oral Vocabulary</p> <ul style="list-style-type: none"> • Amazing Words • Vocab Routine • Add to Concept Map
	<p>From Day 3</p> <p>Content Knowledge</p> <ul style="list-style-type: none"> • Expand the Concept • Question of the Week <p>Build oral Language</p>	<p>From Day 4</p> <p>Content Knowledge</p> <ul style="list-style-type: none"> • Expand the Concept • Question of the Week <p>Build oral Language</p>	<p>From Day 4</p> <ul style="list-style-type: none"> • Read (paired selection) • Access the Text • Close Reading • Fluency • Vocabulary 	<p>From Day 5</p> <p>Content Knowledge</p> <ul style="list-style-type: none"> • Review the Concept • Question of the Week 	<p>From Day 5</p> <p>Build Oral Vocabulary</p> <p>Write About it (question of the week or four square)</p> <p>Review:</p> <ul style="list-style-type: none"> • Text-Based Comprehension • Vocabulary • Word Analysis <hr/> <p>Assessment Menu</p> <ul style="list-style-type: none"> • Weekly test • Writing to Sources • Four Square • Teacher Created Test • Unit tests Sources • Four Square • Teacher created tests • Unit tests

Grade 5: Ten-Day Instructional Plan for Unit 6

Literacy Block Component	Day 1	Day 2	Day 3	Day 4	Day 5
30-45 minutes Language Arts	Conventions/Grammar <ul style="list-style-type: none"> • Conventions lesson <p>From Day 1</p>	Conventions/Grammar <ul style="list-style-type: none"> • Conventions lesson <p>From Day 1</p>	Conventions/Grammar <ul style="list-style-type: none"> • Conventions lesson Grammar Jammer <p>From Day 2</p>	Conventions/Grammar <ul style="list-style-type: none"> • Conventions lesson <p>From Day 2</p>	Writing <ul style="list-style-type: none"> • Writing to Sources Lesson • Include Four-Square Writing Strategy <p>Embedded Conventions Lesson</p> <p>Spelling/Word Study</p> <ul style="list-style-type: none"> • 5-7 word check on Spelling Patterns with Routine Card #7 from RtI Kit • Handwriting—Model, Practice, and Monitor within Word Study <p>From Day 3</p>
Literacy Block Component	Day 1	Day 2	Day 3	Day 4	Day 5
	Writing <ul style="list-style-type: none"> • Writing to Sources Lesson • Include Four-Square Writing Strategy <p>Embedded Conventions Lesson</p> <p>From Day 3</p>	Writing <ul style="list-style-type: none"> • Writing to Sources Lesson • Include Four-Square Writing Strategy <p>Embedded Conventions Lesson</p> <p>From Day 4</p>	Writing <ul style="list-style-type: none"> • Writing to Sources Lesson • Include Four-Square Writing Strategy <p>Embedded Conventions Lesson</p> <p>From Day 4</p>	Writing <ul style="list-style-type: none"> • Writing to Sources Lesson • Include Four-Square Writing Strategy <p>Embedded Conventions Lesson</p> <p>From Day 5</p>	Writing <ul style="list-style-type: none"> • Writing to Sources Lesson • Include Four-Square Writing Strategy <p>Embedded Conventions Lesson</p> <p>From Day 5</p>
	<p>Spelling/Word Study</p> <ul style="list-style-type: none"> • 5-7 word check on Spelling Patterns with Routine Card #7 from RtI Kit • Handwriting—Model, Practice, and Monitor within Word Study <p>From Day 3</p>	<p>Spelling/Word Study</p> <ul style="list-style-type: none"> • Teacher-Created Word Sort <p>From Day 4</p>	<p>Spelling/Word Study</p> <ul style="list-style-type: none"> • Teacher-Created Word Sort <p>From Day 4</p>	<p>Spelling/Word Study</p> <ul style="list-style-type: none"> • Spelling Post-Test of 10-12 words <p>From Day 5</p>	<p>Spelling/Word Study</p> <ul style="list-style-type: none"> • Spelling Post-Test of 10-12 words

Grade 5: Ten-Day Instructional Plan for Unit 6

Literacy Block Component	Day 1	Day 2	Day 3	Day 4	Day 5
Skill-Based Practice Stations Small Group 45-60 minutes <i>Suggestions for what the other students are doing</i>	<p>Practice Stations</p> <ul style="list-style-type: none"> • Social Studies and/or Science Connections • Practice Station Flipcharts • Writing Assignments • Project-Based Learning Projects • Research and Inquiry Activities • Keyboarding Practice • Targeted Reading with Aligned Purposes and Tasks • Imagine Learning ELL 1 or 2 (60-75 minutes) • Reflex Math • Technology Supports—Apps, Websites, etc. • Lexia or Reading Plus or MyON 				

Practice Station Ideas Correlated with the Day's Instruction

- | | | | | |
|------------------------------------------|------------------|------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------|
| • Handwriting Practice
• Daily Fix It | • RWN Vocabulary | • RWN (Grammar/Conventions)
• Think Critically Questions (SE) | • Teacher-Created Word Sorts
• Handwriting Practice Sheet | • Fluency Check with a Buddy using Fresh Reads/Assessment Handbook Fluency Passages |
|------------------------------------------|------------------|------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------|

Literacy Block Component	Description	Resources
Content Integration Small Group Whole Group 20-30 minutes	<p>Content integration time in the ELA Block deals with integration of science and social studies content to understand key concepts, principles, generalizations, and theories through the integration of the English Language Arts Standards.</p> <p>The Utah Core states: "By reading texts in history/social studies, science, and other disciplines, students build a foundation of knowledge in these fields that will also give them the background to be better readers in all content areas. Students can only gain this foundation when the curriculum is intentionally and coherently structured to develop rich content knowledge within and across grades. Students also acquire the habits of reading independently and closely, which are essential to their future success."</p> <p>Optimally, this portion of the day involves students reading, writing, listening and speaking about the topics they are learning about in science and social studies instruction time. Teachers can use this time to provide background knowledge and learning activities to prepare their students for their Science/Social Studies instruction. Ideas and resources for integration can be found in your Content Integration Map.</p>	Reinforce/Expand/Extend the Concept <ul style="list-style-type: none"> • Content Leveled Readers (SE) • eReaders (digital) <p>Research and Inquiry</p> <ul style="list-style-type: none"> • Identify and Focus Topic <p>Science/Social Studies</p> <ul style="list-style-type: none"> • Set the stage for Lab or Learning Task

SALTA Fifth Grade
 English Language Arts
 Scope and Sequence At-A-Glance
 2016-17

Dates	AUG 24 – OCT 7	OCT 10 – DEC 2	DEC 5 – FEB 3	FEB 6 – MAR 17	MAR 20 – MAY 5	MAY 8 – JUNE 7
Instructional Days	30 days	34 days	35 days	27 days	30 days	21 days
Unit	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Big Question	What kinds of challenges do people face and how do they meet them?	What makes people want to do the right thing?	What do people gain from the work of inventors and artists?	How do people and animals adapt to different situations?	Who goes seeking adventure and why?	What can we learn from encounters with the unexpected?
JGB	<ul style="list-style-type: none"> Portrait of African-American Heroes Black Potatoes If you Lived with the Sioux Indians (NF) If you Lived when there was Slavery in America (NF) Children of the Great Depression (NF) We are the Ship the story of Negro League Baseball (NF) A History of US The first Americans (NF) A History of US The New Nation (NF) We were There, Too! Young People in U.S. History (NF) The Invisible Child (F) Learning the Game (F) Lenny's Red-Letter Day (F) Ghost Cat (F) 	<ul style="list-style-type: none"> If you lived at the Time of Martin Luther King (NF) John Muir America's First Environmentalist (NF) If you lived at the Time of the Civil War (NF) Bad News for Outlaws the Remarkable Life of Bass Reeves, Deputy U.S. Marshal (NF) The No Guitar Blues (F) Kaddo's Wall (F) The Hundred Dollar Bill (F) Barbie (F) The Prince and the Goose Girl 	<ul style="list-style-type: none"> Starry Messenger (NF) So you want to be an inventor (NF) Sequoyah the Cherokee Man who gave His People Writing (NF) What's the big idea, Ben Franklin? (NF) Thomas Edison (NF) Experiments with Electricity (NF) 	<ul style="list-style-type: none"> Come Back Salmon (NF) For the Love of Chimps (NF) Extreme Animals (NF) The Frog Scientist (NF) Quest for the Tree Kangaroo an Expedition to the Cloud Forest of New Guinea (NF) A History of US The first Americans (NF) A History of US The New Nation (NF) We were There, Too! Young People in U.S. History (NF) We were There, Too! Young People in U.S. History (NF) The-Bat-Poet (F) Podhu and Aruwa (F) We were There, Too! Young People in U.S. History (NF) A Game of Catch (F) A Bad Road for Cats (F) Maurice's Room (F) 	<ul style="list-style-type: none"> To Space and Back (NF) Mission Save the Planet (NF) A History of US The first Americans (NF) A History of US The New Nation (NF) We were There, Too! Young People in U.S. History (NF) We were There, Too! Young People in U.S. History (NF) Bones We were There, Too! Young People in U.S. History (NF) The Turquoise Horse (F) Oliver Hyde's Dishcloth Concert (F) In the time of the Drums (F) Charles (F) Lucky Boy (F) 	<ul style="list-style-type: none"> Hidden Worlds Looking through a Scientist's Microscope (NF) A History of US The first Americans (NF) A History of US The New Nation (NF) Bones We were There, Too! Young People in U.S. History (NF) The Turquoise Horse (F) Oliver Hyde's Dishcloth Concert (F) In the time of the Drums (F) Charles (F) Lucky Boy (F)

	<ul style="list-style-type: none"> The Bermuda Triangle (F) 	(F)				
Extended Learning	Teacher's Choice	Teacher's Choice	Debate	Debate	Debate	Teacher's Choice
Research and Inquiry Skill for Content Integration	<ul style="list-style-type: none"> Dictionary/Glossary Almanac SPQ3R (Survey, Predict, Question, Read, Recite, Review) Newspaper/Newsletter Electronic Encyclopedia 	<ul style="list-style-type: none"> Reference Book Parts of a Book Textbook/Trade Book Electronic Media Illustration/Caption 	<ul style="list-style-type: none"> Advertisement Skim and Scan Schedule Card Catalog/Library Database Graphics/Symbols 	<ul style="list-style-type: none"> Instruction Manual Telephone Directory Magazine/Periodical Literature Thesaurus Graphs 	<ul style="list-style-type: none"> Print Sources Note Taking Reader's guide to Periodical Literature Diagrams/Scale Drawing Outline 	<ul style="list-style-type: none"> Follow and Clarify Directions Order form/Application Map/Globe/Atlas Poster/Announcement
PBL Driving Question	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
Target Skills & Strategies	<ul style="list-style-type: none"> Characters, Setting, Plot & Sequence Cause & Effect 	<ul style="list-style-type: none"> Compare and Contracts Draw Conclusions Sequence Author's Purpose 	<ul style="list-style-type: none"> Main Idea and Supporting Details Fact and Opinion 	<ul style="list-style-type: none"> Generalize Draw Conclusions 	<ul style="list-style-type: none"> Author's Purpose Graphic Sources 	<ul style="list-style-type: none"> Main Idea and Supporting Details Draw Conclusions
Word Analysis	Suffix -ly, -ing, Greek & Latin Roots, Compound words, Shades of Meaning	Spanish Word Origins, French Word Origins, Suffixes: -tion, -ion, Word Families	Shades of Meaning, Greek & Latin Roots, -tion, -sion, -ous, Compound Words	Word Endings: -ing, -ed, -s, Suffixes: -ly, -ian, -ize, -ible, -able, Negative Prefixes	Multi-syllabic Words, Related Words, Greek Word Parts, Latin Roots	Suffixes: -ous, -sion, -ion, -ation, Final Syllable: -ant, -ent, -ance, -ence, Latin Roots, Related Words, Easily Confused Words
Writing	Informative/Explanatory	Narrative	Opinion	Informative/Explanatory	Opinion	Narrative

**2016-17 Year At A Glance 5th Grade
Reading Street Schedule**

Unit 1	Week 1	August 24-Sept 2	8 days
	Week 2	September 6-9	4 days
	Week 3	September 12-16	5 days
	Week 4	September 19-22	4 days
	Week 5	September 26-29	4 days
	Unit 1 Review	October 3-7	5 days
Unit 2	Week 1	October 10-14	5 days
	Week 2	October 17-28	8 days
	Week 3	October 31- Nov. 3	4 days
	#1 District-Wide Standards Based Benchmark Nov. 7-Dec 2		
	Week 4	November 7-11	5 days
	Week 5	November 14-18	5 days
Unit 3	Unit 2 Review	Nov. 21- Dec. 2	7 days
	Week 1	December 5-9	5 days
	Week 2	December 12-16	5 days
	Week 3	Dec 19- Jan. 6	7 days
	Week 4	January 9-13	5 days
	#2 District-Wide Standards Based Benchmark Jan. 17-Feb 9		
Unit 4	Week 5	January 17-27	8 days
	Unit 3 Review	January 30-Feb. 3	5 days
	Week 1	February 6-9	4 days
	Week 2	February 13-16	4 days
	Week 3	February 21-24	4 days
	Week 4	February 27-Mar. 3	5 days
Unit 5	Week 5	March 6-10	5 days
	#3 District-Wide Standards Based Benchmark March 13-31		
	Unit 4 Review	March 13-17	5 days
	Week 1	March 20-24	5 days
	Week 2	March 27-31	5 days
	Week 3	April 10-14	5 days
Unit 6	Week 4	April 17-21	5 days
	Week 5	April 24-28	5 days
	Unit 5 Review	May 1-5	5 days
	Week 1	May 8-12	5 days
	Week 3	May 15-26	10 days
	Week 4	May 30-June 7	6 days

5th Grade Scope and Sequence

Unit 1: August 24-October 7

Flexible Pacing: 30 instructional days

Unit 1 Theme: Meeting Challenges

Big Question	Targeted Comprehension Skill/Strategy	Writing from <u>Writing to Sources</u>	Report Card Learning Targets
			I can...
What kinds of challenges do people face and how do they meet them?	<ul style="list-style-type: none"> • Characters, Setting, Plot, & Theme • Sequence • Cause & Effect 	INFORMATIVE/EXPLANATORY	<ul style="list-style-type: none"> • Engage effectively in conversations by coming prepared, following discussion rules, building upon other's ideas, draw conclusions, and summarize key ideas • Ask and answer questions to demonstrate understanding by quoting accurately when referring to the text and drawing inferences • Recognize and compare structures in texts (e.g., sequence, character, digital sources) • Write informational texts to convey ideas with supporting details, quotations, and specific vocabulary • Use context clues, affixes, and roots to determine the meaning of vocabulary words and phrases • Recognize and apply grade-level phonics in multi-syllable words •
Extended Learning Teacher's Choice	Research & Inquiry Skill for Content Integration <ul style="list-style-type: none"> • Dictionary/Glossary • Almanac • SPQ3R (Survey, Predict, Question, Read, Recite, Review) • Newspaper/Newsletter • Electronic Encyclopedia 		JGB <ul style="list-style-type: none"> • Portrait of African-American Heroes • Black Potatoes • If you Lived with the Sioux Indians (NF) • If you Lived when there was Slavery in America (NF) • Children of the Great Depression (NF) • We are the Ship the story of Negro League Baseball (NF) • A History of US The first Americans (NF) • A History of US The New Nation (NF) • We were There, Too! Young People in U.S. History (NF) • The Invisible Child (F) • Learning the Game (F) • Lenny's Red-Letter Day (F) • Ghost Cat (F) • The Bermuda Triangle (F)

Targeted ELA Standards: SPEAKING & LISTENING	Targeted ELA Standards: READING	Targeted ELA Standards: WRITING	Targeted ELA Standards: LANGUAGE	Targeted ELA Standards: FOUNDATIONAL SKILLS
<p>SL.5.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 5 topics and texts</i>, building on others' ideas and expressing their own clearly.</p> <p>a) Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.</p> <p>b) Follow agreed-upon rules for discussions and carry out assigned roles.</p>	<p>RL & RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.</p> <p>RL.5.2 Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.</p> <p>RI.5.2 Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.</p> <p>RL.5.3 Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).</p> <p>RI.5.3 Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.</p> <p>RI.5.5 Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.</p>	<p>W.5.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</p> <p>a) Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.</p> <p>b) Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.</p> <p>c) Link ideas within and across categories of information using words, phrases, and clauses (e.g., <i>in contrast, especially</i>).</p> <p>d) Use precise language and domain-specific vocabulary to inform about or explain the topic.</p> <p>e) Provide a concluding statement or section related to the information or explanation presented.</p>	<p>L.5.3 Use knowledge of language and its conventions when writing, speaking, reading, or listening.</p> <p>a) Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.</p> <p>L.5.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.</p> <p>b) Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word</p>	<p>RF.5.3 Know and apply grade-level phonics and word analysis skills in decoding words.</p> <p>a) Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.</p>

	Question of the Week	Main Selection	Target Phonics/Word Analysis
Week 1	What inspired people to act courageously?	Red Kayak	Suffix -ly
Week 2	How can nature challenge us?	Thunder Rose	Greek and Latin Roots

Week 3	How do people survive in the wilderness?	Island of the Blue Dolphins	Compound Words
Week 4	How do we face personal challenges?	Satchel Paige	Shades of Meaning
Week 5	What challenges do immigrants encounter?	Ten Mile Day	Suffix -ing
Week 6	Interactive Review (Flexible Pacing)		Review

Targeted Technology Standard

ISTE #3 Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.

- a. Plan strategies to guide inquiry
- b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media
- c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks
- d. Process data and report results

Content Integration

(additional resources found in Content Integration Map)

Social Studies Connections	Science Connections
NA	NA

5th Grade Scope and Sequence

Unit 2: October 10-December 2

Flexible Pacing: 34 instructional days

Unit 2 Theme: Doing the Right Thing					
Big Question	Targeted Comprehension Skill/Strategy	Writing MAIN FOCUS	Report Card Learning Targets		
What makes people want to do the right thing?	<ul style="list-style-type: none"> • Compare and Contrast • Draw Conclusions • Sequence • Author's Purpose 	NARRATIVE	<p>I can. . .</p> <ul style="list-style-type: none"> • Engage effectively in conversations by coming prepared, following discussion rules, building upon other's ideas, draw conclusions, and summarize key ideas • Ask and answer questions to demonstrate understanding by quoting accurately when referring to the text and drawing inferences • Identify and summarize main ideas and key details • Recognize and compare structures in texts (e.g., sequence, character, digital sources) • Describe and analyze points of view • Write narrative text to develop real or imagined experiences with a well-developed conclusion • Use grammar skills when writing or speaking • Recognize and apply grade-level phonics in multi-syllable words 		
Extended Learning Teacher's Choice	<p>Research & Inquiry Skill for Content Integration</p> <ul style="list-style-type: none"> • Reference Book • Parts of a Book • Textbook/Trade Book • Electronic Media • Illustration/Caption 		<p>JGB</p> <ul style="list-style-type: none"> • If you lived at the Time of Martin Luther King (NF) • John Muir America's First Environmentalist (NF) • If you lived at the Time of the Civil War (NF) • Bad News for Outlaws the Remarkable Life of Bass Reeves, Deputy U.S. Marshal (NF) • The No Guitar Blues (F) • Kaddo's Wall (F) • The Hundred Dollar Bill (F) • Barbie (F) • The Prince and the Goose Girl (F) 		
Targeted ELA Standards: SPEAKING & LISTENING	Targeted ELA Standards: READING		Targeted ELA Standards: WRITING	Targeted ELA Standards: LANGUAGE	Targeted ELA Standards: FOUNDATIONAL SKILLS
SL.5.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-	<p>RL & RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.</p> <p>RL.5.3 Compare and contrast two or more</p>		<p>W.5.3 Write narratives to develop real or imagined experiences or events using effective technique,</p>	<p>L.5.1 Demonstrate command of the conventions of standard English</p>	<p>RF.5.3 Know and apply grade-level phonics and word analysis skills in</p>

<p>led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.</p> <p>c) Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.</p> <p>d) Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.</p>	<p>characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).</p> <p>RI.5.3 Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.</p> <p>RL.5.5 Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.</p> <p>RI.5.5 Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.</p> <p>RL.5.6 Describe how a narrator's or speaker's point of view influences how events are described.</p> <p>RI.5.6 Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.</p> <p>RL.5.9 Compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics.</p> <p>RI.5.9 Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.</p>	<p>descriptive details, and clear event sequences.</p> <p>a) Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally.</p> <p>b) Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations.</p> <p>c) Use a variety of transitional words, phrases, and clauses to manage the sequence of events.</p> <p>d) Use concrete words and phrases and sensory details to convey experiences and events precisely.</p> <p>e) Provide a conclusion that follows from the narrated experiences or events.</p>	<p>grammar and usage when writing or speaking.</p> <p>d) Use verb tense to convey various times, sequences, states, and conditions.</p> <p>e) Recognize and correct inappropriate shifts in verb tense.</p> <p>L.5.6 Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., however, although, nevertheless, similarly, moreover, in addition).</p>	<p>decoding words.</p> <p>a) Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.</p>
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	Question of the Week	Main Selection	b) Target Phonics/ c) Word Analysis
Week 1	Why is honesty important?	At the Beach	Spanish Word Origins
Week 2	What are the risks in helping others?	Hold the Flag High	French Word Origins
Week 3	What are the rewards in helping others?	The Ch'i-lin Purse	Suffixes –tion, -ion
Week 4	Why do people make sacrifices for others?	A Summer's Trade	Spanish Word Origins
Week 5	How can people promote freedom?	The Midnight Ride of Paul Revere	Word Families

Week 6	Interactive Review		Review
Targeted Technology Standard			
ISTE #6 Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems, and operations.			
a. Understand and use technology systems b. Select and use applications effectively and productively c. Troubleshoot systems and applications d. Transfer current knowledge to learning of new technologies			
Content Integration (additional resources found in Content Integration Map)			
Social Studies Connections		Science Connections	
NA		NA	

5th Grade Scope and Sequence

Unit 3: December 5 –February 3

Flexible Pacing: 35 instructional days

Unit 3 Theme: Inventors and Artists

Big Question	Targeted Comprehension Skill/Strategy	Writing MAIN FOCUS	Report Card Learning Targets	
			I can ...	
What do people gain from the work of inventors and artists?	<ul style="list-style-type: none"> Main Idea and Supporting Details Fact and Opinion 	OPINION	<p>I can ...</p> <ul style="list-style-type: none"> Ask and answer questions to demonstrate understanding by quoting accurately when referring to the text and drawing inferences Identify and summarize main ideas and key details Write opinion pieces using ordered reasons supported by facts and details Use technology to produce and publish writing Use grammar skills when writing or speaking 	
Extended Learning Debate	<p>Research & Inquiry Skill for Content Integration</p> <ul style="list-style-type: none"> Advertisement Skim and Scan Schedule Card Catalog/Library Database Graphics/Symbols 	JGB	<ul style="list-style-type: none"> Starry Messenger (NF) So you want to be an inventor (NF) Sequoyah the Cherokee Man who gave His People Writing (NF) What's the big idea, Ben Franklin? (NF) Thomas Edison (NF) Experiments with Electricity (NF) 	
Targeted ELA Standards: SPEAKING & LISTENING	Targeted ELA Standards: READING	Targeted ELA Standards: WRITING	Targeted ELA Standards: LANGUAGE	Targeted ELA Standards: FOUNDATIONAL SKILLS
SL.5.2 Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. SL.5.3 Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.	RL & RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. RL.5.2 Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text. RI.5.2 Determine two or more	W.5.1 Write opinion pieces on topics or texts, supporting a point of view with reasons and information. a) Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose. b) Provide logically ordered reasons that are supported by facts and details.	L.5.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. b) Explain the function of conjunctions, prepositions , and interjections in general and their function in particular sentences. c) Form and use the perfect (e.g., <i>I had walked; I have</i>	RF.5.4 Read with sufficient accuracy and fluency to support comprehension. a) Read grade-level text with purpose and understanding. b) Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on

<p>SL.5.4 Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.</p>	<p>main ideas of a text and explain how they are supported by key details; summarize the text.</p> <p>RL.5.3 Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).</p> <p>RI.5.3 Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.</p> <p>RI.5.8 Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).</p>	<p>c) Link opinion and reasons using words, phrases, and clauses (e.g., <i>consequently, specifically</i>).</p> <p>d) Provide a concluding statement or section related to the opinion presented.</p> <p>W.5.6 With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.</p>	<p>walked; I will have walked) verb tenses.</p> <p>d) Use verb tense to convey various times, sequences, states, and conditions.</p> <p>e) Recognize and correct inappropriate shifts in verb tense.*</p> <p>L.5.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.</p> <p>b) Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., <i>photograph, photosynthesis</i>).</p>	<p>successive readings.</p> <p>c) Use context to confirm or self-correct word recognition and understanding, rereading as necessary.</p>
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	Question of the Week	Main Selection	Target Phonics/ Word Analysis
Week 1	How do inventors inspire our imaginations?	The Fabulous Perpetual Motion Machine	Shades of Meaning
Week 2	How do artists inspire future generations?	Leonardo's Horse	Greek and Latin Roots
Week 3	How can paleontologists help us understand the past?	The Dinosaurs of Waterhouse Hawkins	Suffixes –tion, -sion
Week 4	How does an artist use music to inspire others?	Mahalia Jackson	Suffixes –ous
Week 5	How do artists create special effects to entertain us?	Special Effects in Film and Television	Compound Words
Week 6	Interactive Review		Review

Targeted Technology Standard

ISTE #4 Critical Thinking, Problem Solving, and Decision Making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

- a. Identify and define authentic problems and significant questions for investigation
- b. Plan and manage activities to develop a solution or complete a project
- c. Collect and analyze data to identify solutions and/or make informed decisions
- d. Use multiple processes and diverse perspectives to explore alternative solutions

Content Integration

(additional resources found in Content Integration Map)

Social Studies Connections	Science Connections
Week 2: <u>Hold the Flag High</u> Week 5: <u>The Midnight Ride of Paul Revere</u>	NA

5th Grade Scope and Sequence

Unit 4: February 6-March 17

Flexible Pacing: 27 instructional days

Unit 4 Theme: Adapting

Big Question	Targeted Comprehension Skill/Strategy	Writing MAIN FOCUS	Report Card Learning Targets
			I can ...
How do people and animals adapt to different situations?	<ul style="list-style-type: none"> • Generalize • Draw Conclusions 	INFORMATIVE/ EXPLANATORY	<ul style="list-style-type: none"> • Engage effectively in conversations by coming prepared, following discussion rules, building upon other's ideas, draw conclusions, and summarize key ideas • Ask and answer questions to demonstrate understanding by quoting accurately when referring to the text and drawing inferences • Describe and analyze points of view • Use context clues, affixes, and roots to determine the meaning of vocabulary words and phrases • Recognize and apply grade-level phonics in multisyllable words
Extended Learning Debate	Research & Inquiry Skill for Content Integration <ul style="list-style-type: none"> • Instruction Manual • Telephone Directory • Magazine/Periodical • Thesaurus • Graphs 	JGB	<ul style="list-style-type: none"> • Come Back Salmon (NF) • For the Love of Chimps (NF) • Extreme Animals (NF) • The Frog Scientist (NF) • Quest for the Tree Kangaroo an Expedition to the Cloud Forest of New Guinea (NF) • A History of US The first Americans (NF) • A History of US The New Nation (NF) • We were There, Too! Young People • in U.S. History (NF) • A Game of Catch (F) • A Bad Road for Cats (F) • Maurice's Room (F)

Targeted ELA Standards: SPEAKING & LISTENING	Targeted ELA Standards: READING	Targeted ELA Standards: WRITING	Targeted ELA Standards: LANGUAGE	Targeted ELA Standards: FOUNDATIONAL SKILLS
<p>SL.5.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 5 topics and texts</i>, building on others' ideas and expressing their own clearly.</p> <p>d) Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.</p> <p>SL.5.4 Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.</p> <p>SL.5.5 Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.</p>	<p>RL & RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.</p> <p>RL.5.2 Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.</p> <p>RI.5.2 Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.</p> <p>RL.5.3 Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).</p> <p>RI.5.3 Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.</p> <p>RI.5.6 Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.</p> <p>RI.5.9 Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.</p>	<p>W.5.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</p> <ul style="list-style-type: none"> a) Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. b) Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. c) Link ideas within and across categories of information using words, phrases, and clauses (e.g., <i>in contrast, especially</i>). d) Use precise language and domain-specific vocabulary to inform about or explain the topic. e) Provide a concluding statement or section related to the information or explanation presented. <p>W.5.7 Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.</p> <p>W.5.8 Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.</p> <p>W.5.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.</p>	<p>**Replace the Language instruction in this unit with the standards listed below.</p> <p>L.5.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.</p> <ul style="list-style-type: none"> a) Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase c) Consult reference materials (e.g., dictionaries, glossaries, thesauruses) both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases. <p>Suggested Resources:</p> <p>http://www.slideshare.net/jtanazzzo/context-clues-7270947</p> <p>http://www.tv411.org/reading/understanding-what-you-read/using-context-clues/activity/1/1</p> <p>Consider using outside resources to support this standard.</p>	<p>RF.5.3 Know and apply grade-level phonics and word analysis skills in decoding words.</p> <ul style="list-style-type: none"> d) Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.

	Question of the Week	Main Selection	Target Phonics/ Word Analysis
Week 1	How do people adapt to difficult situations?	Weslandia	Word Endings: -ing, -ed, -s
Week 2	How do people overcome obstacles?	Tripping Over the Lunch Lady	Suffixes: -ly, -ian
Week 3	How do animals adapt to survive?	Exploding Ants	Suffixes -ize
Week 4	How do people adapt to new places?	The Stormi Giovanni Club	Prefixes com-, pro-, epi-
Week 5	Why do people try to change themselves?	The Gymnast	Idioms
Week 6	Interactive Review		Review

Targeted Technology Standard

ISTE #2 Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

- a. Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media
- b. Communicate information and ideas effectively to multiple audiences using a variety of media and formats
- c. Develop cultural understanding and global awareness by engaging with learners of other cultures
- d. Contribute to project teams to produce original works or solve problems

Content Integration

(additional resources found in Content Integration Map)

Social Studies Connections	Science Connections
NA	NA

5th Grade Scope and Sequence

Unit 5: March 20-May 5

Flexible Pacing: 30 instructional days

Unit 5 Theme: Adventurers

Big Question	Targeted Comprehension Skill/Strategy	Writing MAIN FOCUS	Report Card Learning Targets		
			I can...		
Who goes seeking adventure and why?	<ul style="list-style-type: none"> • Author's Purpose • Graphic Sources 	OPINION	<ul style="list-style-type: none"> • Identify and summarize main ideas and key details Recognize and compare structures in texts (e.g., sequence, character, digital sources) • Use technology to produce and publish writing • Write opinion pieces using ordered reasons supported by facts and details • Read grade level text fluently with accuracy, appropriate rate, and expression to support comprehension 		
Extended Learning Debate	Research & Inquiry Skill for Content Integration <ul style="list-style-type: none"> • Print Sources • Note Taking • Reader's Guide to Periodical Literature • Diagrams/Scale Drawing • Outline 	JGB	<ul style="list-style-type: none"> • To Space and Back (NF) • Mission Save the Planet (NF) • A History of US The first Americans (NF) • A History of US The New Nation (NF) • We were There, Too! Young People in U.S. History (NF) • The-Bat-Poet (F) • Podhu and Aruwa (F) 		
Targeted ELA Standards: SPEAKING & LISTENING	Targeted ELA Standards: READING	Targeted ELA Standards: WRITING	Targeted ELA Standards: LANGUAGE	Targeted ELA Standards: FOUNDATIONAL SKILLS	
SL.5.2 Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. SL.5.3 Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.	RL & RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. RL & RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. RL.5.6 Describe how a narrator's or speaker's point of view influences how events are described. RI.5.6 Analyze multiple accounts of the same event or topic, noting important similarities and	W.5.1 Write opinion pieces on topics or texts, supporting a point of view with reasons and information. <ul style="list-style-type: none"> a) Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose. b) Provide logically ordered reasons that are supported by facts and details. c) Link opinion and reasons 	**Replace the Language instruction in this unit with the standards listed below. L.5.5 Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. <ul style="list-style-type: none"> a) Interpret figurative language, including similes and metaphors, in context. b) Recognize and explain the meaning of common idioms, adages and proverbs. L.5.2 Demonstrate command of	RF.5.4 Read with sufficient accuracy and fluency to support comprehension. <ul style="list-style-type: none"> a) Read grade-level text with purpose and understanding. b) Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive 	

<p>SL.5.5 Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.</p>	<p>differences in the point of view they represent.</p> <p>RL.5.7 Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem).</p> <p>RI.5.7 Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.</p> <p>RI.5.8 Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).</p>	<p>using words, phrases, and clauses (e.g., <i>consequently, specifically</i>).</p> <p>d) Provide a concluding statement or section related to the opinion presented.</p> <p>W.5.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose and audience.</p> <p>W.5.5 With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, revising or trying a new approach.</p>	<p>the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <p>d) Use underlining quotation marks, or italics to indicate titles of works.</p> <p>Suggested Resources: http://www.swcs.us/home/studenterlearning/Courses%20of%20Study/PowerStandards/5th%20grade%20resource%20book/5th%20-%20fig%20lang/5th%20-%20figurative%20language.pdf</p> <p>Consider using outside resources to support this standard.</p>	<p>readings.</p> <p>c) Use context to confirm or self-correct word recognition and understanding, rereading as necessary.</p>
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	Question of the Week	Main Selection	Target Phonics/ Word Analysis
Week 1	How can we find adventure in ordinary events?	The Skunk Ladder	Prefix im--
Week 2	How does technology help adventurers reach new places?	The Unsinkable Wreck of the R.M.S. Titanic	Acronyms
Week 3	What is life like for an astronaut?	Talk with an Astronaut	Greek and Latin Roots
Week 4	How do we explore places underground?	Journey to the Center of the Earth	Complex Spelling Patterns –ous, --ious, --eous
Week 5	What adventures helped drive westward expansion?	Ghost Towns of the American West	Morphemes
Week 6	Interactive Review		Review

Targeted Technology Standard

ISTE #5 Digital Citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

- a. Advocate and practice safe, legal, and responsible use of information and technology
- b. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity
- c. Demonstrate personal responsibility for lifelong learning
- d. Exhibit leadership for digital citizenship

Content Integration

(additional resources found in Content Integration Map)

Social Studies Connections	Social Studies Connections
N/A	N/A

5th Grade Scope and Sequence

Unit 6: May 8-June 7

Flexible Pacing: 21 instructional days

Unit 6 Theme: The Unexpected

Big Question	Targeted Comprehension Skill/Strategy	Writing MAIN FOCUS	Report Card Learning Targets		
			I can...		
What can we learn from encounters with the expected?	<ul style="list-style-type: none"> Main Idea and Supporting Details Draw Conclusions 	NARRATIVE	<p>I can...</p> <ul style="list-style-type: none"> Ask and answer questions to demonstrate understanding by quoting accurately when referring to the text and drawing inferences Identify and summarize main ideas and key details Write narrative text to develop real or imagined experiences with a well-developed conclusion Use grammar skills when writing or speaking Apply grade level spelling when writing 		
Extended Learning Teacher's Choice	Research & Inquiry Skill for Content Integration <ul style="list-style-type: none"> Follow and Clarify Directions Order Form/Application Map/Globe/Atlas Poster/Announcement 	JGB	<ul style="list-style-type: none"> Hidden Worlds Looking through a Scientist's Microscope (NF) A History of US The first Americans (NF) A History of US The New Nation (NF) Bones We were There, Too! Young People in U.S. History (NF) The Turquoise Horse (F) Oliver Hyde's Dishcloth Concert (F) In the time of the Drums (F) Charles (F) Lucky Boy (F) 		
Targeted ELA Standards: SPEAKING & LISTENING	Targeted ELA Standards: READING	Targeted ELA Standards: WRITING	Targeted ELA Standards: LANGUAGE	Targeted ELA Standards: FOUNDATIONAL SKILLS	
SL.5.4 Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable	RL & RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. RL.5.2 Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects	W.5.3 Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. a) Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. b) Use narrative techniques, such as	L.5.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. b) Explain the function of conjunctions , prepositions, and interjections in general and their function in particular sentences. L.5.2 Demonstrate command of the conventions of standard	RF.5.3 Know and apply grade-level phonics and word analysis skills in decoding words. a) Use combined knowledge of all letter-sound correspondences, syllabication patterns, and	

<p>pace.</p> <p>SL.5.6 Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation. (See grade 5 Language standards 1 and 3 here for specific expectations.)</p>	<p>upon a topic; summarize the text.</p> <p>RI.5.2 Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.</p>	<p>dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations.</p> <p>c) Use a variety of transitional words, phrases, and clauses to manage the sequence of events.</p> <p>d) Use concrete words and phrases and sensory details to convey experiences and events precisely.</p> <p>e) Provide a conclusion that follows from the narrated experiences or events.</p> <p>W.5.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.</p>	<p>English capitalization, punctuation, and spelling when writing.</p> <p>a) Use punctuation to separate items in a series.*</p> <p>b) Use a comma to separate an introductory element from the rest of the sentence.</p> <p>c) Use a comma to set off the words <i>yes</i> and <i>no</i> (e.g., <i>Yes, thank you</i>), to set off a tag question from the rest of the sentence (e.g., <i>It's true, isn't it?</i>), and to indicate direct address (e.g., <i>Is that you, Steve?</i>).</p>	<p>morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.</p>
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	Question of the Week	Main Selection	Target Phonics/ Word Analysis
Week 1	How can unplanned situations have positive outcomes?	The Truth About Austin's Amazing Bats	Compound Words
Week 2	What unexpected effects can humans have no nature?	The Mystery of St. Matthew Island	Russian Word Origins
Week 3	How can we learn from the results of our actions?	King Midas and the Golden Touch	Complex Spelling Patterns
Week 4	How can unexpected encounters reveal hidden dangers?	The Hindenburg	Word Families
Week 5	What unexpected influence do we have on those around us?	Sweet Music in Harlem	Compound Words
Week 6	Interactive Review		Review

Pacing suggestions for Unit 6: Due to shortened instructional time during the SAGE testing window, it is suggested to teach Weeks 1, 2 & 3 only. Weeks 1, 2 & 3 will be the instruction for Unit 6. Skills in Weeks 4 & 5 are not taught. CFA for Unit 6 is not required.

Targeted Technology Standard

ISTE #1 Creativity and Innovation: Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

- a. Apply existing knowledge to generate new ideas, products, or processes
- b. Create original works as a means of personal or group expression
- c. Use models and simulations to explore complex systems and issues
- d. Identify trends and forecast possibilities

Content Integration

(additional resources found in Content Integration Map)

Social Studies Connections	Social Studies Connections
N/A	N/A

Skill-Based Instruction Implementation Considerations

When planning for skill-based instruction, it is important to consider the unique needs of students who qualify for specialized services such as English Language Development (ELD) and special education. When grouping students, it may be necessary to provide additional groupings for English Language Learners who are classified as WIDA Levels 1-4 or students who have an IEP. Additional groupings support the responsibilities educators have in ensuring that all students receive the support needed to be successful. The graphic below shows the possible groupings for all students. Additional information about the focus of instruction can be viewed on following pages of this map and in the DIBELS Pathways of Progress Report.

Once students are grouped, for ELD, Special Education, and Groups 2-4, it is critical to provide explicit, systematic instruction with ample practice opportunities and specific feedback to fill in skill gaps. Finally, progress should be monitored more frequently for these groups to ensure that instruction is supporting students' growth towards mastery of identified outcomes.

ELD (30+ minutes)	Special Education
Language Central Curriculum and applicable group instruction OR Reading Street ELL Handbook and applicable group instruction using Lesson Plans for ELD Small Group (Fluency & Frontload)	<ul style="list-style-type: none">• Reading Mastery• Reading Mastery Core Lesson Connections• Corrective Reading• 6 Minute Solution
Additional ELD Instruction (15+ minutes) <ul style="list-style-type: none">• ELL Pages in the Reading Street Teacher Edition or ELL Handbook• RTI Kit	
Group 1 – Benchmark Rate & Accurate Focus of Instruction: <ul style="list-style-type: none">• Comprehension and Vocabulary Resources <ul style="list-style-type: none">• RTI Kit• Group 1 Lesson Plan(s)	Group 2 – Below Benchmark Rate & Accurate Focus of Instruction: <ul style="list-style-type: none">• Fluency Resources <ul style="list-style-type: none">• RTI Kit• Group 2 Lesson Plan(s)
Group 3 – Benchmark Rate & Inaccurate Focus of Instruction: <ul style="list-style-type: none">• Self Monitoring for Accuracy Resources <ul style="list-style-type: none">• RTI Kit• Group 3 Lesson Plan(s)	Group 4 - Below Benchmark & Inaccurate Focus of Instruction: <ul style="list-style-type: none">• PA and Phonics Resources <ul style="list-style-type: none">• RTI Kit• Group 4 Lesson Plan(s)

INSTRUCTIONAL SORT **5th Grade**

Refer to the SRI reports and the DIBELSnet Pathways of Progress Report. Use that information to establish four groups. Select criterion report based on DIBELSnext benchmarks. Using the criteria outlined in the table below, begin to group students accordingly. An additional, blank sort is provided at the back of this section to record groups.

Group 1: Accurate & Benchmark Rate FALL / WINTER: Advanced / Proficient on SRI OR Met benchmark on DORF with at least 98% accuracy SPRING: Advanced / Proficient on SRI OR Met benchmark on DORF with at least 99% accuracy	Group 2: Accurate & Below Benchmark Rate FALL / WINTER: Below benchmark on DORF with at least 98% accuracy SPRING: Below benchmark on DORF with at least 99% accuracy
Group 3: Inaccurate & Benchmark Rate FALL / WINTER: Met benchmark on DORF with less than 98% accuracy SPRING: Met benchmark on DORF with less than 99% accuracy	Group 4: Inaccurate & Below Benchmark Rate FALL / WINTER: Below benchmark on DORF with less than 98% accuracy SPRING: Below benchmark on DORF with less than 99% accuracy

5th Grade

Focus of Instruction & Materials

<p>Group 1: Accurate & Benchmark Rate</p> <p>Focus of Instruction: Comprehension</p> <ul style="list-style-type: none"> • Monitoring for meaning • Identifying, summarizing, and extending main ideas • Self-monitoring and fix-up strategies and awareness of reading for understanding • Teaching important words directly and word-learning strategies • Extended reading and writing opportunities tied to Core subjects <p>Instructional Materials:</p> <ul style="list-style-type: none"> • Literary and Informational Text • Reading Street Small Group: Advanced Level lessons • Word Study (vocabulary, derivations, etc.) • Reading Street: RtI Kit Comprehension and/or Vocabulary • Reading Street: Research and Inquiry Lessons 	<p>Group 2: Accurate & Below Benchmark Rate</p> <p>Focus of Instruction: Fluency</p> <ul style="list-style-type: none"> • Building automaticity, but do not ignore making meaning • Repeated readings • Word or phrase level automaticity in addition to passages, if necessary • Grouping words to make meaning, pacing punctuation • Read for main idea, summarizing, and/or text elements • Use <i>If-Then Guide for Fluency</i> to identify skill deficits and areas of targeted instruction <p>Instructional Materials:</p> <ul style="list-style-type: none"> • Reading Street: Decodable Readers (Grades 2-3) • Reading Street: Fluency passages • Reading Street: Fresh Reads • Reading Street Small Group: On-Level lessons (OL) • Sight Words/Fry Phrases Speed Drills • Reading Street: RtI Kit Fluency
<p>Group 3: Inaccurate & Benchmark Rate</p> <p>Focus of Instruction: Digging Deeper into Needs</p> <ul style="list-style-type: none"> • Explicit modeling of accurate reading • Self-monitoring—table tap when student makes an error. This will help the student slow down and read more accurately. • Challenge student to read a portion of the text with 2 or fewer errors • Teach student to adjust rate of reading to type of text and purpose for reading <p>Instructional Materials:</p> <ul style="list-style-type: none"> • Reading Street: Decodable Readers (Grades 2-3) • Reading Street: Phonics and Word Analysis • Reading Street Small Group: Strategic Intervention lessons (SI) • Reading Street: Fresh Reads 	<p>Group 4: Inaccurate & Below Benchmark Rate</p> <p>Focus of Instruction: Phonics and/or Phonological Awareness</p> <ul style="list-style-type: none"> • Missing phonemic awareness skills • Missing decoding skills • Missing sight words skills • Missing multi-syllabic decoding skills • Applying skills to connected text at instructional level • Building fluency at independent level • Substantial practice applying phonics to new text and writing • Use <i>If-Then Guide for Phonemic Awareness and/or Core Phonics Screener Alignment Guide</i> to identify skill deficits and areas of targeted instruction <p>Instructional Materials:</p> <ul style="list-style-type: none"> • Reading Street Decodable Readers (Grades 2-3) • CSD Decodable Database • Reading Street Phonics and Word Analysis • Reading Street Small Group: Strategic Intervention lessons (SI) • Florida Center on Reading Research (FCRR)—Phonemic Awareness and Phonics Activities • Reading Street: RtI Kit Phonemic Awareness and/or Phonics and Decoding • Sight Words/Fry Phrases Speed Drills



DIBELS® Next Initial Instructional Grouping Suggestions

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Initial Grouping Suggestions

The groupings provided by these worksheets are considered *initial suggestions* because the teacher must further revise these groupings based on other information about students' skill levels, available resources, and magnitude of student need.

Three Levels of Instructional Support

The following three levels of instructional support are identified for individual DIBELS scores as well as the overall DIBELS Composite Score:

- **At or Above Benchmark: Likely to Need Core Support** – Student's scores are at or above the benchmark for their grade and time of year; students performing at this level are likely to need effective core instruction to reach subsequent goals.
 - Generally **80%–90%** probability of reaching subsequent important reading goals.
 - Provide generally effective core curriculum and instruction focused on the core components of early literacy and reading.
- **Below Benchmark: Likely to Need Strategic Support** – Student's scores are below the benchmark for their grade and time of year; students performing at this level are likely to need additional targeted intervention and support to reach subsequent goals.
 - Generally **40%–60%** probability of reaching subsequent important reading goals.
 - Provide extra practice; adaptations of core curriculum; small group instruction with supplementary program.
- **Well Below Benchmark: Likely to Need Intensive Support** – Student's scores are well below the benchmark for their grade and time of year; students performing at this level are likely to need substantial additional intervention and support to reach subsequent goals.
 - Generally **10%–20%** probability of reaching subsequent important reading goals.
 - Provide focused, explicit instruction with supplementary intensive curriculum; small group/individual instruction.

Validating Need for Support

Within the Outcomes Driven Model, an important step is validating need for support. At this step, ask, "Are we confident that the identified students need support?" If there is any doubt in making the decision regarding whether a student is on track or not with respect to a core component, additional information should be obtained. The goal is to be reasonably confident in the decision that the student is on track or not. Additional information may be obtained by retesting with alternate forms of the corresponding DIBELS measure, by administering a brief diagnostic assessment, or by considering other assessment and performance information available on the student.

Building Accuracy and Fluency

The goal in each core component area is for the student to demonstrate proficiency with the skill by being highly accurate as well as fluent and confident in their answers. Build accuracy with a focus on accurate and fluent word reading and decoding, advanced phonics, and word attack skills. Incorporate-fluency building activities on mastery-level material where the student is highly accurate. Consider using survey-level assessment to identify the appropriate progress monitoring level, instructional level, and mastery level.

Core Components of Early Literacy

It is important to analyze and use all of the information available on a student's skills. These initial instructional grouping worksheets provide an initial focus on the two most salient core components at each assessment time. Vocabulary and oral language skills are another core component of early literacy that should be considered when planning instructional groups.

School-Wide, Systems-Level Considerations

If a large number of students fall in any of the instructional grouping recommendations other than Group 1, consider supplementing the system of core instruction to address the corresponding skill areas.

5 Grade 5 Beginning of Year Initial Instructional Grouping Suggestions

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Group 1: Likely to Need Core Support

Group 2: Additional support on reading fluency skills

Group 3: Additional support on the accurate reading of connected text skills

Group 4: Additional support on the accurate and fluent reading of connected text skills

Note: If a school district fall in any of the instructional grouping recommendations of **SAT/ACT**, consider supplementing core instruction addressing the corresponding skill areas.

5 Grade 5 Middle of Year Initial Instructional Grouping Suggestions

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Group 1: Likely to Need Core Support

Group 2: Additional support on reading fluency skills

Group 3: Additional support on the accurate reading of connected text skills

Group 4: Additional support on the accurate and fluent reading of connected text skills

Note: If a larger number of students

Note: If a school district falls in any of the instructional grouping recommendations of **SAT-TELL**, consider supplementing core instruction addressing the corresponding skill areas.

5 Grade 5 End of Year Initial Instructional Grouping Suggestions

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Group 1: Likely to Need Core Support

Group 2: Additional support on reading fluency skills

Group 3: Additional support on the accurate reading of connected text skills

Group 4: Additional support on the accurate and fluent reading of connected text skills

Note: If a large number of students are

Note: If a school district fall in any of the instructional grouping recommendations of **SAT/ACT**, consider supplementing core instruction addressing the corresponding skill areas.

Small Group Time Planner

This planner is a recommended sequence for establishing expectations and routines for implementing the skill-based small-group instruction component of the CSD literacy block. If the class is having a hard time following the expectations and routines, it may be necessary to reteach the specific expectations and/or routines with which the students are struggling. An additional consideration may be to decrease the daily minutes spent on small-group time until students can maintain independence at a satisfactory level. The unique needs of each classroom will dictate whether or not this scope and sequence takes 16 days. Please adjust accordingly.

DAY	TIME (min.) (flexible)	Instruction Goal	What is the TEACHER doing?	What are the STUDENTS doing?
Phase I of Skill-Based Small Group Instruction Time: Teacher Monitors				
1	15	Introduce small-group time expectations and routines	<ul style="list-style-type: none">➤ Teacher explains each of the expectation and routines and routines for small-group time using a poster that will be hung up in the classroom for reference.➤ Teacher chooses students to model each expectation and routine while the whole class watches.	<ul style="list-style-type: none">➤ Students learn about expectations and routines and discuss the importance of each expectation and routine with the whole group.➤ Individual students model for others what the expectations look and sound like.
2	15	Practice small-group time expectations and routines	<ul style="list-style-type: none">➤ Same as Day 1 above	<ul style="list-style-type: none">➤ Same as Day 1 above
3	25	Practice small-group time expectations and routines	<ul style="list-style-type: none">➤ Teacher quickly reviews each of the expectations and routines for small-group time.➤ Teacher chooses students to model some expectations and routines while the whole class watches.➤ Teacher gives students a task (that needs little explanation) to do independently at their seats.➤ Teacher monitors room; but does not engage	<ul style="list-style-type: none">➤ Students listen while teacher reviews expectations and routines.➤ Individual students model for others what the expectations and routines look and sound like.➤ All students work independently at their seats.➤ Students actively participate in a

			<p>with students.</p> <ul style="list-style-type: none"> ➤ Teacher ends small-group time with a debriefing session with whole class. 	debriefing session.
4	25		<ul style="list-style-type: none"> ➤ Same as Day 3 above 	<ul style="list-style-type: none"> ➤ Same as Day 3 above
5	25		<ul style="list-style-type: none"> ➤ Same as Day 3 above 	<ul style="list-style-type: none"> ➤ Same as Day 3 above
6	25	Introduce Practice Station #1	<ul style="list-style-type: none"> ➤ Teacher introduces and explains each of the expectations and routines for a Practice Station #1 (e.g. Fluency Station with Fresh Reads) that will be consistently utilized. ➤ Teacher chooses students to model each expectation and routine while the whole class watches. 	<ul style="list-style-type: none"> ➤ Students learn about the selected Practice Station #1 expectations and routines and discuss the importance of each with the whole group. ➤ Individual students model for others what the expectations and routines look and sound like.
7	25	Review expectations and routines for the Practice Station #1	<ul style="list-style-type: none"> ➤ Teacher reviews expectations and routines for small group time and the Practice Station #1 from Day 7. ➤ Teacher chooses students to model some expectations and routines while the whole class watches. ➤ Teacher has whole class practice performing that Practice Station #1. ➤ Teacher monitors room; but does not engage with students. ➤ Teacher ends small-group time with a debriefing session with whole class. 	<ul style="list-style-type: none"> ➤ Students learn about the selected Practice Station #1 expectation and routines and discuss the importance of each with the whole group. ➤ Individual students model for others what the expectation and routines look and sound like. ➤ All students actively work on Practice Station #1. ➤ Students actively participate in a debriefing session.

Phase II: Introduction: Multiple Tasks—Teacher Monitors

			<ul style="list-style-type: none"> ➤ Teacher quickly reviews each of the expectations and routines for small-group time and the Practice Station #1. ➤ Teacher chooses students to model some expectations and routines while the whole class watches. ➤ Teacher introduces 2-3 independent seatwork tasks and the practice station activity. 	<ul style="list-style-type: none"> ➤ Students listen while teacher reviews expectations and routines. ➤ Individual students are asked to model for others what some of the expectation and routines
8	45	Practice with Independent Work and Practice Station #1	<ul style="list-style-type: none"> ➤ Teacher quickly reviews each of the expectations and routines for small-group time and the Practice Station #1. ➤ Teacher chooses students to model some expectations and routines while the whole class watches. ➤ Teacher introduces 2-3 independent seatwork tasks and the practice station activity. 	<ul style="list-style-type: none"> ➤ Students listen while teacher reviews expectations and routines. ➤ Individual students are asked to model for others what some of the expectation and routines

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			<ul style="list-style-type: none"> ➤ Teacher lets a group of students move into the Practice Station #1 area to work on the activity while other students remain at their seats. ➤ After a set amount of time, teacher assigns a new group to Practice Station #1. ➤ Teacher monitors room, but does not engage with students. ➤ Teacher ends small-group time with a debriefing session with whole class. 	<ul style="list-style-type: none"> ➤ look and sound like. ➤ Two groups of students (more groups if length of small-group time is increased) work at Practice Station #1 independently. ➤ The remainder of the class works on the independent seatwork tasks. ➤ Students actively participate in a debriefing session.
9	45-60	Practice with Independent Work and Practice Station #1	<ul style="list-style-type: none"> ➤ (Same as Day 8 above) 	<ul style="list-style-type: none"> ➤ (Same as Day 8 above)
10	45-60	Introduce Practice Station #2	<ul style="list-style-type: none"> ➤ Teacher introduces and explains each of the expectations and routines for Practice Station #2. ➤ Teacher chooses students to model each expectation and routine while the whole class watches. ➤ Teacher lets a group of students go to the Practice Station #1 and lets a group go to Practice Station #2. ➤ Teacher gives the remainder of class 2-3 tasks (that need little explanation) to do independently. ➤ Teacher monitors the room, but does not engage with students. ➤ Teacher ends small-group time with a debriefing session with whole class. 	<ul style="list-style-type: none"> ➤ Students learn about Practice Station #2 and discuss the importance of each with the whole group. ➤ Individual students model for others what the expectations and routines look and sound like. ➤ One group of students works at Practice Station #1. ➤ One group of students works at Practice Station #2. ➤ The remainder of the class works on independent

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				tasks at their seats. ➤ Students actively participate in a debriefing session.
11	45-60	Practice with Independent Work and Two Practice Stations	<ul style="list-style-type: none"> ➤ Teacher quickly reviews each of the expectations and routines for small-group time and Practice Station #2. ➤ Teacher chooses students to model some expectations and routines while the whole class watches. ➤ Teacher lets a different group of students go to the Practice Station #1 and lets a different group go to Practice Station #2. ➤ Teacher gives the remainder of class 2-3 tasks (that need little explanation) to do independently. ➤ Teacher monitors the room, but does not engage with students. ➤ Teacher ends small-group time with a debriefing session with whole class. 	<ul style="list-style-type: none"> ➤ Students learn about Practice Station #2 and discuss the importance of each with the whole group. ➤ Individual students model for others what the expectations and routines look and sound like. ➤ One group of students works at Practice Station #1. ➤ One group of students works at Practice Station #2. ➤ The remainder of the class works on independent tasks at their seats. ➤ Students actively participate in a debriefing session.
12	45-60	Introduce and Practice with Practice Station #3	<ul style="list-style-type: none"> ➤ Teacher introduces and explains each of the expectations and routines for Practice Station #3. ➤ Teacher chooses students to model each expectation and routine while the whole class watches. ➤ Teacher quickly reviews each of the expectations and routines for small-group time and Practice Stations #1-2 as needed. ➤ Teacher chooses students to model some expectation and routines while the whole class watches. 	<ul style="list-style-type: none"> ➤ Students learn about Practice Station #3 expectations and routines and discuss the importance of each with the whole group. ➤ Individual students model expectations and routines for others.

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			<ul style="list-style-type: none"> ➤ Teacher chooses students to go to the three areas introduced so far while the rest of the class work on 2-3 independent tasks (new groups may be rotated in as desired). ➤ Teacher monitors rooms, but does not engage with students. ➤ Teacher ends small-group time with a debriefing session with whole class. 	<ul style="list-style-type: none"> ➤ Small groups work at each Practice Station ➤ The remainder of the class works on independent tasks. ➤ Students actively participate in a debriefing session.
13	45-60	Introduce and Practice with Practice Station #4	<ul style="list-style-type: none"> ➤ Teacher introduces and explains each of the expectations and routines for Practice Station #4. ➤ Teacher chooses students to model each expectation and routine while the whole class watches. ➤ Teacher quickly reviews each of the expectation and routines for small-group time and Practice Stations #1-3 as needed. ➤ Teacher chooses students to model some expectation and routines while the whole class watches. ➤ Teacher chooses students to go to the four areas introduced so far while the rest of the class work on 2-3 independent tasks (new groups may be rotated in as desired). ➤ Teacher monitors rooms, but does not engage with students. ➤ Teacher ends small-group time with a debriefing session with whole class. 	<ul style="list-style-type: none"> ➤ Students learn about Practice Station #4 expectations and routines and discuss the importance of each with the whole group. ➤ Individual students model expectations and routines for others. ➤ Small groups work at each Practice Station ➤ The remainder of the class works on independent tasks. ➤ Students actively participate in a debriefing session.

Phase III: Multiple Tasks—Teacher Pulls One Group

		Introduce teacher working with small group	<ul style="list-style-type: none"> ➤ Teacher quickly reviews each of the expectations and routines for small-group time and Practice Stations as needed, emphasizing the “no interruption” concept. ➤ Teacher chooses students to model some expectations and routines while the whole class watches. 	<ul style="list-style-type: none"> ➤ Students listen while teacher reviews expectations and routines. ➤ Individual students are asked to model for others what some of the expectation and routines mean. ➤ Students choose from Practice Station options.
14	45-60			

			<ul style="list-style-type: none"> ➤ Teacher gives the independent tasks for small-group time and the Practice Station options. ➤ Teacher pulls one group for about 10-15 minutes to work with who needs reteaching/preteaching. ➤ Teacher ends small-group time with a debriefing session with whole class. 	<ul style="list-style-type: none"> ➤ Students move freely from independent tasks and Practice Stations following the directions the teacher has given. ➤ Students actively participate in a debriefing session.
15	45-60		<ul style="list-style-type: none"> ➤ Same as Day 14 above 	<ul style="list-style-type: none"> ➤ Same as Day 16 above ➤
Phase IV: Multiple Tasks—Teacher Pulls Multiple Groups				
16	45-60	From now on, any time a new activity or Practice Station is added for small-group time, the teacher should follow a similar routine as the one established above. When ready to begin Phase IV, the teacher may begin to pull multiple groups for an extended time (10-15 min. each group) using intervention and challenge materials and activities.		

SALTA Four Day Plan for Spelling Instruction

Day 1
<ul style="list-style-type: none">• Pre-test using spelling dictation for 5-7 words with students rewriting any word they missed correctly after each word is given.• Spelling Dictation Routine Card #7 or Word Parts Strategy Routine Card #4• Lesson in Reading Street with focus on the spelling pattern, rule or generalization
Day 2
<ul style="list-style-type: none">• Teacher Created Word Sort (can be done as a practice station)<ul style="list-style-type: none">• Possible Sorts:<ul style="list-style-type: none">• Prefix/non-prefix or Suffix/no suffix• Words related to the Question of the Week• Syllable types
Day 3
<ul style="list-style-type: none">• Student Created Word Sort (can be done as a practice station)<ul style="list-style-type: none">• Possible Sorts:<ul style="list-style-type: none">• Prefix/non-prefix or Suffix/no suffix• Words related to the Question of the Week• Syllable types
Day 4
<ul style="list-style-type: none">• Spelling Dictation: 10-20 words from teacher and student generated lists with targeted spelling pattern

Best Practices for Handwriting Instruction

Handwriting (both manuscript and cursive) is an important skill for students to learn. Teaching and practicing writing allows students to write letters correctly and efficiently. Fluent writers are able to focus on generating idea, producing grammatically correct text, and considering audience. Even when a student moves to a computer or other device, that writing fluency is important to the composing process.

-Utah State Office of Education

Direct, systematic, explicit teaching of handwriting improves students' overall written composition for many years. Students who are automatic with correct letter formation, including reasonable legibility and fluency, can cognitively attend to the higher-level skills associated with written tasks. Attention to higher-level skills is compromised when students have to focus their cognitive energy on letter formation. Best practices support the integration of handwriting instruction within other written tasks. Research indicates that early handwriting instruction improves students' written work, not just its legibility, but its quantity and quality as well (Graham, 2010; Moats, 2008).

Effective and Efficient Handwriting Instruction

Step 1: Provide 2-5 minutes of direct, explicit instruction during the Language Block using your Reading Street materials.

Instruction includes:

- Providing visual models around the room
- Using lined paper with labels for top/middle/bottom
- Connecting sound/spelling card, name and sound of letter (K-3)
- Using language to describe the strokes
- Writing letters in the air using whole arm and pointing with index and middle fingers to trace the letter
- Monitoring student posture and grip as necessary
- Focusing on accuracy, then fluency

Step 2: Embed additional practice in spelling/word study, writing, or conventions instruction

Step 3: Practice Stations can be used for additional, brief practice opportunities

Handwriting Standards from the Utah Core: *Language Standard 1*

Kindergarten

- a) With guidance and support, identify and write many upper - and lowercase letters, including those in the student's name.

1st Grade

- a) Independently identify and legibly write all upper-and lowercase letters (legibility is defined as the letter being recognizable to readers in isolation from other letters in a word).
- b) Produce grade-appropriate text using legible writing.

2nd Grade

- a) Fluently, independently, and legibly write all upper- and lowercase letters.
- b) Produce grade-appropriate text using legible writing.
- c) Understand that cursive is different from manuscript.

3rd Grade

- a) Independently and legibly write all upper- and lowercase cursive letters.
- b) Produce grade-appropriate text using legible cursive writing.

4th Grade

- a) Fluently, independently, and legibly write all upper and lower case cursive letters.
- b) Produce grade-appropriate text using legible cursive writing.

5th Grade

- a) Maintain legible and fluent cursive writing.

Zaner-Bloser or D'Nealian? It is recommended that each school will need to adopt one manuscript type Zaner-Bloser or D'Nealian. It is essential that whatever is decided is vertically aligned so that students can build their fluency in the selected type without having to learn a different style each year. There are benefits to both types of manuscript and your Reading Street materials provide guidance for each. The table below offers considerations to inform your decision.

Zaner-Bloser	D'Nealian
<ul style="list-style-type: none">• Students often enter kindergarten already knowing how to form some letters	<ul style="list-style-type: none">• Smoother and faster transition to cursive
<ul style="list-style-type: none">• More closely matches the print students are reading	<ul style="list-style-type: none">• Reduces "b" and "d" letter confusion

Note: Difficulty in forming letters is not related to cognitive skills, but to fine motor movement. Movements using a rigid fist grip come from the muscle of the upper arm, not smaller hand movements. Strengthening the muscle of the upper arm will help handwriting development (Moats, 2008).

Handwriting Samples

Manuscript Alphabet

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D'Nealian™ Alphabet

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D'Nealian™ Cursive

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Writing Practices

During school day, best instructional practice emphasizes writing across content areas and integrated throughout the entire school day. There are both formal and informal practices, which include Writing to Learn and Product Writing.

The purpose of Writing to Learn:

- Develop fluency
- Practice written vocabulary and academic language
- Practice communicating ideas formally and informally
- Assess comprehension

During Writing to Learn tasks, students engage in two of the five levels of writing: 1) To get ideas down, and 2) To exhibit knowledge on a topic. (Shown as Writing on Demand within Reading Street)

The purpose of Product Writing:

- Knowledge on a topic or text
- Well developed composition with organization
- Transitions, precise language and formal language
- Refinement of writing skills
- Conventions and grammar
- Evaluation and feedback
- Publishing

During Product Writing students engage in three of the five levels of writing: 3) Writing to be read and reviewed, revised and edited. 4) Writing to be critiqued, revised and edited. 5) Writing to be published.

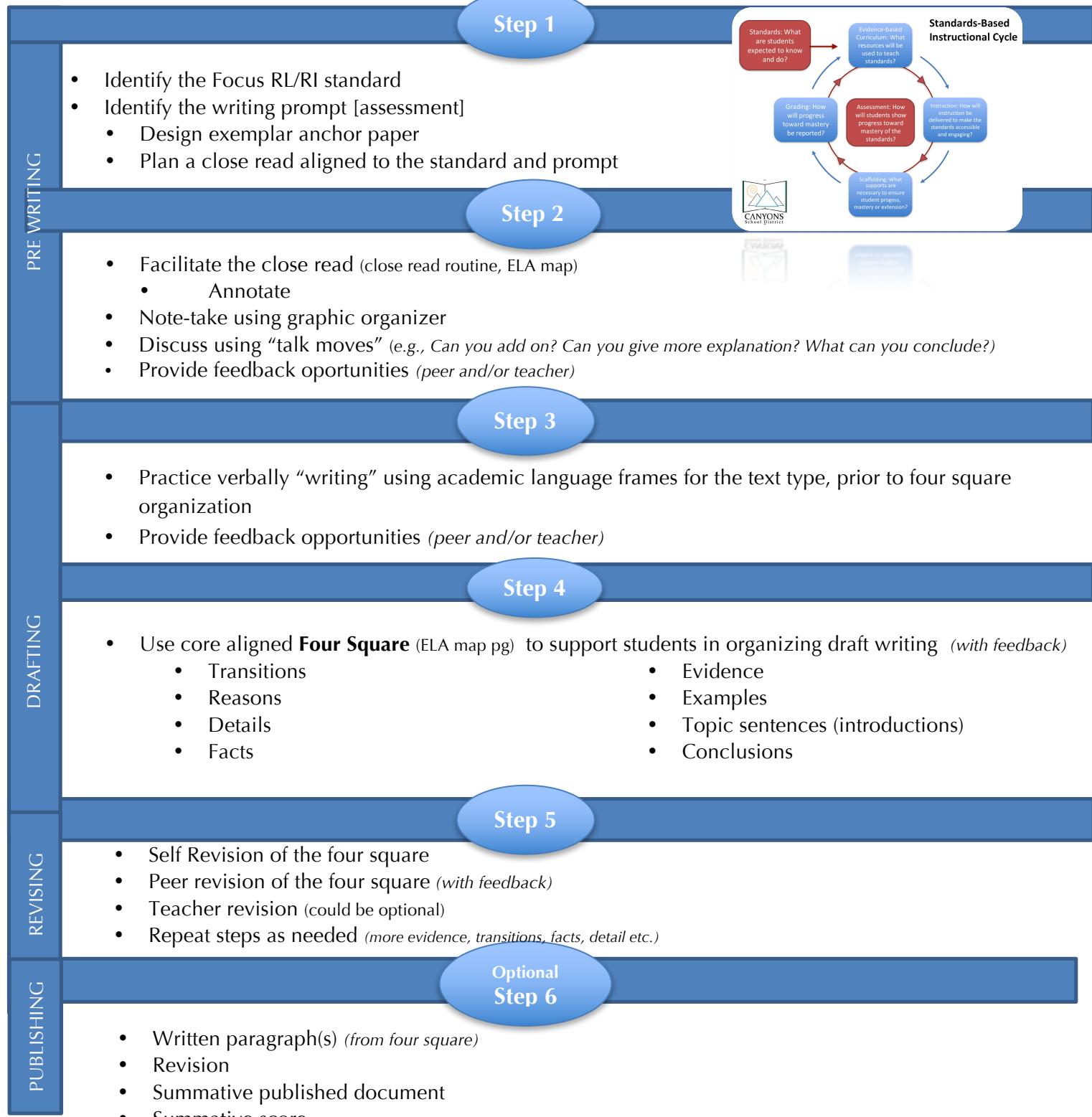
Levels	Examples
1. Writing to get ideas down	Brainstorming, listing, graphic organizer
2. Writing to exhibit knowledge on a topic	Short answers, journals, learning logs
3. Writing to be read and reviewed, revised and edited	First draft of report, essay, narrative
4. Writing to be critiqued, revised and edited	Final draft of report, essay, narrative
5. Writing to be published	Shared with a wider audience (e.g. <i>Reflections</i>)

Some of the examples in the following pages include the four square structure for both writing to learn and product writing. Included are four square templates that align to grade level core and text types. Additionally, there are examples and suggested performance tasks aligned to the Reading Street Unit and Writing to Sources Book.

Framework for Elementary Product Writing

"As we read and discuss complex text with students, we look for the organizational structures and methods writers use for presenting information. We should always be moving students 'from conversation to composition'. In doing so, we show students how others use evidence, how they can locate evidence and how they can use evidence in verbal and written communication."

Fisher,D. and Frey,N. 2014. Close Reading and Writing From Sources.

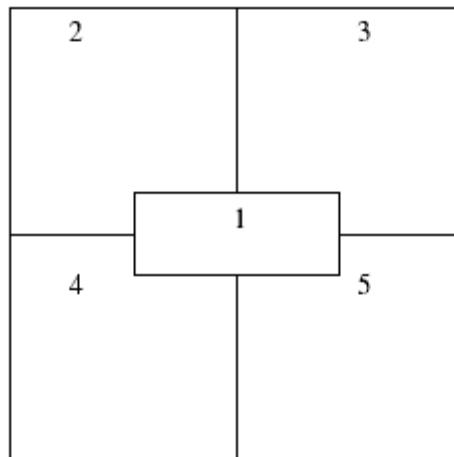


"Four Square" Writing Overview

You can easily write properly structured paragraphs with a topic sentence and conclusion using a simple graphic organizer – "the four-square." With further practice, you will learn to write well-developed compositions of five or more paragraphs, complete with introductory and concluding paragraphs.

Step 1: Write your topic sentence based on your writing prompt or topic.

Divide an entire piece of notebook paper into equal quarters, leaving a large rectangle in the center (as illustrated below.) Once you have formulated your position into a topic sentence (2-3) or thesis statement (4-5), **write your Main Idea or Topic Sentence in Box 1.**



The main idea (topic sentence) is placed in the center box of the four square (box 1). Boxes 2, 3, and 4 are used for supporting ideas. The lower right box (box 5) is used to build a summary or concluding sentence. This "wrap-up" sentence encompasses all the ideas developed in the four-square, and is the basis of developing good introductory and concluding paragraphs in the essay.

Step 2: Write three supporting ideas (reasons, details or facts)- Once you've written your topic or prompt in Box 1, BRAINSTORM three supporting ideas (Write these in Boxes 2, 3 and 4.) Now the center box will contain a complete sentence (topic sentence based on your prompt), and boxes 2, 3, and 4 will contain supporting ideas (reasons, details or facts) that prove or support box 1. These ideas must be all different from one another, real, and not simple opinions.

Step 3: 4 Square + 3E: Adding more Evidence- Now these "supporting ideas" (evidence, examples, or explanations) need further development by adding supporting evidence in boxes 2, 3, and 4. Adding examples and explanations can be difficult since you may not be accustomed to citing. You will be challenged to look for evidence and cite. At this time it is important to remember that *there may not be a repetition anywhere on the four-square.*

Step 4: 4 Square + 3E+ T: Adding Transitional words to provide transition between thoughts- By now you are developing your thesis statement (box 1) into three reasons, details or facts and supporting evidence and examples (boxes 2, 3, and 4). Transition words are now needed to provide smooth transitions and reading between what will eventually become paragraph(s).

Step 5: 4 Square + 3E+ T + P: Incorporating Precise language into writing- This step helps you develop personal writing style by using carefully chosen precise words to provide sensory details and imagery for the reader. Your goal is to *show* the reader, not to just *tell* the reader. You can list several words under each supporting idea in the organizer and later decide which ones to use. Addition of precise language furthers elaboration and enhances maturity of writing. Building these descriptions prepares the writer for longer and more complex compositions.

Step 6: Add a concluding statement- write a concluding sentence in Box #5. The concluding ties all the parts together, reminds the reader of the topic and purpose for the paragraph and reflects the topic sentence.

Step 7: Develop your ideas in sentences/paragraph(s) on a separate sheet of paper. (Your sentences/paragraph(s) ideas are now taken off the organizer and put into sentences/paragraph(s) form on a separate sheet of paper, which will give you plenty of room to add to your sentences/paragraph(s).) Begin writing sentences/paragraph(s) using what you wrote in the Four Square (one sentences/paragraph(s) for each box).

Now all that is left is to take your paragraphs and develop the 5-paragraph essay; even your introduction and conclusion ideas are taken from your original four-square organizer.

Name: _____

Linking Word: Supporting Reason 1 Evidence from text:	Linking Word: Supporting Reason 2 Evidence from text:
Linking Word: Supporting Reason 3 Evidence from text:	
Introduce topic/text and state an opinion	
Conclusion	

Opinion Essay Writing Rubric (Grades 3-5)			
Score	Statement of Purpose/Focus and Organization (4-point rubric)	Evidence/Elaboration (4-point rubric)	Conventions/Editing (2-point rubric begins at scorepoint 2)
4	<p>The response is fully sustained and consistently and purposefully focused:</p> <ul style="list-style-type: none"> • opinion is clearly stated, focused, and strongly maintained • opinion is communicated clearly within the purpose, audience, and task <p>The response has a clear and effective organizational structure creating unity and completeness :</p> <ul style="list-style-type: none"> • effective, consistent use of a variety of transitional strategies to clarify the relationships between and among ideas • logical progression of ideas from beginning to end • effective introduction and conclusion for audience and purpose 	<p>The response provides thorough and convincing support/evidence for the writer's opinion that includes the effective use of sources, facts, and details:</p> <ul style="list-style-type: none"> • use of evidence from sources is smoothly integrated, comprehensive, and relevant • effective use of a variety of elaborative techniques <p>The response clearly and effectively expresses ideas, using precise language:</p> <ul style="list-style-type: none"> • use of academic and domain-specific vocabulary is clearly appropriate for the audience and purpose 	

3	<p>The response is adequately sustained and generally focused:</p> <ul style="list-style-type: none"> • opinion is clear and for the most part maintained, though some loosely related material may be present • context provided for the claim is adequate within the purpose, audience, and task <p>The response has a recognizable organizational structure, though there may be minor flaws and some ideas may be loosely connected:</p> <ul style="list-style-type: none"> • adequate use of transitional strategies with some variety to clarify the relationships between and among ideas • adequate progression of ideas from beginning to end • adequate introduction and conclusion 	<p>The response provides adequate support/evidence for the writer's opinion that includes the use of sources, facts, and details:</p> <ul style="list-style-type: none"> • some evidence from sources is integrated, though citations may be general or imprecise • adequate use of some elaborative techniques <p>The response adequately expresses ideas, employing a mix of precise with more general language:</p> <ul style="list-style-type: none"> • use of domain-specific vocabulary is generally appropriate for the audience and purpose 	
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2	<p>The response is somewhat sustained with some extraneous material or a minor drift in focus:</p> <ul style="list-style-type: none"> • may be clearly focused on the opinion but is insufficiently sustained within the purpose, audience, and task • Opinion on the issue may be somewhat unclear and unfocused <p>The response has an inconsistent organizational structure, and flaws are evident:</p> <ul style="list-style-type: none"> • inconsistent use of transitional strategies with little variety • uneven progression of ideas from beginning to end • conclusion and introduction, if present, are weak 	<p>The response provides uneven, cursory support/ evidence for the writer's opinion that includes partial or uneven use of sources, facts, and details:</p> <ul style="list-style-type: none"> • evidence from sources is weakly integrated, and citations, if present, are uneven • weak or uneven use of elaborative techniques <p>The response expresses Ideas unevenly, using simplistic language:</p> <ul style="list-style-type: none"> • use of domain-specific vocabulary may at times be inappropriate for the audience and purpose 	<p>The response demonstrates an adequate command of conventions:</p> <ul style="list-style-type: none"> • some errors in usage and sentence formation may be present, but no systematic pattern of errors is displayed • adequate use of punctuation, capitalization, and spelling
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1	<p>The response may be related to the purpose but may offer little or no focus:</p> <ul style="list-style-type: none"> • may be very brief • may have a major drift • opinion may be confusing or ambiguous <p>The response has little or no discernible organizational structure:</p> <ul style="list-style-type: none"> • few or no transitional strategies are evident • frequent extraneous ideas may intrude 	<p>The response provides minimal support/evidence for the writer's opinion that includes little or no use of sources, facts, and details:</p> <ul style="list-style-type: none"> • use of evidence from sources is minimal, absent, in error, or irrelevant <p>The response expression of ideas is vague, lacks clarity, or is confusing:</p> <ul style="list-style-type: none"> • uses limited language or domain-specific vocabulary • may have little sense of audience and purpose 	<p>The response demonstrates a partial command of conventions:</p> <ul style="list-style-type: none"> • errors in usage may obscure meaning • inconsistent use of punctuation, capitalization, and spelling
0			The response demonstrates a lack of command of conventions.
NS	Insufficient, illegible, foreign language, incoherent, off-topic, or off-purpose writing		

Name: _____

Linking Words, Phrases, Clauses:

Fact, Definition, Detail, Quotations, Examples

Vocabulary:

Linking Words, Phrases,
Clauses:

Fact, Definition, Detail, Quotations, Examples

Vocabulary:

Linking Words, Phrases, Clauses:

Fact, Definition, Detail, Quotations, Examples

Vocabulary:

Introduce topic

Conclusion

Name: _____

Linking Words, Phrases, Clauses:

First

Reasons/Details/Facts

Food

Evidence (quotations)//Examples/Elaborations/Quotations

1. **Worker ants' bodies become a air-tight food container.**
2. **Some people eat the food ants' store.**

Possible Linking Words	Possible Ways to Cite
another	additionally
for example	In summary
also because	finally
first	the author states . . . paragraph 5 shows . . . according to the author . . . Smith says "(quote)"

Linking Words, Phrases, Clauses:

Additionally

Reasons/Details/Facts

Behavior

Evidence (quotations)//Examples/Elaborations/Quotations

1. **Some ants hang upside down in the colony.**
2. **Ants regurgitate their food.**

Linking Words, Phrases,
Clauses:

Another

Reasons/Details/Facts

Protection

Evidence (quotations)//Examples/Elaborations/Quotations

1. **Ants explode**
2. **Ants release chemicals**
3. **Ants protect their young**

Introduce topic

Some animals are have adaptations to survive. Ants have special adaptations to store food and protect their colony.

Linking Words, Phrases, Clauses: **In summary,**

Conclusion: **You may think that ants do gross things, however, each gross thing has an adaptation and reason.**

Informative-Explanatory Short Essay Writing Rubric (Grades 3-5)			
Score	Statement of Purpose/Focus and Organization (4-point rubric)	Evidence/Elaboration (4-point rubric)	Conventions/Editing (2-point rubric begins at scorepoint 2)
4	<p>The response is fully sustained and consistently and purposefully focused:</p> <ul style="list-style-type: none"> • controlling idea or main idea of a topic is focused, clearly stated, and strongly maintained • controlling idea or main idea of a topic is introduced and communicated clearly within the purpose, audience, and task <p>The response has a clear and effective organizational structure creating unity and completeness:</p> <ul style="list-style-type: none"> • use of a variety of transitional strategies to clarify the relationships between and among ideas • logical progression of ideas from beginning to end • effective introduction and conclusion for audience and purpose 	<p>The response provides thorough and convincing support/evidence for the controlling idea or main idea that includes the effective use of sources, facts, and details:</p> <ul style="list-style-type: none"> • use of evidence from sources is smoothly integrated, comprehensive, and relevant • effective use of a variety of elaborative techniques <p>The response clearly and effectively expresses ideas, using precise language:</p> <ul style="list-style-type: none"> • use of academic and domain-specific vocabulary is clearly appropriate for the audience and purpose 	

3	<p>The response is adequately sustained and generally focused:</p> <ul style="list-style-type: none"> • focus is clear and for the most part maintained, though some loosely related material may be present • some context for the controlling idea or main idea of the topic is adequate within the purpose, audience, and task <p>The response has an evident organizational structure and a sense of completeness, though there may be minor flaws and some ideas may be loosely connected:</p> <ul style="list-style-type: none"> • adequate use of transitional strategies with some variety to clarify the relationships between and among ideas • adequate progression of ideas from beginning to end • adequate introduction and conclusion 	<p>The response provides adequate support/evidence for controlling idea or main idea that includes the use of sources, facts, and details:</p> <ul style="list-style-type: none"> • some evidence from sources is integrated, though citations may be general or imprecise • adequate use of some elaborative techniques <p>The response adequately expresses ideas, employing a mix of precise with more general language</p> <ul style="list-style-type: none"> • use of domain-specific vocabulary is generally appropriate for the audience and purpose 	
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2	<p>The response is somewhat sustained and may have a minor drift in focus:</p> <ul style="list-style-type: none"> • may be clearly focused on the controlling or main idea, but is insufficiently sustained • controlling idea or main idea may be unclear and somewhat unfocused <p>The response has an inconsistent organizational structure, and flaws are evident:</p> <ul style="list-style-type: none"> • inconsistent use of transitional strategies with little variety • uneven progression of ideas from beginning to end • conclusion and introduction, if present, are weak 	<p>The response provides uneven, cursory support/evidence for the controlling idea or main idea that includes partial or uneven use of sources, facts, and details:</p> <ul style="list-style-type: none"> • evidence from sources is weakly integrated, and citations, if present, are uneven • weak or uneven use of elaborative techniques <p>The response expresses ideas unevenly, using simplistic language:</p> <ul style="list-style-type: none"> • use of domain-specific vocabulary that may at times be inappropriate for the audience and purpose 	<p>The response demonstrates an adequate command of conventions:</p> <ul style="list-style-type: none"> • some errors in usage and sentence formation are present, but no systematic pattern of errors is displayed • adequate use of punctuation, capitalization, and spelling
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1	<p>The response may be related to the topic but may provide little or no focus:</p> <ul style="list-style-type: none"> • may be very brief • may have a major drift • focus may be confusing or ambiguous <p>The response has little or no discernible organizational structure:</p> <ul style="list-style-type: none"> • few or no transitional strategies are evident • frequent extraneous ideas may intrude 	<p>The response provides minimal support/evidence for the controlling idea or main idea that includes little or no use of sources, facts, and details:</p> <ul style="list-style-type: none"> • use of evidence from the source material is minimal, absent, in error, or irrelevant <p>The response expression of ideas is vague, lacks clarity, or is confusing:</p> <ul style="list-style-type: none"> • uses limited language or domain-specific vocabulary • may have little sense of audience and purpose 	<p>The response demonstrates partial command of conventions:</p> <ul style="list-style-type: none"> • errors in usage may obscure meaning • inconsistent use of punctuation, capitalization, and spelling
0			<p>The response demonstrates a lack of command of conventions.</p>
NS	Insufficient, illegible, foreign language, incoherent, off-topic, or off-purpose writing		

Name: _____

Transitional Words/Phrases: Dialogue and Vivid Descriptions of Events:	Transitional Words/Phrases: Dialogue and Vivid Descriptions of Events:
Opening Event	
Transitional Words/Phrases: Dialogue and Vivid Descriptions of Events:	Transitional Words/Phrases: Conclusion:

4th Grade Narrative Writing Rubric

Score	Narrative Focus	Organization	Development of Narrative	Language and Vocabulary	Conventions
4	Narrative is clearly focused and developed throughout.	Narrative has a well-developed, logical, easy-to-follow plot.	Narrative includes thorough and effective use of details, dialogue, and description	Narrative uses precise, concrete sensory language as well as figurative language and/or domain-specific vocabulary.	Narrative has correct grammar, usage, spelling, capitalization, and punctuation.
3	Narrative is mostly focused and developed throughout.	Narrative has a plot, but there may be some lack of clarity and/or unrelated events.	Narrative includes adequate use of details, dialogue and description.	Narrative uses adequate sensory and figurative language and/or domain-specific vocabulary.	Narrative has a few errors but is completely understandable.
2	Narrative is somewhat developed but may occasionally lose focus.	Narrative's plot is difficult to follow, and ideas are not connected well.	Narrative includes only a few details, dialogues, and description.	Language in narrative is not precise or sensory; lacks domain-specific vocabulary.	Narrative has some errors in usage, grammar, spelling and/or punctuation.
1	Narrative may be confusing, unfocused, or too short.	Narrative has little or no apparent plot.	Narrative includes few or no details, dialogue or description	Language in narrative is vague, unclear, or confusing.	Narrative is hard to follow because of frequent errors.
0	Narrative gets no credit if it does not demonstrate adequate command of narrative writing traits.				

Utah Core Standards

Writing 3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

Writing 9. Draw evidence from literary or informational texts to support analysis, reflection, and research. **Writing 9.a.** Apply grade 4 Reading standards to literature (e.g., “Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character’s thoughts, words, or actions].”)

5th Grade Writing Performance Task UNIT One: Informative/Explanatory

Standard: W.5.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly. Introduce a topic clearly, provide a general observation and focus, and group related information logically; in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. Link ideas within and across categories of information using words, phrases, and clauses (e.g., *in contrast, especially*). Use precise language and domain-specific vocabulary to inform about or explain the topic. Provide a concluding statement or section related to the information or explanation presented.

Prompt: Use what you have learned from reading *Red Kayak*, *Island of the Blue Dolphins*, and “Seven Survival Questions.” Write a problem-solution essay that explains how to meet the challenge of staying alive. Using details and examples from the three texts, explain the specific problem and present one or more detailed solutions. Use headings to identify your problem and solution(s).

Materials: GO #21 or #22, Writing to Sources Book pg. 30-31, Speaking and Listening Rubric, Academic Language Scripts, Grade Level Four Square GO for informative/explanatory, and Utah Compose.

Part I: Re-read and Take Notes (30 minutes)

- Follow the directions on **page 30** of your **Writing to Sources** book.
- Using graphic organizer (**GO**) **#21 or #22, Problem-Solution** from the Teacher’s Online Resources under digital transparencies have students take notes during re-reading.

Part II: Write and Collaborate (20-30 minutes)

- Write using the **blackline on page 35** of your *Writing to Sources* book, using the **GO #21 or #22**.
- Collaborate with a partner or small group and discuss short responses from **page 31**. Use the **Academic Language Scripts in your map Build on What Others Say**
 - I agree with what _____ said because....
 - You bring up an interesting point and I also think....
 - That’s an interesting idea. I wonder...? I think...Do you think....?
 - I thought about that also and I’m wondering why...?
 - I hadn’t thought of that before. You make me wonder if.... Do you think...?
 - _____ said that.... I agree and also think...
 - Based on the ideas from _____, _____, and _____, it seems like we all think that...
- While students are collaborating, use the **Speaking and Listening rubric** to assess.
- Have students add-on and adjust their thinking by adding to their short response questions.

Part III: Writing Prompt (30 minutes)

- Using the **Informative/Explanatory Four-Square template** organize your thinking based on the prompt.
- Using **Utah Compose**, have students respond to the prompt. Encourage students to refer to the **Four-Square template** and their notes from the collaboration.

5th Grade Writing Performance Task UNIT Two: Narrative

Standard: W.5.3 Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. Use dialogue, description, and pacing to develop experiences and events or show the responses of characters to situations. Use a variety of transitional words, phrases and clauses to manage the sequence of events. Use concrete words and phrases and sensory details to convey experiences and events precisely. Provide a conclusion that follows from the narrated experiences or events.

Prompt: Use what you have learned from reading *At the Beach*, *The Chí-lin Purse*, and *A Summer's Trade* to write a realistic short story with a plot that includes a clear sequence of events leading to a surprise ending. Refer to the three stories you reread to help you develop and organize the plot and provide a satisfying and surprising conclusion. Be sure to follow the conventions of written English.

Materials: GO #8 or #9, Writing to Sources Book pgs. 62-63, Speaking and Listening Rubric, Academic Language Scripts, Four Square GO for Narrative, and Utah Compose

Part I: Re-read and Take Notes (30 minutes)

- Follow the directions on **page 62** of your **Writing to Sources** book.
- Using graphic organizer (**GO**) **#8 or #9** from the Teacher's online Resources under digital transparencies, take notes about details during re-reading to enable defending their choice.

Part II: Write and Collaborate (20-30 minutes)

- Write using the **blackline on page 63** of your *Writing to Sources* book, using the graphic organizer #8 or #9.
- Collaborate with a partner or small group and discuss short responses from **page 63**. Use the **Academic Language Scripts Build on What Others Say**
 - I agree with what _____ said because....
 - You bring up an interesting point and I also think....
 - That's an interesting idea. I wonder...? I think...Do you think....?
 - I thought about that also and I'm wondering why...?
 - I hadn't thought of that before. You make me wonder if.... Do you think...?
 - _____ said that.... I agree and also think...
 - Based on the ideas from _____, _____, and _____, it seems like we all think that...
- While students are collaborating, use the **Speaking and Listening rubric** to assess.
- Have students add-on and adjust their thinking by adding on to their short response questions.

Part III: Writing Prompt (30 minutes)

- Using the **Narrative Four-Square template** organize your thinking based on the prompt.
- Using **Utah Compose**, have students respond to the prompt. Encourage students to refer to the **Four-Square template** and their notes from the collaboration.

*Some prompts have been adjusted to address DOK 4

5th Grade Writing Performance Task UNIT Three: Opinion/Argumentative

Standard: W.5.1 Write opinion pieces on topics or texts, supporting a point of view with reasons and information. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose. Provide logically ordered reasons that are supported by facts and details. Link opinion and reasons using words, phrases, and clauses (e.g., *consequently, specifically*). Provide a concluding statement or section related to the opinion presented.

Prompt: Use what you have learned from reading *Leonardo's Horse*, *The Dinosaurs of Waterhouse Hawkins*, and *Mahalia Jackson* to write an argumentative essay. State your opinion about why the work of the artists and inventors is important for others, supporting your opinion with details from the three texts. Be sure to follow the conventions of written English.

Materials: GO #25, Writing to Sources Book pgs. 94-95, Speaking and Listening Rubric, Academic Language Scripts, Four Square GO for opinion, and Utah Compose, *Speaking and Listening Standards 1 & 4*.

Part I: Re-read and Take Notes (30 minutes)

- Follow the directions on **page 94** of your **Writing to Sources** book.
- Using graphic organizer (**GO**)#25 **T-chart** from the Teacher's online Resources under digital transparencies have students take notes about artists and inventors important work during re-reading to enable students to cite examples from the text.

Part II: Write and Collaborate (20-30 minutes)

- Using the **GO #19**, support students in discussions following the **Speaking and Listening standards 1 & 4**.
- Collaborate with a partner or small group and discuss how to steps of a group project. Include steps that plan for the project, assignments, timelines, revisions and final presentations. Use the **Academic Language Scripts Build on What Others Say, Inviting Others into the Dialogue, Expressing an Opinion**
 - I agree with what _____ said because....
 - You bring up an interesting point and I also think....
 - That's an interesting idea. I wonder...? I think...Do you think....?
 - I thought about that also and I'm wondering why...?
 - I hadn't thought of that before. You make me wonder if.... Do you think...?
 - _____ said that.... I agree and also think...
 - Based on the ideas from _____, _____, and _____, it seems like we all think that...
 - Does anyone agree/dis agree?
 - What different conclusions do you have?
 - _____ (name), what do you think?
 - I wonder what _____ thinks?
 - We haven't heard from many people in the group. Could someone new offer an idea or question?
 - Not everyone agrees with me, however, _____ .
 - In my opinion _____.
- While students are collaborating, use the **Speaking and Listening rubric** to assess.
- Have students add-on and adjust their thinking by adding on to their short response questions.

Part III: Writing Prompt (30 minutes)

- Using the **Opinion Four-Square template** organize your thinking based on the prompt.
- Using **Utah Compose**, have students respond to the prompt. Encourage students to refer to the **Four-Square template** and their notes from the collaboration.

*Some prompts have been adjusted to address DOK 4

5th Grade Writing Performance Task UNIT Four: Informative/Explanatory

Standard: W.5.3 Write informative/explanatory texts to examine a topic and convey ideas and information clearly. Introduce a topic clearly, provide a general observation and focus, and group related information logically; in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. Link ideas within and across categories of information using words, phrases, and clauses (e.g., *in contrast, especially*). Use precise language and domain-specific vocabulary to inform about or explain the topic. Provide a concluding statement or section related to the information or explanation presented.

Prompt: Write a cause-and-effect essay that describes causes of loneliness or unhappiness of the characters and the results, or effects, those feelings produce. Use details from all three texts to explain how and why these characters change. Give reasons why some people seem to adapt better, or faster, to problems than others do.

Materials: GO #20, Writing to Sources Book pg. 126-127, Speaking and Listening Rubric, Academic Language Scripts, Grade Level Four Square GO for narrative, and Utah Compose

Part I: Re-read and Take Notes (30 minutes)

- Follow the directions on **page 126** of your **Writing to Sources** book.
- Using graphic organizer (**GO #20 Cause and Effect**) from the Teacher's online Resources under digital transparencies and have students take notes during re-reading to enable students to cite details from the text.

Part II: Write and Collaborate (20-30 minutes)

- Write using the **blackline on page 127** of your *Writing to Sources* book, using the **GO #20**.
- Collaborate with a partner or small group and discuss short responses from **page 127**. Use the **Academic Language Scripts in your map Build on What Others Say**
 - I agree with what _____ said because....
 - You bring up an interesting point and I also think....
 - That's an interesting idea. I wonder...? I think...Do you think....?
 - I thought about that also and I'm wondering why...?
 - I hadn't thought of that before. You make me wonder if.... Do you think...?
 - _____ said that.... I agree and also think...
 - Based on the ideas from _____, _____, and _____, it seems like we all think that...
- While students are collaborating, use the **Speaking and Listening rubric** to assess.
- Have students add-on and adjust their thinking by adding to their short response questions.

Part III: Writing Prompt (30 minutes)

- Using the **Informative/Explanatory Four-Square template** organize your thinking based on the prompt.
- Using **Utah Compose**, have students respond to the prompt. Encourage students to refer to the **Four-Square template** and their notes from the collaboration.

*Some prompts have been adjusted to address DOK 4

5th Grade Writing Performance Task UNIT Five: Argument

Standard: W.5.1 Write opinion pieces on topics or texts, supporting a point of view with reasons and information. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose. Provide logically ordered reasons that are supported by facts and details. Link opinion and reasons using words, phrases, and clauses (e.g., *consequently, specifically*). Provide a concluding statement or section related to the opinion presented.

Prompt: Use what you have learned from reading *The Skunk Ladder*, *Talk with an Astronaut*, and *Ghost Towns of the American West* to write an argumentative essay that states your opinion on the three most important, or key traits of adventure seekers. Give at least one reason why an adventurer must have each trait. Use examples from the selections to explain and support your reasons. Be sure to follow the conventions of written English.

Materials: GO #26, Writing to Sources Book pgs. 158-159, Speaking and Listening Rubric, Academic Language Scripts, Four Square GO for opinion, and Utah Compose

Part I: Re-read and Take Notes (30 minutes)

- Follow the directions on **page 158** of your **Writing to Sources** book.
- Using graphic organizer (**GO**) **#26 Three Column Chart**, from the Teacher's online Resources under digital transparencies and have students take notes during re-reading to enable defending their choice.

Part II: Write and Collaborate (20-30 minutes)

- Write using the **blackline on page 159** of your *Writing to Sources* book, using the graphic organizer #26.
- Collaborate with a partner or small group and discuss short responses from **page 159**. Use the **Academic Language Scripts Build on What Others Say**
 - I agree with what _____ said because....
 - You bring up an interesting point and I also think....
 - That's an interesting idea. I wonder...? I think...Do you think....?
 - I thought about that also and I'm wondering why...?
 - I hadn't thought of that before. You make me wonder if.... Do you think...?
 - _____ said that.... I agree and also think...
 - Based on the ideas from _____, _____, and _____, it seems like we all think that...
- While students are collaborating, use the **Speaking and Listening rubric** to assess.
- Have students add-on and adjust their thinking by adding on to their short response questions.

Part III: Writing Prompt (30 minutes)

- Using the **Opinion Four-Square template** organize your thinking based on the prompt.
- Using **Utah Compose**, have students respond to the prompt. Encourage students to refer to the **Four-Square template** and their notes from the collaboration.

5th Grade Writing Performance Task UNIT Six: Narrative

Standard: W.5.3 Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. Use dialogue, description, and pacing to develop experiences and events or show the responses of characters to situations. Use a variety of transitional words, phrases and clauses to manage the sequence of events. Use concrete words and phrases and sensory details to convey experiences and events precisely. Provide a conclusion that follows from the narrated experiences or events.

Prompt: *Use what you have learned to rewrite an important scene from one of the selections you have read. In the rewritten scene, replace the main character with a different character from one of the other stories. Think about how that character will behave in the situation. Tell most of what happens by means of dialogue. Make use of precise language, details, and sensory language.*

Materials: GO #20, Writing to Sources Book pgs. 190-191, Speaking and Listening Rubric, Academic Language Scripts, Four Square GO for opinion, and Utah Compose, *Speaking and Listening Standards 1 & 4*.

Part I: Re-read and Take Notes (30 minutes)

- Follow the directions on **page 190** of your **Writing to Sources** book.
- Using graphic organizer (**GO**)#29 **Outline** from the Teacher's online Resources under digital transparencies and have students use the headings facts, details, personal examples to take notes during re-reading to enable students to cite examples from the text.

Part II: Write and Collaborate (20-30 minutes)

- Using the **GO #20**, support students in discussions that follow the **Speaking and Listening standards 1 and 4**.
- Collaborate with a partner or small group and discuss how to steps of a group project. Include steps that plan for the project, assignments, timelines, revisions and final presentations. Use the **Academic Language Scripts Build on What Others Say and Inviting Others into the Dialogue**.
 - I agree with what _____ said because....
 - You bring up an interesting point and I also think....
 - That's an interesting idea. I wonder...? I think...Do you think....?
 - I thought about that also and I'm wondering why...?
 - I hadn't thought of that before. You make me wonder if.... Do you think...?
 - _____ said that.... I agree and also think...
 - Based on the ideas from ____, _____, and ____, it seems like we all think that...
 - Does anyone agree/dis agree?
 - What different conclusions do you have?
 - _____ (name), what do you think?
 - I wonder what _____ thinks?
 - We haven't heard from many people in the group. Could someone new offer an idea or question?
- While students are collaborating, use the **Speaking and Listening rubric** to assess.
- Have students add-on and adjust their thinking by adding on to their short response questions.

Part III: Writing Prompt (30 minutes)

- Using the **Narrative Four-Square template** organize your thinking based on the prompt.
- Using **Utah Compose**, have students respond to the prompt. Encourage students to refer to the **Four-Square template** and their notes from the collaboration.

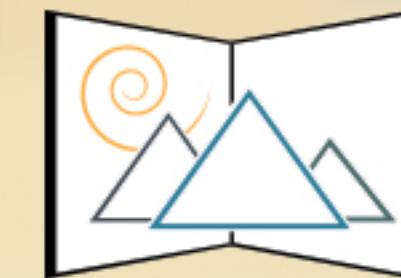
*Some prompts have been adjusted to address DOK 4

Elementary Mathematics 2016-2017



5th

Grade



CANYONS
School District

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ENVISION MATH CURRICULUM MAP
CANYONS SCHOOL DISTRICT
2016-2017

Curriculum Mapping Purpose

Canyons School District's curriculum math maps are standards-based maps driven by the Utah Core State Standards for Mathematics and implemented using Pearson enVisionMATH 2.0. Student achievement is increased when both teachers and students know where they are going, why they are going there, and what is required of them to get there. The additional instructional days were intentionally built into the map to allow teachers to go into more depth on concepts and allow flexible pacing based on student need. Supporting resources for these additional days can be found in the General Information section.

Curriculum Maps are a tool for:

- **ALIGNMENT:** Provides support and coordination between concepts, skills, standards, curriculum, and assessments
- **COMMUNICATION:** Articulates expectations and learning goals for students
- **PLANNING:** Focuses instruction and targets critical information
- **COLLABORATION:** Promotes professionalism and fosters dialogue between colleagues about best practices in both instruction and assessment.
- **SCAFFOLDED INSTRUCTION AND GROUPING STRUCTURES:** The organization of a scaffolded classroom includes whole group, small group (e.g., teacher-led skill-based, cooperative learning), partner, and independent work where students are provided support towards mastery. As students assume more responsibility for the learning, gradual support is decreased in order to shift the responsibility for learning from the teacher to the students.

Canyons School District elementary math maps are created and published by Instructional Supports Department

General Information

Pacing

This curriculum map provides guidance for intertwining the Utah Core Math Standards and the enVision 2.0 curriculum. Following the map will allow students to access all core standards by the end of the year. To support students' mastery of the standards, targeted standard clusters have been identified. Attending to these targeted standards will allow teachers to focus instruction for the given topic and better assess students' understanding of each standard.

Intentional Planning

For each domain, the map specifies both procedural checks and application tasks. These tasks represent what students should know and be able to do after instruction. Understanding these tasks will assist with designing instruction around targeted standards and critical areas.

- **Procedural Check:** The purpose of the procedural check is to identify if students have the basic procedural understanding of the mathematical concept being highlighted.
- **Application Task:** The purpose of the application task is to assess student ability to understand and apply the skill with a heightened level of depth and complexity.

Critical Areas for Conceptual Understanding

In addition to targeted standards, critical areas have been identified and are highlighted in blue within the scope and sequence of the map. Students are expected to demonstrate a conceptual understanding of these critical areas in order to be prepared for future grades.

Additional instructional days have been scheduled into the scope and sequence to provide additional time for increasing conceptual understanding of the standards. Conceptual understanding requires a focus of depth and complexity which may go beyond the enVision lessons. The following resources may be useful for extending instruction to address depth of knowledge demands of the standards.

Online:

Illustrative Mathematics: Mathematical tasks aligned to the standards <https://www.illustrativemathematics.org>

Inside Mathematics: More mathematical tasks aligned to the standards

<http://www.insidemathematics.org/index.php/tools-for-teachers>

Illuminations: Lessons, interactives, and web links to support math instruction. <http://illuminations.nctm.org>

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Print Resources:

Elementary and Middle School Mathematics: Teaching Developmentally by John A. Van De Walle

Assessment

Throughout the enVision 2.0 curriculum there are many opportunities to check for understanding with items such as the Quick Check, Do You Understand? Show Me, and Guided Practice. In addition, each topic ends with a Topic Assessment that can be given digitally or paper/pencil as well as a Performance Assessment.

Focused Review

It is critical to provide an ongoing review of previously taught concepts and skills. Teacher-directed, interactive reviews daily are ideal to assess student learning and inform instruction. Daily Common Core Review is provided daily within the enVisionMATH 2.0 program and may be used to provide a cumulative review. The math block allocates 5-10 minutes for a daily, focused review.

Homework

The struggle to develop new concepts should occur while the teacher is available to support and scaffold the learning and correct students' errors in thinking. Work that is sent home for students to complete should consist of concepts that have already been taught in class, been practiced, and the student can already do independently. Math homework should be used to build automaticity of skills already acquired and not for development of new skills without instruction. Practicing concepts incorrectly at home can reinforce errors in thinking and cause frustration for students and families. Practicing the skill to automaticity with homework assignments is appropriate after students have acquired the skill. *Reflex Math* is available for students in grades 2-5 and can be accessed at home as well as at school. *Reflex Math* helps students develop fluency with their basic facts in addition, subtraction multiplication and division and could be assigned as homework to support students' automaticity.

Online Supports for Unpacking the Core

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For additional information about teaching math standards, please visit the following websites:

USOE Curriculum Guides <http://csdmathematics.weebly.com/usoe-elementary-curriculum-guides.html>

North Carolina <http://www.ncpublicschools.org/acre/standards/common-core-tools/#unpacking>

Howard County Public Schools <https://grade4commoncoremath.wikispaces.hcpss.org> (Change grade number to match yours—
grade_commoncoremath.wikispaces.hcpss.org)

Delaware—Under assessment examples http://www.doe.k12.de.us/aab/Mathematics/assessment_tools.shtml

EngageNY—Mathematics Modules--<http://www.engageny.org/mathematics>

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Utah SAGE Elementary Mathematics Blueprints

Grade 3		
45 Operational Items		
Domain	Min.	Max.
Operations and Algebraic Thinking (OA)	29%	38%
Number and Operations in Base Ten (NBT)	18%	22%
Number and Operations-Fractions (NF)	27%	31%
Measurement and Data and Geometry (MD/G)	18%	22%
DOK 1	18%	31%
DOK 2	38%	58%
DOK 3	9%	20%

Grade 4		
50 Operational Items		
Domain	Min.	Max.
Operations and Algebraic Thinking (OA)	18%	22%
Number and Operations in Base Ten (NBT)	28%	32%
Number and Operations-Fractions (NF)	28%	32%
Measurement and Data and Geometry (MD/G)	16%	22%
DOK 1	22%	44%
DOK 2	44%	58%
DOK 3	12%	22%

Grade 5		
50 Operational Items		
Domain	Min.	Max.
Operations and Algebraic Thinking (OA)	16%	20%
Number and Operations in Base Ten (NBT)	30%	36%
Number and Operations-Fractions (NF)	28%	34%
Measurement and Data and Geometry (MD/G)	18%	22%
DOK 1	16%	28%
DOK 2	50%	64%
DOK 3	10%	24%

Grade 6		
50 Operational Items		
Domain	Min.	Max.
Ratios and Proportional Relationships (RP)	28%	32%
The Number System (NS)	18%	22%
Expressions and Equations (EE)	28%	34%
Geometry/Statistics and Probability (G/SP)	16%	20%
DOK 1	18%	32%
DOK 2	46%	62%
DOK 3	8%	20%

Note: The percentages shown represent target aggregate values; individual student experiences will vary based on the adaptive algorithm.

Disclosure: Depth of Knowledge (DOK) and Elements of Rigor are essential components of the Utah Mathematics Core Standards. As such, DOK and Elements of Rigor are integrated into the Student Assessment of Growth and Excellence (SAGE) assessment items. All students will see a variety of DOK and Elements of Rigor on the SAGE summative assessment. For more information about DOK and Elements of Rigor please see:

SALTA Materials Math

CORE

All SALTA students are taught the Utah **CORE** standards. Core standards are evidence-based, aligned with expectations for success in college and the workplace, and will allow students to compete internationally. The new standards stress rigor, depth, clarity, coherence, and 21st century skills, to prepare students for college and careers.

EXTEND

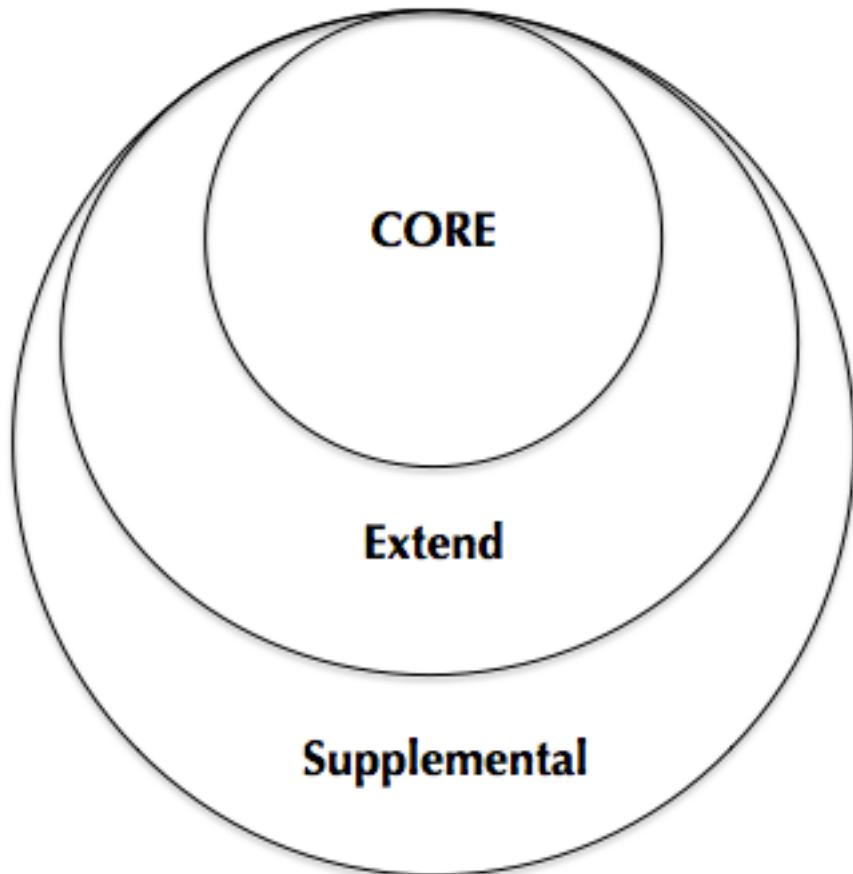
Extension of core standards provides students with activities that are added to **CORE** to enlarge or deepen understanding. Examples of **EXTEND** include:

- Math Exemplars
- Extending the Challenge (A & B), Sheffield (ExCh)
- Extended Learning Opportunities (ExLO)
- Project-Based Learning (PBL)

SUPPLEMENTAL

Supplemental resources are materials and activities in addition to ones found in **EXTEND** and **CORE**. Examples of **SUPPLEMENTAL** include:

- Math M² & M³
- Mathematics Unit for High-Ability Learners



Math Exemplars

About This Material

Problem Solving for the Common Core is not a “test prep” program, but rather a supplement to existing curricula. It is based on research that shows that students who engage in challenging and interesting work will perform at higher levels than those who do not.¹ (31)

The performance tasks in this program were written according to Universal Design guidelines and developed to support teachers in implementing the Common Core State Standards for Mathematical Content and Standards for Mathematical Practice. This resource is intended to help teachers embed mathematical problem solving into classroom instruction and assessment. Both instructional tasks/formative assessments and summative assessment tasks are provided for every applicable Common Core content standard. Alignments to the Standards for Mathematical Practice are also included.

By publishing authentic problem-solving tasks, Exemplars material engages students and promotes mathematical reasoning, making mathematical connections and communication skills. Our Preliminary Planning Sheets are designed to support teachers as they reflect on the tasks they intend to use. Rubrics and student anchor papers (hallmarks of Exemplars) assist teachers in assessing student performance. Students can also use these to become thoughtful self- and peer-assessors.

1. Bryk, Anthony S., Jenny K. Nagoaka, and Fred M. Newmann, *Authentic Intellectual Work and Standardized Tests: Conflict of Coexistence?* (Chicago: Consortium on Chicago School Research, 2001).²

The Different Task Types

The tasks found in *Problem Solving for the Common Core* have been classified as either an instructional task/formative assessment or a summative assessment.

- **Instructional Tasks/Formative Assessments**

Throughout this program, there are four (or more) instructional/formative assessment problem-solving tasks for every applicable Common Core content standard. These are viewed as opportunities for students to learn new mathematical strategies, vocabulary and notation and representations. Students can also explore mathematical connections and self-assess their solutions. These tasks may be done alone, in pairs, groups or as a whole class. Direct instruction may also be used to question and support classroom discussion around the underlying mathematical concepts in a task.

Teachers should use these problem-solving tasks to observe and support student understanding. As part of this process, conferencing and editing can occur and students can revisit their work as often as necessary. Teachers can use similar tasks throughout a unit of study to give a student multiple opportunities to use new learning in her or his solution and to gain independence in arriving at a correct answer.

- **Summative Assessment Tasks**

Throughout this program, there are summative assessment tasks for every applicable Common Core content standard. These problem-solving tasks are given at the end of a unit of study to assess students' understanding. A set of anchor papers and scoring rationales are provided with these tasks.

In order to achieve a true assessment of what the student understands and is able to do, in words of the Common Core, there should be a wait time of at least one day between the last instructional task/formative assessment and the summative assessment. A similar assessment task may also be given to students much later in the year if a teacher wants to spiral back to determine how much learning is retained.

Summative assessment tasks can be read to the students, and any non-mathematical terms may be defined. Tasks can be reread during the student's work time, and scribing may be provided for any non-writing or primary students. No coaching or directions can be given for how a task should be completed. A summative assessment **must** represent a student's totally independent solution.

Note: Embedded Standards

There are instances throughout this program where the underlying math concept in a Common Core content standard is "embedded" within a task, but the standard is not directly aligned to the task. A student *may* use the underlying math concept in an embedded standard to solve the problem but cannot be *required* to use that math concept, due to the open-ended nature of problem solving. These tasks should not be given as an assessment but rather used with students to practice a particular math concept or skill.

Content Standard Classification

In *Problem Solving for the Common Core*, each Common Core content standard has been classified in one of three ways: Aligned, Embedded or Not Applicable. Descriptions for each are found below.

- **Aligned**

This classification refers to problem-solving tasks (instructional/formative and summative) that are directly "aligned" to a specific content standard. These tasks can be used for practice and/or assessment. Summative assessment tasks include anchor papers and scoring rationales.

- **Embedded**

This classification refers to instances where the underlying math concept in the content standard is "embedded" within a task, but the standard is not directly aligned to that task. A student *may* use the underlying math concept in the standard to solve the problem but cannot be *required* to use that math concept, due to the open-ended nature of problem solving. These tasks should not be given as an assessment but rather used with students to practice a particular math concept or skill.

- **Not Applicable**

Content standards that have been classified as "not applicable" cannot be assessed through problem solving. For this reason, tasks have not been included for these particular standards. For example, the Kindergarten Counting and Cardinality Standard, K.CC.B.4a states, "When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object." This standard specifically describes a principle of counting (one-to-one correspondence) that does not elicit DOK3 tasks.

Math Exemplars

Student Portfolios

Throughout the school year, Exemplars encourages teachers to keep two student portfolios. The first could be either a pocket folder or binder that contains a student's instructional tasks/formative assessments. These "working portfolios" should be placed in the classroom where students can access them on a regular basis. The second should be a file that the teacher keeps to store each summative assessment problem-solving task that a student completes.

The working portfolio allows teachers to assess what the student knows using four guiding lenses.

- What do I know this student knows?
- What does this student need to practice?
- What does this student need to relearn?
- What is this student ready to learn (do next)?

Instructional tasks/formative assessments are viewed as opportunities for students to learn new mathematical strategies, vocabulary and notation and representations. Students can also explore mathematical connections and self-assess their solutions. These tasks may be done alone, in pairs, in groups or as a whole class. Direct instruction may also be used to question and support classroom discussion around the underlying mathematical concepts in a problem.

Teachers should use formative assessment tasks to observe and support student understanding. As part of this process, conferencing and editing can occur and students can revisit their work as often as necessary. Teachers can use similar tasks throughout a unit of study to give a student multiple opportunities to use new learning in her/his solution and to gain independence in arriving at a correct answer.

In contrast, summative assessment tasks are given at the end of a unit of study. Summative assessment tasks are identified throughout *Problem Solving for the Common*. These tasks include a set of anchor papers and scoring rationales.

In order to achieve a true assessment of what the student understands and is able to do, in words of the Common Core, there should be a wait time of at least one day between the last formative assessment and the summative assessment. A similar assessment task may also be given to students much later in the year if a teacher wants to spiral back to determine how much learning is retained.

Summative assessment tasks can be read to the students, and any non-mathematical terms may be defined. Tasks can be reread during the student's work time, and scribing may be provided for any non-writing or primary students. (For more information on scribing, refer to the section "Scribing at the Primary Level.") No coaching or directions can be given for how a task should be completed. A summative assessment must represent a student's totally independent solution.

Portfolio Components

A student's working portfolio should include:

- Class pieces
- Scaffold pieces
- Homework pieces
- Edited pieces done after class instruction in the mathematics/problem-solving strategy of the task
- Conferenced pieces with directed editing
- Pieces used as a class to learn strategies, vocabulary and representations
- Pieces used to help students learn to organize and write their solutions
- Tasks used as direct instruction to learn the criteria of the scoring guide
- Tasks for independent student practice

A summative assessment portfolio should include:

- a student's independent problem-solving work that demonstrates what he or she knows and is able to do

Math Exemplars

Using the Preliminary Planning Sheets

The Preliminary Planning Sheet (PPS) serves as the teacher's "blueprint" for each performance task and is a useful tool in lesson preparation. This resource enables teachers to foresee what instruction should be done before the task is used for assessment. It may also be used to anticipate which math concepts and skills students might be required to use.

Each PPS includes the following information:

- the *Underlying Mathematical Concepts* related to the task
- some *Possible Problem-Solving Strategies* that students might use
- some *Possible Mathematical Vocabulary/Symbolic Representation* that students might use
- the *Possible Solutions* that students might find
- some *Possible Connections* that students could make

PPSs are provided with every task. In the summative assessment setting, PPSs are meant to support teachers in assessing student work with the Exemplars rubric. A student may use mathematical vocabulary/strategies/connections/representations that are not evident in any of the anchor papers but are noted on the PPS for the teacher to reference. (Students may also use additional mathematical vocabulary/strategies/connections/representations that are not noted on the PPS or anchor papers, but are mathematically relevant.)

Accessing Preliminary Planning Sheets

The PPS for any problem may be accessed and printed from the "Plan" section of a task. The information contained in the PPS is also visible in the task overview. Blank PPSs may be found under the "Classroom Resources" section and accessed through your dashboard.

Preliminary Planning Sheet

Task Name: _____

Domain:

Standard:

Math Practices:

Major Underlying Mathematical Concepts

Possible Problem-Solving Strategies

Possible Mathematical Vocabulary/Symbolic Representation

Possible Solution(s)

Possible Connections

Math Exemplars

Understanding Differentiated Tasks

The instructional tasks/formative assessments in *Problem Solving for the Common Core* have been differentiated to include a “more accessible” and a “more challenging” version of the original problem. This feature allows teachers to meet the needs of students at various levels as they explore and practice new math concepts. The summative assessment tasks in this resource are not differentiated. In order to meet the standard, students need to successfully complete a summative assessment without differentiation.

Individual PDFs of the task overheads may be printed for students at each of the three levels. Once printed, teachers may refer to the symbols in the header to identify the various levels.

Symbol Key:

- - Represents the “original” version of the task.
- △ - Represents the “more accessible” version of the task.
- - Represents the “more challenging” version of the task.

Student work and anchor papers are provided only for the original version of the task.

Teachers can make additional alterations as well. For example, under the Common Core Domain Number and Operations, a task could be altered to meet the developmental needs of an individual student. If a kindergarten student only has number sense to 10, a blue block/red block patterning task asking the student to note the color of the 15th block could be edited to the 10th block. Teachers, however, should be careful not to alter the underlying concept(s) of the problem-solving tasks.

Using Anchor Papers and Scoring Rationales

Anchor papers provide examples of student work that meets or does not meet a Common Core standard. Each scoring rationale explains why.

The summative assessment tasks in this program include student anchor papers at four levels of performance: Novice, Apprentice, Practitioner (meets the standard) and Expert. Exemplars anchor papers are accompanied by a set of scoring rationales that describe why each piece of student work is assessed at a specific performance level. Rationales are given for each of the five criteria in Exemplars assessment rubric (Problem Solving, Reasoning and Proof, Communication, Connections, Representations). The anchor paper is then given an “overall” assessment score or achievement level.

Anchor papers and scoring rationales are designed to provide guidelines and support for teachers as they assess their own students’ performance in problem solving. They can also be shared with students as examples of what work meets the standard and why or as a basis for self- and peer-assessment.

In many cases, there is more than one anchor paper associated with a level of performance. These are intended to demonstrate different strategies a student might use or different misconceptions a student might have.

Guiding Questions

Many students enjoy making connections once they learn how to reflect and question effectively. Below are a series of questions that students might consider as they are trying to identify connections:

- What could happen next if I add another ...?
- Are there other mathematical terms I can use?
- Is there another way I can state my thinking? (5 pennies is a nickel, 100 centimeters is one meter, two eyes is a pair, a square is a rectangle, a trapezoid can look different from the red pattern block)
- Is the solution (all the work including the answer) reasonable?
- How is this problem like another problem I did, and what is the mathematical similarity?
- How is this mathematically like something that is in “real life” and how can I explain the mathematics?
- How can I verify that my answer is correct?
- Is there a general rule?
- Is there a mathematical phenomenon in my solution?
- Can I test and accept or reject a hypothesis or conjecture about my solution?

Math Exemplars

About Exemplars Rubrics

Exemplars math rubrics may be downloaded from your dashboard.

Exemplars Assessment Rubric

An important component of this program is the Exemplars Assessment Rubric. Our scoring rubric allows teachers to examine student work against a set of analytic assessment criteria to determine where the student is performing in relationship to each of these criteria.

This assessment tool is designed to identify what is important, define what meets the standard and distinguish between different levels of student performance. The Exemplars rubric consists of four performance levels — Novice, Apprentice, Practitioner (meets the standard) and Expert — and five assessment categories (Problem Solving, Reasoning and Proof, Communication, Connections and Representation). Our rubric criteria reflect the Common Core Standards for Mathematical Practice and parallel the NCTM Process Standards.

Exemplars Student Rubrics

Rubrics can provide students with valuable information about what is expected and what kind of work meets the standard. They can also be used as a basis for self- and peer-assessment. In addition to our assessment rubric, Exemplars has also created one for students called the Jigsaw Rubric.

A excellent description of how to introduce rubrics to your students resides on Exemplars web site:

<http://www.exemplars.com/resources/rubrics/introducing-rubrics-to-students>.

Using the Assessment Rubric

The student work in *Problem Solving for the Common Core* is assessed analytically. That is, each criterion of the Exemplars Assessment Rubric — Problem Solving, Reasoning and Proof, Communication, Connections and Representations — is taken into consideration individually when assessing the work. For each criterion, the work is assessed as Novice, Apprentice, Practitioner (meets the standard), or Expert.

The work is then given an Achievement Level Score. In coming to the overall assessment (achievement level), a paper cannot receive a score higher than the lowest score on any of the five criteria. Thus, if a student does not have any representation on her or his work, the “Representation” score would be Novice and the achievement level would be assessed at Novice. If a student has an Apprentice score in “Communication” and all other scores are Practitioner, the student’s achievement level would be assessed at Apprentice. In order to meet the standard, a student has to achieve the Practitioner level or above for each of the five criteria. Because the Exemplars rubric is performance based, it is not possible to take a mode or mean “grade” from the assessed criteria.

While many schools and districts require an overall achievement level for a task, others do not. What is important is to know where the student stands on each criterion and what the next steps are for that student.

Below are sample scoring boxes used to assess a student’s work. (Throughout *Problem Solving for the Common Core*, we have included completed assessment boxes at the top of each piece of student work.) Each box addresses the criteria found in the Exemplars rubric and the corresponding scoring rationales. The sample scoring boxes featured below show scores that would merit the following achievement levels (respectively): Novice, Apprentice, Practitioner, Apprentice, Novice, and Expert.

Key:

Assessment Rubric Criteria		Achievement Level		
P/S	Problem Solving	N	Novice	
R/P	Reasoning and Proof	A	Apprentice	
Com	Communication	P	Practitioner	
Con	Connections	E	Expert	
Rep	Representation			
ACLV	Achievement Level			

Sample Scoring Boxes:

P/S	R/P	Com	Con	Rep	ACLV
P	P	N	P	A	N
P/S	R/P	Com	Con	Rep	ACLV
P	P	A	P	P	A
P/S	R/P	Com	Con	Rep	ACLV
P	P	E	P	P	P
P/S	R/P	Com	Con	Rep	ACLV
E	E	E	E	A	A
P/S	R/P	Com	Con	Rep	ACLV
P	P	A	N	N	N
P/S	R/P	Com	Con	Rep	ACLV
A	P	P	P	P	A
P/S	R/P	Com	Con	Rep	ACLV
E	E	E	E	E	E

***Exception to the Rule**

The National Council for the Teachers of Mathematics has suggested that the “Connections” criterion can be demanding for students because it requires more cognitive thinking and reflection. (For more information and tips on this subject refer to the section “Understanding Mathematical Connections.”) Therefore, there is one exception to the Achievement Level Score. If a student has all Apprentice scores or above but a Novice in “Connections,” the student may receive an achievement level score of Apprentice. The student cannot be a Practitioner (or Expert) because not all of the criteria scores meet the standard.

An example of this can be seen below:

P/S	R/P	Com	Con	Rep	ACLV
P	P	P	N	P	A
P/S	R/P	Com	Con	Rep	ACLV
P	P	A	N	P	A

The rationale behind this decision is that if a student has correct problem solving and reasoning as well as communication and a correct representation but did not make a mathematical connection, it would be very difficult to assign the student an achievement level of Novice, because the thinking and the solution are correct. This “exception” to the rule is well received by many schools that are looking for a way to give an overall assessment score to a student’s problem-solving piece.

Exemplars® Standards-Based Math Rubric

	Problem Solving	Reasoning and Proof	Communication	Connections	Representation
Novice	<p>No strategy is chosen, or a strategy is chosen that will not lead to a solution.</p> <p>Little or no evidence of engagement in the task present.</p>	<p>Arguments are made with no mathematical basis.</p> <p>No correct reasoning nor justification for reasoning is present.</p>	<p>No awareness of audience or purpose is communicated.</p> <p>No formal mathematical terms or symbolic notations are evident.</p>	<p>No connections are made or connections are mathematically or contextually irrelevant.</p>	<p>No attempt is made to construct a mathematical representation.</p>
Apprentice	<p>A partially correct strategy is chosen, or a correct strategy for only solving part of the task is chosen.</p> <p>Evidence of drawing on some relevant previous knowledge is present, showing some relevant engagement in the task.</p>	<p>Arguments are made with some mathematical basis.</p> <p>Some correct reasoning or justification for reasoning is present.</p>	<p>Some awareness of audience or purpose is communicated.</p> <p>Some communication of an approach is evident through verbal/written accounts and explanations.</p> <p>An attempt is made to use formal math language. One formal math term or symbolic notation is evident.</p>	<p>A mathematical connection is attempted but is partially incorrect or lacks contextual relevance.</p>	<p>An attempt is made to construct a mathematical representation to record and communicate problem solving but is not accurate.</p>

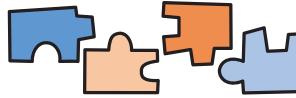
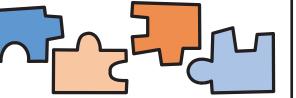
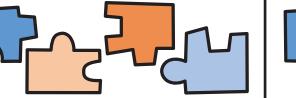
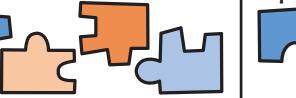
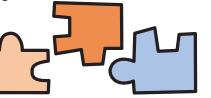
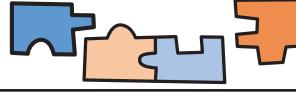
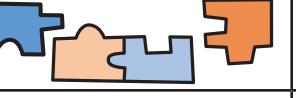
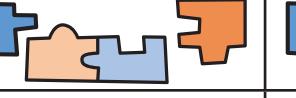
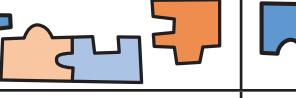
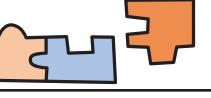
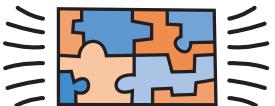
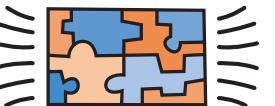
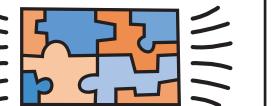
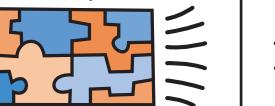
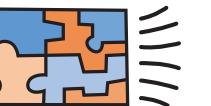
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Exemplars® Standards-Based Math Rubric (Cont.)

	Problem Solving	Reasoning and Proof	Communication	Connections	Representation
Practitioner	<p>A correct strategy is chosen based on the mathematical situation in the task.</p> <p>Planning or monitoring of strategy is evident.</p> <p>Evidence of solidifying prior knowledge and applying it to the problem-solving situation is present.</p> <p><i>Note: The Practitioner must achieve a correct answer.</i></p>	<p>Arguments are constructed with adequate mathematical basis.</p> <p>A systematic approach and/or justification of correct reasoning is present.</p>	<p>A sense of audience or purpose is communicated.</p> <p>Communication of an approach is evident through a methodical, organized, coherent, sequenced and labeled response.</p> <p>Formal math language is used to share and clarify ideas. At least two formal math terms or symbolic notations are evident, in any combination.</p>	<p>A mathematical connection is made. Proper contexts are identified that link both the mathematics and the situation in the task.</p> <p>Some examples may include one or more of the following:</p> <ul style="list-style-type: none"> clarification of the mathematical or situational context of the task exploration of mathematical phenomenon in the context of the broader topic in which the task is situated noting patterns, structures and regularities 	<p>An appropriate and accurate mathematical representation is constructed and refined to solve problems or portray solutions.</p>
Expert	<p>An efficient strategy is chosen and progress towards a solution is evaluated.</p> <p>Adjustments in strategy, if necessary, are made along the way, and/or alternative strategies are considered.</p> <p>Evidence of analyzing the situation in mathematical terms and extending prior knowledge is present.</p> <p><i>Note: The Expert must achieve a correct answer.</i></p>	<p>Deductive arguments are used to justify decisions and may result in formal proofs.</p> <p>Evidence is used to justify and support decisions made and conclusions reached.</p>	<p>A sense of audience and purpose is communicated.</p> <p>Communication at the Practitioner level is achieved, and communication of argument is supported by mathematical properties.</p> <p>Formal math language and symbolic notation is used to consolidate math thinking and to communicate ideas. At least one of the math terms or symbolic notations is beyond grade level.</p>	<p>Mathematical connections are used to extend the solution to other mathematics or to a deeper understanding of the mathematics in the task.</p> <p>Some examples may include one or more of the following:</p> <ul style="list-style-type: none"> testing and accepting or rejecting of a hypothesis or conjecture explanation of phenomenon generalizing and extending the solution to other cases 	<p>An appropriate mathematical representation is constructed to analyze relationships, extend thinking and clarify or interpret phenomenon.</p>

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Exemplars® Jigsaw Student Rubric

Level	Problem Solving	Reasoning and Proof	Communication	Connections	Representation
Novice Makes an effort No or little understanding	I did not understand the problem. 	My math thinking is not correct. 	I used no math language and/or math notation. 	I did not notice anything about the problem or the numbers in my work. 	I did not use a math representation to help solve the problem and explain my work. 
Apprentice Okay, good try Unclear if student understands	I only understand part of the problem. My strategy works for part of the problem. 	Some of my math thinking is correct. 	I used some math language and/or math notation. 	I tried to notice something, but it is not about the math in the problem. 	I tried to use math representation to help solve the problem and explain my work, but it has mistakes in it. 
Practitioner Excellent Clear Strong understanding Meets the standard	I understand the problem and my strategy works. My answer is correct. 	All of my math thinking is correct. 	I used math language and/or math notation accurately throughout my work. 	I noticed something about my math work. 	I made a math representation to help solve the problem and explain my work, and it is labeled and correct. 
Expert Wow, awesome! Exceptional understanding!	I understand the problem. My answer is correct. I used a rule, and/or verified that my strategy is correct. 	I showed that I knew more about a math idea that I used in my plan. Or, I explained my rule. 	I used a lot of specific math language and/or notation accurately throughout my work. 	I noticed something in my work, and used that to extend my answer and/or I showed how this problem is like another problem. 	I used another math representation to help solve the problem and explain my work in another way. 

Math Exemplars

Using Student Portfolios

Throughout the school year, Exemplars encourages teachers to keep two student portfolios. The first could be either a pocket folder or binder that contains a student's instructional tasks/formative assessments. These "working portfolios" should be placed in the classroom where students can access them on a regular basis. The second should be a file that the teacher keeps to store each summative assessment problem-solving task that a student completes. The working portfolio allows teachers to assess what the student knows using four guiding lenses.

- What do I know this student knows?
- What does this student need to practice?
- What does this student need to relearn?
- What is this student ready to learn (do next)?

Instructional tasks/formative assessments are viewed as opportunities for students to learn new mathematical strategies, vocabulary and notation and representations. Students can also explore mathematical connections and self-assess their solutions. These tasks may be done alone, in pairs, in groups or as a whole class. Direct instruction may also be used to question and support classroom discussion around the underlying mathematical concepts in a problem.

Teachers should use formative assessment tasks to observe and support student understanding. As part of this process, conferencing and editing can occur and students can revisit their work as often as necessary. Teachers can use similar tasks throughout a unit of study to give a student multiple opportunities to use new learning in her/his solution and to gain independence in arriving at a correct answer.

In contrast, summative assessment tasks are given at the end of a unit of study. Summative assessment tasks are identified throughout *Problem Solving for the Common*. These tasks include a set of anchor papers and scoring rationales.

In order to achieve a true assessment of what the student understands and is able to do, in words of the Common Core, there should be a wait time of at least one day between the last formative assessment and the summative assessment. A similar assessment task may also be given to students much later in the year if a teacher wants to spiral back to determine how much learning is retained.

Summative assessment tasks can be read to the students, and any non-mathematical terms may be defined. Tasks can be reread during the student's work time, and scribing may be provided for any non-writing or primary students. (For more information on scribing, refer to the section "Scribing at the Primary Level.") No coaching or directions can be given for how a task should be completed. A summative assessment must represent a student's totally independent solution.

Portfolio Components

A student's working portfolio should include:

- Class pieces
- Scaffold pieces
- Homework pieces
- Edited pieces done after class instruction in the mathematics/problem-solving strategy of the task
- Conferenced pieces with directed editing
- Pieces used as a class to learn strategies, vocabulary and representations
- Pieces used to help students learn to organize and write their solutions
- Tasks used as direct instruction to learn the criteria of the scoring guide
- Tasks for independent student practice

A summative assessment portfolio should include:

- a student's independent problem-solving work that demonstrates what he or she knows and is able to do

Projects M² and M³

Projects M² and M³ lessons are based on 50-minute class times. The Canyons School District math block is 90 minutes and pacing for M² in the map correlates with the 90-minute time. For example, M² pacing suggests that most Units take approximately 30 days to teach, based on a 50-minute period. Please use the Pacing Guide to plan M² lessons accordingly.

Projects M² and M³ are each a series of six curriculum units designed for grades K-2 (M²) and 3-5 (M³) to foster inquiry and engage students in critical thinking, problem solving, and communication activities. **Projects M² and M³** deliver even more ways for teachers to motivate and challenge advanced students in grades 1-5 and support the Common Core Standards and NAGC exemplary practices.

The program provides simulated or real-life problems so students can actively solve them in the same ways that practicing mathematicians do. Rich verbal and written mathematical communication is a key component of **Project M² and M³**.

Each Unit includes Teacher's Guide, Teacher Resource Pack: Hint and Think Beyond Cards, Word Wall Cards, Student Mathematician's Journal and Manipulatives

Website: k12.kendallhunt.com



Problem Based Interactive Learning Routine

(from enVision)

Best Practice

Explicit Planning:

- Objective
- Vocabulary
- Manipulatives
- Partnering, roles and tasks
- Plan for OTRs
- Plan for predictable failures

Lesson Objective:

- Stated and written down
- Needs to be repeated by students
- Teacher needs to refer to throughout the lesson

Connecting to Prior Knowledge:

- What do students already know
 - “Remember yesterday when . . .”
 - “We talked about tenths, and hundredths on Monday. . .”

Math-20



Lively Discussion:

- How did you arrive at your answer?
- What was your process or strategy?
- Defend your answer

Manipulatives:

- Accessible and organized
- Model their use
- An expectation of use

Strategic Student Sharing:

- Teacher monitors room to find a target example
- 2 minute quick share with a task for the listeners

Teacher Moves:

- Teacher uses the student demonstration to build on the strategy
- Teacher explicitly reinforces the important mathematics embedded in the task
- Teach thinking and scaffold toward efficient problem solving strategies with problems connected to the objective

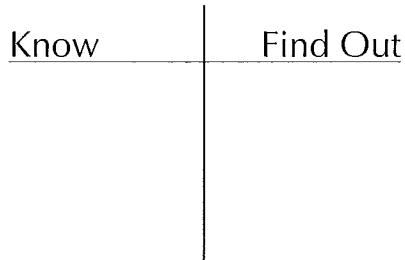




Math Problem-Solving Steps

(from Math Exemplars)

- 1. Read the problem**
- 2. Highlight the important information**
- 3. What do you know? What do you need to find out?**



4. Plan how to solve the problem

- a. What skills are needed?
- b. What strategies can you use?
- c. What ideas will help you?

5. Solve the problem

- a. Draw and write about your solution and how you solved the problem

6. Check your answer

7. Share a connection or observation about this problem

Systematic Vocabulary Routine- Math

Acquisition	<p>Introduction Phase</p> <ol style="list-style-type: none"> 1. Teacher writes/says the word. 2. Students repeat the word. 3. Multisyllabic breakdown 4. Teacher gives a student friendly definition, incorporating synonyms as appropriate. 5. Students restate definition with teacher guidance. 6. Teacher identifies any prefixes, suffixes, base/root words, origin, etc. 	<p>Teacher/Student Responsibilities</p> <p>T: The word is polygon. What word? S: polygon T: Let's clap/tap "polygon" into syllables. T & S: "pol" "y" "gon". T: How many syllables? S: 3 syllables T: A closed plane figure with three or more sides that is made up of line segments that do not cross.</p> <p>T & <u>S</u>: A closed plane figure with three or more sides that is made up of line segments that do not cross is called a _____.</p> <p>T: The prefix "poly" means much or many. So a polygon has not just one side, but many sides.</p>
Building Automaticity	<p>Demonstration Phase</p> <ol style="list-style-type: none"> 7. Illustrate with examples/non-examples <ol style="list-style-type: none"> a) Concrete examples (<i>realia</i>) b) Visual representations—video, pictures, diagrams, etc. c) Physical gesture d) Verbal Examples e) Sentence Frames (ex. If I had to survive cold weather, I would need _____). 8. Check for students' understanding by discerning between examples and non-examples (repeat as necessary) 	<p>T: Look at the figures on this picture. This figure is a polygon because it is closed figure, it is made of line segments that do not cross. These figures are not polygons because they have curved lines, they are open, and some have crossed lines.</p> <p>T: (Example) Draw a polygon on the board? Ones tell your partner if this is a polygon and explain why or why not. S1: The figure is a polygon because it has line segments that are closed and they do not cross.</p> <p>T: (Non-example) Draw a figure that is not a polygon on the board. Twos tell your partner if this is a polygon and explain why or why not. S2: The figure is not a polygon because it is made of curved lines and it is also not closed.</p>
Application	<p>Application Phase</p> <ol style="list-style-type: none"> 9. Deepen students' understanding by applying the word in a new context <ol style="list-style-type: none"> a) Teacher asks a deep processing question b) Students respond via a quick write and/or orally with a partner or in a small group or whole group setting. 	<ul style="list-style-type: none"> • Students use the word in a sentence. The sentence must be at least five words long. • Number 2's will say the sentence while number 1's count the words in the sentence and make sure the sentence is a true statement. They switch and follow the same procedure.

Evidence-Based Instructional Priorities

Applied to Math Instruction

Explicit Instruction I Do - We Do - Y'all Do - You Do Model - Guide Practice – Partner - Independent			
Systematic <input type="checkbox"/> Focused on critical content <input type="checkbox"/> Vocabulary routine <input type="checkbox"/> Skills, strategies, and concepts are sequenced logically <input type="checkbox"/> Break down complex skills <input type="checkbox"/> Lessons are organized and focused <input type="checkbox"/> Instructional routines are used <input type="checkbox"/> Examples and non-examples <input type="checkbox"/> Step-by-step demonstrations <input type="checkbox"/> C-R-A Model	Relentless <input type="checkbox"/> Adequate initial practice NOTE: Students who struggle may require 10-30 more times as many practice opportunities than their peers. <input type="checkbox"/> Distributed practice--frequent exposure to content/skill over time <input type="checkbox"/> Daily focused review <input type="checkbox"/> Daily focus on number sense and problem solving <input type="checkbox"/> Teach to mastery <input type="checkbox"/> Cumulative review periodically	Engaging <input type="checkbox"/> Classroom Positive Behavioral Interventions and Supports (PBIS) <input type="checkbox"/> Feedback Cycle <input type="checkbox"/> Scaffolded Instruction & Grouping Structures <input type="checkbox"/> Acquisition, Automaticity, Application (AAA) <input type="checkbox"/> Maximizing Opportunities to Respond (OTR) <input type="checkbox"/> Create various contexts for problem solving that students can relate to <input type="checkbox"/> Pacing	
Increasing Opportunities to Respond <i>Saying, Writing, Doing</i>		Systematic Vocabulary Instruction Routine	
<input type="checkbox"/> Choral Responses: give think time, use a signal for response, repeat if all students don't respond <input type="checkbox"/> Partner Sharing: Look-Lean-Whisper; Think-Pair-Share; Study-Tell-Help-Check <input type="checkbox"/> Individual Responses: give wait time, individual shares after partner discussion, Cold Call, random calling pattern <input type="checkbox"/> Math Journals: Quick Writes, vocabulary practice, draw visuals of math concepts <input type="checkbox"/> Individual White Boards: use a signal for displaying, establish a routine, provide feedback <input type="checkbox"/> Manipulatives: establish a routine, explain expectations, all students interact with materials, provide visual bridge to concept <input type="checkbox"/> Response Cards: red/green, yes/no; odd/even; +/-; </>/=; etc. <input type="checkbox"/> Action Responses: thumbs up/down; modeling operations, angles, or other math concepts, act it out, hand signals	<input type="checkbox"/> Introduce the word <ul style="list-style-type: none"> • Teacher says the word and posts the word • All students repeat the word • Teacher gives a child-friendly definition • All students repeat the definition (with teacher guidance) • Repeat above steps as necessary <input type="checkbox"/> Demonstrate <ul style="list-style-type: none"> • Provide an example • Provide a non-example • Repeat above steps as necessary <input type="checkbox"/> Apply <ul style="list-style-type: none"> • Students turn to a partner and use the word in a sentence • Teacher shares a sentence using the word <input type="checkbox"/> Vocabulary Cards: Grade-level vocabulary cards available on the CSD math website; utilized during instruction and posted on Word Wall		
Feedback Cycle <input type="checkbox"/> Corrective and Affirmative <input type="checkbox"/> Timely and Frequent <input type="checkbox"/> Specific and Reinforcing	Scaffolded instruction and Grouping <input type="checkbox"/> Whole group, Small groups, Partners <input type="checkbox"/> Fluid and flexible <input type="checkbox"/> Skill-Based Small Group Instruction for identified skill gaps or extension	Acquisition – Automaticity – Application <input type="checkbox"/> Learn (acquire) the skill <input type="checkbox"/> Build the skill to automaticity <input type="checkbox"/> Attend to fluency standards in the core <input type="checkbox"/> Apply the skill	Classroom PBIS <input type="checkbox"/> Forming clear behavior expectations <input type="checkbox"/> Explicitly teaching expectations to students <input type="checkbox"/> Reinforcing expectations with students <input type="checkbox"/> Correcting of problem behaviors in a systematic manner

Fifth Grade Utah State Core Math Standards Overview

Fifth Grade Overview

Mathematical Practices (5.MP)

The eight mathematical habits of mind that teachers seek to develop in their students.

Operations and Algebraic Thinking (5.OA)

- Write and interpret numerical expressions
- Analyze patterns and relationships

Number and Operations in Base Ten (5.NBT)

- Understand the place value system
- Perform operations with multi-digit whole numbers and with decimals to hundredths

Number and Operations - Fractions (5.NF)

- Use equivalent fractions as a strategy to add and subtract fractions
- Apply and extend previous understanding of multiplication and division to multiply and divide fractions

Measurement and Data (5.MD)

- Convert like measurement units within a given measurement system
- Represent and interpret data
- Geometric measurement: understand concepts of volume and relate to multiplication and to addition

Geometry (5.G)

- Graph points on the coordinate plane to solve real-world and mathematical problems
- Classify two-dimensional figures into categories based on their properties

● MAJOR CLUSTER ● SUPPORTING CLUSTER ● ADDITIONAL CLUSTER



Mathematics | Grade 5

In Grade 5, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to two-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

- (1) Students will apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They will develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them. Students will also use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Note: This is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)
- (2) Students will develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations. They will finalize fluency with multi-digit addition, subtraction, multiplication, and division. They will apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They will develop fluency in these computations, and make reasonable estimates of their results. Students will use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (e.g., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They will compute products and quotients of decimals to hundredths efficiently and accurately.
- (3) Students will recognize volume as an attribute of three-dimensional space. They will understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps. They will understand that a one-unit by one-unit by one-unit cube is the standard unit for measuring volume. They will select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume. They will decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes. They will measure necessary attributes of shapes in order to determine volumes to solve real-world and mathematical problems.

Strand: MATHEMATICAL PRACTICES (5.MP)

The Standards for Mathematical Practice in Fifth Grade describe mathematical habits of mind that teachers should seek to develop in their students. Students become mathematically proficient in engaging with mathematical content and concepts as they learn, experience, and apply these skills and attitudes.

- **Standard 5.MP.1 Make sense of problems and persevere in solving them.** Explain the meaning of a problem, look for entry points to begin work on the problem, and plan and choose a solution pathway. When a solution pathway does not make sense, look for another pathway that does. Explain connections between various solution strategies and representations. Upon finding a solution, look back at the problem to determine whether the solution is reasonable and accurate, often checking answers to problems using a different method or approach.
- **Standard 5.MP.2 Reason abstractly and quantitatively.** Make sense of quantities and their relationships in problem situations. Contextualize quantities and operations by using images or stories. Decontextualize a given situation and represent it symbolically. Interpret symbols as having meaning, not just as directions to carry out a procedure. Know and flexibly use different properties of operations, numbers, and geometric objects.
- **Standard 5.MP.3 Construct viable arguments and critique the reasoning of others.** Use stated assumptions, definitions, and previously established results to construct arguments. Explain and justify the mathematical reasoning underlying a strategy, solution, or conjecture by using concrete referents such as objects, drawings, diagrams, and actions. Listen to or read the arguments of others, decide whether they make sense, ask useful questions to clarify or improve the arguments, and build on those arguments.
- **Standard 5.MP.4 Model with mathematics.** Identify the mathematical elements of a situation and create a mathematical model that shows the relationships among them. Identify important quantities in a contextual situation, use mathematical models to show the relationships of those quantities, analyze the relationships, and draw conclusions. Models may be verbal, contextual, visual, symbolic, or physical.
- **Standard 5.MP.5 Use appropriate tools strategically.** Consider the tools that are available when solving a mathematical problem, whether in a real-world or mathematical context. Choose tools that are relevant and useful to the problem at hand, such as drawings, diagrams, technologies, and physical objects and tools, as well as mathematical tools such as estimation or a particular strategy or algorithm.
- **Standard 5.MP.6 Attend to precision.** Communicate precisely to others by crafting careful explanations that communicate mathematical reasoning by referring specifically to each important mathematical element, describing the relationships among them, and connecting their words clearly to representations. Calculate accurately and efficiently, and use clear and concise notation to record work.

- **Standard 5.MP.7 Look for and make use of structure.** Recognize and apply the structures of mathematics such as patterns, place value, the properties of operations, or the flexibility of numbers. See complicated things as single objects or as being composed of several objects.
- **Standard 5.MP.8 Look for and express regularity in repeated reasoning.** Notice repetitions in mathematics when solving multiple related problems. Use observations and reasoning to find shortcuts or generalizations. Evaluate the reasonableness of intermediate results.

Strand: OPERATIONS AND ALGEBRAIC THINKING (5.OA)

Write and interpret numerical expressions (**Standards 5.OA.1–2**), and analyze patterns and relationships (**Standard 5.OA.3**).

- **Standard 5.OA.1** Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
- **Standard 5.OA.2** Write and interpret simple numerical expressions.
 - a. Write simple expressions that record calculations with numbers. *For example, use $2 \times (8+7)$ to express the calculation "add 8 and 7, then multiply by 2."*
 - b. Interpret numerical expressions without evaluating them. *For example, use conceptual understanding of multiplication to interpret $3 \times (18939 + 921)$ as being three times as large as $18932 + 921$ without calculating the indicated sum or product.*
- **Standard 5.OA.3** Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule "add 3" and the starting number 0, and given the rule "add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*

Strand: NUMBER AND OPERATIONS IN BASE TEN (5.NBT)

Understand the place value system (**Standards 5.NBT.1–4**). Perform operations with multi-digit whole numbers and with decimals to hundredths (**Standards 5.NBT.5–7**).

- **Standard 5.NBT.1** Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1/10$ of what it represents in the place to its left.
- **Standard 5.NBT.2** Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

■ Standard 5.NBT.3 Read, write, and compare decimals to thousandths.

- Read and write decimals to thousandths using base-ten numerals, number names, and expanded form. *For example, $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.*
- Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.

■ Standard 5.NBT.4 Use place value understanding to round decimals to any place.**■ Standard 5.NBT.5** Fluently multiply multi-digit whole numbers using the standard algorithm.**■ Standard 5.NBT.6** Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.**■ Standard 5.NBT.7** Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. In this standard, dividing decimals is limited to a whole number dividend with a decimal divisor or a decimal dividend with a whole number divisor. Compare the value of the quotient on the basis of the values of the dividend and divisor.**Strand: NUMBER AND OPERATIONS—FRACTIONS (5.NF)**

Use equivalent fractions as a strategy to add and subtract fractions (**Standards 5.NF.1–2**). Apply and extend previous understandings of multiplication and division to multiply and divide fractions (**Standards 5.NF.3–7**).

■ Standard 5.NF.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)***■ Standard 5.NF.2** Solve real-world problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators by, *for example, using visual fraction models or equations to represent the problem*. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize $2/5 + 1/2 = 3/7$ as an incorrect result, by observing that $3/7 < 1/2$.***■ Standard 5.NF.3** Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve real-world problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, through the use of visual fraction

models or equations to represent the problem. *For example, interpret $3/4$ as the result of dividing three by four, noting that $3/4$ multiplied by four equals three, and that when three wholes are shared equally among four people each person has a share of size $3/4$. If nine people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*

■ Standard 5.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

- Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$ using a visual fraction model. *For example, use a fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)*
- Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

■ Standard 5.NF.5 Interpret multiplication as scaling.

- Compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. *For example, the products of expressions such as 5×3 or $\frac{1}{2} \times 3$ can be interpreted in terms of a quantity, three, and a scaling factor, five or $\frac{1}{2}$. Thus in addition to knowing that $5 \times 3 = 15$, they can also say that 5×3 is five times as big as three, without evaluating the product. Likewise they see $\frac{1}{2} \times 3$ as half the size of three.*
- Explain why multiplying a given number by a fraction greater than one results in a product greater than the given number (recognizing multiplication by whole numbers greater than one as a familiar case); explain why multiplying a given number by a fraction less than one results in a product smaller than the given number; and relate the principle of fraction equivalence. *For example, $6/10 = (2 \times 3)/(2 \times 5)$. In general, $a/b = (n \times a)/(n \times b)$ has the effect of multiplying a/b by one.*

■ Standard 5.NF.6 Solve real-world problems involving multiplication of fractions and mixed numbers, *for example, by using visual fraction models or equations to represent the problem.*

■ Standard 5.NF.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. Use strategies to divide fractions by reasoning about the relationship between multiplication and division. Division of a fraction by a fraction is not a requirement at this grade.

- Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.*

- b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.*
- c. Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, *for example, by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if three people share $1/2$ lb. of chocolate equally? How many $1/3$ -cup servings are in two cups of raisins?*

Strand: MEASUREMENT AND DATA (5.MD)

Convert like measurement units within a given measurement system (**Standard 5.MD.1**). Represent and interpret data (**Standard 5.MD.2**). Understand concepts of geometric measurement and volume, as well as how multiplication and addition relate to volume (**Standard 5.MD.3**).

- **Standard 5.MD.1** Convert among different-sized standard measurement units within a given measurement system (*for example, convert 5 cm to 0.05 m*); use these conversions in solving multi-step, real-world problems.
- **Standard 5.MD.2** Make a line plot to display a data set of measurements in fractions of a unit (halves, quarters, eighths). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given graduated cylinders with different measures of liquid in each, find the amount of liquid each cylinder would contain if the total amount in all the cylinders were redistributed equally.*
- **Standard 5.MD.3** Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
 - a. A cube with side length one unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.
 - b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.
- **Standard 5.MD.4** Measure volumes by counting unit cubes, using cubic cm, cubic in., cubic ft., and improvised units.
- **Standard 5.MD.5** Relate volume to the operations of multiplication and addition and solve real-world and mathematical problems involving volume.
 - a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, *for example, to represent the associative property of multiplication.*

- b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems.
- c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real-world problems.

Strand: GEOMETRY (5.G)

Graph points on the coordinate plane to solve real-world and mathematical problems in quadrant one (**Standards 5.G.1–2**). Classify two-dimensional figures into categories based on their properties. (**Standards 5.G.3–4**).

■ Standard 5.G.1 Compose and understand the coordinate plane.

- a. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the zero on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates.
- b. Using quadrant one on the coordinate plane, understand that the first number in a coordinate pair indicates how far to travel from the origin in the direction of the horizontal axis, and the second number indicates how far to travel in the direction of the vertical axis, with the convention that the names of the two axes and the coordinates correspond (x-axis and x-coordinate, y-axis and y-coordinate).

■ Standard 5.G.2 Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.**■ Standard 5.G.3** Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and all squares are rectangles, so all squares have four right angles.***■ Standard 5.G.4** Classify two-dimensional figures in a hierarchy based on properties.

Utah Core State Standards for Mathematics

Previous	2016/2017
Mathematical Practices <ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. 	<p>Strand: Mathematical Practices (5.MP)</p> <p>The Standards for Mathematical Practice in Fifth Grade describe mathematical habits of mind that teachers should seek to develop in their students. Students become mathematically proficient in engaging with mathematical content and concepts as they learn, experience, and apply these skills and attitudes.</p> <p>Standard 5.MP.1 Make sense of problems and persevere in solving them. Explain the meaning of a problem, look for entry points to begin work on the problem, and plan and choose a solution pathway. When a solution pathway does not make sense, look for another pathway that does. Explain connections between various solution strategies and representations. Upon finding a solution, look back at the problem to determine if the solution is reasonable and accurate, often checking answers to problems using a different method or approach.</p> <p>Standard 5.MP.2 Reason abstractly and quantitatively. Make sense of quantities and their relationships in problem situations. Contextualize quantities and operations by using images or stories. Decontextualize a given situation and represent it symbolically. Interpret symbols as having meaning, not just as directions to carry out a procedure. Know and flexibly use different properties of operations, numbers, and geometric objects.</p> <p>Standard 5.MP.3 Construct viable arguments and critique the reasoning of others. Use stated assumptions, definitions, and previously established results to construct arguments. Explain and justify the mathematical reasoning underlying a strategy, solution, or conjecture by using concrete referents such as objects, drawings, diagrams, and actions. Listen to or read the arguments of others, decide whether they make sense, ask useful questions to clarify or improve the arguments, and build on those arguments.</p> <p>Standard 5.MP.4 Model with mathematics. Identify the mathematical elements of a situation and create a mathematical model that shows the relationships among them. Identify important quantities in a contextual situation, use mathematical models to show the relationships of those quantities, analyze the relationships, and draw conclusions. Models may be verbal, contextual, visual, symbolic, or physical.</p> <p>Standard 5.MP.5 Use appropriate tools strategically. Consider the tools that are available when solving a mathematical problem, whether in a real-world or mathematical context. Choose tools that are relevant and useful to the problem at hand, such as drawings, diagrams, technologies, and physical objects and tools, as well as mathematical tools such as estimation or a particular strategy or algorithm.</p>

Standard 5.MP.6 Attend to precision. Communicate precisely to others by crafting careful explanations that communicate mathematical reasoning by referring specifically to each important mathematical element, describing the relationships among them, and connecting their words clearly to their representations. Calculate accurately and efficiently, and use clear and concise notation to record work.

Standard 5.MP.7 Look for and make use of structure. Recognize and apply the structures of mathematics such as patterns, place value, the properties of operations, or the flexibility of numbers. See complicated things as single objects or as being composed of several objects.

Standard 5.MP.8 Look for and express regularity in repeated reasoning. Notice repetitions in mathematics when solving multiple related problems. Use observations and reasoning to find shortcuts or generalizations. Evaluate the reasonableness of intermediate results.

OPERATIONS AND ALGEBRAIC THINKING (5.OA)

Previous	2016/2017
<p>Operations and Algebraic Thinking 5.OA</p> <p>Write and interpret numerical expressions. 5.OA.A</p> <ol style="list-style-type: none">1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. <i>For example, express the calculation "add 8 and 7, then multiply by 2" as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.</i> <p>Analyze patterns and relationships 5.OA.B</p> <ol style="list-style-type: none">3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. <i>For example, given the rule "Add 3" and</i>	<p>Strand: OPERATIONS AND ALGEBRAIC THINKING (5.OA)</p> <p>Write and interpret numerical expressions (Standards 5.OA.1-2), and analyze patterns and relationships (Standard 5.OA.3).</p> <p>Standard 5.OA.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.</p> <p>Standard 5.OA.2 Write and interpret simple numerical expressions.</p> <ol style="list-style-type: none">a. Write simple expressions that record calculations with numbers. <i>For example, $2 \times (8+7)$ to express the calculation "add 8 and 7, then multiply by 2."</i>b. Interpret numerical expressions without evaluating them. <i>For example use their conceptual understanding of multiplication to interpret $3 \times (18939 + 921)$ as being three times as large as $18932 + 921$ without calculating the indicated sum or product.</i>
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the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.

Standard 5.OA.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. For example, given the rule "add 3" and the starting number 0, and given the rule "add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.

NUMBERS AND OPERATIONS IN BASE TEN (5.NBT)

Previous	2016/2017
Number and Operations in Base Ten 5.NBT <p>Understand the place value system. 5. NBT.A</p> <ol style="list-style-type: none"> Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1/10$ of what it represents in the place to its left. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. Read, write, and compare decimals to thousandths. <ol style="list-style-type: none"> Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons. Use place value understanding to round decimals to any place. 	Strand: NUMBER AND OPERATIONS IN BASE TEN (5.NBT) <p>Understand the place value system (Standards 5.NBT.1-4). Perform operations with multi-digit whole numbers and with decimals to hundredths (Standards 5.NBT.5-7).</p> <p>Standard 5.NBT.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1/10$ of what it represents in the place to its left.</p> <p>Standard 5.NBT.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.</p> <p>Standard 5.NBT.3 Read, write, and compare decimals to thousandths. <ol style="list-style-type: none"> Read and write decimals to thousandths using base-ten numerals, number names, and expanded form. For example, $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$. </p>
Perform operations with multi-digit whole numbers and with <small>©Canyons School District 2016</small>	<small>SALTAN MATH</small> 34

<p>decimals to hundredths. 5.NBT.B</p> <p>5. Fluently multiply multi-digit whole numbers using the standard algorithm.</p> <p>6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</p> <p>7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.</p>	<p>b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.</p> <p>Standard 5.NBT.4 Use place value understanding to round decimals to any place.</p> <p>Standard 5.NBT.5 Fluently multiply multi-digit whole numbers using the standard algorithm.</p> <p>Standard 5.NBT.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</p> <p>Standard 5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. In this standard, dividing decimals is limited to a whole number dividend with a decimal divisor or a decimal dividend with a whole number divisor. Compare the value of the quotient on the basis of the values of the dividend and divisor.</p>
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NUMBERS AND OPERATIONS—FRACTIONS (5.NF)

Previous	2016/2017
<p>Number and Operations – Fractions</p> <p>5.NF</p> <p>Use equivalent fractions as a strategy to add and subtract fractions. 5.NF. A</p> <p>1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions</p>	<p>Strand: NUMBER AND OPERATIONS—FRACTIONS (5.NF)</p> <p>Use equivalent fractions as a strategy to add and subtract fractions (Standards 5.NF.1-2). Apply and extend previous understandings of multiplication and division to multiply and divide fractions (Standards 5.NF.3-7).</p>

with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)*

2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result $2/5 + 1/2 = 3/7$, by observing that $3/7 < 1/2$.*

Apply and extend previous understandings of multiplication and division to multiply and divide fractions. 5.NF.B

3. Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret $3/4$ as the result of dividing 3 by 4, noting that $3/4$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $3/4$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*
4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.
- Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. *For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)*
 - Find the area of a rectangle with fractional side lengths

Standard 5.NF.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)*

Standard 5.NF.2 Solve real-world problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators by, *for example, using visual fraction models or equations to represent the problem*. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize $2/5 + 1/2 = 3/7$ as incorrect result, by observing that $3/7 < 1/2$.*

Standard 5.NF.3 Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve real-world problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, through the use of visual fraction models or equations to represent the problem. *For example, interpret $3/4$ as the result of dividing three by four, noting that $3/4$ multiplied by four equals three, and that when three wholes are shared equally among four people each person has a share of size $3/4$. If nine people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*

Standard 5.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

- Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$ using a visual fraction model. *For example, use a fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)*

by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

5. Interpret multiplication as scaling (resizing), by:
 - a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
 - b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.
6. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
7. Apply and extend previous understanding of division to divide unit fractions by whole numbers and whole numbers by unit fractions.
 - a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for $(1/3) \div$ and compute such quotients. For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.
 - b. Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between

b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

Standard 5.NF.5 Interpret multiplication as scaling.

- a. Compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. *For example, the products of expressions such as 5×3 or $1/2 \times 3$ can be interpreted in terms of a quantity, three, and a scaling factor, five or $1/2$. Thus in addition to knowing that $5 \times 3 = 15$, they can also say that 5×3 is five times as big as three, without evaluating the product. Likewise they see $1/2 \times 3$ as half the size of three.*
- b. Explain why multiplying a given number by a fraction greater than one results in a product greater than the given number (recognizing multiplication by whole numbers greater than one as a familiar case); explain why multiplying a given number by a fraction less than one results in a product smaller than the given number; and relate the principle of fraction equivalence. *For example, $6/10 = (2 \times 3)/(2 \times 5)$. In general, $a/b = (n \times a)/(n \times b)$ has the effect of multiplying a/b by one.*

Standard 5.NF.6 Solve real-world problems involving multiplication of fractions and mixed numbers, *for example, by using visual fraction models or equations to represent the problem.*

Standard 5.NF.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. Use strategies to divide fractions by reasoning about the relationship between multiplication and division. Division of a fraction by a fraction is not a requirement at this grade.

- a. Interpret division of a unit fraction by a non-zero whole number,

multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.

- c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.

and compute such quotients. For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.

- b. Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.
- c. Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, for example, by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if three people share $\frac{1}{2}$ lb. of chocolate equally? How many $\frac{1}{3}$ -cup servings are in two cups of raisins?

MEASUREMENT AND DATA (5.MD)

Previous	2016/2017
<p>Measurement and Data 5.MD</p> <p>Convert like measurement units within a given measurement system. 5.MD.A</p> <p>1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.</p> <p>Represent and interpret data. 5.MD.B</p> <p>2. Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in</p>	<p>Strand: MEASUREMENT AND DATA (5.MD)</p> <p>Convert like measurement units within a given measurement system (Standard 5.MD.1). Represent and interpret data (Standard 5.MD.2). Understand concepts of geometric measurement and volume, as well as how multiplication and addition relate to volume (Standard 5.MD.3).</p> <p>Standard 5.MD.1 Convert among different-sized standard measurement units within a given measurement system (for example, convert 5 cm to 0.05 m); use these conversions in solving multi-step, real-world problems.</p> <p>Standard 5.MD.2 Make a line plot to display a data set of measurements in fractions of a unit (halves, quarters, eighths). Use operations on fractions for this grade to solve problems involving</p>

line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.

Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition. 5.MD.C

1. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
 - a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.
 - b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.
2. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
3. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.
 - a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.
 - b. Apply the formulas $V=l \times w \times h$ and $V=b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.
 - c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-

information presented in line plots. For example, given graduated cylinders with different measures of liquid in each, find the amount of liquid each cylinder would contain if the total amount in all the cylinders were redistributed equally.

Standard 5.MD. 3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

- a. A cube with side length one unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.
- b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.

Standard 5.MD.4 Measure volumes by counting unit cubes, using cubic cm, cubic in., cubic ft., and improvised units.

Standard 5.MD.5 Relate volume to the operations of multiplication and addition and solve real-world and mathematical problems involving volume.

- a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, for example, to represent the associative property of multiplication.
- b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems.
- c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real-world problems.

overlapping parts, applying this technique to solve real world problems.	
GEOMETRY (5.G)	
Previous	2016/2017
<p>Geometry 5.G</p> <p>Graph points on the coordinate plane to solve real-world and mathematical problems. 5.G.A</p> <ol style="list-style-type: none"> 1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate). 2. Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. <p>Classify two-dimensional figures into categories based on their properties. 5.G.B</p> <ol style="list-style-type: none"> 3. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. <i>For example, all rectangles have four right angles and squares are rectangles, so all squares have 4 right angles.</i> 4. Classify two-dimensional figures in a hierarchy based on properties. 	<p>Strand: GEOMETRY (5.G)</p> <p>Graph points on the coordinate plane to solve real-world and mathematical problems in quadrant one (Standards 5.G.1-2). Classify two-dimensional figures into categories based on their properties (Standards 5.G.3-4).</p> <p>Standard 5.G.1 Compose and understand the coordinate plane.</p> <ol style="list-style-type: none"> a. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the zero on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. b. Using quadrant one on the coordinate plane, understand that the first number in a coordinate pair indicates how far to travel from the origin in the direction of the horizontal axis, and the second number indicates how far to travel in the direction of the vertical axis, with the convention that the names of the two axes and the coordinates correspond (x-axis and x-coordinate, y-axis and y-coordinate). <p>Standard 5.G.2 Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.</p> <p>Standard 5.G.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. <i>For example, all rectangles have four right angles and all squares are rectangles, so all squares have four right angles.</i></p> <p>Standard 5.G.4 Classify two-dimensional figures in a hierarchy based on properties.</p>

Utah Core Standards for Mathematics Progressions

	Kindergarten	1 st Grade
Counting and Cardinality	<ul style="list-style-type: none"> • Count to 100 by ones and tens • Represent and write numbers for 0 - 20 • Count to tell the number of objects • Compare numbers; greater than, less than, equal • Compare written numerals between 1 and 10 	
Operations and Algebraic Thinking	<ul style="list-style-type: none"> • Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from <ul style="list-style-type: none"> ◦ Represent addition and subtraction ◦ Solve addition and subtraction word problems within 10 ◦ Decompose numbers less than or equal to 10 ◦ For any number from 1 to 9, find the number that makes 10 when add to the given number ◦ Fluently add and subtract within 5 	<ul style="list-style-type: none"> • Represent and solve problems involving addition and subtraction within 20 • Understand and apply properties of operations and the relationship between addition and subtraction <ul style="list-style-type: none"> ◦ Understand subtraction as an unknown-addend problem • Relate addition and subtraction with 20 to counting • Add and subtract within 20 • Understand the meaning of the equal sign • Work with addition and subtraction equations
Numbers and Operations in Base Ten	<ul style="list-style-type: none"> • Work with numbers 11-19 to gain foundation for place value <ul style="list-style-type: none"> ◦ Compose and decompose numbers 	<ul style="list-style-type: none"> • Read, write, count and represent to 120 • Understand place value of tens and ones • Compare two-digit numbers based on tens and ones • Use place value understanding and properties of operations to add and subtract <ul style="list-style-type: none"> ◦ Add within 100 ◦ Mentally find 10 more or 10 less with two-digit numbers ◦ Subtract multiples of 10 in the range of 10 -90 from multiples of 10 in the range of 10-90
Measurement and Data	<ul style="list-style-type: none"> • Describe and compare measurable attributes such as length and weight • Directly compare two objects with the same measurable attribute in common and describe the difference • Classify objects and count the numbers of objects in categories 	<ul style="list-style-type: none"> • Measure lengths indirectly and by iterating lengths units • Tell and write time in hours and half-hours using analog and digital clocks • Organize, represent and interpret data up to three categories • Identify and compare the values of pennies, nickels, dimes and quarters
Geometry	<ul style="list-style-type: none"> • Identify, name and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres) • Identify shapes as two-dimensional or three-dimensional • Analyze, compare, create and compose shapes 	<ul style="list-style-type: none"> • Reason with shapes and their attributes <ul style="list-style-type: none"> ◦ Distinguish between defining vs. non-defining attributes ◦ Compose two-dimensional or three-dimensional shapes to compose and create shapes ◦ Partition circles and rectangles into two and four equal shares

Utah Core Standards for Mathematics Progressions

	2 nd Grade	3 rd Grade
Operations and Algebraic Thinking	<ul style="list-style-type: none"> Represent and solve one- and two-step word problems involving addition and subtraction within 100 Fluently add and subtract within 20 using mental strategies Work with equal groups of objects to gain foundations for multiplication Use addition to find the total number of objects in rectangular arrays with up to 5 rows and up to 5 columns 	<ul style="list-style-type: none"> Represent and solve problems involving multiplication and division within 100 Understand properties of multiplication and the relationship between multiplication and division Multiply and divide within 100 Solve two-step word problems involving the four operations and identify and explain patterns in arithmetic
Numbers and Operations in Base Ten	<ul style="list-style-type: none"> Use place value understanding and properties of operations to add and subtract within 100 <ul style="list-style-type: none"> Count, read and write within 1000 Compare three-digit numbers using symbols 	<ul style="list-style-type: none"> Use place value understanding and properties of operations to perform multi-digit arithmetic <ul style="list-style-type: none"> Round whole numbers to nearest 10 or 100 Fluently add and subtract within 1000 Multiply one-digit whole numbers by multiples of 10 in range 10-90
Numbers and Operations- Fractions		<ul style="list-style-type: none"> Develop understanding of fractions as numbers with denominators 2, 3, 4, 6, 8 using number lines Explain equivalence of fractions and compare by reasoning about their size
Measurement and Data	<ul style="list-style-type: none"> Measure lengths of an object by selecting and using appropriate tools in standard units. Measure and estimate lengths using units of inches, feet centimeters and meters Measure to determine how much longer Relate addition and subtraction to length within 100 Represent whole numbers as distance from 0 on the number line Work with time on digital and analog clocks to the nearest 5 minutes Solve word problems involving money Represent and interpret data by measuring objects and making repeated measurements of the same object Represent and interpret data by drawing a picture graph and a bar graph to represent a data set up to four categories 	<ul style="list-style-type: none"> Solve problems involving measurement and estimation of intervals of time to the nearest minute Solve problems involving measurement and estimation of liquid volumes and masses of objects using grams, kilograms and liters Represent and interpret data using scaled picture and bar graphs Generate measurement data by measuring lengths to halves and fourths Geometric measurement: Understand concepts of area and relate area to multiplication and to addition Geometric measurement: Recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.
Geometry	<ul style="list-style-type: none"> Recognize and draw shapes having specified attributes Partition a rectangle into rows and columns Partition circles and rectangles into two, three, or four equal shares 	<ul style="list-style-type: none"> Understand that shapes in different categories may share attributes Partition shapes into parts with equal areas

Utah Core Standards for Mathematics Progressions

	4th Grade	5th Grade
Operations and Algebraic Thinking	<ul style="list-style-type: none"> • Use the four operations with whole numbers to solve word problems <ul style="list-style-type: none"> ◦ Interpret a multiplication equation as a comparison ◦ Involve multiplicative comparisons ◦ Solve multistep word problems using whole numbers with whole number answers • Gain familiarity with factors and multiples in the range 1-100 • Generate and analyze patterns that follow a given rule 	<ul style="list-style-type: none"> • Write and interpret numerical expressions <ul style="list-style-type: none"> ◦ Use parenthesis, brackets, or braces in numerical expressions and evaluate expression with these symbols ◦ Write simple expressions and interpret numerical expressions without evaluating them • Analyze patterns and relationships <ul style="list-style-type: none"> ◦ Generate two numerical patterns using two given rules ◦ Form ordered pairs
Numbers and Operations in Base Ten	<ul style="list-style-type: none"> • Generalize place value understanding for multi-digit whole numbers <ul style="list-style-type: none"> ◦ Read, write, compare and expand multi-digit whole numbers ◦ Round multi-digit numbers to any place • Fluently add and subtract multi-digit whole numbers using the • Use place value understanding and properties of operations to perform multi-digit multiplication <ul style="list-style-type: none"> ◦ Multiply up to four digits by a one-digit number ◦ Multiply two two-digit numbers using strategies and properties (illustrate and explain the calculations using equations, rectangular arrays and area models) 	<ul style="list-style-type: none"> • Understand the place value system <ul style="list-style-type: none"> ◦ Recognize a multi-digit number in the one place represents 10 times as much as it represents in the place to its right and 1/10 to its left ◦ Explain patterns when multiplying by zero and explain patterns when a decimal is multiplied or divided ◦ Use whole-number exponents to denote powers of 10 ◦ Read, write and compare decimals to thousandths ◦ Round to any place ◦ Fluently multiply multi-digit whole numbers • Perform operations with multi-digit whole numbers and with decimal to hundredths <ul style="list-style-type: none"> ◦ Fluently multiply multi-digit whole numbers ◦ Find whole-number quotients of whole numbers up to four-digit dividends (illustrate and explain the calculations using equations, rectangular arrays and area models) ◦ Add, subtract, multiply, and divide decimals to hundredths
Numbers and Operations-Fractions	<ul style="list-style-type: none"> • Extend understanding of fraction equivalence and ordering with denominators 2,3,4,5,6,8,10,12,10 <ul style="list-style-type: none"> ◦ Explain and generate equivalent fractions using visual models ◦ Compare with justification two fractions with different denominators and numerators and use the symbols $>$, $=$, $<$. • Build fractions from unit fractions by applying and extending previous understanding of operations on whole numbers <ul style="list-style-type: none"> ◦ Understand addition and subtraction of fractions as joining and separating parts referring to the same whole ◦ Decompose a fraction into a sum of fractions with same denominator ◦ Add and subtract mixed numbers with like denominators ◦ Solve word problems involving addition and subtraction of fractions having like denominators ◦ Understand a fraction a/b as a multiple of $1/b$ and use this 	<ul style="list-style-type: none"> • Use equivalent fractions as a strategy to add and subtract fractions <ul style="list-style-type: none"> ◦ Add and subtract fractions with unlike denominators ◦ Solve word problems involving addition and subtraction of fractions with unlike denominators • Apply and extend previous understandings of multiplication and division to multiply and divide fractions <ul style="list-style-type: none"> ◦ Interpret a fraction as division of the numerator by the denominator ◦ Solve word problems involving division of whole numbers ◦ Find the area of a rectangle with fractional side lengths by tiling it with unit squares ◦ Multiply fractional side lengths to find area of rectangle to get a rectangular areas ◦ Interpret multiplication as scaling ◦ Solve real world problems involving multiplication of

Utah Core Standards for Mathematics Progressions

	<ul style="list-style-type: none"> understanding to multiply a fraction by a whole number <ul style="list-style-type: none"> ○ Solve word problems involving multiplication of a fraction by a whole number • Understand decimal notation for fractions and compare decimal fractions <ul style="list-style-type: none"> ○ Express a fraction with denominator 10 as an equivalent fraction with denominator 100 ○ Use decimal notation for fractions with denominators 10 or 100 ○ Compare two decimals to hundredths by reasoning about their size 	<ul style="list-style-type: none"> fractions and mixed numbers <ul style="list-style-type: none"> ○ Divide a unit fraction by a whole number and whole numbers by unit fractions
Measurement and Data	<ul style="list-style-type: none"> • Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit <ul style="list-style-type: none"> ○ Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; oz; l, ml; hr, min, sec. and express measurement equivalents in terms of a smaller unit, recording measurement in a two-column table ○ Use the four operations to solve problems involving distances, intervals of time, liquid volumes, masses of objects, and money including problems involving simple fractions or decimals ○ Represent measurement quantities using diagrams such as number line diagrams such as number line diagrams that feature a measurement scale ○ Apply the area and perimeter formulas in real world problems ○ Make a line plot to display data set of measurements in fractions of a unit ($\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$) • Represent and interpret data by making a line plot to display data set of measurements in fractions of a unit ($\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$) • Understand concepts of angle and measure angles <ul style="list-style-type: none"> ○ An angle is measured with reference to a circle ○ An angle that turns through n one-degree is said to have an angle measure of n degrees ○ Measure and sketch angles in whole-number degrees using a protractor ○ Recognize angles measures as additive ○ Solve addition and subtraction problems to find unknown angles 	<ul style="list-style-type: none"> • Convert like measurement units within a given measurement system • Represent and Interpret data <ul style="list-style-type: none"> ○ Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$) ○ Use operations on fractions for this grade to solve problems from information on the line plot • Recognize volume as an attribute of solid figures and understand concepts of volume measurement. <ul style="list-style-type: none"> ○ Measure volume by counting unit cubes • Relate volume to the operations of multiplication and addition and solve real world problems involving volume <ul style="list-style-type: none"> ○ Find the volume of a right triangle by packing it with unit cubes ○ Apply formulas $V=l \times w \times h$ and $V=b \times h$ ○ Recognize volume as additive ○ Find volume of solid figures composed of two non-overlapping right rectangular prisms
Geometry	<ul style="list-style-type: none"> • Draw points, lines, line segments, ray, angles (right, acute, obtuse), and perpendicular and parallel lines in two-dimensional figures • Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. • Recognize right triangles as a category and identify right triangles • Recognize a line of symmetry for a two-dimensional figure and identify line-symmetric figures and draw lines of symmetry 	<ul style="list-style-type: none"> • Graph points on the coordinate plane to solve real-world and mathematical problems in the first quadrant • Classify two-dimensional figures into categories based on their properties <ul style="list-style-type: none"> ○ Understand that attributes belonging to a category of two-dimensional figures belong to all subcategories ○ Classify two-dimensional figures in a hierarchy based on properties

CCSS

WHERE TO FOCUS MATHEMATICS

An important subset of the major work in grades K–8 is the progression that leads toward middle school algebra.

K	1	2	3	4	5	6	7	8
Know number names and the count sequence	Represent and solve problems involving addition and subtraction	Represent and solve problems involving addition and subtraction	Represent & solve problems involving multiplication and division	Use the four operations with whole numbers to solve problems	Understand the place value system	Apply and extend previous understandings of multiplication and division to divide fractions by fractions	Apply and extend previous understanding of operations with fractions to add, subtract, multiply, and divide rational numbers	Work with radical and integer exponents
Count to tell the number of objects	Understand and apply properties of operations and the relationship between addition and subtraction	Add and subtract within 20	Understand properties of multiplication and the relationship between multiplication and division	Generalize place value understanding for multi-digit whole numbers	Perform operations with multi-digit whole numbers and decimals to hundredths	Use equivalent fractions as a strategy to add and subtract fractions	Analyze proportional relationships and use them to solve real-world and mathematical problems	Understand the connections between proportional relationships, lines, and linear equations**
Compare numbers	Understand place value	Understand place value	Use place value understanding and properties of operations to add and subtract	Use place value understanding and properties of operations to perform multidigit arithmetic	Use equivalent fractions as a strategy to add and subtract fractions	Apply and extend previous understandings of numbers to the system of rational numbers	Analyze proportional relationships and use them to solve real-world and mathematical problems	Analyze and solve linear equations and pairs of simultaneous linear equations
Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from	Add and subtract within 20	Use place value understanding and properties of operations to add and subtract	Multiply & divide within 100	Solve problems involving the four operations, and identify & explain patterns in arithmetic	Extend understanding of fraction equivalence and ordering	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	Understand ratio concepts and use ratio reasoning to solve problems	Define, evaluate, and compare functions
Work with numbers 11–19 to gain foundations for place value	Work with addition and subtraction equations	Measure and estimate lengths in standard units	Relate addition and subtraction to length	Develop understanding of fractions as numbers	Build fractions from unit fractions by applying and extending previous understandings of operations	Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	Use properties of operations to generate equivalent expressions	Use functions to model relationships between quantities
	Extend the counting sequence			Solve problems involving measurement and estimation of intervals of time, liquid volumes, & masses of objects	Understand decimal notation for fractions, and compare decimal fractions	Reason about and solve one-variable equations and inequalities	Solve real-life and mathematical problems using numerical and algebraic expressions and equations	
	Understand place value			Geometric measurement: understand concepts of area and relate area to multiplication and to addition	Graph points in the coordinate plane to solve real-world and mathematical problems*	Represent and analyze quantitative relationships between dependent and independent variables		
	Use place value understanding and properties of operations to add and subtract							
	Measure lengths indirectly and by iterating length units							

* Indicates a cluster that is well thought of as a part of a student's progress to algebra, but that is currently not designated as major by the assessment consortia in their draft materials. Apart from the one asterisked exception, the clusters listed here are a subset of those designated as major in the assessment consortia's draft documents.

** Depends on similarity ideas from geometry to show that slope can be defined and then used to show that a linear equation has a graph which is a straight line and conversely.

The Utah Core Standards for Mathematical Practice

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important processes and proficiencies with longstanding importance in mathematics education.

- 1. Make sense of problems and persevere in solving them.**
- 2. Reason abstractly and quantitatively.**
- 3. Construct viable arguments and critique the reasoning of others.**
- 4. Model with mathematics.**
- 5. Use appropriate tools strategically.**
- 6. Attend to precision.**
- 7. Look for and make use of structure.**
- 8. Look for and express regularity in repeated reasoning.**

Connecting the Standards for Mathematical Practice to the Standards for Mathematical Content

“The Standards for Mathematical Content are a balanced combination of procedure and understanding. Expectations that begin with the word “understand” are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices” (CCSS, 2010).

Canyons School District elementary math maps are created and published by the CSD Instructional Supports Department

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Common Core State Standards Standards for Mathematical Practice Questions for Teachers to Ask

Make sense of problems and persevere in solving them	Reason abstractly and quantitatively	Construct viable arguments and critique the reasoning of others	Model with mathematics
<p><i>Teachers ask:</i></p> <ul style="list-style-type: none"> • What is this problem asking? • How could you start this problem? • How could you make this problem easier to solve? • How is ___'s way of solving the problem like/different from yours? • Does your plan make sense? Why or why not? • What tools/manipulatives might help you? • What are you having trouble with? • How can you check this? 	<p><i>Teachers ask:</i></p> <ul style="list-style-type: none"> • What does the number ___ represent in the problem? • How can you represent the problem with symbols and numbers? • Create a representation of the problem. 	<p><i>Teachers ask:</i></p> <ul style="list-style-type: none"> • How is your answer different than ___'s? • How can you prove that your answer is correct? • What math language will help you prove your answer? • What examples could prove or disprove your argument? • What do you think about ___'s argument • What is wrong with ___'s thinking? • What questions do you have for ___? <p><i>*it is important that the teacher poses tasks that involve arguments or critiques</i></p>	<p><i>Teachers ask:</i></p> <ul style="list-style-type: none"> • Write a number sentence to describe this situation • What do you already know about solving this problem? • What connections do you see? • Why do the results make sense? • Is this working or do you need to change your model? <p><i>*It is important that the teacher poses tasks that involve real world situations</i></p>
<p>Use appropriate tools strategically</p> <p><i>Teachers ask:</i></p> <ul style="list-style-type: none"> • How could you use manipulatives or a drawing to show your thinking? • Which tool/manipulative would be best for this problem? • What other resources could help you solve this problem? 	<p>Attend to precision</p> <p><i>Teachers ask:</i></p> <ul style="list-style-type: none"> • What does the word ___ mean? • Explain what you did to solve the problem. • Compare your answer to ___'s answer • What labels could you use? • How do you know your answer is accurate? • Did you use the most efficient way to solve the problem? 	<p>Look for and make use of structure</p> <p><i>Teachers ask:</i></p> <ul style="list-style-type: none"> • Why does this happen? • How is ___ related to ___? • Why is this important to the problem? • What do you know about ___ that you can apply to this situation? • How can you use what you know to explain why this works? • What patterns do you see? <p><i>*deductive reasoning (moving from general to specific)</i></p>	<p>Look for and express regularity in repeated reasoning</p> <p><i>Teachers ask:</i></p> <ul style="list-style-type: none"> • What generalizations can you make? • Can you find a shortcut to solve the problem? How would your shortcut make the problem easier? • How could this problem help you solve another problem? <p><i>*inductive reasoning (moving from specific to general)</i></p>

Grades 2-5 CSD Math Block 90 Minutes Daily

Numeracy Component	Range of Time	Focus of Instruction		Instructional Materials	
Review	5-10 minutes	<ul style="list-style-type: none"> Focused Review <ul style="list-style-type: none"> Identified skill deficit that have been identified through formative assessment to review (CFA, exit ticket, whiteboards, etc.) Cumulative review of previously taught skills and standards 	Check for Understanding (Formative Assessment) Monitor progress towards mastery of grade-level core standard	Hard Copy <ul style="list-style-type: none"> Daily Common Core Review Today's Challenge Review What you Know 	Digital <ul style="list-style-type: none"> Today's Challenge
Vocabulary	3-5 minutes	<ul style="list-style-type: none"> Teach Appropriate Vocabulary using the Systematic Vocabulary Routine 		<ul style="list-style-type: none"> Systematic Vocabulary Routine Vocabulary Review Activity My Word Cards 	
Lesson Objectives	1-3 Minutes	<ul style="list-style-type: none"> Content Objectives- What are students going to learn? Language Objectives- How will students demonstrate learning through reading, writing, speaking, or listening? 		<ul style="list-style-type: none"> Lesson objectives are posted and referred to throughout the lesson Objectives include both content and math practice standards 	
Concept/Skill Development (Acquisition, Automaticity & Application)	30-45 minutes	<p>Develop the Concept:</p> <ul style="list-style-type: none"> Acquisition: Students develop understanding of skills through the CRA Model <ul style="list-style-type: none"> <u>Concrete</u>: Hands-on (manipulatives) <u>Representational</u>: Visual (pictures or video) <u>Abstract</u>: Symbolic (numbers or algorithm) Automaticity: Students perform skills flexibly, accurately, and efficiently Application: Students apply skills to solve problems in new contexts 		<ul style="list-style-type: none"> Problem-Based Interactive Learning Visual Learning Bridge <ul style="list-style-type: none"> (K-2) Do You Understand? Show Me! 3-5) Convince Me! Guided Practice Independent Practice (Quick Check) Project-based Learning M² or M³ Extending the Challenge (Sheffield) A&B 	<ul style="list-style-type: none"> Solve and Share (Problem Based Learning) Visual Learning Animation Plus Convince Me! (3-5) Do You Understand? (K-2) Student and Teacher eTexts Listen and Look Videos (teacher) Math Exemplars
Skill-Based Instruction: Pre-teach, Review, Reinforce & Extend	30-45 minutes	<ul style="list-style-type: none"> Pre-teach upcoming concepts to groups and individual students that need support/scaffolding Students practice concepts independently as appropriate Reteach with skill-based groups who need extra support/scaffolding Provide extension opportunities for students who have shown mastery of the concept/skill Build Fluency with math facts and computation 		<ul style="list-style-type: none"> Intervention Activity ON-level and Advanced Activity Centers Reteach Leveled Assignment Differentiated Center materials Close/Assess and Differentiate Extended Learning Opportunities 	<ul style="list-style-type: none"> Practice Buddy Reflex (grades 2-5)

Skill-Based Instruction: Assisting All Students to Succeed in Mathematics

Skill-Based Instruction is additional support given to students during the math block by the teacher aimed at building targeted math skills. This is in addition to core instruction given to entire class.

enVision 2.0 supports skill-based instruction with the following resources:

- **Intervention Activity** (Assess and Differentiate section at the end of each lesson) Students needing intervention get focused instruction from the teacher.
- **Math Diagnosis and Intervention System 2.0 (MDIS)** Provides additional lessons to focus intervention for students.
- **Item Analysis for Diagnosis and Intervention (RtI)** Provided with assessments to support analyzing gaps in mastery of standards
- **Reteaching** Problem sets at the end of each topic that connect to the math standards

<i>Skill-based instruction is explicit & systematic (I do, we do, y'all do, and you do)</i>	<i>Examples</i>
Provide additional concrete models to build understanding with accompanying teacher think-alouds	<ul style="list-style-type: none"> • Use manipulatives such as place value blocks, Unifix cubes, and fraction circles. • Use visual representations such as number lines, arrays, and bar diagrams. • Teacher Think-Aloud: “When I have fourteen cubes, I can create one ten stick and I have four cubes left over to make 14.”
Provide students opportunities to understand the relationship between the abstract symbols and visual representations .	<ul style="list-style-type: none"> • The = sign means that we have the same amount on both sides of the equal sign. $\star \star \star = \star \star \star$
Provide numerous examples with accompanying teacher think-alouds	<p>Skill: Addition of Fractions Examples:</p> <ul style="list-style-type: none"> • $\frac{1}{2} + \frac{1}{4} =$ • $\frac{1}{4} + \frac{1}{4} =$ <p>Teacher Think-Aloud: “We know that when we add fractions with common denominators the denominator will stay the same because we still have the same size piece. So when I add $\frac{1}{4} + \frac{1}{4}$ I have $\frac{2}{4}$ because I have 2, $\frac{1}{4}$ pieces.”</p>
Provide students with opportunities to solve problems in a group and communicate problem-solving strategies .	<ul style="list-style-type: none"> • Students effectively communicate their strategies to <i>one another</i> using appropriate mathematical vocabulary. • Students effectively communicate their strategies to the <i>teacher</i> using appropriate mathematical vocabulary.
Provide students ongoing, specific feedback that clarifies what students did correctly or what they need to improve.	<ul style="list-style-type: none"> • Student correctly answers that $5 + 3 = 8$. Teacher says, “Yes, that is correct. The total of five and three is eight.” • Student incorrectly identifies that $5 + 3 = 7$. Teacher says, “Five plus three is not seven. Pull out your unifix cubes and show me the problem with your cubes.” <i>Student counts the cubes and answers that $5 + 3 = 8$. “That is correct. The total of five and three is eight. Thank you for trying again.”</i>
Provide frequent cumulative review to ensure that knowledge is maintained over time.	<p>Skill: Adding Decimals</p> <ul style="list-style-type: none"> • Teacher quickly reviews multi-digit addition with an emphasis on place value.
Provide opportunity for students to apply the skill in word problems .	<p>Skill: Area - finding the area of a rectangle given the side lengths.</p> <ul style="list-style-type: none"> • Students create word problems using the area of squares for example a student creates the following problem, “Bobbie is tiling the kitchen floor with square foot tiles. The floor has side lengths of 10 feet and

	12 feet. How many tiles are needed to cover the floor?"
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During skill-based instruction, students not with the teacher could engage in the following math center activities:

Center Options	Description
Center Activities from enVision 2.0	<ul style="list-style-type: none"> At the end of each enVision2.0 lesson in the Assess and Differentiate section are the On-Level and Advanced Center Activities which include: Center Games, Problem-Solving Reading Mat, Math and Science Activity
Digital Centers from enVision 2.0	<ul style="list-style-type: none"> The following digital components from enVision 2.0 could be utilized by students during math centers: Today's Challenge, Game from the Game Center, Digital Math Tool Activities, Another Look video, Bounce Pages, Practice Buddy (grades 3-5)
Technology	<ul style="list-style-type: none"> Reflex- Students work independently in grades 2-5 to build fluency of basic math facts Students use appropriate technology to deepen their understanding of math.
Fluency	<ul style="list-style-type: none"> Fluency is built on any skill that has been taught throughout the year (e.g., <i>previous instruction focused on fact families and pairs of students work together and to create fact families using number cards, including numbers 0-9. The student created fact families would be recorded on a piece of paper or graphic organizer.</i>)
Four-Square Math	<ul style="list-style-type: none"> Students are given a four square graphic organizer with a previously learned vocabulary word or concept in the middle of the graphic. The four areas to write could include any of the following: three words or pictures that help you remember the word, characteristics, non-example, example, a statement that is true about the word, three words related to the word, or a conclusion statement. Students write a math practice standard in the middle of the four square and could add any of the following to the squares: characteristics of the MP, list what students do when they engage in the MP, write questions that you would ask your partner when you are focusing on the MP, six word summary of the MP, etc.
Literature in Math	<ul style="list-style-type: none"> Students read or look at a book that relates to the current or past math concept. The teacher provides questions or sentence starters for the group at the center to support discussion after reading.
Manipulatives	<ul style="list-style-type: none"> Students manipulate math tools to complete a grade level task.
Math Journals	<ul style="list-style-type: none"> Students write or draw in math journals to summarize their learning. Students review their notes and star key ideas.
Problem-Solving using DOK 3	<ul style="list-style-type: none"> Students in small groups are presented with an application problem that requires reasoning, problem solving, and justification of their thought process by using words, pictures or equations. Tasks are available at the following websites: http://www.insidemathematics.org https://www.illustrativemathematics.org http://illuminations.nctm.org
Vocabulary	<ul style="list-style-type: none"> Students match previously taught vocabulary words with illustrations. After finding a match the student would define the word. Students do a word sort with the enVision vocabulary cards. Students find similarities and differences in words using a Venn Diagram.

SALTA 5th Grade

Year-at-a-Glance 2016-2017

Flexible Pacing	Strands/Standards	enVision 2.0 Math Topic Titles	TOPICS	District Assessment Dates
Aug 24 - Nov 11 52 Days	Mathematical Practices: 3, 4, 7 Number and Operations in Base Ten: Standards 1-3 (5.NBT.A) Number and Operations in Base Ten: Standards 5-7 (5.NBT.B)	<ul style="list-style-type: none"> • Understand Place Value (7 Lessons) • Add and Subtract Decimals to Hundredths (7 Lessons) • Fluently Multiply Multi-Digit Whole Numbers (7 Lessons) • Use Models and Strategies to Multiply Decimals (10 lessons) 	Topic 1 Topic 2 Topic 3 Topic 4	Due by November 11 District-Wide Standards-Based Benchmark #1

Math Exemplars- Utilize both Summative Assessment Task and Instructional Tasks/Formative Assessments

Number and Operations in Base Ten

- 5.NBT.A.1 & 2
- 5.NBT.A.3a & 3b
- 5.NBT.A.4
- 5.NBT.B.6 & 7

M3 Record Makers and Breakers: Using Algebra to Analyze Change

Nov 14 - Mar 3 64 Days	Mathematical Practices: 1, 2, 4 Number and Operations in Base Ten: Standards 5-7 (5.NBT.B) Number and Operations in Fractions: Standards 1-2 (5.NF.A) Number and Operations in Fractions: Standards 3-7 (5.NF.B)	<ul style="list-style-type: none"> • Use Models and Strategies to Divide Whole Numbers (8 Lessons) • Use Models and Strategies to Divide Decimals (6 Lessons) • Use Equivalent Fractions to Add and Subtract Fractions (12 Lessons) • Apply Understanding of Multiplication to Multiply Fractions (9 Lessons) 	Topic 5 Topic 6 Topic 7 Topic 8	Due by March 3 District-Wide Standards-Based Benchmark #2
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Math Exemplars- Utilize both Summative Assessment Task and Instructional Tasks/Formative Assessments

Number and Operations in Base Ten

- 5.NBT.B.6 & 7

Number and Operations – Fractions

- 5.NF.A.1 & 2
- 5.NF.B.3
- 5.NF.B.4a & 4b
- 5.NF.B.5a & 5b
- 5.NF.B.6
- 5.NF.B.7a, 7b & 7c

M3 Trunk School District 2016 Attic: Exploring Fractions

Mar 6 – Apr 28 35 Days	Mathematical Practices: 3, 5, 6, 8 Number and Operations in Fractions: Standards 3-7 (5.NF.B) Measurement and Data Standards: 3-5 (5.MD.C) Measurement and Data Standard: 1 (5.MD.A) Measurement and Data Standard: 2 (5.MD.B)	• Apply Understanding Division to Divide Fractions (8 Lessons)	Topic 9	Due by April 28 District-Wide Standards-Based Benchmark #3
		• Understand Volume Concepts (6 Lessons)	Topic 10	
		• Convert Measurements (8 Lessons)	Topic 11	
		• Represent and Interpret Data (4 Lessons)	Topic 12	

Math Exemplars- Utilize both Summative Assessment Task and Instructional Tasks/Formative Assessments

Number and Operations – Fractions

- 5.NF.B.3
- 5.NF.B.4a & 4b
- 5.NF.B.5a & 5b
- 5.NF.B.6
- 5.NF.B.7a, 7b & 7c

Measurement and Data

- 5.MD.C.3a & 3b
- 5.MD.C.4
- 5.MD.C.5a, 5b & 5c

M3 What are you Chances?

May 1 – June 6 25 Days	Mathematical Practices: 1, 2, 3 Operations and Algebraic Thinking: Standards 1-2 (5.OA.A) Geometry: Standards 1-2 (5.G.A) Operations and Algebraic Thinking: Standard 3 (5.OA.B) Geometry: Standards 3-4 (5.G.B)	• Algebra: Write and Interpret Numerical Expressions (5 Lessons)	Topic 13	Due by June 6 District-Wide Standards-Based Benchmark #4
		• Graph Points on the Coordinate Plane (4 Lessons)	Topic 14	
		• Algebra: Analyze Patterns and Relationships (4 Lessons)	Topic 15	
		• Geometric Measurement: Classify Two-Dimensional Figures (4 Lessons)	Topic 16	

Math Exemplars- Utilize both Summative Assessment Task and Instructional Tasks/Formative Assessments

Operations and Algebraic Thinking

- 5.OA.A.1
- 5.OA.B.3

Geometry

- 5.G.A.1 & 2
- 5.G.B.3 & 4

M3 Funkytown Fun House: Focusing on Proportional Reasoning and Similarity

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NUMBER AND OPERATIONS IN BASE TEN (NBT)

Topic 1 - Understand Place Value

Report Card Learning Targets		
I can....		
<ul style="list-style-type: none"> Explain patterns in powers of ten Understand place value in the decimal system 		
TOPIC 1		
Coherence		pp. 1C-1D
Look back: Grade 4- <ul style="list-style-type: none"> Whole-Number Place Value Decimal Place Value 	Topic 1: <ul style="list-style-type: none"> Exponents and Expanded Form Place-Value Relationships in Whole Numbers and Decimals Compare and Order Decimals Round Whole Numbers and Decimals 	Look ahead: Later in Grade 5- <ul style="list-style-type: none"> Operations with Whole numbers and Decimals Convert Measurements Grade 6- <ul style="list-style-type: none"> Exponents Whole-Number and Decimal Computation
Rigor		p. 1E
Conceptual Understanding: <ul style="list-style-type: none"> Understand Exponents Understand the Relationship Between Adjacent Place-Value Positions Make Sense of Comparing Numbers Make Sense of Round Numbers 	Procedural Skill and Fluency: <ul style="list-style-type: none"> Use Conceptual Understanding to Write Whole Numbers in Expanded Form Use Conceptual Understanding to Read and Write Decimals Use Conceptual Understanding to Compare and Round Decimals 	Applications: <ul style="list-style-type: none"> Situations Involving Whole Numbers and Decimals
Focus	Strand: Mathematical Practice Standard #7	
5.MP.7	<p>Look for and make use of structure. Recognize and apply the structures of mathematics such as patterns, place value, the properties of operations, or the flexibility of numbers. See complicated things as single objects or as being composed of several objects. Fifth grade students use structure when they apply place-value relationships to read and write numbers. I can recognize, describe, and use patterns in numbers.</p>	

	I can understand, identify, and use equivalent representations of numbers. I can describe how numbers and expressions are organized and put together as parts and wholes.		
Focus	Standards	Curriculum Supports – envision 2.0	Vocabulary
5.NBT.1 5.NBT.2 5.NBT.3 5.NBT.4 (5.NBT.A)	<p>Strand: Number and Operations in Base Ten</p> <p>Fifth grade students will understand the place value system.</p> <p>Standard 5.NBT.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1/10$ of what it represents in the place to its left.</p> <p>Standard 5.NBT.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.</p> <p>Standard 5.NBT.3 Read, write, and compare decimals to thousandths.</p> <p>a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form. <i>For example,</i> $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.</p> <p>b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.</p> <p>Standard 5.NBT.4 Use place value understanding to round decimals to any place.</p>	<p>Topic 1: Understand Place Value (pp. 1I-1K)</p> <p>1-1 Patterns with Exponents and Powers of 10 (pp. 5-10) 1-2 Understand Whole-Number Place Value (pp. 11-16) 1-3 Decimals to Thousandths (pp. 17-22) 1-4 Understand Decimal Place Value (pp. 23-28) 1-5 Compare Decimals (pp. 29-34) 1-6 Round Decimals (pp. 35-40) 1-7 Math Practices and Problem Solving: Look For and Use Structure (pp. 41-46)</p>	<p>Topic 1:</p> <ul style="list-style-type: none"> • exponent • power • base • value • expanded form • thousandths • equivalent decimals
	<p>Assessment Options:</p>		

Assessment Tasks – Topic 1

	Procedural Check	Application Task
5.NBT.1	<p>Write the number that is 10 times smaller than 100. (1)</p> <p>Write the number that is 10 times smaller than 40. (4)</p> <p>Write the number that is 10 times larger than 40. (.04)</p> <p>These aren't all decimals. Does it matter?</p> <p>(DOK 1)</p>	<p>Tell if the statement below is true. Then explain your reasoning to justify your answer.</p> <p style="text-align: center;">0.500 is ten times larger than 0.50</p> <p>(DOK 3)</p>
5.NBT.2	<p>Complete the number sentences below.</p> <p>1. _____ $\times 10^2 = 2,500$</p> <p>2. _____ $\div 10^3 = 0.016$</p> <p>3. $3.3 \times \text{_____} = 33,000$</p> <p>(DOK 1)</p> <p>Write the missing power of ten.</p> <p>5. $7.8 \times \text{_____} = 78,000$</p> <p>6. $0.34 \times \text{_____} = 340$</p> <p>7. $512 \div \text{_____} = 0.512$</p> <p>(DOK 1)</p>	<p>Compare the result of multiplying a whole number by a power of 10 to the result of multiplying a decimal by a power of 10. Is the pattern the same?</p> <p>Use an example to justify your answer.</p> <p>(DOK 3)</p>
5.NBT.3	<p>Write 562.376 in expanded form.</p> <p>(DOK 1)</p> <p>Given 1.02, 1.2 and 100.2, place the numbers in order from least to greatest.</p> <p>(DOK 1)</p>	<p>Find four numbers that are between 0.11 and 0.12 and put all six numbers in order from least to greatest.</p> <p>(DOK 2)</p> <p>Carlos and Rita are trying to decide who has read more of their book. Carlos has read 95/100 of his book and Rita has read 9/10 of the same book. Who has read more? Use words or pictures to explain your answer.</p> <p>(DOK3)</p> <p>Using the following list of numbers, decide which number is closest to 4.5. Use a number line to justify your answers. (DOK 3)</p> <p style="text-align: right; font-size: small;"> 4.7 4.35 4.025 4.9 4.24 4.473 </p>

5 NBT.4	Round 1.069 to the nearest tenth, hundredth and one. (DOK 1)	If the rounded number is 9.6, what could be the original number have been? Use words and drawings to justify your answer. (DOK 3) When Thomas saw his race result posted as 4.85 seconds, he was confused. He said that his time 4.847 seconds was actually faster than the posted time. Was he correct? Use words or a number line to explain your answer. (DOK 3)
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NUMBERS AND OPERATIONS IN BASE TEN (NBT)**Topic 2 - Add and Subtract Decimals to Hundredths****Topic 3 - Fluently Multiply Multi-Digit Whole Numbers****Topic 4 - Use Models and Strategies to Multiply Decimals****Report Card Learning Targets****I can....**

- Explain patterns in powers of ten
- Understand place value in the decimal system
- Fluently multiply multi-digit whole numbers
- Model and calculate decimals to the hundredths place using the four operations

TOPICS 2, 3, and 4**pp. 55C-55D****Coherence****Look back:****Grade 4-**

- Whole-Number Operations
- Fraction Multiplication
- Decimal Notation

Earlier in Grade 5-

- Decimal Place Value

Topics 2,3, and 4:

- Multiplication with Whole Numbers and with Decimals
- Division with Whole Numbers and with Decimals
- Use Place-Value Concepts

Look ahead:**Later in Grade 5-**

- Convert Measurements

Grade 6-

- Evaluate Expressions
- Fluency with Whole Numbers and Decimals

Rigor**p. 55E****Conceptual Understanding:**

- Use Place Value and Properties to Add and Subtract Decimals
- Use Place Value and Properties to Multiply Decimals
- Use Place Value and Properties to Divide Multi-digit Whole Numbers and Decimals

Procedural Skill and Fluency:

- Develop Fluency with Multiplying Multi-digit Whole Numbers
- Divide Multi-digit Whole Numbers
- Perform Computations with Decimals

Applications:

- Solve Real-World Problems

Focus**Strand: Mathematical Practice Standard #4 and #3****p. 55F****5.MP.4****4. Model with mathematics.** (Topics 2 and 4)**5.MP.3**

Identify the mathematical elements of a situation and create a mathematical model that shows the relationships among them.

Identify important quantities in a contextual situation, use mathematical models to show the relationships of those quantities, analyze the relationships, and draw conclusions. Models may be verbal, contextual, visual, symbolic, or physical.

Fifth grade students model with math when they use bar diagrams and equations to represent problems involving whole numbers and decimals.

I can identify the correct prior knowledge that needs to be applied to solve a problem.

I can identify the hidden question(s) in multiple-step problems.

I can use numbers, symbols, and words to solve problems.

I can identify the operation(s) needed to solve a problem.

I can use estimation as appropriate.

3. Construct viable arguments and critique the reasoning of others. (Topic 3)

Use stated assumptions, definitions, and previously established results to construct arguments. Explain and justify the mathematical reasoning underlying a strategy, solution, or conjecture by using concrete referents such as objects, drawings, diagrams, and actions. Listen to or read the arguments of others, decide whether they make sense, ask useful questions to clarify or improve the arguments, and build on those arguments.

Fifth grade students construct and critique their own and others' arguments to justify solutions to problems and computations involving whole numbers and decimals.

I can ask questions to understand other people's thinking.

I can identify mistakes in other people's thinking.

I can provide suggestions for improving other people's thinking.

Focus	Standards	Curriculum Supports – envision 2.0	Vocabulary
5.NBT.5 5.NBT.6 5.NBT.7 (5.NBT.B)	<p>Strand: Number and Operations in Base Ten</p> <p>Fifth grade students will perform operations with multi-digit whole numbers and with decimals to hundredths.</p> <p>Standard 5.NBT.5 Fluently multiply multi-digit whole numbers using the standard algorithm.</p> <p>Standard 5.NBT.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the</p>	<p>Topic 2: Add and Subtract Decimals to Hundredths (pp. 55I-55K)</p> <p>2-1 Mental Math (pp. 59-64) 2-2 Estimate Sums and Differences (pp. 65-70) 2-3 Use Models to Add and Subtract Decimals (pp. 71-76) 2-4 Add Decimals (pp. 77-82) 2-5 Subtract Decimals (pp. 83-88) 2-6 Add and Subtract Decimals (pp. 89-94) 2-7 Math Practices and Problem Solving: Model with Math (pp. 95-100)</p>	<p>Topic 2:</p> <ul style="list-style-type: none">• compatible numbers• associative property of addition• commutative property of addition• compensation

<p>relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</p> <p>Standard 5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. In this standard, dividing decimals is limited to a whole number dividend with a decimal divisor or a decimal dividend with a whole number divisor. Compare the value of the quotient on the basis of the values of the dividend and divisor.</p>	<p>Topic 3: Fluently Multiply Multi-Digit Whole Numbers (pp. 109A-109C)</p> <p>3-1 Multiply Greater Numbers by Powers of 10 (pp. 113-118) 3-2 Estimate Products (pp. 119-124) 3-3 Multiply 3-Digit by 2-Digit Numbers (pp. 125-130) 3-4 Multiply Whole Numbers with Zeros (pp. 131-136) 3-5 Multiply Multi-Digit Numbers (pp. 137-142) 3-6 Solve Word Problems Using Multiplication (pp. 143-148) 3-7 Math Practices and Problem Solving: Critique Reasoning (pp. 149-154)</p> <p>Topic 4: Use Models and Strategies to Multiply Decimals (pp. 163A-163D)</p> <p>4-1 Multiply Decimals by Power of 10 (pp. 165-170) 4-2 Estimate the Product of a Decimal and a Whole Number (pp. 171-176) 4-3 Use Models to Multiply a Decimal and a Whole Number (pp. 177-182) 4-4 Multiply a Decimal by a Whole Number (pp. 183-188) 4-5 Use Models to Multiply a Decimal and a Decimal (pp. 189-194) 4-6 Multiply Decimals Using Partial Products (pp. 195-200) 4-7 Use Properties to Multiply Decimals (pp. 201-206) 4-8 Use Number Sense to Multiply Decimals (pp. 207-212)</p>	<p>Topic 3:</p> <ul style="list-style-type: none"> • underestimate • overestimate • partial products • variable <p>Topic 4:</p> <p>No new vocabulary words</p> <p>Review as needed</p>
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		4-9 Multiply Decimals (<i>pp. 213-218</i>) 4-10 Math Practices and Problem Solving: Model with Math (<i>pp. 219-224</i>)	
	<p>Assessment Options:</p> <p>Topic 2 Assessment - Add and Subtract Decimals to Hundredths (<i>print or online</i>) (<i>pp. 105-106</i>)</p> <p>Topic 2 Performance Assessment - Add and Subtract Decimals to Hundredths (<i>pp. 107-108</i>)</p>	<p>Topic 3 Assessment - Fluently Multiply Multi-Digit Whole Numbers (<i>print or online</i>) (<i>pp. 159-160</i>)</p> <p>Topic 3 Performance Assessment - Fluently Multiply Multi-Digit Whole Numbers (<i>pp. 161-162</i>)</p> <p>Topic 4 Assessment - Use Models and Strategies to Multiply Decimals (<i>print or online</i>) (<i>pp. 231-234</i>)</p> <p>Topic 4 Performance Assessment - Use Models and Strategies to Multiply Decimals (<i>pp. 235-236</i>)</p>	

Math Exemplars- Utilize both Summative Assessment Task and Instructional Tasks/Formative Assessments

Number and Operations in Base Ten

- 5.NBT.A.1 & 2
- 5.NBT.A.3a & 3b
- 5.NBT.A.4
- 5.NBT.B.6 & 7

M3 Record Makers and Breakers: Using Algebra to Analyze Change

District-Wide Standards-Based Benchmark #1 due by November 11

Assessment Tasks – Topics 2, 3, and 4

	Procedural Check	Application Task															
5.NBT.5	Multiply 524 X 639 and show your work. (DOK 1)	A bakery has 245 dozen cupcakes. How many individual cupcakes are there? (DOK 1) How would you arrange the following numbers to create the largest possible product? Explain how you decided to place the numbers and how you know you created the largest product. (DOK 3) <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">9</td> <td style="text-align: center;">2</td> <td style="text-align: center;">0</td> <td style="text-align: center;">8</td> <td style="text-align: center;">4</td> </tr> <tr> <td style="text-align: center;">?</td> <td style="text-align: center;">?</td> <td style="text-align: center;">?</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">x</td> <td style="text-align: center;">?</td> <td style="text-align: center;">?</td> <td></td> <td></td> </tr> </table>	9	2	0	8	4	?	?	?			x	?	?		
9	2	0	8	4													
?	?	?															
x	?	?															
5.NBT.6	Divide the following and show your work $588 \div 14$. (DOK 1) Samantha wants to split a collection of stickers into groups of 48. Samantha has 1,008 stickers. How many groups will be created? Show two ways to find the answer. (DOK 1)	Write a division problem using a 4-digit dividend and a 2-digit divisor that results in an even quotient. Explain your thinking. (DOK 3)															
5.NBT.7	Calculate the following: (DOK 1) 1. $3.4 + 6.2$ 2. $7.7 - 4.1$ 3. 5.6×2.4 4. $8.4 \mid 2.1$	I divided 6.12 by 3 and got the quotient 2.4. What did I do wrong? Write to give evidence for your answer. Write a similar problem where you might make the same error. (DOK 3) How many different ways can you make your calculator show a number with a particular decimal, such as 12.34, without pressing the decimal point? (DOK 2) I added 3 decimals together and got exactly 4. What might those 3 decimals numbers be? Justify your answer with words. (DOK 3)															

DWSBA 2: November 14 – March 3

NUMBERS AND OPERATIONS IN BASE TEN (NBT)

Topic 5 - Use Models and Strategies to Divide Whole Numbers

Topic 6 - Use Models and Strategies to Divide Decimals

Report Card Learning Targets**I can....**

- Explain patterns in powers of ten
- Understand place value in the decimal system
- Model and divide multi-digit whole numbers
- Model and calculate decimals to the hundredths place using the four operations

TOPICS 5 and 6**Coherence****pp. 55C-55D****Look back:****Grade 4-**

- Whole-Number Operations
- Fraction Multiplication
- Decimal Notation

Earlier in Grade 5-

- Decimal Place Value

Topics 5 and 6:

- Multiplication with Whole Numbers and with Decimals
- Division with Whole Numbers and with Decimals
- Use Place-Value Concepts

Look ahead:**Later in Grade 5-**

- Convert Measurements

Grade 6-

- Evaluate Expressions
- Fluency with Whole Numbers and Decimals

Rigor**p. 55E****Conceptual Understanding:**

- Use Place Value and Properties to Add and Subtract Decimals
- Use Place Value and Properties to Multiply Decimals
- Use Place Value and Properties to Divide Multi-digit Whole Numbers and Decimals

Procedural Skill and Fluency:

- Develop Fluency with Multiplying Multi-digit Whole Numbers
- Divide Multi-digit Whole Numbers
- Perform Computations with Decimals

Applications:

- Solve Real-World Problems

Focus**Strand: Mathematical Practice Standards #1 and #2****p. 55F**

5.MP.1 5.MP.2	<p>1. Make sense of problems and persevere in solving them. (Topic 5) Explain the meaning of a problem, look for entry points to begin work on the problem, and plan and choose a solution pathway. When a solution pathway does not make sense, look for another pathway that does. Explain connections between various solution strategies and representations. Upon finding a solution, look back at the problem to determine whether the solution is reasonable and accurate, often checking answers to problems using a different method or approach. Fifth grade students make sense of problems involving operations with whole numbers and decimals, plan how to solve them, and determine if their solutions make sense.</p> <ul style="list-style-type: none"> I can give a good explanation of the problem. I can think about a plan before jumping into the solution. I can think of similar problems or use a simpler form. I can, if needed, organize data or use representations. I can make sure that the work being done and answer make sense. <p>2. Reason abstractly and quantitatively. (Topic 6) Make sense of quantities and their relationships in problem situations. Contextualize quantities and operations by using images or stories. Decontextualize a given situation and represent it symbolically. Interpret symbols as having meaning, not just as directions to carry out a procedure. Know and flexibly use different properties of operations, numbers, and geometric objects. Fifth grade students use quantitative reasoning to estimate and perform mental math involving multi-digit whole numbers and decimals.</p> <ul style="list-style-type: none"> I can identify and understand the quantities in the problem. I can show and explain how quantities are related (e.g., bar diagram). I can translate real-world contexts correctly to numbers, expressions, equations, or concrete or pictorial representations. I can connect numbers, expressions, equations, or concrete or pictorial representations back to real-world contexts. 		
Focus	Standards <p>5.NBT.5 5.NBT.6 5.NBT.7 (5.NBT.B)</p> <p>Strand: Number and Operations in Base Ten</p> <p>Fifth grade students will perform operations with multi-digit whole numbers and with decimals to hundredths.</p> <p>Standard 5.NBT.5 Fluently multiply multi-digit whole numbers using the standard algorithm.</p> <p>Standard 5.NBT.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place</p>	Curriculum Supports – envision 2.0 <p>Topic 5: Use Models and Strategies to Divide Whole Numbers (pp. 237A-237C)</p> <p>5-1 Use Patterns and Mental Math to Divide (pp. 239-244)</p> <p>5-2 Estimate Quotients with 2-Digit Divisors (pp. 245-250)</p> <p>5-3 Use Models to Divide with 2-Digit Divisors (pp. 251-256)</p> <p>5-4 Use Partial Quotients to Divide (pp. 257-262)</p> <p>5-5 Divide by Multiples of 10 (pp. 263-268)</p> <p>5-6 Use Estimation to Place the First Digit of the</p>	Vocabulary <p>Topic 5: No new vocabulary words Review as needed</p>

	<p>value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</p> <p>Standard 5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. In this standard, dividing decimals is limited to a whole number dividend with a decimal divisor or a decimal dividend with a whole number divisor. Compare the value of the quotient on the basis of the values of the dividend and divisor.</p>	<p>Quotient (pp. 269-274)</p> <p>5-7 Divide by 2-Digit Divisors (pp. 275-280)</p> <p>5-8 Math Practices and Problem Solving: Make Sense and Persevere (pp. 281-286)</p> <p>Topic 6: Use Models and Strategies to Divide Decimals (pp. 299A-299C)</p> <p>6-1 Patterns for Dividing with Decimals (pp. 301-306)</p> <p>6-2 Estimate Decimal Quotients (pp. 307-312)</p> <p>6-3 Use Models to Divide by a 1-Digit Whole Number (pp. 313-318)</p> <p>6-4 Divide by a 1-Digit Whole Number (pp. 319-324)</p> <p>6-5 Divide by a 2-Digit Whole Number (pp. 325-330)</p> <p>6-6 Use Number Sense to Divide Decimals (pp. 331-336)</p> <p>6-7 Divide by a Decimal (pp. 337-342)</p> <p>6-8 Continue to Divide with Decimals (pp. 343-348)</p> <p>6-9 Math Practices and Problem Solving: Reasoning (pp. 349-354)</p>	<p>Topic 6:</p> <p>No new vocabulary words</p> <p>Review as needed</p>
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	<p>Assessment Options:</p> <p>Topic 5 Assessment - Use Models and Strategies to Divide Whole Numbers (<i>print or online</i>) (pp. 293-296)</p> <p>Topic 5 Performance Assessment - Use Models and Strategies to Divide Whole Numbers (pp. 297-298)</p>	<p>Topic 6 Assessment - Use Models and Strategies to Divide Decimals (<i>print or online</i>) (pp. 361-364)</p> <p>Topic 6 Performance Assessment - Use Models and Strategies to Divide Decimals (pp. 365-366)</p>	
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Assessment Tasks – Topics 5 and 6

	Procedural Check	Application Task
5.NBT.5	Multiply 524 X 639 and show your work. (DOK 1)	A bakery has 245 dozen cupcakes. How many individual cupcakes are there? (DOK 1) How would you arrange the following numbers to create the largest possible product? Explain how you decided to place the numbers and how you know you created the largest product. (DOK 3)

		9 2 0 8 4 ? ? ? x ? ? <hr/>
5.NBT.6	Solve $9984 \div 64$ using an area model. (DOK 2)	<p>There are 1,716 students participating in Field Day. They are put into teams of 16 for the competition. How many teams get created? If you have left over students, what do you do with them? (DOK 2)</p> <p>Using mental computation, will the quotient of $812 \div 48$ be over or under 16? Explain how you know. (DOK 3)</p>
5.NBT.7	Solve $3.5 \times 8 = \underline{\hspace{2cm}}$ (DOK 1)	<p>Jeanne makes hair bows to sell at the craft fair. Each bow requires 1.5 yards of ribbon.</p> <p>a) At the fabric store, ribbon is sold by the foot. If Jeanne wants to make 84 bows, how many feet of ribbon must she buy? Show all your work. (DOK 2)</p> <p>b) If the ribbon costs 10¢ per foot, what is the total cost of the ribbon in dollars? Explain your reasoning, including how you decided where to place the decimal. (DOK 3)</p> <p>Kyle can earn \$6.75 an hour doing yard work. He can earn \$7.25 per hour washing cars. If he washes cars for 6 hours, will he earn more money than doing yard work for 7 hours? Use words and a chart to justify your answer. How many hours of each activity would he have to do to earn the same amount of money? (DOK 3)</p>

NUMBERS AND OPERATIONS—FRACTIONS (NF)

Topic 7 - Use Equivalent Fractions to Add and Subtract Fractions

Report Card Learning Targets		
I can....		
<ul style="list-style-type: none"> • Add and subtract fractions with unlike denominators • Solve word problems with fractions using multiplication 		TOPIC 7
Coherence		pp. 367C-367D
Look back: Grade 4- <ul style="list-style-type: none"> • Factors and Multiples • Equivalent Fractions • Add and Subtract Fractions and Mixed Numbers with Like Denominators 	Topic 7: <ul style="list-style-type: none"> • Find Common Denominators • Add and Subtract Fractions with Unlike Denominators • Use Estimation • Problems Involving Fractions and Mixed Numbers 	Look ahead: Later in Grade 5- <ul style="list-style-type: none"> • Solve Problems Involving Measurements • Solve Problems Involving Data Grade 6- <ul style="list-style-type: none"> • Expressions and Equations with Fractions
Rigor		p. 367E
Conceptual Understanding: <ul style="list-style-type: none"> • Estimate Sums and Differences of Fractions and Mixed Numbers • Conceptual Development of Addition and Subtraction 	Procedural Skill and Fluency: <ul style="list-style-type: none"> • Add and Subtract Fractions and Mixed Numbers with Unlike Denominators 	Applications: <ul style="list-style-type: none"> • Addition and Subtraction Situations
Focus		
5.MP.4	Strand: Mathematical Practice Standard #4 <p>Model with mathematics. Identify the mathematical elements of a situation and create a mathematical model that shows the relationships among them. Identify important quantities in a contextual situation, use mathematical models to show the relationships of those quantities, analyze the relationships, and draw conclusions. Models may be verbal, contextual, visual, symbolic, or physical.</p> <p><i>Fifth grade students apply the math they know to use bar diagrams and equations to represent addition and subtraction of fractions with unlike denominators.</i></p> <p>I can identify the correct prior knowledge that needs to be applied to solve a problem. I can identify the hidden question(s) in multiple-step problems.</p>	p. 367F

	I can use numbers, symbols, and words to solve problems. I can use estimation as appropriate.		
Focus	Standards	Curriculum Supports – envision 2.0	Vocabulary
5.NF.1 5.NF.2 (5.NF.A)	<p>Strand: Number and Operations—Fractions</p> <p>Fifth grade students will use equivalent fractions as a strategy to add and subtract fractions.</p> <p>Standard 5.NF.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. <i>For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)</i></p> <p>Standard 5.NF.2 Solve real-world problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators by, <i>for example, using visual fraction models or equations to represent the problem</i>. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. <i>For example, recognize $2/5 + 1/2 = 3/7$ as incorrect result, by observing that $3/7 < 1/2$.</i></p>	<p>Topic 7: Use Equivalent Fractions to Add and Subtract Fractions (pp. 367I-367L)</p> <p>7-1 Estimate Sums and Differences of Fractions (pp. 371-376) 7-2 Find Common Denominators (pp. 377-382) 7-3 Add Fractions with Unlike Denominators (pp. 383-388) 7-4 Subtract Fractions with Unlike Denominators (pp. 389-394) 7-5 Add and Subtract Fractions (pp. 395-400) 7-6 Estimate Sums and Differences of Mixed Numbers (pp. 401-406) 7-7 Use Models to Add Mixed Numbers (pp. 407-412) 7-8 Add Mixed Numbers (pp. 413-418) 7-9 Use Models to Subtract Mixed Numbers (pp. 419-424) 7-10 Subtract Mixed Numbers (pp. 425-430) 7-11 Add and Subtract Mixed Numbers (pp. 431-436) 7-12 Math Practices and Problem Solving: Model with Math (pp. 437-442)</p>	<p>Topic 7:</p> <ul style="list-style-type: none"> • benchmark fraction • equivalent fractions • common denominator • mixed number
	Assessment Options:	<p>Topic 7 Assessment - Use Equivalent Fractions to Add and Subtract Fractions (print or online) (pp. 449-452)</p> <p>Topic 7 Performance Assessment - Use Equivalent Fractions to Add and Subtract Fractions (pp. 453-454)</p>	

Assessment Tasks – Topic 7		
	Procedural Check	Application Task
5.NF.1	<p>Solve:</p> $\frac{1}{4} + \frac{2}{3} = \underline{\quad} + \frac{8}{12} = \frac{11}{12}$ $\frac{2}{4} + \frac{1}{6} = \underline{\quad} + \underline{\quad} = 1 \text{ whole}$ (DOK 1)	$1/4 + 5/6$ <p>Robert added the fraction above and got an answer of 6/10. Use what you know about addition of fraction to explain why Robert's answer is incorrect. Formulate an original problem that would have the answer 6/10.</p> (DOK 3)
5.NF.2	<p>A recipe calls for $\frac{3}{4}$ cup breadcrumbs, $2\frac{1}{4}$ cups tomato sauce, and $\frac{1}{2}$ cup tomato paste. How many cups of ingredients are used altogether in the recipe?</p> (DOK 1)	<p>A Road Construction Company is paving a road. During the first week the company paved $15\frac{3}{8}$ miles. During the second week, the company paved $22\frac{1}{3}$ miles.</p> <p>How much of the road was paved during the first two weeks?</p> <p>The company will have to finish the 45-mile road during the third week of paving. How many miles will the company have to pave during the third week? Use what you know about fractions to explain why your answer is correct.</p> (DOK 3)

NUMBERS AND OPERATIONS—FRACTIONS (NF)

Topic 8 - Apply Understanding of Multiplication to Multiply Fractions

Report Card Learning Targets

I can....

- Multiply fractions
- Solve word problems with fractions using

TOPIC 8

Coherence

pp. 455C-455D

Look back:

Grade 4-

- Adding and Subtracting Fractions with Like Denominators
- Multiplying Whole Numbers and Fractions

Earlier in Grade 5-

- Add and Subtract Fractions with Unlike Denominators

Topic 8:

Grade 4-

- Multiplication of Fractions
- Multiplication of Mixed Numbers
- Fractions and Division
- Word Problems Involving Fractions

Look ahead:

Later in Grade 5-

- Fractions in Measurement
- Fractions in Data

Grade 6-

- Fractions and Numerical Expressions
- Fractions and Equations
- Divide Fractions

Rigor

p. 455E

Conceptual Understanding:

- Meanings of Multiplication
- Understand Area Models of Multiplication
- Meanings of Division

Procedural Skill and Fluency:

- Fraction Multiplication

Applications:

- Multiplication Situations
- Division Situations

Focus

Strand: Mathematical Practice Standard #1

p. 455F

5.MP.1

Make sense of problems and persevere in solving them.

Explain the meaning of a problem, look for entry points to begin work on the problem, and plan and choose a solution pathway. When a solution pathway does not make sense, look for another pathway that does. Upon finding a solution, look back at the problem to determine whether the solution is reasonable and accurate, often checking answers to problems using a different method or approach.

Fifth grade students persevere as they try to understand problems involving fractions, plan how to solve them, and determine if their solution makes sense.

I can choose a strategy or strategies to use to solve problems.

	<p>I can identify the quantities in a problem, the data given, and, if present, the question to be answered.</p> <p>I can think of similar problems or use a simpler form of the problem.</p> <p>I can, if needed, organize data or use representations to help make sense of a problem.</p> <p>I can identify likely strategies for solving the problem.</p> <p>I can pause when solving problems to make sure that the work being done makes sense.</p> <p>I can make sure the answer makes sense before stopping work.</p>		
Focus	Standards	Curriculum Supports – envision 2.0	Vocabulary
5.NF.3 5.NF.4 5.NF.5 5.NF.6 (5.NF.B)	<p>Strand: Number and Operations—Fractions</p> <p>Fifth grade students will apply and extend previous understandings of multiplication and division to multiply and divide fractions.</p> <p>Standard 5.NF.3 Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve real-world problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, through the use of visual fraction models or equations to represent the problem. <i>For example, interpret $3/4$ as the result of dividing three by four, noting that $3/4$ multiplied by four equals three, and that when three wholes are shared equally among four people each person has a share of size $3/4$. If nine people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?</i></p> <p>Standard 5.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.</p> <ul style="list-style-type: none"> a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$ using a <i>visual fraction model</i>. <i>For example, use a fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)</i> b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found 	<p>Topic 8: Apply Understanding of Multiplication to Multiply Fractions (pp. 455I-455K)</p> <p>8-1: Use Models to Multiply a Whole Number by a Fraction (pp. 457-462) 8-2: Use Models to Multiply a Fraction by a Whole Number (pp. 463-468) 8-3: Multiply Fractions and Whole Numbers (pp. 469-474) 8-4: Use Models to Multiply Two Fractions (pp. 475-480) 8-5: Multiply Two Fractions (pp. 481-486) 8-6: Area of a Rectangle (pp. 487-492) 8-7: Multiply Mixed Numbers (pp. 493-498) 8-8: Multiplication as Scaling (pp. 499-504) 8-9: Math Practices and Problem Solving: Make Sense and Persevere (pp. 505-510)</p>	<p>Topic 8: No new vocabulary words Review as needed</p>

	<p>by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.</p> <p>Standard 5.NF.5 Interpret multiplication as scaling.</p> <ol style="list-style-type: none"> Compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. <i>For example, the products of expressions such as 5×3 or $1/2 \times 3$ can be interpreted in terms of a quantity, three, and a scaling factor, 5 or $1/2$. Thus in addition to knowing that $5 \times 3 = 15$, they can also say that 5×3 is five times as big as three, without evaluating the product. Likewise they see 1.2×3 as half the size of three.</i> Explain why multiplying a given number by a fraction greater than one results in a product greater than the given number (recognizing multiplication by whole numbers greater than one as a familiar case); explain why multiplying a given number by a fraction less than one results in a product smaller than the given number; and relate the principle of fraction equivalence. <i>For example, $6/10 = (2 \times 3)/(2 \times 5)$. In general, $a/b = (n \times a)/(n \times b)$ has the effect of multiplying a/b by one.</i> <p>Standard 5.NF.6 Solve real-world problems involving multiplication of fractions and mixed numbers, <i>for example, by using visual fraction models or equations to represent the problem.</i></p>		
	<p>Assessment Options:</p>	<p>Topic 8 Assessment - Apply Understanding of Multiplication to Multiply Fractions (print or online) (pp. 517-520)</p> <p>Topic 8 Performance Assessment - Apply Understanding of Multiplication to Multiply Fractions (pp. 521-522)</p>	

Math Exemplars- Utilize both Summative Assessment Task and Instructional Tasks/Formative Assessments

Number and Operations in Base Ten

- 5.NBT.B.6 & 7

Number and Operations – Fractions

- 5.NF.A.1 & 2
- 5.NF.B.3
- 5.NF.B.4a & 4b
- 5.NF.B.5a & 5b
- 5.NF.B.6
- 5.NF.B.7a, 7b & 7c

M3 Treasures from the Attic: Exploring Fractions

District-Wide Standards-Based Benchmark #2 due by March 3

Assessment Tasks		
	Procedural Check	Application Task
5.NF.3	<p>Write a word problem to show that $\frac{3}{4}$ a division problem. Draw a model to illustrate the story problem.</p> <p>Write a word problem with a fraction less than 1 used as a division problem. Draw a model to illustrate the story problem.</p> <p>Write a word problem with a fraction greater than 1 used as a division problem. Draw a model to illustrate the story problem.</p> <p>(DOK 2)</p>	<p>Mrs. Baker's class is working on a Science project. There are 5 students in a project group. Mrs. Baker has 3 packs of construction paper for everyone to share. What fraction of a pack will each group get to use?</p> <p>Draw a representation to show your thinking. (DOK 2)</p> <p>Mario's family is going on a hike and he wants to have trail mix for a snack. Each person will get $\frac{1}{2}$ cup of trail mix. The trail mix package says it contains 3 cups and Mario has 5 people. Will there be enough trail mix for each person to have at least $\frac{1}{2}$ cup of trail mix? Explain using pictures, numbers and/or words. (DOK 3)</p>
5.NF.4	<p>Interpret the product with a visual model.</p> $\frac{1}{3} \times 5 =$ $2\frac{1}{4} \times 3 =$ $\frac{1}{3} \times \frac{7}{8} =$ (DOK 1) <p>Find the area of a rug that is $3\frac{1}{2}$ feet by $2\frac{1}{2}$ feet.</p> <p>(DOK 1)</p>	<p>Maurice has $\frac{3}{4}$ yard of webbing. He only needs $\frac{1}{2}$ of the piece for his scout project. What fraction of the original length of webbing does he need?</p> <p>Which of the following equations correctly represents the problem? Explain your choice.</p> <p>Solve. Draw a representation of the equation to justify your answer.</p> $\frac{1}{2} \times \frac{3}{4} = ?$ $\frac{3}{4} \text{ of } \frac{1}{2} = ?$ (DOK 3)
5.NF.5	<p>Without multiplying, which product is larger and why? 12×12 or 12×48</p> <p>(DOK 2)</p> <p>Without multiplying, which product is larger and why? $12 \times \frac{1}{5}$ or $6 \times \frac{1}{5}$</p> <p>(DOK 2)</p>	<p>Write an expression that will have a product less than both factors.</p> <p>Explain how you know your expression is correct?</p> <p>Write an expression that will have a product greater than both factors.</p> <p>Solve. Draw a representation to show your work.</p> <p>(DOK 3)</p>

5.NF.6	<p>Solve:</p> <p>$\frac{1}{4}$ of $\frac{2}{3} =$</p> <p>$\frac{3}{4}$ of $\frac{1}{2} =$</p> <p>$\frac{3}{4}$ of $3\frac{1}{2} =$</p> <p>$\frac{1}{5}$ of $3 =$</p> <p>(DOK 1)</p>	<p>John uses $\frac{3}{4}$ of a gallon of paint for one room. How much paint does he need to do three rooms?</p> <p>Use words, numbers, and/or pictures to justify your answer. (DOK 3)</p> <p>The following is a recipe for vanilla cupcakes:</p> <table border="1"> <tr> <td> <p>2 cups flour 1/2 teaspoon salt 2 teaspoons baking powder 1/2 cup butter, softened 3/4 cup sugar 2 eggs 1 cup milk 1/2 teaspoon vanilla</p> <p>Yield: 24 cupcakes</p> </td> </tr> </table> <p>Bella wants to bake a dozen cupcakes. How much vanilla would she need to use? Use words, pictures, number lines, etc. to justify your answer.</p> <p>(DOK 3)</p>	<p>2 cups flour 1/2 teaspoon salt 2 teaspoons baking powder 1/2 cup butter, softened 3/4 cup sugar 2 eggs 1 cup milk 1/2 teaspoon vanilla</p> <p>Yield: 24 cupcakes</p>
<p>2 cups flour 1/2 teaspoon salt 2 teaspoons baking powder 1/2 cup butter, softened 3/4 cup sugar 2 eggs 1 cup milk 1/2 teaspoon vanilla</p> <p>Yield: 24 cupcakes</p>			

NUMBERS AND OPERATIONS—FRACTIONS (NF)

Topic 9 - Apply Understanding of Division to Divide Fractions

Report Card Learning Targets		
I can....		
<ul style="list-style-type: none"> Divide fractions 		
TOPIC 9		
Coherence		pp. 455C-455D
Look back: Grade 4- <ul style="list-style-type: none"> Adding and Subtracting Fractions with Like Denominators Multiplying Whole Numbers and Fractions Earlier in Grade 5- <ul style="list-style-type: none"> Add and Subtract Fractions with Unlike Denominators 	Topic 9: Grade 4- <ul style="list-style-type: none"> Multiplication of Fractions Multiplication of Mixed Numbers Fractions and Division Word Problems Involving Fractions 	Look ahead: Later in Grade 5- <ul style="list-style-type: none"> Fractions in Measurement Fractions in Data Grade 6- <ul style="list-style-type: none"> Fractions and Numerical Expressions Fractions and Equations Divide Fractions
Rigor		p. 455E
Conceptual Understanding: <ul style="list-style-type: none"> Meanings of Multiplication Understand Area Models of Multiplication Meanings of Division 	Procedural Skill and Fluency: <ul style="list-style-type: none"> Fraction Multiplication 	Applications: <ul style="list-style-type: none"> Multiplication Situations Division Situations
Focus	Strand: Mathematical Practice Standard #8	
5.MP.8	<p>Look for and express regularity in repeated reasoning. Notice repetitions in mathematics when solving multiple related problems. Use observations and reasoning to find shortcuts or generalizations. Evaluate the reasonableness of intermediate results.</p> <p><i>Fifth grade students use repeated reasoning when they generalize about fraction operations.</i></p> <p>I can notice and describe when certain calculations or steps in a procedure are repeated. I can generalize from examples or repeated observations. I can recognize and understand appropriate shortcuts.</p>	

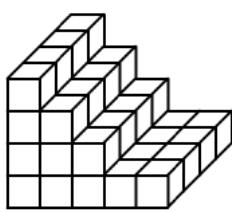
	I can evaluate the reasonableness of intermediate results.		
Focus	Standards	Curriculum Supports – envision 2.0	Vocabulary
5.NF.7 (5.NF.B)	<p>Strand: Number and Operations—Fractions</p> <p>Fifth grade students will apply and extend previous understandings of multiplication and division to multiply and divide fractions.</p> <p>Standard 5.NF.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. Use strategies to divide fractions by reasoning about the relationship between multiplication and division. Division of a fraction by a fraction is not a requirement at this grade.</p> <p>Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. <i>For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient.</i> Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.</p>	<p>Topic 9: Apply Understanding of Division to Divide Fractions (pp. 523A-523C)</p> <p>9-1: Fractions and Division (pp. 527-532)</p> <p>9-2: Fractions and Mixed Numbers as Quotients (pp. 533-538)</p> <p>9-3: Use Multiplication to Divide (pp. 539-544)</p> <p>9-4: Divide Whole Numbers by Unit Fractions (pp. 545-550)</p> <p>9-5: Divide Unit Fractions by Non-Zero Whole Numbers (pp. 551-556)</p> <p>9-6: Divide Whole Numbers and Unit Fractions (pp. 537-562)</p> <p>9-7: Solve Problems Using Division (pp. 563-568)</p> <p>9-8: Math Practices and Problem Solving: Repeated Reasoning (pp. 569-574)</p>	<p>Topic 9:</p> <ul style="list-style-type: none"> • unit fractions
	<p>Assessment Options:</p>	<p>Topic 9 Assessment - Apply Understanding of Division to Divide Fractions (<i>print or online</i>) (pp. 579-580)</p> <p>Topic 9 Performance Assessment - Apply Understanding of Division to Divide Fractions (pp. 581-582)</p>	

Assessment Tasks – Topic 9		
	Procedural Check	Application Task
5.NF.7	$1/9 \div 3 = n$ $12 \div 1/4 = n$ (DOK 1)	<p>Create a story context for $(1/4) \div 6$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/4) \div 6 = 1/12$ because $(1/12) \times 4 = 1/3$.</p> <p>(DOK 3)</p> <p>Students are running in a relay race. Each team will run a total of 3 miles. Each member of a team may only run $1/4$ of a mile. How many students will each team need to complete the 3-mile race? Draw a picture to justify your answer.</p> <p>(DOK 3)</p>

MEASUREMENT AND DATA (MD)
Topic 10 - Understand Volume Concepts

Report Card Learning Targets			
I can....			
<ul style="list-style-type: none"> Understand and measure volume 			
TOPIC 10		pp. 583C-583D	
Coherence		p. 583E	
Look back: Grade 4- <ul style="list-style-type: none"> Apply Formulas to Solve Perimeter and Area Problems Earlier in Grade 5- <ul style="list-style-type: none"> Fluently Multiply Whole Numbers 		Topic 10: <ul style="list-style-type: none"> Model Volume and Develop Formulas Solve Problems Involving Volume 	Look ahead: Later in Grade 5- <ul style="list-style-type: none"> Relate Volume and Capacity Grade 6- <ul style="list-style-type: none"> Solve Volume Problems
Rigor		p. 583F	
Conceptual Understanding: <ul style="list-style-type: none"> Connect Volume and a Formula for Finding the Number of Cubes Relate Volume to Addition 		Procedural Skill and Fluency: <ul style="list-style-type: none"> Use a Formula to Find the Volume of a Rectangular Prism 	Applications: <ul style="list-style-type: none"> Find the Volume of Objects Use Volume to Find the Dimensions of a Right Rectangular Prism Use the Additive Property of Volume
Focus		Strand: Mathematical Practice Standard #5	
5.MP.5		p. 583F	
Use appropriate tools strategically. Consider the tools that are available when solving a mathematical problem, whether in a real-world or mathematical context. Choose tools that are relevant and useful to the problem at hand, such as drawings, diagrams, technologies, and physical objects and tools, as well as mathematical tools such as estimation or a particular strategy or algorithm.			
<i>Fifth grade students select from tools such as cubes, grids, and geometry software to solve problems involving volume.</i> I can identify available tools. I can use tools correctly and accurately.			

	<p>I know when to use a particular tool. I can consider options before selecting a particular tool. I can decide if the results obtained using a tool make sense. I can think about using tools to explore and solve problems, without prompting from the teacher.</p>		
Focus	Standards	Curriculum Supports – envision 2.0	Vocabulary
5.MD.3 5.MD.4 5.MD.5 (5.MD.C)	<p>Strand: Measurement and Data</p> <p>Fifth grade students will understand concepts of geometric measurement and volume, as well as how multiplication and addition relate to volume.</p> <p>Standard 5.MD. 3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.</p> <ul style="list-style-type: none"> a. A cube with side length one unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units. <p>Standard 5.MD.4 Measure volumes by counting unit cubes, using cubic cm, cubic in., cubic ft., and improvised units.</p> <p>Standard 5.MD.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.</p> <ul style="list-style-type: none"> a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, <i>for example, to represent the associative property of multiplication.</i> 	<p>Topic 10: Understand Volume Concepts (pp. 583I-583J)</p> <p>10-1: Model Volume (pp. 587-592) 10-2: Develop a Volume Formula (pp. 593-598) 10-3: Volume of Prisms (pp. 599-604) 10-4: Combine Volumes of Prisms (pp. 605-610) 10-5: Solve Word Problems Using Volume (pp. 611-616) 10-6: Math Practices and Problem Solving: Use Appropriate Tools (pp. 617-622)</p>	<p>Topic 10:</p> <ul style="list-style-type: none"> • volume • cubic unit • cube • rectangular prism • unit cube • formula

	<p>Assessment Options: Topic 10 Assessment - Understand Volume Concepts (<i>print or online</i>) (pp. 627-628)</p>	<p>Topic 10 Performance Assessment - Understand Volume Concepts (pp. 629-630)</p>																
Assessment Tasks – Topic 10																		
	Procedural Check	Application Task																
5.MD.3	<p>Form a group of solids, identify a cube and recognize that each is a cubic unit used to measure volume. (DOK 1)</p> <p>How many cubic cm would it take to fill a rectangular prism with the height of 2 cm, length 3 cm, and width 5 cm? (DOK 1)</p>	<p>Ask students to design a science station for the ocean floor that is composed of several rooms that are right rectangular prisms and that meet a set criterion specifying the total volume of the station. They draw their station and justify how their design meets the criterion. (DOK 3)</p> <p>Give students a net and ask them to predict the number of cubes required to fill the container formed by the net. Have them fold the net to make the shape so they can see how many rectangles fit together to determine the number of layers. Have them find the volume and write to justify their answer and how they found the volume. (DOK 3)</p>																
5.MD.4	<p>Identify cubic measures and transfer to volume using correct unit measurement. (DOK 2)</p> <p>Provide students with three-dimensional drawings that represent cubic units, then find the volume and correctly label. (DOK 1)</p>	<p>Give students 24 cubes and have them make as many rectangles as possible with a volume of 24 cubic units. Students build the prisms and record possible dimensions. (DOK 2)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Length</th><th>Width</th><th>Height</th></tr> </thead> <tbody> <tr> <td>1</td><td>2</td><td>12</td></tr> <tr> <td>2</td><td>2</td><td>6</td></tr> <tr> <td>4</td><td>2</td><td>3</td></tr> <tr> <td>8</td><td>3</td><td>1</td></tr> </tbody> </table>	Length	Width	Height	1	2	12	2	2	6	4	2	3	8	3	1	
Length	Width	Height																
1	2	12																
2	2	6																
4	2	3																
8	3	1																
5.MD.5	<p>What is the volume of this stack of blocks?</p> <p>Answer: 44 cubic units</p> 	<p>(DOK 1)</p>	<p>Give the students three or four rectangular prisms (tissue box, cereal box, etc.). Ask them to predict which box has the greatest volume and explain their choice. Then ask students to find the volume of each solid compare their prediction to the actual box that has the greatest volume. Have them justify their work.</p> <p>(DOK 3)</p>															

MEASUREMENT AND DATA (MD)
Topic 11 - Convert Measurements

Report Card Learning Targets			
I can....			
<ul style="list-style-type: none"> Solve problems using measurement conversions 			
TOPIC 11			
Coherence		pp. 631C-631D	
Look back: Grade 4- <ul style="list-style-type: none"> Find Equivalence in Units of Measure Earlier in Grade 5- <ul style="list-style-type: none"> Identify Patterns in Place Value Multiply and Divide with Fractions and Mixed Numbers 	Topic 11: <ul style="list-style-type: none"> Use Multiplication to Convert from a Larger Unit to a Smaller Unit Use Division to Convert from a Smaller Unit to a Larger Unit Place Value and Metric Conversion 	Look ahead: Later in Grade 5- <ul style="list-style-type: none"> Analyze Patterns and Relationships Grade 6- <ul style="list-style-type: none"> Convert Measurements 	
Rigor		p. 631E	
Conceptual Understanding: <ul style="list-style-type: none"> Understand Attributes Customary Units of Measure Metric Units of Measure 	Procedural Skill and Fluency: <ul style="list-style-type: none"> Use Multiplication or Division to Convert Units 	Applications: <ul style="list-style-type: none"> Measurement Problems 	
Focus	Strand: Mathematical Practice Standard #6		p. 631F
5.MP.6	<p>Attend to precision. Communicate precisely to others by crafting careful explanations that communicate mathematical reasoning by referring specifically to each important mathematical element, describing the relationships among them, and connecting their words clearly to their representations. Calculate accurately and efficiently, and use clear and concise notation to record work. <i>Fifth grade students attend to precision when they consider the symbols and units as they calculate conversions.</i></p> <ul style="list-style-type: none"> I can compute accurately. I can use symbols appropriately. I can accurately use problem-solving strategies. I can specify and use units of measure appropriately. I can decide whether an exact answer or estimate is needed. 		

	I can calculate efficiently, accurately, and fluently.		
Focus	Standards	Curriculum Supports – envision 2.0	Vocabulary
5.MD.1 (5.MD.A)	<p>Strand: Measurement and Area</p> <p>Fifth grade students will convert like measurement units within a given measurement system.</p> <p>Standard 5.MD.1 Convert among different-sized standard measurement units within a given measurement system (<i>for example, convert 5 cm to 0.05 m</i>); use these conversions in solving multi-step, real-world problems.</p>	<p>Topic 11: Convert Measurements (pp. 631-631K)</p> <p>11-1: Convert Customary Units of Length (pp. 639-644)</p> <p>11-2: Convert Customary Units of Capacity (pp. 645-650)</p> <p>11-3: Convert Customary Units of Weight (pp. 651-656)</p> <p>11-4: Convert Metric Units of Length (pp. 657- 662)</p> <p>11-5: Convert Metric Units of Capacity (pp. 663-668)</p> <p>11-6: Convert Metric Units of Mass (pp. 669-674)</p> <p>11-7: Solve Word Problems Using Measurement Conversions (pp. 675-680)</p> <p>11-8: Math Practices and Problem Solving: Precision (pp. 681-686)</p>	<p>Topic 11:</p> <ul style="list-style-type: none"> • foot (ft) • inch (in.) • yard (yd) • mile (mi) • capacity • gallon (gal) • quart (qt) • pint (pt) • cup (c) • fluid ounce (fl oz) • weight • ton (T) • pound (lb) • ounce (oz) • kilometer (km) • meter (m) • centimeter (cm) • millimeter (mm) • liter (L) • milliliter (mL) • mass • milligram (mg) • gram (g) • kilogram (kg)
	<p>Assessment Options:</p>	<p>Topic 11 Assessment - Convert Measurements (<i>print or online</i>) (pp. 691-692)</p> <p>Topic 11 Performance Assessment - Convert Measurements (pp. 693-694)</p>	

Assessment Tasks – Topic 11

	Procedural Check	Application Task
5.MD.1	<p>Convert the following:</p> <ul style="list-style-type: none"> • Meters to kilometers • Yards to miles • Grams to kilograms • Ounces to pounds • Cups to gallons <p>(DOK 1)</p>	<p>A fifth grade class is running a 5k race. The class will begin practicing to increase their endurance, starting with 1,500 meters and adding 500 meters each week. The coach wants them to be able to run at least 5k before the actual race. How many weeks will it take for them to run farther than 5 kilometers? Create a table to justify your answer.</p> <p>(DOK 3)</p> <p>A fifth grade class is running a three-mile race. The class will begin practicing to increase their endurance, starting with 880 yards and adding 440 yards per week. The coach wants them to be able to run at least three miles before the actual race. How many weeks will it take for them to run farther than three miles? Create a table to justify your answer.</p> <p>(DOK 3)</p> <p>Zuri, the baby elephant was born August 10, 2009 at Hogle Zoo. The calf weighed 251 lbs. at birth. If the baby elephant gains 48 ounces a day, how much will she weigh at the end of 7 days? If Zuri continues to gain at this same rate, predict her weight at one month. Create a table and an expression to justify your answer.</p> <p>(DOK 3)</p> <p>Nutritionists recommend drinking eight glasses of water each day. If a glass holds 250 mL, does the recommended daily water intake exceed 1L?</p> <p>Use pictures to justify your answer.</p> <p>(DOK 3)</p>

MEASUREMENT AND DATA (MD)
Topic 12 - Represent and Interpret Data

Report Card Learning Targets I can.... <ul style="list-style-type: none">• Solve problems in all operations using line plots		
TOPIC 12		
Coherence		pp. 695C-695D
Look back: Grade 4- <ul style="list-style-type: none">• Line plots Earlier in Grade 5- <ul style="list-style-type: none">• Add and Subtract Fractions• Multiply and Divide Fractions	Topic 12: <ul style="list-style-type: none">• Analyze and Make Line Plots• Use Data Represented in a Line Plot to Solve Problems• Use Fractions Operations in Data Problems	Look ahead: Grade 6- <ul style="list-style-type: none">• Display and Summarize Data• Histograms
Rigor		p. 695E
Conceptual Understanding: <ul style="list-style-type: none">• Number Lines and Line Plots• Frequency Tables and Line Plots• Outlier in a Line Plot	Procedural Skill and Fluency: <ul style="list-style-type: none">• Read and Analyze a Line Plot• Make a Line Plot	Applications: <ul style="list-style-type: none">• Real-World Data• Use Fraction Operations to Solve Problems Involving Data in Line Plots
Focus	Strand: Mathematical Practice Standard #3	
5.MP.3	<p>Construct viable arguments and critique the reasoning of others. Use stated assumptions, definitions, and previously established results to construct arguments. Explain and justify the mathematical reasoning underlying a strategy, solution, or conjecture by using concrete referents such as objects, drawings, diagrams, and actions. Listen to or read the arguments of others, decide whether they make sense, ask useful questions to clarify or improve the arguments, and build on those arguments.</p>	

	<p>Fifth grade students critique others' interpretations of data represented on a line plot.</p> <p>I can ask questions to understand other people's thinking. I can identify mistakes in other people's thinking. I can provide suggestions for improving other people's thinking.</p>		
Focus	Standards	Curriculum Supports – envision 2.0	Vocabulary
5.MD.2 (5.MD.B)	<p>Strand: Measurement and Data</p> <p>Fifth grade students will represent and interpret data.</p> <p>Standard 5.MD.2 Make a line plot to display a data set of measurements in fractions of a unit (halves, quarters, eighths). Use operations on fractions for this grade to solve problems involving information presented in line plots. <i>For example, given graduated cylinders with different measures of liquid in each, find the amount of liquid each cylinder would contain if the total amount in all the cylinders were redistributed equally.</i></p>	<p>Topic 12: Represent and Interpret Data (pp. 695I-695J)</p> <p>12-1: Analyze Line Plots (pp. 699-704) 12-2: Make Line Plots (pp. 705-710) 12-3: Solve Word Problems Using Measurement Data (pp. 711-716) 12-4: Math Practices and Problem Solving: Critique Reasoning (pp. 717-722)</p>	<p>Topic 12:</p> <ul style="list-style-type: none"> • data • line plot • outlier

Math Exemplars- Utilize both Summative Assessment Task and Instructional Tasks/Formative Assessments

Number and Operations – Fractions

- 5.NF.B.3
- 5.NF.B.4a & 4b
- 5.NF.B.5a & 5b
- 5.NF.B.6
- 5.NF.B.7a, 7b & 7c

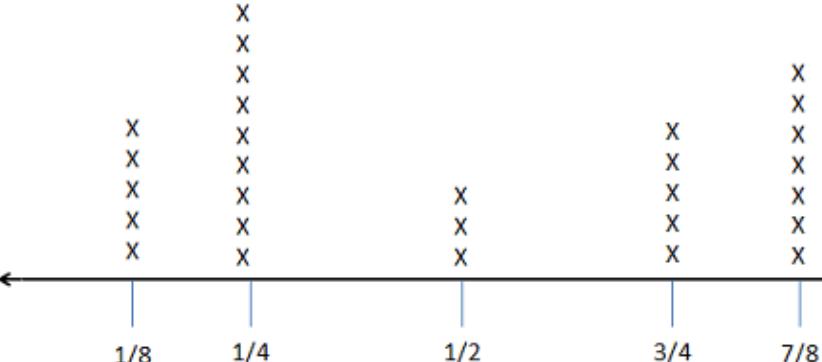
Measurement and Data

- 5.MD.C.3a & 3b
- 5.MD.C.4
- 5.MD.C.5a, 5b & 5c
-

M3 What Are Your Chances?

District-Wide Standards-Based Benchmark #3 due by April 28

Assessment Tasks - Topic 12

Assessment Tasks - Topic 12		
	Procedural Check	Application Task
5.MD.2	<p>With a given set of data, students will create a line plot (DOK 1)</p>	<p>Ask students to select objects from their desk that they think are less than one inch and then, without measuring, organize the objects into groups of $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ inch. They should have at least 10 objects.</p> <p>Then ask the students to measure the objects to the nearest $\frac{1}{8}$ inch, and record their measurements on a line plot as shown below.</p> <p>Which length had the greatest, fewest number of objects? Ask students to compare their own line plot with other students and record their comparisons.</p> <p>(DOK 2)</p>  <p>Give the line plot above a title. Create a story problem to describe the data on the line plot. (DOK 3)</p>

OPERATIONS AND ALGEBRAIC THINKING (OA)
Topic 13 – Write and Interpret Numerical Expressions

Report Card Learning Targets		
I can....		
<ul style="list-style-type: none"> Solve numerical expressions using parentheses 		
TOPIC 13		
Coherence		pp. 731C-731D
Look back: Grade 4- <ul style="list-style-type: none"> Use the Distributive Property Solve Multi-Step Problems Earlier in Grade 5- <ul style="list-style-type: none"> Use Operations to Solve Problems 	Topic 13: <ul style="list-style-type: none"> Use the Order of Operations 	Look ahead: Later in Grade 5- <ul style="list-style-type: none"> Describe Relationships Grade 6- <ul style="list-style-type: none"> Exponents and the Order of Operations Understand Algebraic Expressions
Rigor		p. 731E
Conceptual Understanding: <ul style="list-style-type: none"> Recognize the Need for the Order of Operations Interpret Numerical Expressions Without Calculating 	Procedural Skill and Fluency: <ul style="list-style-type: none"> Use the Order of Operations to Evaluate a Numerical Expression 	Applications: <ul style="list-style-type: none"> Write Numerical Expressions to Solve Problems Interpret Numerical Expressions Without Evaluating Them
Focus	Strand: Mathematical Practice Standard #2	p. 731F
5.MP.2	<p>Reason abstractly and quantitatively. Make sense of quantities and their relationships in problem situations. Contextualize quantities and operations by using images or stories. Decontextualize a given situation and represent it symbolically. Interpret symbols as having meaning, not just as directions to carry out a procedure. Know and flexibly use different properties of operations, numbers, and geometric objects.</p> <p><i>Fifth grade students use reasoning when they use properties of operations to write equivalent numerical expressions.</i></p> <ul style="list-style-type: none"> I can identify and understand the quantities in the problem. I can show and explain how quantities are related (e.g., bar diagram). 	

	<p>I can translate real-world contexts correctly to numbers, expressions, equations, or concrete or pictorial representations.</p> <p>I can connect numbers, expressions, equations, or concrete or pictorial representations back to real-world contexts.</p>		
Focus	Standards	Curriculum Supports – envision 2.0	Vocabulary
5.OA.1 5.OA.2 (5.OA.A)	<p>Strand: Operations and Algebraic Thinking</p> <p>Fifth Grade students write and interpret numerical expressions.</p> <p>Standard 5.OA.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.</p> <p>Standard 5.OA.2 Write and interpret simple numerical expressions.</p> <ul style="list-style-type: none"> a. Write simple expressions that record calculations with numbers. <i>For example, use $2 \times (8+7)$ to express the calculation "add 8 and 7, then multiply by 2."</i> b. Interpret numerical expressions without evaluating them. <i>For example use conceptual understanding of multiplication to interpret $3 \times (18939 + 921)$ as being three times as large as $18932 + 921$ without calculating the indicated sum or product.</i> 	<p>Topic 13: Write and Interpret Numerical Expressions (pp. 731I-731J)</p> <p>13-1: Order of Operations (pp. 735-740) 13-2: Evaluate Expressions (pp. 741-746) 13-3: Write Numerical Expressions (pp. 747-752) 13-4: Interpret Numerical Expressions (pp. 753-758) 13-5: Math Practices and Problem Solving: Reasoning (pp. 759-764)</p>	<p>Topic 13:</p> <ul style="list-style-type: none"> • numerical expression • evaluate • order of operations • parentheses • brackets • braces
	<p>Assessment Options:</p>	<p>Topic 13 Assessment - Write and Interpret Numerical Expressions (print or online) (pp. 769-770)</p> <p>Topic 13 Performance Assessment - Write and Interpret Numerical Expressions (pp. 771-772)</p>	

Assessment Tasks – Topic 13

	Procedural Check	Application Task
5.OA.1	<p>What is the value of the expression? $50 \div (2 + 8) - 3$</p> <p>(DOK 1)</p>	<p>Monique went to the store to buy groceries for her party. She bought 5 bananas for 50 cents each. She also bought 4 cartons of ice cream for \$3.00 each. At checkout, she was given 10 cents off the bananas. Write an expression that represents the problem. You may use models if you choose to do so. Then solve the problem to determine how much Monique spent in all. Explain your reasoning to justify your work.</p> <p>(DOK 3)</p> <p>Answer: $[(5 \times .50) - .10] + (4 \times 3.00) = \\14.40</p>
5.OA.2	<p>Alex and Chet both collect cards. Write an algebraic equation to show that Alex has twice as many cards as Chet. Let c represent the number of cards Chet has.</p> <p>(DOK 2)</p>	<p>Adam is twice the height of 4 increased by 9. Wendell is three times the height of 5 decreased by 2. Who is taller? Use words and pictures to justify your answer.</p> <p>(DOK 3)</p>

GEOMETRY**Topic 14 - Graph Points on the Coordinate Plane**

Report Card Learning Targets		
I can....		
<ul style="list-style-type: none"> Solve problems using points on a coordinate plane 		
TOPIC 14		
Coherence		pp. 773C-773D
Look back: Grade 4- <ul style="list-style-type: none"> Line Plots Earlier in Grade 5- <ul style="list-style-type: none"> Analyze Line Plots 	Topic 14: <ul style="list-style-type: none"> Graph Points Solve Problems in Context 	Look ahead: Later in Grade 5- <ul style="list-style-type: none"> Analyze and Graph Relationships Grade 6- <ul style="list-style-type: none"> Graph in All Four Quadrants
Rigor		p. 773E
Conceptual Understanding: <ul style="list-style-type: none"> Understand the Coordinate Grid Understand Ordered Pairs 	Procedural Skill and Fluency: <ul style="list-style-type: none"> Graph Points 	Applications: <ul style="list-style-type: none"> Real-World Contexts
Focus	Strand: Mathematical Practice Standard #2	
5.MP.2	<p>Reason abstractly and quantitatively. Make sense of quantities and their relationships in problem situations. Contextualize quantities and operations by using images or stories. Decontextualize a given situation and represent it symbolically. Interpret symbols as having meaning, not just as directions to carry out a procedure. Know and flexibly use different properties of operations, numbers, and geometric objects. <i>Fifth grade students use a graph to recognize relationships between quantities.</i></p> <p>I can identify and understand the quantities within a problem. I can show and explain how quantities are related (e.g., bar diagram). I can translate real-world contexts correctly to numbers, expressions, equations, or concrete or pictorial representations. I can connect numbers, expressions, equations, or concrete or pictorial representations back to real-world contexts.</p>	

Focus	Standards	Curriculum Supports – envision 2.0	Vocabulary
5.G.1 5.G.2 (5.G.A)	<p>Strand: Geometry</p> <p>Fifth grade students will graph points on the coordinate plane to solve real-world and mathematical problems in quadrant one.</p> <p>Standard 5.G.1 Compose and understand the coordinate plane.</p> <ul style="list-style-type: none"> a. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the zero on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. b. Using quadrant one on the coordinate plane, understand that the first number in a coordinate pair indicates how far to travel from the origin in the direction of the horizontal axis, and the second number indicates how far to travel in the direction of the vertical axis, with the convention that the names of the two axes and the coordinates correspond (x-axis and x-coordinate, y-axis and y-coordinate). <p>Standard 5.G.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.</p>	<p>Topic 14: Graph Points On the Coordinate Plane (pp. 773I-773J)</p> <p>14-1: The Coordinate System (pp. 777-782)</p> <p>14-2: Graph Data Using Ordered Pairs (pp. 783-788)</p> <p>14-3: Solve Problems Using Ordered Pairs (pp. 789-794)</p> <p>14-4: Math Practices and Problem Solving: Reasoning (pp. 795-800)</p>	<p>Topic 14:</p> <ul style="list-style-type: none"> • coordinate grid • ordered pair • X-axis • Y-axis • origin • X-coordinate • Y-coordinate
	<p>Assessment Options:</p>	<p>Topic 14 Assessment - Graph Points on the Coordinate Plane (print or online) (pp. 805-806)</p> <p>Topic 14 Performance Assessment - Graph Points on the Coordinate Plane (pp. 807-808)</p>	

Assessment Tasks – Topic 14

	Procedural Check	Application Task
<p>5.G.1</p> <p>On a coordinate grid, have students identify a specific point (e.g., What are the coordinates of the point where the bird is located?) (DOK 1)</p> <p>Give the students ordered pairs that they must match to points on the plane within the first quadrant. (DOK 1)</p>	<p>Give students a map of the school on a coordinate grid and ask them to identify where certain places in the school are found. Then have students tell what is located at a particular given coordinate pair. (DOK 1)</p> <p>Or</p> <p>Ask students to create a coordinate grid of the classroom using actual measurements. Then ask them to locate objects on the grid and determine the distances between the objects. They could create question sets to challenge a partner or other group to identify an object. For example, I am thinking of an object that is located at ((5, 8). (DOK 3)</p> <p>Points G, B, and H are 3 corners of a rectangle. What is the ordered pair of the fourth corner?</p> <hr/>	

		<p>Once you have found the ordered pair of the fourth corner, connect the corners to create the rectangle.</p> <p>Are there other sets of 3 points that form corners of rectangles? Identify at least two other sets of 3 points. Compare the areas of the rectangles.</p> <p>(DOK 3)</p>
5.G.2	<p>Give students a map that has the coordinate grid overlaid. Ask students to find the coordinates of specific landmarks and have them find landmarks at given ordered pairs.</p> <p>(DOK 1)</p>	<p>The local department store has recently released its information regarding video game sales over the last nine months. In the first month they sold 75 games. In the next month they sold 72. In the third month they sold 60, and in the fourth they sold 42. In the fifth month they sold 45, in the sixth they sold 38, in the seventh they sold 56, in the eighth they sold 62, and in the ninth they sold 79. Organize this data in a chart and then plot it on a coordinate grid to help the store understand their video games sales. Can you predict future sales based on this data? Use the chart to justify your answer.</p> <p>(DOK 3)</p>

OPERATIONS AND ALGEBRAIC THINKING (OA)
Topic 15 - Algebra: Analyze Patterns and Relationships

Report Card Learning Targets		
I can....		
<ul style="list-style-type: none"> • Create patterns and analyze their relationships 		
TOPIC 15		
Coherence		pp. 809C-809D
Look back: Grade 4- <ul style="list-style-type: none"> • Generate and Analyze Patterns Earlier in Grade 5- <ul style="list-style-type: none"> • Analyze Patterns • Coordinate Graphs 	Topic 15: <ul style="list-style-type: none"> • Look for Relationships • Coordinate Graphs 	Look ahead: Grade 6- <ul style="list-style-type: none"> • Dependent and Independent Variables
Rigor		p. 809E
Conceptual Understanding: <ul style="list-style-type: none"> • Understand Relationships 	Procedural Skill and Fluency: <ul style="list-style-type: none"> • Extend patterns • Graph Relationships 	Applications: <ul style="list-style-type: none"> • Real-World Patterns
Focus	Strand: Mathematical Practice Standard #1	
5.MP.1 <p>Make sense of problems and persevere in solving them. Explain the meaning of a problem, look for entry points to begin work on the problem, and plan and choose a solution pathway. When a solution pathway does not make sense, look for another pathway that does. Explain connections between various solution strategies and representations. Upon finding a solution, look back at the problem to determine whether the solution is reasonable and accurate, often checking answers to problems using a different method or approach. <i>Fifth grade students persevere as they generate and analyze patterns, determine rules, and then graph rules to solve problems.</i></p> <p>I can give a good explanation of the problem. I can think about a plan before jumping into the solution. I can think of similar problems, try special cases, or use a simpler form of the problem. I can, if needed, organize data or use representations to help make sense of the problem. I can identify likely strategies for solving the problem. I can pause when solving problems to make sure that the work being done makes sense.</p>	p. 809F	

	I can make sure that the answer makes sense before stopping work.		
Focus	Standards	Curriculum Supports – envision 2.0	Vocabulary
5.OA.3 (5.OA.B)	<p>Strand: Operations and Algebraic Thinking</p> <p>Fifth Grade students will classify two-dimensional figures into categories based on their properties.</p> <p>Standard 5.OA.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. <i>For example, given the rule “add 3” and the starting number 0, and given the rule “add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.</i></p>	<p>Topic 15: Algebra: Analyze Patterns and Relationships (pp. 809I-809J)</p> <p>15-1: Numerical Patterns (pp. 813-818) 15-2: More Numerical Patterns (pp. 819-824) 15-3: Analyze and Graph Relationships (pp. 825-830) 15-4: Math Practices and Problem Solving: Make Sense and Persevere (pp.831-836)</p>	<p>Topic 15:</p> <ul style="list-style-type: none"> • corresponding terms • number sequence
	<p>Assessment Options:</p> <p>Topic 15 Assessment - Algebra: Analyze Patterns and Relationships (print or online) (pp. 841-842)</p>	<p>Topic 15 Performance Assessment - Algebra: Analyze Patterns and Relationships (pp. 843-844)</p>	
Assessment Tasks			
	Procedural Check	Application Task	
5.OA.3	<p>Generate two numerical patterns</p> <p>Example: “add 2” and “add 4” (DOK 1)</p> <p>Answer: Add 2: 2, 4, 6, 8, 1, 12</p> <p>Answer: Add 4: 4, 8, 12, 16, 20</p> <p>Have students graph ordered pairs on a coordinate grid. (DOK 1)</p>	<p>Terri catches 4 fish each day, and Sam catches 2 fish, the amount of Terri’s fish is always greater. Terri’s fish is also always twice as much as Sam’s fish. Today, both Sam and Terri have no fish. They both go fishing each day. Sam catches 2 fish each day. Terri catches 4 fish each day. How many fish do they have after each of the five days? Make a table and create a graph of the number of fish. Write to justify your answer. (DOK 3)</p>	

GEOMETRY (G)

Topic 16 - Geometric Measurement: Classify Two-Dimensional Figures

Report Card Learning Targets			
I can....			
<ul style="list-style-type: none"> Classify 2D shapes by their properties 			
TOPIC 16			
Coherence		pp. 845C-845D	
Look back: Grade 4- <ul style="list-style-type: none"> Understand Angles Classify Shapes Earlier in Grade 5- <ul style="list-style-type: none"> Graph Polygons 	Topic 16: <ul style="list-style-type: none"> Classify by Attributes Hierarchy of Quadrilaterals 	Look ahead: Grade 6- <ul style="list-style-type: none"> Solve Area Problems Solve Surface Area Problems 	
Rigor		p. 845E	
Conceptual Understanding: <ul style="list-style-type: none"> Hierarchy of Quadrilaterals 	Procedural Skill and Fluency: <ul style="list-style-type: none"> Classify Shapes 	Applications: <ul style="list-style-type: none"> Analyze Shapes in the Real World 	
Focus	Strand: Mathematical Practice Standard #3		
5.MP.3	<p>Construct viable arguments and critique the reasoning of others. Use stated assumptions, definitions, and previously established results to construct arguments. Explain and justify the mathematical reasoning underlying a strategy, solution, or conjecture by using concrete referents such as objects, drawings, diagrams, and actions. Listen to or read the arguments of others, decide whether they make sense, ask useful questions to clarify or improve the arguments, and build on those arguments.</p> <p>Fifth grade students construct arguments to justify or rebut conjectures about classifying shapes.</p> <p>I can provide complete and clear explanations of my thinking and work. I can decide if other students' explanations make sense; clarify or improve other students' arguments. I can use counterexamples when appropriate.</p>		
Focus	Standards	Curriculum Supports – envision 2.0	Vocabulary
5.G.3 5.G.4 (5.G.B)	Strand: Geometry Fifth Grade students will classify two-dimensional figures into categories based on their properties.	Topic 16: Geometric Measurement: Classify Two-Dimensional Figures (pp. 845I-845J) 16-1: Classify Triangles (pp. 851-856)	Topic 16: <ul style="list-style-type: none"> equilateral triangle isosceles

	<p>Standard 5.G.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. <i>For example, all rectangles have four right angles and all squares are rectangles, so all squares have four right angles.</i></p> <p>Standard 5.G.4 Classify two-dimensional figures in a hierarchy based on properties.</p>	<p>16-2: Classify Quadrilaterals (pp. 857-862)</p> <p>16-3: Continue to Classify Quadrilaterals (pp. 863-868)</p> <p>16-4: Math Practices and Problem Solving: Construct Arguments (pp. 869-874)</p>	triangle • scalene triangle • right triangle • acute triangle • obtuse triangle • trapezoid • parallelogram • rectangle • rhombus • square
	<p>Assessment Options:</p>	<p>Topic 16 Assessment - Geometric Measurement: Classify Two-Dimensional Figures (<i>print or online</i>) (pp.879-880)</p> <p>Topic 16 Performance Assessment - Geometric Measurement: Classify Two-Dimensional Figures (pp.881-882)</p>	

Math Exemplars- Utilize both Summative Assessment Task and Instructional Tasks/Formative Assessments

Operations and Algebraic Thinking

- 5.OA.A.1
- 5.OA.B.3

Geometry

- 5.G.A.1 & 2
- 5.G.B.3 & 4

M3 Funkytown Fun House: Focusing on Proportional Reasoning and Similarity

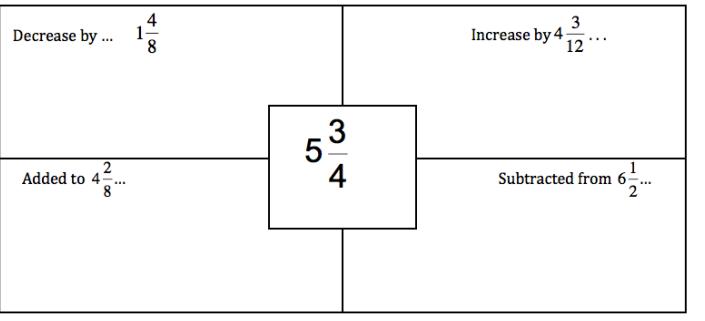
District-Wide Standards-Based Benchmark #4 due by June 6

Assessment Tasks – Topic 16		
	Procedural Check	Application Task
5.G.3	<p>A parallelogram has four sides, with both sets of opposite sides parallel. What types of quadrilaterals are parallelograms?</p> <p>(DOK 2)</p> <p>Regular polygons have congruent sides and angles. Name and draw some regular polygons.</p> <p>(DOK 1)</p>	<p>Provide a series of “sometimes, never, or always” questions, and require that students provide a written or pictorial explanation for each answer. For example:</p> <ul style="list-style-type: none"> • A parallelogram is a square- sometimes, never, or always? Explain how you know <p>Explain why all squares are rectangles, but not all rectangles are squares.</p> <p>(DOK 3)</p>
5.G.4	<p>Have students identify all the polygons they can find in a piece of geometric art.</p> <p>(DOK 1)</p> <p>http://interiorcomplex.com/accessories/20-modern-geometric-art-prints/#</p>	<p>Have students make their own piece of art, making sure to include a variety of polygons. Have students use their understanding of hierarchy to make the piece (for example, the top of the picture can contain any polygons, but as it goes down it has to use more specific types of polygons).</p> <p>(DOK 2)</p> <p>Name at least two other quadrilaterals that a square can be classified as. Explain using what you know about the properties of quadrilaterals. Use pictures and labels to justify your answer.</p> <p>(DOK 3)</p>

5th Grade Additional Assessment Tasks

Assessment Tasks		
	Procedural Check	Application Task
5.OA.2	<p>Write an expression for calculations given in words such as the following:</p> <p>“Divide 144 by 12, and then subtract 7.”</p> <p>(DOK 2)</p> <p>Answer: $(144 \div 12) - 7$</p>	<p>Mara bought 6 bags of Skittles at \$0.85 each and 9 packs of gum at \$1.20 each. Write an expression. Explain your reasoning. How do you know your expression fits the problem?</p> <p>(DOK 3)</p> <p>Answer: $(6 \times 0.85) + (9 \times 1.20)$</p>
5.OA.2	<p>Write an expression with each.</p> <p>A plane can fly 425 miles for each hour it flies. How far will it fly in h hours?</p> <p>A number of students divided into 4 teams.</p> <p>4 times a number n increased by 3.</p> <p>Explain how you came up with each expression.</p> <p>(DOK 2)</p>	<p>Miles has n number of baseball cards. He keeps the same number of cards in each of three boxes.</p> <p>What expression represents the number of baseball cards Miles can put in each box?</p> <p>Use what you know about expressions to justify why your answer is correct.</p> <p>(DOK 3)</p>
5.NBT.1	<p>How many tenths are in 2.5?</p> <p>(DOK 1)</p> <p>How much larger is 200 than 20? How much smaller is 0.3 than 3?</p> <p>(DOK 2)</p>	<p>Using base-ten blocks, show at least two ways to represent the number 3.2 (e.g., use a flat as a unit, a stick as $1/10$ and a single as $1/100$) Give evidence to justify your answer.</p> <p>(DOK 3)</p> <p>Use words, numbers, and a model to explain why each of the digits in the number 4.44 has a different value. Be sure to use “ten times as large” and “one tenth as large” in your explanation.</p> <p>(DOK 3)</p>
5.NBT.1	<p>One pound of apples costs \$1.99. How much would ten pounds cost?</p> <p>(DOK 1)</p>	<p>Explain why $4 \div 10 = 0.4$</p> <p>Draw pictures to illustrate your explanations.</p>

		(DOK 3) Jesse puts 10 jellybeans on a scale and the scale reads 12.0 grams. How much would you expect 1 jellybean to weigh? Explain your thinking. (DOK 3)
5.NBT.2	Express the missing divisor using a power of 10. Explain your reasoning using a place value model. (DOK 2) a. $5.2 \div \underline{\quad} = 0.052$ b. $7,650 \div \underline{\quad} = 7.65$	Generate and solve another division problem with the same quotient and remainder as the two problems below. Explain your strategy for creating the new problem. $\begin{array}{r} 3 \\ 1 \ 7 \overline{)6 \ 3} \\ \underline{-5 \ 1} \\ 2 \end{array}$ $\begin{array}{r} 3 \\ 4 \ 2 \overline{)1 \ 3 \ 8} \\ \underline{-1 \ 2} \\ 2 \end{array}$ (DOK 3)
5 NBT.2	Explain why the following multiplication and division problems with the powers of ten are true. (DOK 3) $432 \times 10^3 = 432000$ $4.32 \times 10^2 = 432$ $43.2 \times 10^1 = 432$	Martha earned \$4.20 each day for ten days of babysitting. Over a year's time, she worked ten times ten days. Write an expression using exponents of 10 to show how much she earned in ten days. (DOK 2) Joe is multiplying 64.15×10 so he put a zero at the end of the number to get his answer. $64.15 \times 10 = 64.150$. Explain why you agree or disagree with the Jack's thinking. (DOK 3)
5.NBT.6	Divide the following and show your work $588 \div 14$. (DOK 1) Samantha wants to split a collection of stickers into groups of 48. Samantha has 1,008 stickers. How many groups will be created? Show two ways to find the answer. (DOK 1)	Write a division problem using a 4-digit dividend and a 2-digit divisor that results in an even quotient. Explain your thinking. (DOK 3)

5.NBT.6	<p>Divide $2789 \div 72 =$</p> <p>Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. (DOK 2)</p>	<ul style="list-style-type: none"> The quotient of a division problem is 20 when rounded to the nearest ten. The divisor of the same problem is 50 when rounded to the nearest ten. The dividend is between 1,000 and 1,200. <p>What is a possible quotient and divisor in this problem?</p> <p>Explain why these numbers would work for this problem using calculations, rectangular arrays or area models. (DOK 3)</p>
5.NBT.7	<p>Connor is buying tickets to a play. The play he and his friends want to see costs \$4.75 per ticket. Connor has \$26.00 in his pocket. What is the greatest number of tickets Connor can buy? (DOK 1)</p>	<p>There are 167 students, 15 chaperones and 6 teachers going on a field trip. Each bus can hold 24 people. How many buses will be needed to transport everyone going on the trip? (DOK 2)</p> <p>In this calculation some numbers are missing. What might they be? How do you know? (DOK 3)</p> <p style="text-align: center;">$3 . \underline{\quad} + \underline{\quad} .7 \underline{\quad} = 1 \underline{\quad} .3$</p>
5.NF.1	<p>Complete the fraction map below. Write your answers in simplest form.</p> 	<p>Two fractions with unlike denominators have a sum of 1. Write 3 pairs of addends that are fractions with unlike denominators and that equal 1. Draw pictures to justify your answer. (DOK 3)</p> <p>Kina wants to run a total of $7 \frac{5}{8}$ miles every Tuesday and Thursday. If she runs $4 \frac{4}{16}$ miles on Tuesday and $3 \frac{3}{8}$ miles on Thursday, will she meet his goal for this week? Explain using pictures, numbers and/or words.</p>

	(DOK 1)	(DOK 3)
5.NF.2	<p>Solve the problem with a visual model and equation. Also, use benchmark fractions to check the reasonableness of your answer. Claire took $2 \frac{3}{4}$ hours to read a book. Her brother, Dan, took $\frac{2}{3}$ hour less to read his book. How much more time did Claire spend reading than Dan?</p> <p>Extension Question: How much time did they spend altogether reading their books?</p> <p>(DOK 1)</p>	<ol style="list-style-type: none"> 1. Create a word problem that could be solved by adding two specific fractions with unlike denominators. Example: $2 \frac{1}{2} + \frac{3}{4} =$ 2. Represent the problem using both a diagram and an equation. 3. Solve your problem. Show all your work. 4. Use benchmark fractions to explain how you know that your answer is reasonable. <p>(DOK 3)</p>
5.G.2	<p>Have students overlay a coordinate grid on a real map. They should use their knowledge of coordinate geometry and ordered pairs to find locations as they travel along the map.</p> <p>(DOK 1)</p>	<p>Sara has saved \$20. She earns \$8 for each hour she works. If Sara saves all of her money, how much will she have after working 3 hours? 5 hours? 10 hours?</p> <p>Create a graph that shows the relationship between the hours Sara worked and the amount of money she has saved.</p> <p>What other information do you know from analyzing the graph?</p> <p>(DOK 3)</p>



North Carolina Department of Public Instruction

INSTRUCTIONAL SUPPORT TOOLS

FOR ACHIEVING NEW STANDARDS

5th Grade Mathematics • Unpacked Content

For the new Common Core State Standards that will be effective in all North Carolina schools in the 2012-13 school year.

This document is designed to help North Carolina educators teach the Common Core (Standard Course of Study). NCDPI staff are continually updating and improving these tools to better serve teachers.

What is the purpose of this document?

To increase student achievement by ensuring educators understand specifically what the new standards mean a student must know, understand and be able to do. This document may also be used to facilitate discussion among teachers and curriculum staff and to encourage coherence in the sequence, pacing, and units of study for grade-level curricula. This document, along with on-going professional development, is one of many resources used to understand and teach the CCSS.

What is in the document?

Descriptions of what each standard means a student will know, understand and be able to do. The “unpacking” of the standards done in this document is an effort to answer a simple question “What does this standard mean that a student must know and be able to do?” and to ensure the description is helpful, specific and comprehensive for educators.

How do I send Feedback?

We intend the explanations and examples in this document to be helpful and specific. That said, we believe that as this document is used, teachers and educators will find ways in which the unpacking can be improved and made ever more useful. Please send feedback to us at feedback@dpi.state.nc.us and we will use your input to refine our unpacking of the standards. Thank You!

Just want the standards alone?

You can find the standards alone at <http://corestandards.org/the-standards>

Standards for Mathematical Practices

The Common Core State Standards for Mathematical Practice are expected to be integrated into every mathematics lesson for all students Grades K-12. Below are a few examples of how these Practices may be integrated into tasks that students complete.

Mathematic Practices	Explanations and Examples
1. Make sense of problems and persevere in solving them.	Mathematically proficient students in grade 5 should solve problems by applying their understanding of operations with whole numbers, decimals, and fractions including mixed numbers. They solve problems related to volume and measurement conversions. Students seek the meaning of a problem and look for efficient ways to represent and solve it. They may check their thinking by asking themselves, “What is the most efficient way to solve the problem?”, “Does this make sense?”, and “Can I solve the problem in a different way?”.
2. Reason abstractly and quantitatively.	Mathematically proficient students in grade 5 should recognize that a number represents a specific quantity. They connect quantities to written symbols and create a logical representation of the problem at hand, considering both the appropriate units involved and the meaning of quantities. They extend this understanding from whole numbers to their work with fractions and decimals. Students write simple expressions that record calculations with numbers and represent or round numbers using place value concepts.
3. Construct viable arguments and critique the reasoning of others.	In fifth grade mathematical proficient students may construct arguments using concrete referents, such as objects, pictures, and drawings. They explain calculations based upon models and properties of operations and rules that generate patterns. They demonstrate and explain the relationship between volume and multiplication. They refine their mathematical communication skills as they participate in mathematical discussions involving questions like “How did you get that?” and “Why is that true?” They explain their thinking to others and respond to others’ thinking.
4. Model with mathematics.	Mathematically proficient students in grade 5 experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, making a chart, list, or graph, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed. Fifth graders should evaluate their results in the context of the situation and whether the results make sense. They also evaluate the utility of models to determine which models are most useful and efficient to solve problems.
5. Use appropriate tools strategically.	Mathematically proficient fifth graders consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, they may use unit cubes to fill a rectangular prism and then use a ruler to measure the dimensions. They use graph paper to accurately create graphs and solve problems or make predictions from real world data.
6. Attend to precision.	Mathematically proficient students in grade 5 continue to refine their mathematical communication skills by using clear and precise language in their discussions with others and in their own reasoning. Students use appropriate terminology when referring to expressions, fractions, geometric figures, and coordinate grids. They are careful about specifying units of measure and state the meaning of the symbols they choose. For instance, when figuring out the volume of a rectangular prism they record their answers in cubic units.
7. Look for and make use of structure.	In fifth grade mathematically proficient students look closely to discover a pattern or structure. For instance, students use properties of operations as strategies to add, subtract, multiply and divide with whole numbers, fractions, and decimals. They examine numerical patterns and relate them to a rule or a graphical representation.
8. Look for and express regularity in repeated reasoning.	Mathematically proficient fifth graders use repeated reasoning to understand algorithms and make generalizations about patterns. Students connect place value and their prior work with operations to understand algorithms to fluently multiply multi-digit numbers and perform all operations with decimals to hundredths. Students explore operations with fractions with visual models and begin to formulate generalizations.

Grade 5 Critical Areas

The Critical Areas are designed to bring focus to the standards at each grade by describing the big ideas that educators can use to build their curriculum and to guide instruction. The Critical Areas for fifth grade can be found on page 33 in the *Common Core State Standards for Mathematics*.

1. **Developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions).**

Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them. Students also use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Note: this is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)

2. **Extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations.**

Students develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations. They finalize fluency with multi-digit addition, subtraction, multiplication, and division. They apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They develop fluency in these computations, and make reasonable estimates of their results. Students use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (i.e., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They compute products and quotients of decimals to hundredths efficiently and accurately.

3. **Developing understanding of volume.**

Students recognize volume as an attribute of three-dimensional space. They understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps. They understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. They select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume. They decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes. They measure necessary attributes of shapes in order to determine volumes to solve real world and mathematical problems.

Operations and Algebraic Thinking

5.0A

Common Core Cluster

Write and interpret numerical expressions.

Mathematically proficient students communicate precisely by engaging in discussion about their reasoning using appropriate mathematical language. The terms students should learn to use with increasing precision with this cluster are: **parentheses, brackets, braces, numerical expressions**

Common Core Standard	Unpacking What do these standards mean a child will know and be able to do?
5.OA.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	<p>The order of operations is introduced in third grade and is continued in fourth. This standard calls for students to evaluate expressions with parentheses (), brackets [] and braces { }. In upper levels of mathematics, evaluate means to substitute for a variable and simplify the expression. However at this level students are to only simplify the expressions because there are no variables.</p> <p>Example:</p> <p>Evaluate the expression $2\{5[12 + 5(500 - 100) + 399]\}$</p> <p>Students should have experiences working with the order of first evaluating terms in parentheses, then brackets, and then braces.</p> <p>The first step would be to subtract $500 - 100 = 400$. Then multiply 400 by $5 = 2,000$.</p> <p>Inside the bracket, there is now $[12 + 2,000 + 399]$. That equals $2,411$.</p> <p>Next multiply by the 5 outside of the bracket. $2,411 \times 5 = 12,055$.</p> <p>Next multiply by the 2 outside of the braces. $12,055 \times 2 = 24,110$.</p> <p>Mathematically, there cannot be brackets or braces in a problem that does not have parentheses. Likewise, there cannot be braces in a problem that does not have both parentheses and brackets.</p> <p>This standard builds on the expectations of third grade where students are expected to start learning the conventional order. Students need experiences with multiple expressions that use grouping symbols throughout the year to develop understanding of when and how to use parentheses, brackets, and braces. First, students use these symbols with whole numbers. Then the symbols can be used as students add, subtract, multiply and divide decimals and fractions.</p> <p>Example:</p> <ul style="list-style-type: none">• $(26 + 18) \div 4$ Solution: 11• $\{[2 \times (3+5)] - 9\} + [5 \times (23-18)]$ Solution: 32• $12 - (0.4 \times 2)$ Solution: 11.2• $(2 + 3) \times (1.5 - 0.5)$ Solution: 5• $6 - \left(\frac{1}{2} + \frac{1}{3}\right)$ Solution: $5 \frac{1}{6}$

- $\{ 80 \div [2 \times (3 \frac{1}{2} + 1 \frac{1}{2})] \} + 100$ Solution: 108

To further develop students' understanding of grouping symbols and facility with operations, students place grouping symbols in equations to make the equations true or they compare expressions that are grouped differently.

Example:

- $15 - 7 - 2 = 10 \rightarrow 15 - (7 - 2) = 10$
- $3 \times 125 \div 25 + 7 = 22 \rightarrow [3 \times (125 \div 25)] + 7 = 22$
- $24 \div 12 \div 6 \div 2 = 2 \times 9 + 3 \div \frac{1}{2} \rightarrow 24 \div [(12 \div 6) \div 2] = (2 \times 9) + (3 \div \frac{1}{2})$
- Compare $3 \times 2 + 5$ and $3 \times (2 + 5)$
- Compare $15 - 6 + 7$ and $15 - (6 + 7)$

In fifth grade, students work with exponents only dealing with powers of ten (5.NBT.2). Students are expected to evaluate an expression that has a power of ten in it.

Example:

$$3 \{2 + 5 [5 + 2 \times 10^4] + 3\}$$

In fifth grade students begin working more formally with expressions. They write expressions to express a calculation, e.g., writing $2 \times (8 + 7)$ to express the calculation “add 8 and 7, then multiply by 2.” They also evaluate and interpret expressions, e.g., using their conceptual understanding of multiplication to interpret $3 \times (18932 \times 921)$ as being three times as large as $18932 + 921$, without having to calculate the indicated sum or product. Thus, students in Grade 5 begin to think about numerical expressions in ways that prefigure their later work with variable expressions (e.g., three times an unknown length is $3 \cdot L$). In Grade 5, this work should be viewed as exploratory rather than for attaining mastery; for example, expressions should not contain nested grouping symbols, and they should be no more complex than the expressions one finds in an application of the associative or distributive property, e.g., $(8 + 27) + 2$ or $(6 \times 30) (6 \times 7)$. Note however that the numbers in expressions need not always be whole numbers. (*Progressions for the CCSSM, Operations and Algebraic Thinking*, CCSS Writing Team, April 2011, page 32)

<p>5.OA.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.</p> <p><i>For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.</i></p>	<p>This standard refers to expressions. Expressions are a series of numbers and symbols (+, -, ×, ÷) without an equals sign. Equations result when two expressions are set equal to each other ($2 + 3 = 4 + 1$).</p> <p>Example: $4(5 + 3)$ is an expression. When we compute $4(5 + 3)$ we are evaluating the expression. The expression equals 32. $4(5 + 3) = 32$ is an equation.</p> <p>This standard calls for students to verbally describe the relationship between expressions without actually calculating them. This standard calls for students to apply their reasoning of the four operations as well as place value while describing the relationship between numbers. The standard does not include the use of variables, only numbers and signs for operations.</p> <p>Example: Write an expression for the steps “double five and then add 26.”</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;">Student $(2 \times 5) + 26$</td> </tr> </table> <p>Describe how the expression $5(10 \times 10)$ relates to 10×10.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;">Student The expression $5(10 \times 10)$ is 5 times larger than the expression 10×10 since I know that $5(10 \times 10)$ means that I have 5 groups of (10×10).</td> </tr> </table>	Student $(2 \times 5) + 26$	Student The expression $5(10 \times 10)$ is 5 times larger than the expression 10×10 since I know that $5(10 \times 10)$ means that I have 5 groups of (10×10) .
Student $(2 \times 5) + 26$			
Student The expression $5(10 \times 10)$ is 5 times larger than the expression 10×10 since I know that $5(10 \times 10)$ means that I have 5 groups of (10×10) .			

Common Core Cluster

Analyze patterns and relationships.

Mathematically proficient students communicate precisely by engaging in discussion about their reasoning using appropriate mathematical language. The terms students should learn to use with increasing precision with this cluster are: **numerical patterns, rules, ordered pairs, coordinate plane**

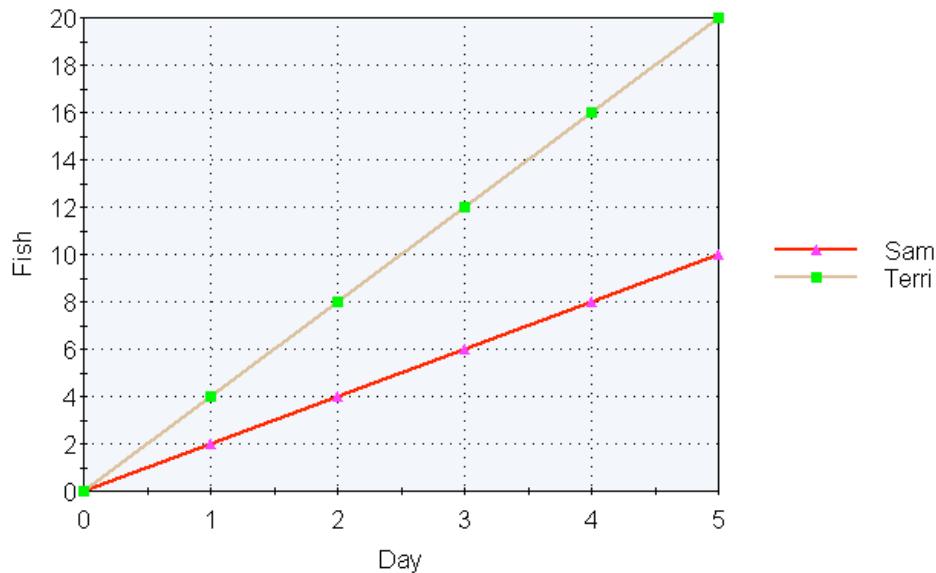
Common Core Standard	Unpacking What do these standards mean a child will know and be able to do?																					
<p>5.OA.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.</p> <p><i>For example, given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.</i></p>	<p>This standard extends the work from Fourth Grade, where students generate numerical patterns when they are given one rule. In Fifth Grade, students are given two rules and generate two numerical patterns. The graphs that are created should be line graphs to represent the pattern. This is a linear function which is why we get the straight lines. The Days are the independent variable, Fish are the dependent variables, and the constant rate is what the rule identifies in the table.</p> <p>Make a chart (table) to represent the number of fish that Sam and Terri catch.</p> <table border="1"><thead><tr><th>Days</th><th>Sam’s Total Number of Fish</th><th>Terri’s Total Number of Fish</th></tr></thead><tbody><tr><td>0</td><td>0</td><td>0</td></tr><tr><td>1</td><td>2</td><td>4</td></tr><tr><td>2</td><td>4</td><td>8</td></tr><tr><td>3</td><td>6</td><td>12</td></tr><tr><td>4</td><td>8</td><td>16</td></tr><tr><td>5</td><td>10</td><td>20</td></tr></tbody></table> <p>Example: Describe the pattern: Since Terri catches 4 fish each day, and Sam catches 2 fish, the amount of Terri’s fish is always greater. Terri’s fish is also always twice as much as Sam’s fish. Today, both Sam and Terri have no fish. They both go fishing each day. Sam catches 2 fish each day. Terri catches 4 fish each day. How many fish do they have after each of the five days? Make a graph of the number of fish.</p>	Days	Sam’s Total Number of Fish	Terri’s Total Number of Fish	0	0	0	1	2	4	2	4	8	3	6	12	4	8	16	5	10	20
Days	Sam’s Total Number of Fish	Terri’s Total Number of Fish																				
0	0	0																				
1	2	4																				
2	4	8																				
3	6	12																				
4	8	16																				
5	10	20																				

Plot the points on a coordinate plane and make a line graph, and then interpret the graph.

Student:

My graph shows that Terri always has more fish than Sam. Terri's fish increases at a higher rate since she catches 4 fish every day. Sam only catches 2 fish every day, so his number of fish increases at a smaller rate than Terri. Important to note as well that the lines become increasingly further apart. Identify apparent relationships between corresponding terms. Additional relationships: The two lines will never intersect; there will not be a day in which boys have the same total of fish, explain the relationship between the number of days that has passed and the number of fish a boy has ($2n$ or $4n$, n being the number of days).

Catching Fish



Example:

Use the rule “add 3” to write a sequence of numbers. Starting with a 0, students write 0, 3, 6, 9, 12, . . .

Use the rule “add 6” to write a sequence of numbers. Starting with 0, students write 0, 6, 12, 18, 24, . . .

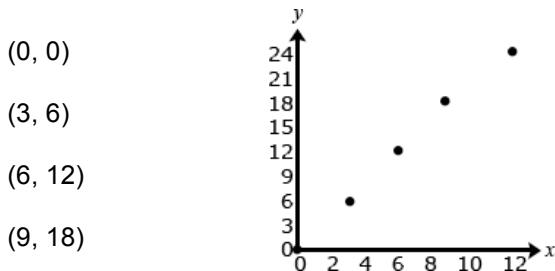
After comparing these two sequences, the students notice that each term in the second sequence is twice the corresponding terms of the first sequence. One way they justify this is by describing the patterns of the terms. Their justification may include some mathematical notation (See example below). A student may explain that both sequences start with zero and to generate each term of the second sequence he/she added 6, which is twice as much as was added to produce the terms in the first sequence. Students may also use the distributive property to describe the relationship between the two numerical patterns by reasoning that $6 + 6 + 6 = 2(3 + 3 + 3)$.

$$0, \quad {}^{+3}3, \quad {}^{+3}6, \quad {}^{+3}9, \quad {}^{+3}12, \dots$$

$$0, \quad {}^{+6}6, \quad {}^{+6}12, \quad {}^{+6}18, \quad {}^{+6}24, \dots$$

Once students can describe that the second sequence of numbers is twice the corresponding terms of the first sequence, the terms can be written in ordered pairs and then graphed on a coordinate grid. They should recognize that each point on the graph represents two quantities in which the second quantity is twice the first quantity.

Ordered pairs



Common Core Cluster

Understand the place value system.

Mathematically proficient students communicate precisely by engaging in discussion about their reasoning using appropriate mathematical language. The terms students should learn to use with increasing precision with this cluster are: **place value, decimal, decimal point, patterns, multiply, divide, tenths, thousands, greater than, less than, equal to, <, >, =, compare/comparison, round**

Common Core Standard	Unpacking What do these standards mean a child will know and be able to do?
5.NBT.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1/10$ of what it represents in the place to its left.	<p>Students extend their understanding of the base-ten system to the relationship between adjacent places, how numbers compare, and how numbers round for decimals to thousandths. This standard calls for students to reason about the magnitude of numbers. Students should work with the idea that the tens place is ten times as much as the ones place, and the ones place is $1/10^{\text{th}}$ the size of the tens place.</p> <p>In fourth grade, students examined the relationships of the digits in numbers for whole numbers only. This standard extends this understanding to the relationship of decimal fractions. Students use base ten blocks, pictures of base ten blocks, and interactive images of base ten blocks to manipulate and investigate the place value relationships. They use their understanding of unit fractions to compare decimal places and fractional language to describe those comparisons.</p> <p>Before considering the relationship of decimal fractions, students express their understanding that in multi-digit whole numbers, a digit in one place represents 10 times what it represents in the place to its right and $1/10$ of what it represents in the place to its left.</p> <p>Example: The 2 in the number 542 is different from the value of the 2 in 324. The 2 in 542 represents 2 ones or 2, while the 2 in 324 represents 2 tens or 20. Since the 2 in 324 is one place to the left of the 2 in 542 the value of the 2 is 10 times greater. Meanwhile, the 4 in 542 represents 4 tens or 40 and the 4 in 324 represents 4 ones or 4. Since the 4 in 324 is one place to the right of the 4 in 542 the value of the 4 in the number 324 is $1/10^{\text{th}}$ of its value in the number 542.</p> <p>Example: A student thinks, “I know that in the number 5555, the 5 in the tens place (55<u>55</u>) represents 50 and the 5 in the hundreds place (<u>55</u>55) represents 500. So a 5 in the hundreds place is ten times as much as a 5 in the tens place or a 5 in the tens place is $1/10$ of the value of a 5 in the hundreds place.</p> <p>Base on the base-10 number system digits to the left are times as great as digits to the right; likewise, digits to the right are $1/10^{\text{th}}$ of digits to the left. For example, the 8 in 845 has a value of 800 which is ten times as much as the 8 in the number 782. In the same spirit, the 8 in 782 is $1/10^{\text{th}}$ the value of the 8 in 845.</p>

To extend this understanding of place value to their work with decimals, students use a model of one unit; they cut it into 10 equal pieces, shade in, or describe 1/10 of that model using fractional language (“This is 1 out of 10 equal parts. So it is 1/10”. I can write this using 1/10 or 0.1”). They repeat the process by finding 1/10 of a 1/10 (e.g., dividing 1/10 into 10 equal parts to arrive at 1/100 or 0.01) and can explain their reasoning, “0.01 is 1/10 of 1/10 thus is 1/100 of the whole unit.”

In the number 55.55, each digit is 5, but the value of the digits is different because of the placement.

5	5	.	5	5
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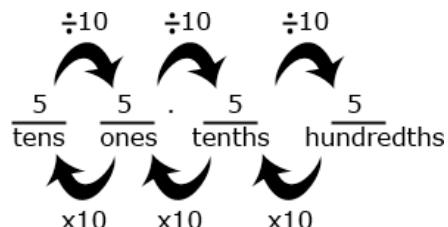


The 5 that the arrow points to is 1/10 of the 5 to the left and 10 times the 5 to the right. The 5 in the ones place is 1/10 of 50 and 10 times five tenths.

5	5	.	5	5
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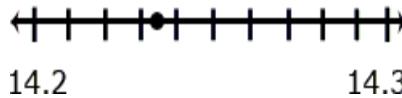


The 5 that the arrow points to is 1/10 of the 5 to the left and 10 times the 5 to the right. The 5 in the tenths place is 10 times five hundredths.



<p>5.NBT.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.</p>	<p>New at Grade 5 is the use of whole number exponents to denote powers of 10. Students understand why multiplying by a power of 10 shifts the digits of a whole number or decimal that many places to the left.</p> <p>Example: Multiplying by 10⁴ is multiplying by 10 four times. Multiplying by 10 once shifts every digit of the multiplicand one place to the left in the product (the product is ten times as large) because in the base-ten system the value of each place is 10 times the value of the place to its right. So multiplying by 10 four times shifts every digit 4 places to the left.</p> <p>Patterns in the number of 0s in products of a whole numbers and a power of 10 and the location of the decimal point in products of decimals with powers of 10 can be explained in terms of place value. Because students have developed their understandings of and computations with decimals in terms of multiples rather than powers, connecting the terminology of multiples with that of powers affords connections between understanding of multiplication and exponentiation. (<i>Progressions for the CCSSM, Number and Operation in Base Ten</i>, CCSS Writing Team, April 2011, page 16)</p> <p>This standard includes multiplying by multiples of 10 and powers of 10, including 10^2 which is $10 \times 10 = 100$, and 10^3 which is $10 \times 10 \times 10 = 1,000$. Students should have experiences working with connecting the pattern of the number of zeros in the product when you multiply by powers of 10.</p> <p>Example: $2.5 \times 10^3 = 2.5 \times (10 \times 10 \times 10) = 2.5 \times 1,000 = 2,500$ Students should reason that the exponent above the 10 indicates how many places the decimal point is moving (not just that the decimal point is moving but that you are multiplying or making the number 10 times greater three times) when you multiply by a power of 10. Since we are multiplying by a power of 10 the decimal point moves to the right.</p> <p>$350 \div 10^3 = 350 \div 1,000 = 0.350 = 0.35$ $350/10 = 35$, $35/10 = 3.5$ $3.5/10 = 0.35$, or $350 \times 1/10$, $35 \times 1/10$, $3.5 \times 1/10$ this will relate well to subsequent work with operating with fractions. This example shows that when we divide by powers of 10, the exponent above the 10 indicates how many places the decimal point is moving (how many times we are dividing by 10 , the number becomes ten times smaller). Since we are dividing by powers of 10, the decimal point moves to the left.</p>
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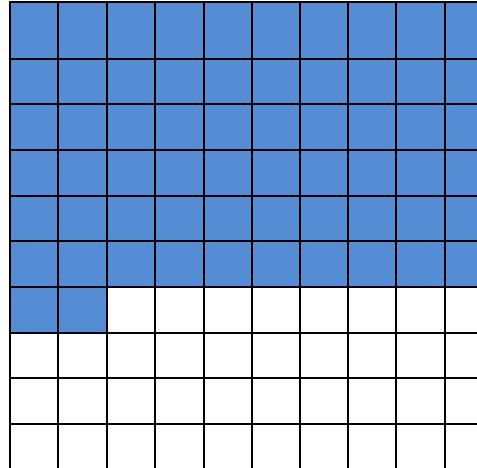
	<p>Students need to be provided with opportunities to explore this concept and come to this understanding; this should not just be taught procedurally.</p> <p>Example:</p> <p>Students might write:</p> <ul style="list-style-type: none"> • $36 \times 10 = 36 \times 10^1 = 360$ • $36 \times 10 \times 10 = 36 \times 10^2 = 3600$ • $36 \times 10 \times 10 \times 10 = 36 \times 10^3 = 36,000$ • $36 \times 10 \times 10 \times 10 \times 10 = 36 \times 10^4 = 360,000$ <p>Students might think and/or say:</p> <ul style="list-style-type: none"> • I noticed that every time, I multiplied by 10 I added a zero to the end of the number. That makes sense because each digit's value became 10 times larger. To make a digit 10 times larger, I have to move it one place value to the left. • When I multiplied 36 by 10, the 30 became 300. The 6 became 60 or the 36 became 360. So I had to add a zero at the end to have the 3 represent 3 one-hundreds (instead of 3 tens) and the 6 represents 6 tens (instead of 6 ones). <p>Students should be able to use the same type of reasoning as above to explain why the following multiplication and division problem by powers of 10 make sense.</p> <ul style="list-style-type: none"> • $523 \times 10^3 = 523,000$ The place value of 523 is increased by 3 places. • $5.223 \times 10^2 = 522.3$ The place value of 5.223 is increased by 2 places. • $52.3 \div 10^1 = 5.23$ The place value of 52.3 is decreased by one place.
<p>5.NBT.3 Read, write, and compare decimals to thousandths.</p> <p>a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$</p>	<p>This standard references expanded form of decimals with fractions included. Students should build on their work from Fourth Grade, where they worked with both decimals and fractions interchangeably. Expanded form is included to build upon work in 5.NBT.2 and deepen students' understanding of place value.</p> <p>Students build on the understanding they developed in fourth grade to read, write, and compare decimals to thousandths. They connect their prior experiences with using decimal notation for fractions and addition of fractions with denominators of 10 and 100. They use concrete models and number lines to extend this understanding to decimals to the thousandths. Models may include base ten blocks, place value charts, grids, pictures, drawings, manipulatives, technology-based, etc. They read decimals using fractional language and write decimals in fractional form, as well as in expanded notation. This investigation leads them to understanding equivalence of decimals ($0.8 = 0.80 = 0.800$).</p>

<p>b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.</p>	<p>Comparing decimals builds on work from fourth grade.</p> <p>Example: Some equivalent forms of 0.72 are:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 50%;">72/100</td><td style="text-align: center;">70/100 + 2/100</td></tr> <tr> <td style="text-align: center;">7/10 + 2/100</td><td style="text-align: center;">0.720</td></tr> <tr> <td style="text-align: center;">7 x (1/10) + 2 x (1/100)</td><td style="text-align: center;">7 x (1/10) + 2 x (1/100) + 0 x (1/1000)</td></tr> <tr> <td style="text-align: center;">0.70 + 0.02</td><td style="text-align: center;">720/1000</td></tr> </table> <p>Students need to understand the size of decimal numbers and relate them to common benchmarks such as 0, 0.5 (0.50 and 0.500), and 1. Comparing tenths to tenths, hundredths to hundredths, and thousandths to thousandths is simplified if students use their understanding of fractions to compare decimals.</p> <p>Example: Comparing 0.25 and 0.17, a student might think, “25 hundredths is more than 17 hundredths”. They may also think that it is 8 hundredths more. They may write this comparison as $0.25 > 0.17$ and recognize that $0.17 < 0.25$ is another way to express this comparison.</p> <p>Comparing 0.207 to 0.26, a student might think, “Both numbers have 2 tenths, so I need to compare the hundredths. The second number has 6 hundredths and the first number has no hundredths so the second number must be larger. Another student might think while writing fractions, “I know that 0.207 is 207 thousandths (and may write 207/1000). 0.26 is 26 hundredths (and may write 26/100) but I can also think of it as 260 thousandths (260/1000). So, 260 thousandths is more than 207 thousandths.”</p>	72/100	70/100 + 2/100	7/10 + 2/100	0.720	7 x (1/10) + 2 x (1/100)	7 x (1/10) + 2 x (1/100) + 0 x (1/1000)	0.70 + 0.02	720/1000
72/100	70/100 + 2/100								
7/10 + 2/100	0.720								
7 x (1/10) + 2 x (1/100)	7 x (1/10) + 2 x (1/100) + 0 x (1/1000)								
0.70 + 0.02	720/1000								
<p>5.NBT.4 Use place value understanding to round decimals to any place.</p>	<p>This standard refers to rounding. Students should go beyond simply applying an algorithm or procedure for rounding. The expectation is that students have a deep understanding of place value and number sense and can explain and reason about the answers they get when they round. Students should have numerous experiences using a number line to support their work with rounding.</p> <p>Example: Round 14.235 to the nearest tenth. Students recognize that the possible answer must be in tenths thus, it is either 14.2 or 14.3. They then identify that 14.235 is closer to 14.2 (14.20) than to 14.3 (14.30).</p> 								

Students should use benchmark numbers to support this work. Benchmarks are convenient numbers for comparing and rounding numbers. 0., 0.5, 1, 1.5 are examples of benchmark numbers.

Example:

Which benchmark number is the best estimate of the shaded amount in the model below? Explain your thinking.



Common Core Cluster

Perform operations with multi-digit whole numbers and with decimals to hundredths.

Students develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations. They finalize fluency with multi-digit addition, subtraction, multiplication, and division. They apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They develop fluency in these computations, and make reasonable estimates of their results. Students use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (i.e., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They compute products and quotients of decimals to hundredths efficiently and accurately.

Mathematically proficient students communicate precisely by engaging in discussion about their reasoning using appropriate mathematical language. The terms students should learn to use with increasing precision with this cluster are: **multiplication/multiply, division/divide, decimal, decimal point, tenths, hundredths, products, quotients, dividends, rectangular arrays, area models, addition/add, subtraction/subtract, (properties)-rules about how numbers work, reasoning**

Common Core Standard	Unpacking What do these standards mean a child will know and be able to do?
5.NBT.5 Fluently multiply multi-digit whole numbers using the standard algorithm.	<p>In fifth grade, students fluently compute products of whole numbers using the standard algorithm. Underlying this algorithm are the properties of operations and the base-ten system. Division strategies in fifth grade involve breaking the dividend apart into like base-ten units and applying the distributive property to find the quotient place by place, starting from the highest place. (Division can also be viewed as finding an unknown factor: the dividend is the product, the divisor is the known factor, and the quotient is the unknown factor.) Students continue their fourth grade work on division, extending it to computation of whole number quotients with dividends of up to four digits and two-digit divisors. Estimation becomes relevant when extending to two-digit divisors. Even if students round appropriately, the resulting estimate may need to be adjusted.</p> <p style="text-align: center;">Recording division after an underestimate</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> Rounding 27 to 30 produces the underestimate 50 at the first step but this method allows the division process to be continued </div> <div style="flex-grow: 1; text-align: right;"> $\begin{array}{r} 1655 \div 27 \\ \quad \quad \quad 1 \\ \quad \quad \quad 10 \\ \hline \end{array}$ $\begin{array}{r} 1655 \\ -1350 \\ \hline 305 \\ -270 \\ \hline 35 \\ -27 \\ \hline 8 \end{array}$ </div> </div> <p style="text-align: center;"><i>(Progressions for the CCSSM, Number and Operation in Base Ten, CCSS Writing Team, April 2011, page 16)</i></p> <p>Computation algorithm. A set of predefined steps applicable to a class of problems that gives the correct result in every case when the steps are carried out correctly.</p> <p>Computation strategy. Purposeful manipulations that may be chosen for specific problems, may not have a fixed order, and may be aimed at converting one problem into another.</p> <p>This standard refers to fluency which means accuracy (correct answer), efficiency (a reasonable amount of steps), and flexibility (using strategies such as the distributive property or breaking numbers apart also using strategies according to the numbers in the problem, 26×4 may lend itself to $(25 \times 4) + 4$ where as another problem might lend itself to making an equivalent problem $32 \times 4 = 64 \times 2$). This standard builds upon students' work with multiplying numbers in third and fourth grade. In fourth grade, students developed understanding of multiplication through using various strategies. While the standard algorithm is mentioned, alternative strategies are also appropriate to help students develop</p>

conceptual understanding. The size of the numbers should NOT exceed a three-digit factor by a two-digit factor.

Examples of alternative strategies:

There are 225 dozen cookies in the bakery. How many cookies are there?

Student 1

$$225 \times 12$$

I broke 12 up into
10 and 2.

$$225 \times 10 = 2,250$$

$$225 \times 2 = 450$$

$$2,250 + 450 =$$

$$2,700$$

Student 2

$$225 \times 12$$

I broke up 225 into 200 and 25.

$$200 \times 12 = 2,400$$

I broke 25 up into 5 x 5, so I had 5
x 5 x 12 or 5 x 12 x 5.

$$5 \times 12 = 60. \quad 60 \times 5 = 300$$

I then added 2,400 and 300

$$2,400 + 300 = 2,700.$$

Student 3

I doubled 225 and cut
12 in half to get 450 x
6. I then doubled 450
again and cut 6 in half
to get 900 x 3.
 $900 \times 3 = 2,700$.

Draw a array model for 225×12 200×10 , 200×2 , 20×10 , 20×2 , 5×10 , 5×2
 225×12

		200		20	5
10		2,000		20	50
2		400		40	10

$$\begin{array}{r} 2,000 \\ 400 \\ 200 \\ 40 \\ 50 \\ + 10 \\ \hline 2,700 \end{array}$$

5.NBT.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

This standard references various strategies for division. Division problems can include remainders. Even though this standard leads more towards computation, the connection to story contexts is critical. Make sure students are exposed to problems where the divisor is the number of groups and where the divisor is the size of the groups. In fourth grade, students' experiences with division were limited to dividing by one-digit divisors. This standard extends students' prior experiences with strategies, illustrations, and explanations. When the two-digit divisor is a "familiar" number, a student might decompose the dividend using place value.

Example:

There are 1,716 students participating in Field Day. They are put into teams of 16 for the competition. How many teams get created? If you have left over students, what do you do with them?

Student 1

1,716 divided by 16

There are 100 16's in 1,716.

$$1,716 - 1,600 = 116$$

I know there are at least 6 16's.

$$116 - 96 = 20$$

I can take out at least 1 more 16.

$$20 - 16 = 4$$

There were 107 teams with 4 students left over. If we put the extra students on different team, 4 teams will have 17 students.

Student 2

1,716 divided by 16.

There are 100 16's in 1,716.

Ten groups of 16 is 160. That's too big.

Half of that is 80, which is 5 groups.

I know that 2 groups of 16's is 32.

I have 4 students left over.

1716	
-1600	100
116	
-80	5
36	
-32	2
4	

Student 3

$$1,716 \div 16 =$$

I want to get to 1,716

I know that 100 16's equals 1,600

I know that 5 16's equals 80

$$1,600 + 80 = 1,680$$

Two more groups of 16's equals 32, which gets us to 1,712

I am 4 away from 1,716

$$\text{So we had } 100 + 6 + 1 = 107 \text{ teams}$$

Those other 4 students can just hang out

Student 4

How many 16's are in 1,716?

We have an area of 1,716. I know that one side of my array is 16 units long. I used 16 as the height. I am trying to answer the question what is the width of my rectangle if the area is 1,716 and the height is 16. $100 + 7 = 107 \text{ R } 4$

16	100	7
	$100 \times 16 = 1,600$	$7 \times 16 = 112$
	$1,716 - 1,600 = 116$	$116 - 112 = 4$

Example:

Using expanded notation $2682 \div 25 = (2000 + 600 + 80 + 2) \div 25$

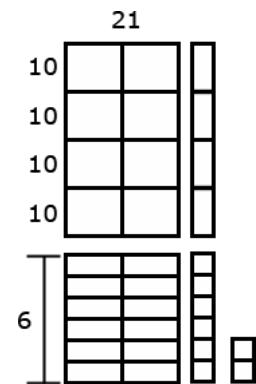
Using understanding of the relationship between 100 and 25, a student might think ~

- I know that 100 divided by 25 is 4 so 200 divided by 25 is 8 and 2000 divided by 25 is 80.
- 600 divided by 25 has to be 24.
- Since 3×25 is 75, I know that 80 divided by 25 is 3 with a remainder of 5.
(Note that a student might divide into 82 and not 80)
- I can't divide 2 by 25 so 2 plus the 5 leaves a remainder of 7.
- $80 + 24 + 3 = 107$. So, the answer is 107 with a remainder of 7.

Using an equation that relates division to multiplication, $25 \times n = 2682$, a student might estimate the answer to be slightly larger than 100 because s/he recognizes that $25 \times 100 = 2500$.

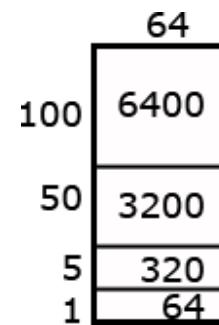
Example: $968 \div 21$

Using base ten models, a student can represent 962 and use the models to make an array with one dimension of 21. The student continues to make the array until no more groups of 21 can be made. Remainders are not part of the array.



Example: $9984 \div 64$

An area model for division is shown below. As the student uses the area model, s/he keeps track of how much of the 9984 is left to divide.



$$\begin{array}{r} 64 \overline{)9984} \\ -6400 \quad (100 \times 64) \\ \hline 3584 \\ -3200 \quad (50 \times 64) \\ \hline 384 \\ -320 \quad (5 \times 64) \\ \hline 64 \\ -64 \quad (1 \times 64) \\ \hline 0 \end{array}$$

<p>5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.</p>	<p>Because of the uniformity of the structure of the base-ten system, students use the same place value understanding for adding and subtracting decimals that they used for adding and subtracting whole numbers. Like base-ten units must be added and subtracted, so students need to attend to aligning the corresponding places correctly (this also aligns the decimal points). It can help to put 0s in places so that all numbers show the same number of places to the right of the decimal point. Although whole numbers are not usually written with a decimal point, but that a decimal point with 0s on its right can be inserted (e.g., 16 can also be written as 16.0 or 16.00). The process of composing and decomposing a base-ten unit is the same for decimals as for whole numbers and the same methods of recording numerical work can be used with decimals as with whole numbers. For example, students can write digits representing new units below on the addition or subtraction line, and they can decompose units wherever needed before subtracting.</p> <p>General methods used for computing products of whole numbers extend to products of decimals. Because the expectations for decimals are limited to thousandths and expectations for factors are limited to hundredths at this grade level, students will multiply tenths with tenths and tenths with hundredths, but they need not multiply hundredths with hundredths. Before students consider decimal multiplication more generally, they can study the effect of multiplying by 0.1 and by 0.01 to explain why the product is ten or a hundred times as small as the multiplicand (moves one or two places to the right). They can then extend their reasoning to multipliers that are single-digit multiples of 0.1 and 0.01 (e.g., 0.2 and 0.02, etc.).</p> <p>There are several lines of reasoning that students can use to explain the placement of the decimal point in other products of decimals. Students can think about the product of the smallest base-ten units of each factor. For example, a tenth times a tenth is a hundredth, so 3.2×7.1 will have an entry in the hundredth place. Note, however, that students might place the decimal point incorrectly for 3.2×8.5 unless they take into account the 0 in the ones place of 32×85. (Or they can think of 0.2×0.5 as 10 hundredths.) Students can also think of the decimals as fractions or as whole numbers divided by 10 or 100.^{5.NF.3} When they place the decimal point in the product, they have to divide by a 10 from each factor or 100 from one factor. For example, to see that $0.6 \times 0.8 = 0.48$, students can use fractions: $6/10 \times 8/10 = 48/100$.^{5.NF.4} Students can also reason that when they carry out the multiplication without the decimal point, they have multiplied each decimal factor by 10 or 100, so they will need to divide by those numbers in the end to get the correct answer. Also, students can use reasoning about the sizes of numbers to determine the placement of the decimal point. For example, 3.2×8.5 should be close to 3×9, so 27.2 is a more reasonable product for 3.2×8.5 than 2.72 or 272. This estimation-based method is not reliable in all cases, however, especially in cases students will encounter in later grades. For example, it is not easy to decide where to place the decimal point in 0.023×0.0045 based on estimation. Students can summarize the results of their reasoning such as those above as specific numerical patterns and then as one general overall pattern such as “the number of decimal places in the product is the sum of the number of decimal places in each factor.” General methods used for computing quotients of whole numbers extend to decimals with the additional issue of placing the decimal point in the quotient. As with decimal multiplication, students can first examine the cases of dividing by 0.1 and 0.01 to see that the quotient becomes 10 times or 100 times as large as the dividend. For example, students can view $7 \div 0.1 =$</p>
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as asking how many tenths are in 7.^{5.NF.7b} Because it takes 10 tenths make 1, it takes 7 times as many tenths to make 7, so $7 \div 0.1 = 7 \times 10 = 70$. Or students could note that 7 is 70 tenths, so asking how many tenths are in 7 is the same as asking how many tenths are in 70 tenths, which is 70. In other words, $7 \div 0.1$ is the same as $70 \div 1$. So dividing by 0.1 moves the number 7 one place to the left, the quotient is ten times as big as the dividend. As with decimal multiplication, students can then proceed to more general cases. For example, to calculate $7 \div 0.2$, students can reason that 0.2 is 2 tenths and 7 is 70 tenths, so asking how many 2 tenths are in 7 is the same as asking how many 2 tenths are in 70 tenths. In other words, $7 \div 0.2$ is the same as $70 \div 2$; multiplying both the 7 and the 0.2 by 10 results in the same quotient. Or students could calculate $7 \div 0.2$ by viewing 0.2 as 2×0.1 , so they can first divide 7 by 2, which is 3.5, and then divide that result by 0.1, which makes 3.5 ten times as large, namely 35. Dividing by a decimal less than 1 results in a quotient larger than the dividend^{5.NF.5} and moves the digits of the dividend one place to the left. Students can summarize the results of their reasoning as specific numerical patterns then as one general overall pattern such as “when the decimal point in the divisor is moved to make a whole number, the decimal point in the dividend should be moved the same number of places.”(*Progressions for the CCSSM, Number and Operation in Base Ten*, CCSS Writing Team, April 2011, page 17-18)

This standard builds on the work from fourth grade where students are introduced to decimals and compare them. In fifth grade, students begin adding, subtracting, multiplying and dividing decimals. This work should focus on concrete models and pictorial representations, rather than relying solely on the algorithm. The use of symbolic notations involves having students record the answers to computations ($2.25 \times 3 = 6.75$), but this work should not be done without models or pictures. This standard includes students’ reasoning and explanations of how they use models, pictures, and strategies.

This standard requires students to extend the models and strategies they developed for whole numbers in grades 1-4 to decimal values. Before students are asked to give exact answers, they should estimate answers based on their understanding of operations and the value of the numbers.

Examples:

- $3.6 + 1.7$

A student might estimate the sum to be larger than 5 because 3.6 is more than $3\frac{1}{2}$ and 1.7 is more than $1\frac{1}{2}$.

- $5.4 - 0.8$

A student might estimate the answer to be a little more than 4.4 because a number less than 1 is being subtracted.

- 6×2.4

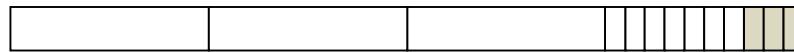
A student might estimate an answer between 12 and 18 since 6×2 is 12 and 6×3 is 18. Another student might give an estimate of a little less than 15 because s/he figures the answer to be very close, but smaller than $6 \times 2\frac{1}{2}$ and think of $2\frac{1}{2}$ groups of 6 as 12 (2 groups of 6) + 3 ($\frac{1}{2}$ of a group of 6).

Students should be able to express that when they add decimals they add tenths to tenths and hundredths to hundredths. So, when they are adding in a vertical format (numbers beneath each other), it is important that they write numbers with the same place value beneath each other. This understanding can be reinforced by connecting

addition of decimals to their understanding of addition of fractions. Adding fractions with denominators of 10 and 100 is a standard in fourth grade.

Example: $4 - 0.3$

3 tenths subtracted from 4 wholes. The wholes must be divided into tenths. (solution is 3 and $7/10$ or 3.7)



Additional examples on next page.

Example:

A recipe for a cake requires 1.25 cups of milk, 0.40 cups of oil, and 0.75 cups of water. How much liquid is in the mixing bowl?

Student 1

$$1.25 + 0.40 + 0.75$$

First, I broke the numbers apart:

I broke 1.25 into $1.00 + 0.20 + 0.05$

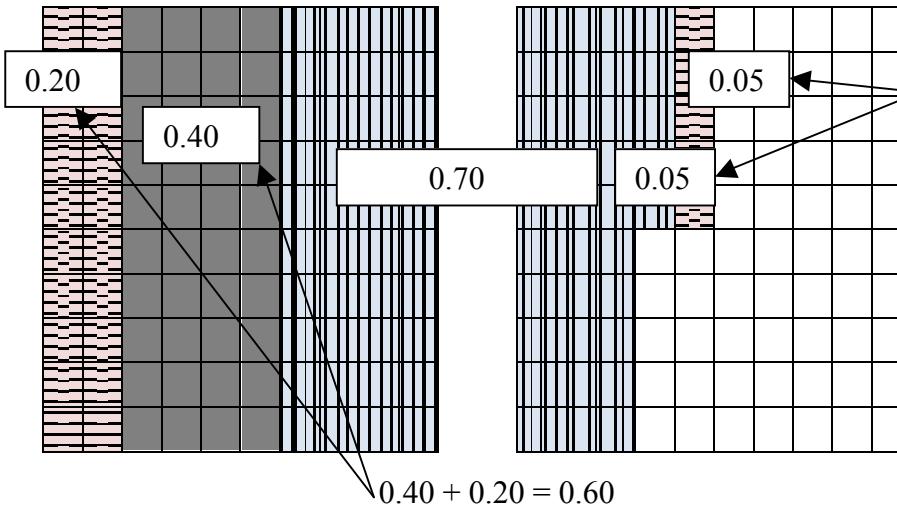
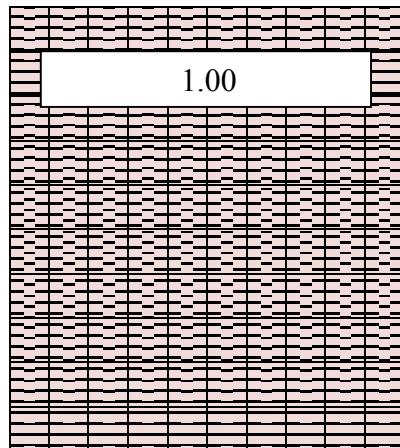
I left 0.40 like it was.

I broke 0.75 into $0.70 + 0.05$

I combined my two 0.05s to get 0.10.

I combined 0.40 and 0.20 to get 0.60.

I added the 1 whole from 1.25.

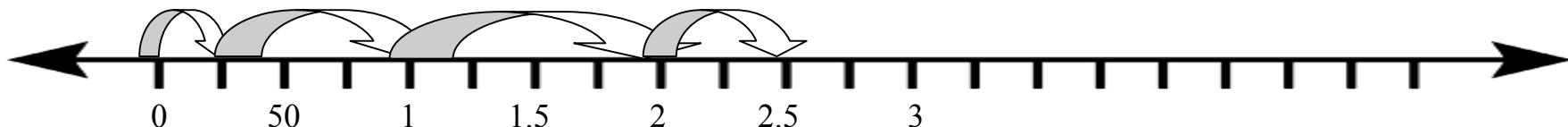


I ended up with 1 whole, 6 tenths, 7 more tenths and 1
 $0.05 + 0.05 = 0.10$ is 2.40

Student 2

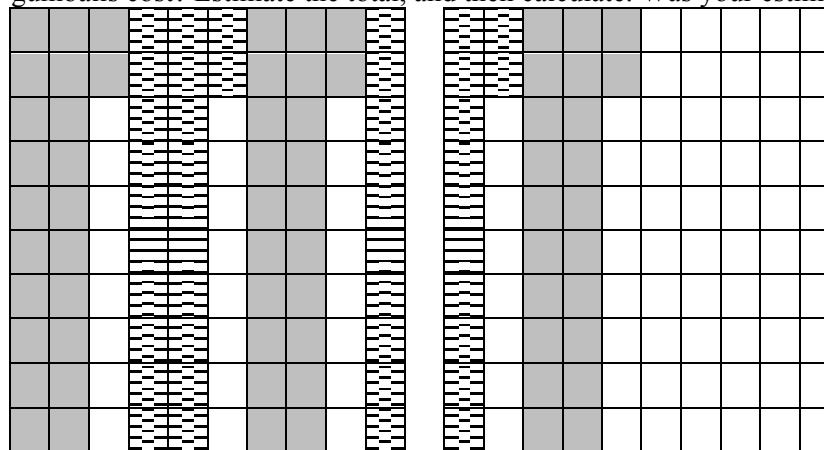
I saw that the 0.25 in 1.25 and the 0.75 for water would combine to equal 1 whole.
I then added the 2 wholes and the 0.40 to get 2.40.

$$.25 + .75 + 1 + .40 = 2.40$$



Example of Multiplication:

A gumball costs \$0.22. How much do 5 gumballs cost? Estimate the total, and then calculate. Was your estimate close?



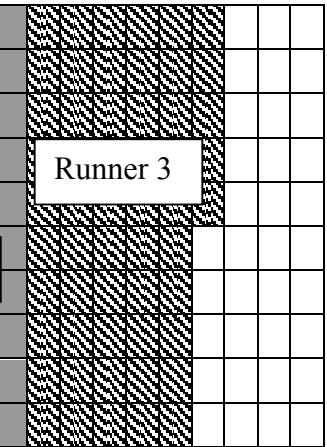
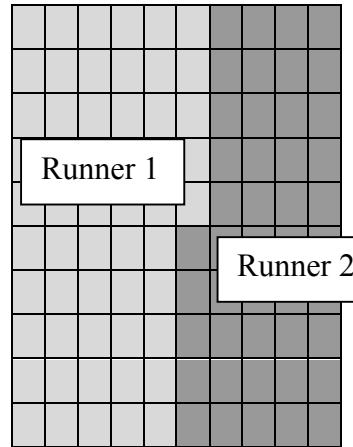
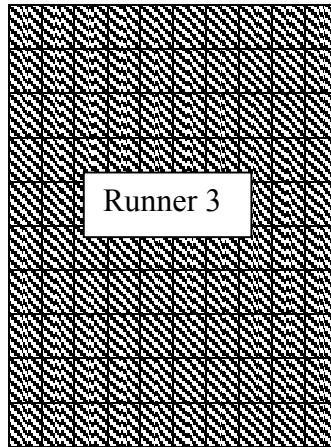
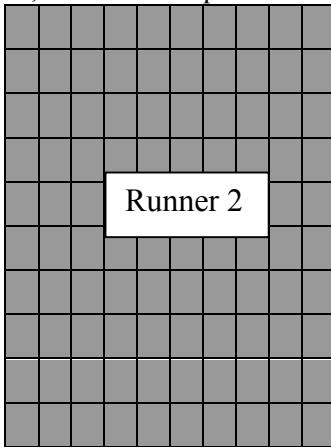
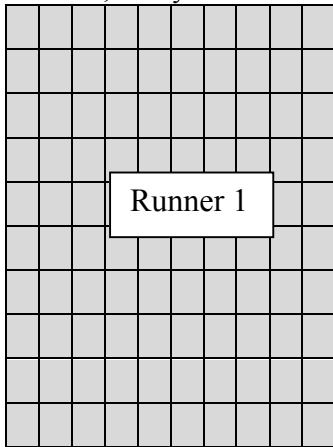
I estimate that the total cost will be a little more than a dollar. I know that 5 20's equal 100 and we have 5 22's.

I have 10 whole columns shaded and 10 individual boxes shaded. The 10 columns equal 1 whole. The 10 individual boxes equal 10 hundredths or 1 tenth. My answer is \$1.10.

My estimate was a little more than a dollar, and my answer was \$1.10. I was really close.

Example of Division:

A relay race lasts 4.65 miles. The relay team has 3 runners. If each runner goes the same distance, how far does each team member run? Make an estimate, find your actual answer, and then compare them.



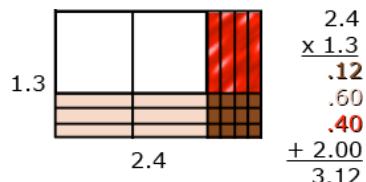
My estimate is that each runner runs between 1 and 2 miles. If each runner went 2 miles, that would be a total of 6 miles which is too high. If each runner ran 1 mile, that would be 3 miles, which is too low.

I used the 5 grids above to represent the 4.65 miles. I am going to use all of the first 4 grids and 65 of the squares in the 5th grid. I have to divide the 4 whole grids and the 65 squares into 3 equal groups. I labeled each of the first 3 grids for each runner, so I know that each team member ran at least 1 mile. I then have 1 whole grid and 65 squares to divide up. Each column represents one-tenth. If I give 5 columns to each runner, that means that each runner has run 1 whole mile and 5 tenths of a mile. Now, I have 15 squares left to divide up. Each runner gets 5 of those squares. So each runner ran 1 mile, 5 tenths and 5 hundredths of a mile. I can write that as 1.55 miles.

My answer is 1.55 and my estimate was between 1 and 2 miles. I was pretty close.

Additional multiplication and division examples:

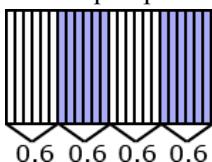
An area model can be useful for illustrating products.



Students should be able to describe the partial products displayed by the area model.

For example,
“ $\frac{3}{10}$ times $\frac{4}{10}$ is $\frac{12}{100}$.
 $\frac{3}{10}$ times 2 is $\frac{6}{10}$ or $\frac{60}{100}$.
1 group of $\frac{4}{10}$ is $\frac{4}{10}$ or $\frac{40}{100}$.
1 group of 2 is 2.”

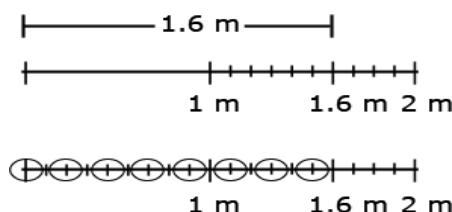
Example of division: finding the number in each group or share. Students should be encouraged to apply a fair sharing model separating decimal values into equal parts such as $2.4 \div 4 = 0.6$



Example of division: finding the number of groups.

Joe has 1.6 meters of rope. He has to cut pieces of rope that are 0.2 meters long. How many can he cut?

Example of division: finding the number of groups. Students could draw a segment to represent 1.6 meters. In doing so, s/he would count in tenths to identify the 6 tenths, and be able identify the number of 2 tenths within the 6 tenths. The student can then extend the idea of counting by tenths to divide the one meter into tenths and determine that there are 5 more groups of 2 tenths.



Students might count groups of 2 tenths without the use of models or diagrams. Knowing that 1 can be thought of as $\frac{10}{10}$, a student might think of 1.6 as 16 tenths. Counting 2 tenths, 4 tenths, 6 tenths, . . . 16 tenths, a student can count 8 groups of 2 tenths.

Use their understanding of multiplication and think, “8 groups of 2 is 16, so 8 groups of $\frac{2}{10}$ is $\frac{16}{10}$ or $1\frac{6}{10}$.”

Number and Operation – Fractions

5.NF

Common Core Cluster

Use equivalent fractions as a strategy to add and subtract fractions.

Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them.

Mathematically proficient students communicate precisely by engaging in discussion about their reasoning using appropriate mathematical language. The terms students should learn to use with increasing precision with this cluster are: **fraction, equivalent, addition/ add, sum, subtraction/subtract, difference, unlike denominator, numerator, benchmark fraction, estimate, reasonableness, mixed numbers**

Common Core Standard	Unpacking What do these standards mean a child will know and be able to do?
<p>5.NF.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.</p> <p>For example, $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$. (In general, $a/b + c/d = (ad + bc)/bd$.)</p>	<p>5.NF.1 builds on the work in fourth grade where students add fractions with like denominators. In fifth grade, the example provided in the standard $\frac{2}{3} + \frac{5}{4}$ has students find a common denominator by finding the product of both denominators. This process should come after students have used visual fraction models (area models, number lines, etc.) to build understanding before moving into the standard algorithm described in the standard. The use of these visual fraction models allows students to use reasonableness to find a common denominator prior to using the algorithm. For example, when adding $\frac{1}{3} + \frac{1}{6}$, Grade 5 students should apply their understanding of equivalent fractions and their ability to rewrite fractions in an equivalent form to find common denominators.</p> <p>Example: $\frac{1}{3} + \frac{1}{6}$</p> <p>I drew a rectangle and shaded $\frac{1}{3}$. I knew that if I cut every third in half then I would have sixths. Based on my picture, $\frac{1}{3}$ equals $\frac{2}{6}$. Then I shaded in another $\frac{1}{6}$ with stripes. I ended up with an answer of $\frac{3}{6}$, which is equal to $\frac{1}{2}$.</p> <p>On the contrary, based on the algorithm that is in the example of the Standard, when solving $\frac{1}{3} + \frac{1}{6}$, multiplying 3 and 6 gives a common denominator of 18. Students would make equivalent fractions $\frac{6}{18} + \frac{3}{18} = \frac{9}{18}$ which is also equal to one-half. Please note that while multiplying the denominators will always give a common denominator, this may not result in the smallest denominator.</p>

	<p>Students should apply their understanding of equivalent fractions and their ability to rewrite fractions in an equivalent form to find common denominators. They should know that multiplying the denominators will always give a common denominator but may not result in the smallest denominator.</p> <p>Examples:</p> $\frac{2}{5} + \frac{7}{8} = \frac{16}{40} + \frac{35}{40} = \frac{51}{40}$ $3\frac{1}{4} - \frac{1}{6} = 3\frac{3}{12} - \frac{2}{12} = 3\frac{1}{12}$ <p>Fifth grade students will need to express both fractions in terms of a new denominator with adding unlike denominators. For example, in calculating $\frac{2}{3} + \frac{5}{4}$ they reason that if each third in $\frac{2}{3}$ is subdivided into fourths and each fourth in $\frac{5}{4}$ is subdivided into thirds, then each fraction will be a sum of unit fractions with denominator $3 \times 4 = 4 \times 3 = 12$:</p> $\frac{2}{3} + \frac{5}{4} = \frac{2 \times 4}{3 \times 4} + \frac{5 \times 3}{4 \times 3} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}.$ <p>It is not necessary to find a least common denominator to calculate sums of fractions, and in fact the effort of finding a least common denominator is a distraction from understanding adding fractions.</p> <p><i>(Progressions for the CCSSM, Number and Operation – Fractions, CCSS Writing Team, August 2011, page 10)</i></p> <p>Example: Present students with the problem $\frac{1}{3} + \frac{1}{6}$. Encourage students to use the clock face as a model for solving the problem. Have students share their approaches with the class and demonstrate their thinking using the clock model.</p>
5.NF.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations	This standard refers to number sense, which means students' understanding of fractions as numbers that lie between whole numbers on a number line. Number sense in fractions also includes moving between decimals and fractions to find equivalents, also being able to use reasoning such as $\frac{7}{8}$ is greater than $\frac{3}{4}$ because $\frac{7}{8}$ is missing only $\frac{1}{8}$ and $\frac{3}{4}$ is missing $\frac{1}{4}$ so $\frac{7}{8}$ is closer to a whole. Also, students should use benchmark fractions to estimate and examine the reasonableness of their answers. Example here such as $\frac{5}{8}$ is greater than $\frac{6}{10}$ because

to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result $2/5 + 1/2 = 3/7$, by observing that $3/7 < 1/2$.*

$5/8$ is $1/8$ larger than $1/2$ ($4/8$) and $6/10$ is only $1/10$ larger than $1/2$ ($5/10$)

Example:

Your teacher gave you $1/7$ of the bag of candy. She also gave your friend $1/3$ of the bag of candy. If you and your friend combined your candy, what fraction of the bag would you have? Estimate your answer and then calculate. How reasonable was your estimate?

Student 1

$1/7$ is really close to 0 . $1/3$ is larger than $1/7$, but still less than $1/2$. If we put them together we might get close to $1/2$.

$1/7 + 1/3 = 3/21 + 7/21 = 10/21$. The fraction does not simplify. I know that 10 is half of 20 , so $10/21$ is a little less than $1/2$.

Another example: $1/7$ is close to $1/6$ but less than $1/6$, and $1/3$ is equivalent to $2/6$, so I have a little less than $3/6$ or $1/2$.

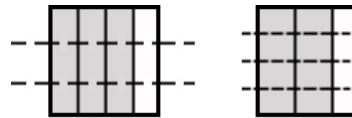
Example:

Jerry was making two different types of cookies. One recipe needed $3/4$ cup of sugar and the other needed $2/3$ cup of sugar. How much sugar did he need to make both recipes?

- Mental estimation:

A student may say that Jerry needs more than 1 cup of sugar but less than 2 cups. An explanation may compare both fractions to $1/2$ and state that both are larger than $1/2$ so the total must be more than 1 . In addition, both fractions are slightly less than 1 so the sum cannot be more than 2 .

- Area model



$$\frac{3}{4} \text{ cup}$$

of sugar

$$\frac{3}{4} = \frac{9}{12}$$

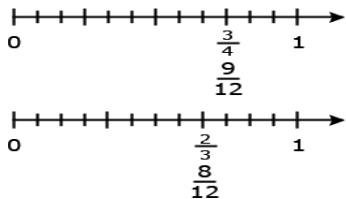
$$\frac{2}{3} \text{ cup}$$

of sugar

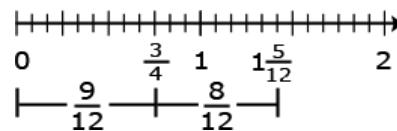
$$\frac{2}{3} = \frac{8}{12}$$

$$\frac{3}{4} + \frac{2}{3} = \frac{17}{12} = \frac{12}{12} + \frac{5}{12} = 1\frac{5}{12}$$

- Linear model



Solution:

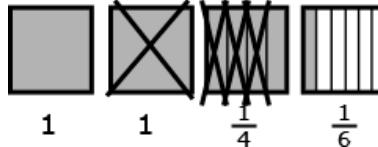


Example: Using a bar diagram

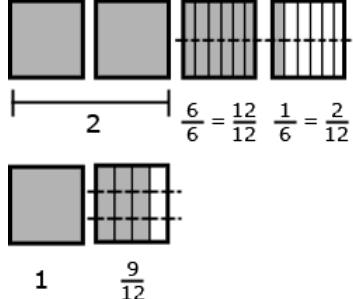
- Sonia had $2 \frac{1}{3}$ candy bars. She promised her brother that she would give him $\frac{1}{2}$ of a candy bar. How much will she have left after she gives her brother the amount she promised?
- If Mary ran 3 miles every week for 4 weeks, she would reach her goal for the month. The first day of the first week she ran $1 \frac{3}{4}$ miles. How many miles does she still need to run the first week?
 - Using addition to find the answer: $1 \frac{3}{4} + n = 3$
 - A student might add $1 \frac{1}{4}$ to $1 \frac{3}{4}$ to get to 3 miles. Then he or she would add $\frac{1}{6}$ more. Thus $1 \frac{1}{4}$ miles + $\frac{1}{6}$ of a mile is what Mary needs to run during that week.

Example: Using an area model to subtract

- This model shows $1 \frac{3}{4}$ subtracted from $3 \frac{1}{6}$ leaving $1 + \frac{1}{4} = \frac{1}{6}$ which a student can then change to $1 + 3/12 + 2/12 = 1 \frac{5}{12}$. $3 \frac{1}{6}$ can be expressed with a denominator of 12. Once this is done a student can complete the problem, $2 \frac{14}{12} - 1 \frac{9}{12} = 1 \frac{5}{12}$.



- This diagram models a way to show how $3 \frac{1}{6}$ and $1 \frac{3}{4}$ can be expressed with a denominator of 12. Once this is accomplished, a student can complete the problem, $2 \frac{14}{12} - 1 \frac{9}{12} = 1 \frac{5}{12}$.



Estimation skills include identifying when estimation is appropriate, determining the level of accuracy needed, selecting the appropriate method of estimation, and verifying solutions or determining the reasonableness of situations using various estimation strategies. Estimation strategies for calculations with fractions extend from students' work with whole number operations and can be supported through the use of physical models.

Example:

Elli drank $\frac{3}{5}$ quart of milk and Javier drank $\frac{1}{10}$ of a quart less than Ellie.

How much milk did they drink all together?

$$\frac{3}{5} - \frac{1}{10} = \frac{6}{10} - \frac{1}{10} = \frac{5}{10}$$

Solution:

$$\frac{3}{5} - \frac{1}{10} = \frac{6}{10} - \frac{1}{10} = \frac{5}{10} \quad \text{This is how much milk Javier drank.}$$

$$\frac{3}{5} + \frac{5}{10} = \frac{6}{10} + \frac{5}{10} = \frac{11}{10} \quad \text{Together they drank } 1\frac{1}{10} \text{ quarts of milk.}$$

This solution is reasonable because Ellie drank more than $\frac{1}{2}$ quart and Javier drank $\frac{1}{2}$ quart so together they drank slightly more than one quart.

Students make sense of fractional quantities when solving word problems, estimating answers mentally to see if they make sense.

Example:

Ludmilla and Lazarus each have a lemon. They need a cup of lemon juice to make hummus for a party.

Ludmilla squeezes $\frac{1}{2}$ a cup from hers and Lazarus squeezes $\frac{2}{5}$ of a cup from his. How much lemon juice do they have? Is it enough?

Students estimate that there is almost but not quite one cup of lemon juice, because $\frac{2}{5} < \frac{1}{2}$. They calculate $\frac{1}{2} + \frac{2}{5} = \frac{9}{10}$, and see this as $\frac{1}{10}$ less than 1, which is probably a small enough shortfall that it will not ruin the recipe. They detect an incorrect result such as $\frac{2}{5} + \frac{2}{5} = \frac{3}{7}$ by noticing that $\frac{3}{7} < \frac{1}{2}$.

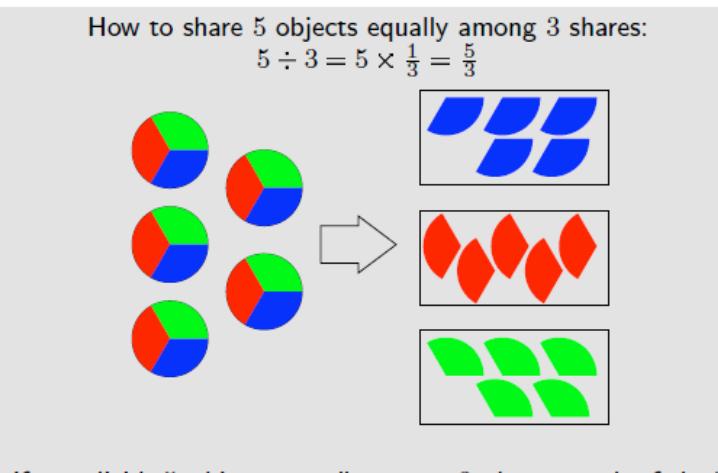
(*Progressions for the CCSSM, Number and Operation – Fractions*, CCSS Writing Team, August 2011, page 11)

Common Core Cluster

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

Students also use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Note: this is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)

Mathematically proficient students communicate precisely by engaging in discussion about their reasoning using appropriate mathematical language. The terms students should learn to use with increasing precision with this cluster are: **fraction, numerator, denominator, operations, multiplication/multiply, division/divide, mixed numbers, product, quotient, partition, equal parts, equivalent, factor, unit fraction, area, side lengths, fractional sides lengths, scaling, comparing**

Common Core Standard	Unpacking What does this standards mean a child will know and be able to do?
<p>5.NF.3 Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem.</p> <p><i>For example, interpret $3/4$ as the result of dividing 3 by 4, noting that $3/4$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $3/4$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?</i></p>	<p>Fifth grade student should connect fractions with division, understanding that $5 \div 3 = 5/3$. Students should explain this by working with their understanding of division as equal sharing.</p> <div style="text-align: center;"> <p>How to share 5 objects equally among 3 shares: $5 \div 3 = 5 \times \frac{1}{3} = \frac{5}{3}$</p>  <p>If you divide 5 objects equally among 3 shares, each of the 5 objects should contribute $\frac{1}{3}$ of itself to each share. Thus each share consists of 5 pieces, each of which is $\frac{1}{3}$ of an object, and so each share is $5 \times \frac{1}{3} = \frac{5}{3}$ of an object.</p> <p>(Progressions for the CCSSM, Number and Operation – Fractions, CCSS Writing Team, August 2011, page 11)</p> <p>Students should also create story contexts to represent problems involving division of whole numbers.</p> </div>

	<p>Example: If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? This can be solved in two ways. First, they might partition each pound among the 9 people, so that each person gets $50 \times 1/9 = 50/9$ pounds. Second, they might use the equation $9 \times 5 = 45$ to see that each person can be given 5 pounds, with 5 pounds remaining. Partitioning the remainder gives $5 \frac{5}{9}$ pounds for each person. <i>(Progressions for the CCSSM, Number and Operation – Fractions, CCSS Writing Team, August 2011, page 11)</i></p> <p>This standard calls for students to extend their work of partitioning a number line from third and fourth grade. Students need ample experiences to explore the concept that a fraction is a way to represent the division of two quantities.</p> <p>Students are expected to demonstrate their understanding using concrete materials, drawing models, and explaining their thinking when working with fractions in multiple contexts. They read $3/5$ as “three fifths” and after many experiences with sharing problems, learn that $3/5$ can also be interpreted as “3 divided by 5.”</p> <p>Examples:</p> <p>Ten team members are sharing 3 boxes of cookies. How much of a box will each student get? When working this problem a student should recognize that the 3 boxes are being divided into 10 groups, so s/he is seeing the solution to the following equation, $10 \times n = 3$ (10 groups of some amount is 3 boxes) which can also be written as $n = 3 \div 10$. Using models or diagram, they divide each box into 10 groups, resulting in each team member getting $3/10$ of a box.</p> <p>Two afterschool clubs are having pizza parties. For the Math Club, the teacher will order 3 pizzas for every 5 students. For the student council, the teacher will order 5 pizzas for every 8 students. Since you are in both groups, you need to decide which party to attend. How much pizza would you get at each party? If you want to have the most pizza, which party should you attend?</p> <p>The six fifth grade classrooms have a total of 27 boxes of pencils. How many boxes will each classroom receive? Students may recognize this as a whole number division problem but should also express this equal sharing problem as $\frac{27}{6}$. They explain that each classroom gets $\frac{27}{6}$ boxes of pencils and can further determine that each classroom get $4\frac{3}{6}$ or $4\frac{1}{2}$ boxes of pencils.</p> <p>Example: Your teacher gives 7 packs of paper to your group of 4 students. If you share the paper equally, how much paper does each student get?</p> <table border="1"> <thead> <tr> <th>Student 1</th><th>Student 2</th><th>Student 3</th><th>Student 4</th><th>1</th><th>2</th><th>3</th><th>4</th><th>1</th><th>2</th><th>3</th><th>4</th><th>1</th><th>2</th><th>3</th><th>4</th></tr> </thead> <tbody> <tr> <td>Pack 1</td><td>pack 2</td><td>pack 3</td><td>pack 4</td><td>pack 5</td><td>pack 6</td><td>pack 7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table> <p>Each student receives 1 whole pack of paper and $\frac{1}{4}$ of the each of the 3 packs of paper. So each student gets $1\frac{3}{4}$ packs of paper.</p>	Student 1	Student 2	Student 3	Student 4	1	2	3	4	1	2	3	4	1	2	3	4	Pack 1	pack 2	pack 3	pack 4	pack 5	pack 6	pack 7									
Student 1	Student 2	Student 3	Student 4	1	2	3	4	1	2	3	4	1	2	3	4																		
Pack 1	pack 2	pack 3	pack 4	pack 5	pack 6	pack 7																											

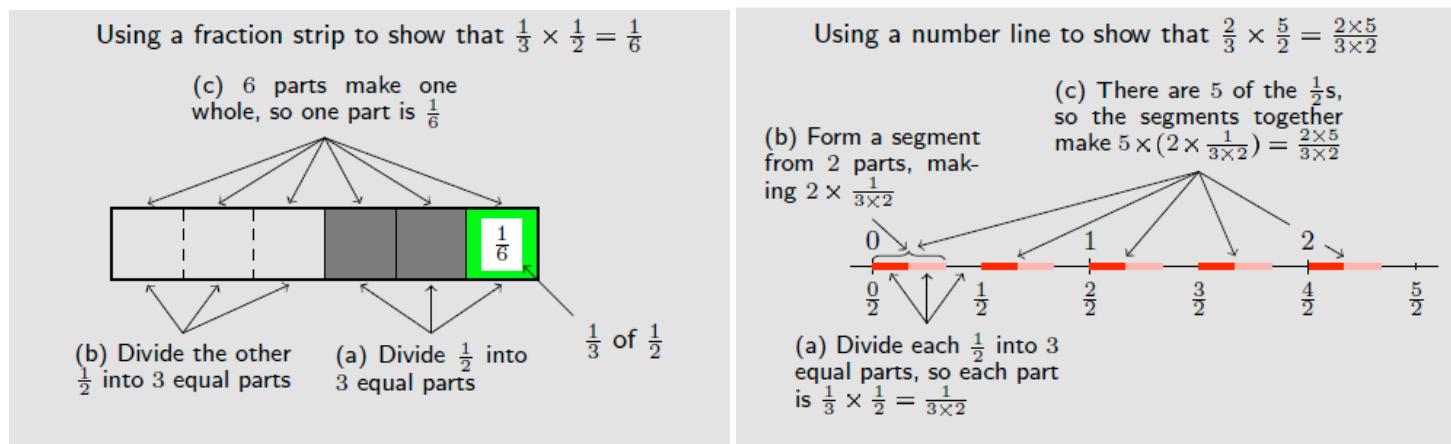
5.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

- a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$.

For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)

Students need to develop a fundamental understanding that the multiplication of a fraction by a whole number could be represented as repeated addition of a unit fraction (e.g., $2 \times (1/4) = 1/4 + 1/4$)

This standard extends student's work of multiplication from earlier grades. In fourth grade, students worked with recognizing that a fraction such as $3/5$ actually could be represented as 3 pieces that are each one-fifth ($3 \times (1/5)$). This standard references both the multiplication of a fraction by a whole number and the multiplication of two fractions. Visual fraction models (area models, tape diagrams, number lines) should be used and created by students during their work with this standard.



(Progressions for the CCSSM, Number and Operation – Fractions, CCSS Writing Team, August 2011, page 11)

As they multiply fractions such as $3/5 \times 6$, they can think of the operation in more than one way.

- $3 \times (6 \div 5)$ or $(3 \times 6)/5$
- $(3 \times 6) \div 5$ or $18 \div 5$ ($18/5$)

Students create a story problem for $3/5 \times 6$ such as,

- Isabel had 6 feet of wrapping paper. She used $3/5$ of the paper to wrap some presents. How much does she have left?
- Every day Tim ran $3/5$ of a mile. How far did he run after 6 days? (Interpreting this as $6 \times 3/5$)

Example:

Three-fourths of the class is boys. Two-thirds of the boys are wearing tennis shoes. What fraction of the class are boys with tennis shoes?

This question is asking what $\frac{2}{3}$ of $\frac{3}{4}$ is, or what is $\frac{2}{3} \times \frac{3}{4}$. What is $\frac{2}{3} \times \frac{3}{4}$, in this case you have $\frac{2}{3}$ groups of size $\frac{3}{4}$ (a way to think about it in terms of the language for whole numbers is 4×5 you have 4 groups of size 5).

The array model is very transferable from whole number work and then to binomials.

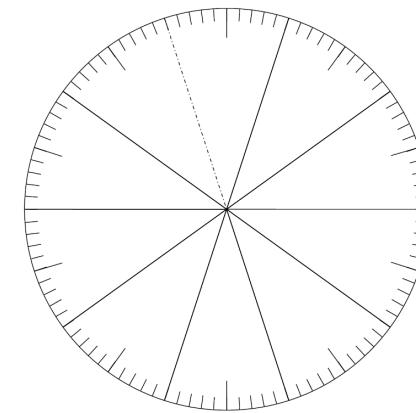
Student 1

I drew a rectangle to represent the whole class. The four columns represent the fourths of a class. I shaded 3 columns to represent the fraction that are boys. I then split the rectangle with horizontal lines into thirds. The dark area represents the fraction of the boys in the class wearing tennis shoes, which is 6 out of 12. That is $\frac{6}{12}$, which equals $\frac{1}{2}$.

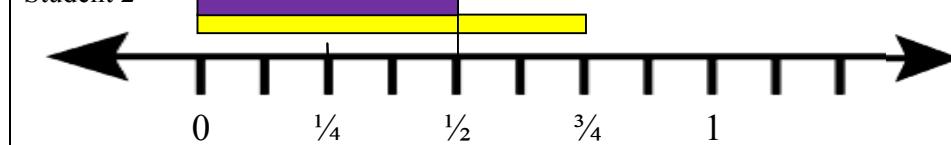


Student 3

Fraction circle could be used to model student thinking. First I shade the fraction circle to show the $\frac{3}{4}$ and then overlay with $\frac{2}{3}$ of that?



Student 2

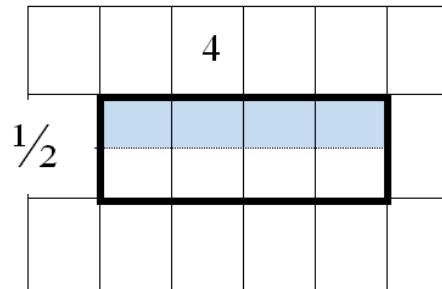


- b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

This standard extends students' work with area. In third grade students determine the area of rectangles and composite rectangles. In fourth grade students continue this work. The fifth grade standard calls students to continue the process of covering (with tiles). Grids (see picture) below can be used to support this work.

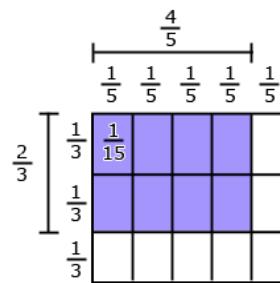
Example:

The home builder needs to cover a small storage room floor with carpet. The storage room is 4 meters long and half of a meter wide. How much carpet do you need to cover the floor of the storage room? Use a grid to show your work and explain your answer. In the grid below I shaded the top half of 4 boxes. When I added them together, I added $\frac{1}{2}$ four times, which equals 2. I could also think about this with multiplication $\frac{1}{2} \times 4$ is equal to $\frac{4}{2}$ which is equal to 2.



Example:

In solving the problem $\frac{2}{3} \times \frac{4}{5}$, students use an area model to visualize it as a 2 by 4 array of small rectangles each of which has side lengths $\frac{1}{3}$ and $\frac{1}{5}$. They reason that $\frac{1}{3} \times \frac{1}{5} = \frac{1}{(3 \times 5)}$ by counting squares in the entire rectangle, so the area of the shaded area is $(2 \times 4) \times \frac{1}{(3 \times 5)} = \frac{2 \times 4}{3 \times 5}$. They can explain that the product is less than $\frac{4}{5}$ because they are finding $\frac{2}{3}$ of $\frac{4}{5}$. They can further estimate that the answer must be between $\frac{2}{5}$ and $\frac{4}{5}$ because $\frac{2}{3}$ of $\frac{4}{5}$ is more than $\frac{2}{5}$ and less than one group of $\frac{4}{5}$.



The area model and the line segments show that the area is the same quantity as the product of the side lengths.

5.NF.5 Interpret multiplication as scaling (resizing), by:

- a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

This standard calls for students to examine the magnitude of products in terms of the relationship between two types of problems. This extends the work with 5.OA.1.

Example 1:

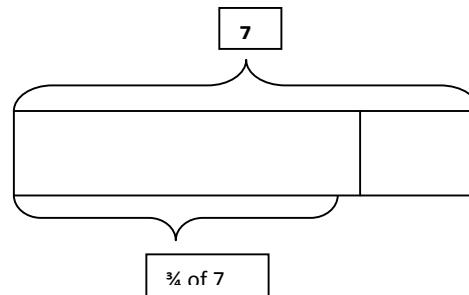
Mrs. Jones teaches in a room that is 60 feet wide and 40 feet long. Mr. Thomas teaches in a room that is half as wide, but has the same length. How do the dimensions and area of Mr. Thomas' classroom compare to Mrs. Jones' room? Draw a picture to prove your answer.

Example 2:

How does the product of 225×60 compare to the product of 225×30 ? How do you know? Since 30 is half of 60, the product of 225×30 will be double or twice as large as the product of 225×60 .

Example:

$\frac{3}{4} \times 7$ is less than 7 because 7 is multiplied by a factor less than 1 so the product must be less than 7.



- b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.

This standard asks students to examine how numbers change when we multiply by fractions. Students should have ample opportunities to examine both cases in the standard: a) when multiplying by a fraction greater than 1, the number increases and b) when multiplying by a fraction less than one, the number decreases. This standard should be explored and discussed while students are working with 5.NF.4, and should not be taught in isolation.

Example:

Mrs. Bennett is planting two flower beds. The first flower bed is 5 meters long and $6/5$ meters wide. The second flower bed is 5 meters long and $5/6$ meters wide. How do the areas of these two flower beds compare? Is the value of the area larger or smaller than 5 square meters? Draw pictures to prove your answer.

Example:

$2\frac{2}{3} \times 8$ must be more than 8 because 2 groups of 8 is 16 and $2\frac{2}{3}$ is almost 3 groups of 8. So the answer must be close to, but less than 24.

$$\frac{3}{4} = \frac{5 \times 3}{5 \times 4} \text{ because multiplying } \frac{3}{4} \text{ by } \frac{5}{5} \text{ is the same as multiplying by 1.}$$

5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

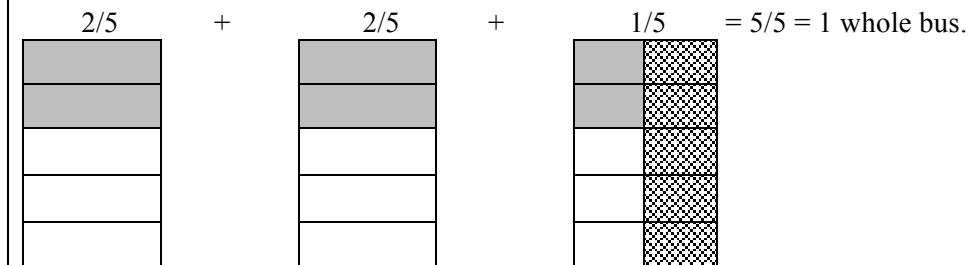
This standard builds on all of the work done in this cluster. Students should be given ample opportunities to use various strategies to solve word problems involving the multiplication of a fraction by a mixed number. This standard could include fraction by a fraction, fraction by a mixed number or mixed number by a mixed number.

Example:

There are $2 \frac{1}{2}$ bus loads of students standing in the parking lot. The students are getting ready to go on a field trip. $\frac{2}{5}$ of the students on each bus are girls. How many busses would it take to carry **only** the girls?

Student 1

I drew 3 grids and 1 grid represents 1 bus. I cut the third grid in half and I marked out the right half of the third grid, leaving $2 \frac{1}{2}$ grids. I then cut each grid into fifths, and shaded two-fifths of each grid to represent the number of girls. When I added up the shaded pieces, $\frac{2}{5}$ of the 1st and 2nd bus were both shaded, and $\frac{1}{5}$ of the last bus was shaded.



Student 2

$2 \frac{1}{2} \times \frac{2}{5} =$
I split the $2 \frac{1}{2}$ into 2 and $\frac{1}{2}$
 $2 \times \frac{2}{5} = \frac{4}{5}$
 $\frac{1}{2} \times \frac{2}{5} = \frac{2}{10}$
I then added $\frac{4}{5}$ and $\frac{2}{10}$. That equals 1 whole bus load.

Example:

Evan bought 6 roses for his mother. $\frac{2}{3}$ of them were red. How many red roses were there?
Using a visual, a student divides the 6 roses into 3 groups and counts how many are in 2 of the 3 groups.



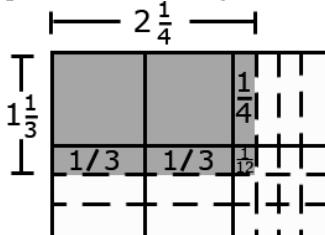
A student can use an equation to solve.

$$\frac{2}{3} \times 6 = \frac{12}{3} = 4 \text{ red roses}$$

Example:

Mary and Joe determined that the dimensions of their school flag needed to be $1\frac{1}{3}$ ft. by $2\frac{1}{4}$ ft. What will be the area of the school flag?

A student can draw an array to find this product and can also use his or her understanding of decomposing numbers to explain the multiplication. Thinking ahead a student may decide to multiply by $1\frac{1}{3}$ instead of $2\frac{1}{4}$.



The explanation may include the following:

- First, I am going to multiply $2\frac{1}{4}$ by 1 and then by $\frac{1}{3}$.
- When I multiply $2\frac{1}{4}$ by 1, it equals $2\frac{1}{4}$.
- Now I have to multiply $2\frac{1}{4}$ by $\frac{1}{3}$.
- $\frac{1}{3}$ times 2 is $\frac{2}{3}$.
- $\frac{1}{3}$ times $\frac{1}{4}$ is $\frac{1}{12}$.
- So the answer is $2\frac{1}{4} + \frac{2}{3} + \frac{1}{12}$ or $2\frac{3}{12} + \frac{8}{12} + \frac{1}{12} = 2\frac{12}{12} = 3$

5.NF.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.¹

- a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.

For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.

¹ Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement at this grade.

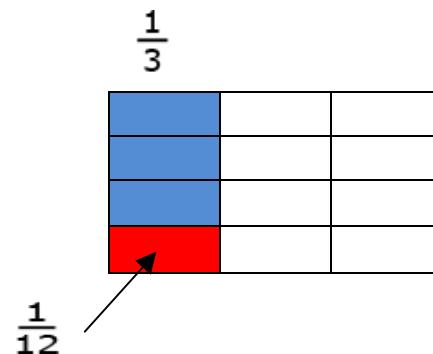
5.NF.7 is the first time that students are dividing with fractions. In fourth grade students divided whole numbers, and multiplied a whole number by a fraction. The concept *unit fraction* is a fraction that has a one in the denominator. For example, the fraction $3/5$ is 3 copies of the unit fraction $1/5$. $1/5 + 1/5 + 1/5 = 3/5 = 1/5 \times 3$ or $3 \times 1/5$

Example:

Knowing the number of groups/shares and finding how many/much in each group/share

Four students sitting at a table were given $1/3$ of a pan of brownies to share. How much of a pan will each student get if they share the pan of brownies equally?

The diagram shows the $1/3$ pan divided into 4 equal shares with each share equaling $1/12$ of the pan.



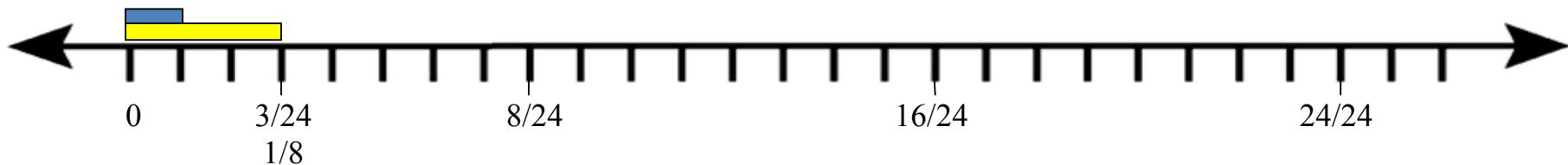
5.NF.7a This standard asks students to work with story contexts where a unit fraction is divided by a non-zero whole number. Students should use various fraction models and reasoning about fractions.

Example:

You have $\frac{1}{8}$ of a bag of pens and you need to share them among 3 people. How much of the bag does each person get?

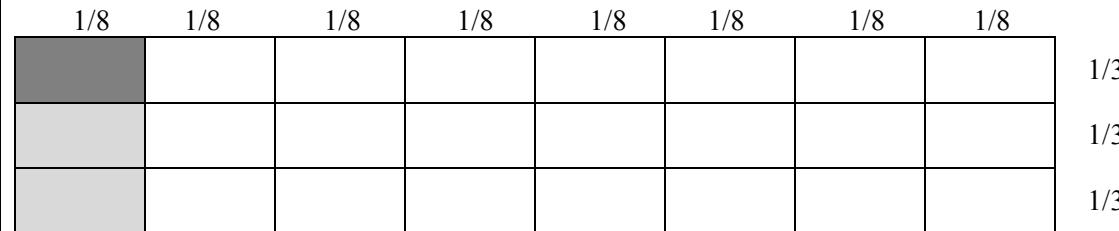
Student 1

Expression $\frac{1}{8} \div 3$



Student 2

I drew a rectangle and divided it into 8 columns to represent my $\frac{1}{8}$. I shaded the first column. I then needed to divide the shaded region into 3 parts to represent sharing among 3 people. I shaded one-third of the first column even darker. The dark shade is $\frac{1}{24}$ of the grid or $\frac{1}{24}$ of the bag of pens.



Student 3

$\frac{1}{8}$ of a bag of pens divided by 3 people. I know that my answer will be less than $\frac{1}{8}$ since I'm sharing $\frac{1}{8}$ into 3 groups. I multiplied 8 by 3 and got 24, so my answer is $\frac{1}{24}$ of the bag of pens. I know that my answer is correct because $(\frac{1}{24}) \times 3 = \frac{3}{24}$ which equals $\frac{1}{8}$.

- b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.*

- c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.

For example, how much chocolate will each person get if 3 people share $\frac{1}{2}$ lb of chocolate equally? How many $\frac{1}{3}$ -cup servings are 2 cups of raisins?

5.NF.7b This standard calls for students to create story contexts and visual fraction models for division situations where a whole number is being divided by a unit fraction.

Example:

Create a story context for $5 \div 1/6$. Find your answer and then draw a picture to prove your answer and use multiplication to reason about whether your answer makes sense. How many $1/6$ are there in 5?

Student

The bowl holds 5 Liters of water. If we use a scoop that holds $1/6$ of a Liter, how many scoops will we need in order to fill the entire bowl?

I created 5 boxes. Each box represents 1 Liter of water. I then divided each box into sixths to represent the size of the scoop. My answer is the number of small boxes, which is 30. That makes sense since $6 \times 5 = 30$.



$$1 = 1/6 + 1/6 + 1/6 + 1/6 + 1/6 \text{ a whole has } 6/6 \text{ so five wholes would be } 6/6 + 6/6 + 6/6 + 6/6 + 6/6 = 30/6$$

5.NF.7c extends students' work from other standards in 5.NF.7. Student should continue to use visual fraction models and reasoning to solve these real-world problems.

Example:

How many $\frac{1}{3}$ -cup servings are in 2 cups of raisins?

Student

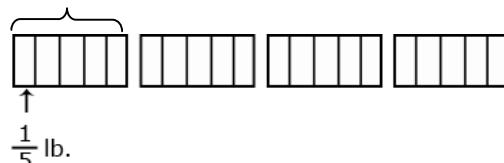
I know that there are three $\frac{1}{3}$ cup servings in 1 cup of raisins. Therefore, there are 6 servings in 2 cups of raisins. I can also show this since $2 \div \frac{1}{3} = 2 \times 3 = 6$ servings of raisins.

Examples:

Knowing how many in each group/share and finding how many groups/shares

Angelo has 4 lbs of peanuts. He wants to give each of his friends $1/5$ lb. How many friends can receive $1/5$ lb of peanuts? A diagram for $4 \div 1/5$ is shown below. Students explain that since there are five fifths in one whole, there must be 20 fifths in 4 lbs.

1 lb. of peanuts



Example:

How much rice will each person get if 3 people share 1/2 lb of rice equally?

$$\frac{1}{2} \div 3 = \frac{3}{6} \div 3 = \frac{1}{6}$$

A student may think or draw $\frac{1}{2}$ and cut it into 3 equal groups then determine that each of those part is $\frac{1}{6}$.
A student may think of $\frac{1}{2}$ as equivalent to $\frac{3}{6}$. $\frac{3}{6}$ divided by 3 is $\frac{1}{6}$.

Measurement and Data

5.MD

Common Core Cluster

Convert like measurement units within a given measurement system.

Mathematically proficient students communicate precisely by engaging in discussion about their reasoning using appropriate mathematical language. The terms students should learn to use with increasing precision with this cluster are: **conversion/convert, metric and customary measurement**

From previous grades: relative size, liquid volume, mass, length, kilometer (km), meter (m), centimeter (cm), kilogram (kg), gram (g), liter (L), milliliter (mL), inch (in), foot (ft), yard (yd), mile (mi), ounce (oz), pound (lb), cup (c), pint (pt), quart (qt), gallon (gal), hour, minute, second

Common Core Standard	Unpacking What do these standards mean a child will know and be able to do?
5.MD.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.	5.MD.1 calls for students to convert measurements within the same system of measurement in the context of multi-step, real-world problems. Both customary and standard measurement systems are included; students worked with both metric and customary units of length in second grade. In third grade, students work with metric units of mass and liquid volume. In fourth grade, students work with both systems and begin conversions within systems in length, mass and volume. Students should explore how the base-ten system supports conversions within the metric system. Example: 100 cm = 1 meter.

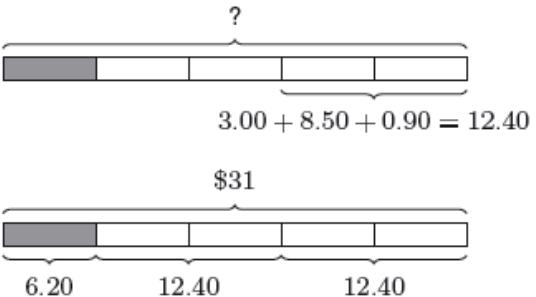
In Grade 5, students extend their abilities from Grade 4 to express measurements in larger or smaller units within a measurement system. This is an excellent opportunity to reinforce notions of place value for whole numbers and decimals, and connection between fractions and decimals (e.g., $2 \frac{1}{2}$ meters can be expressed as 2.5 meters or 250 centimeters). For example, building on the table from Grade 4, Grade 5 students might complete a table of equivalent measurements in feet and inches. Grade 5 students also learn and use such conversions in solving multi-step, real world problems (see example below).

Feet	Inches
0	0
	1
	2
	3

In Grade 6, this table can be discussed in terms of ratios and proportional relationships (see the Ratio and Proportion Progression). In Grade 5, however, the main focus is on arriving at the measurements that generate the table.

Multi-step problem with unit conversion

Kumi spent a fifth of her money on lunch. She then spent half of what remained. She bought a card game for \$3, a book for \$8.50, and candy for 90 cents. How much money did she have at first?



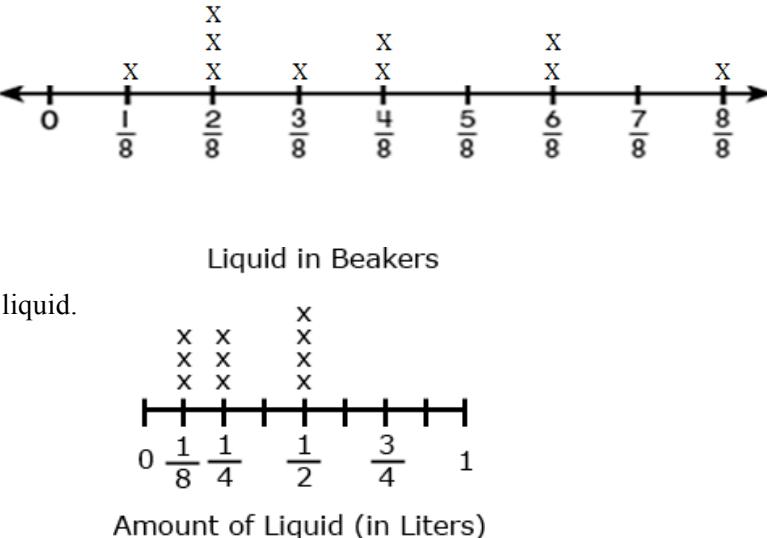
Students can use tape diagrams to represent problems that involve conversion of units, drawing diagrams of important features and relationships (MP1).

(*Progressions for the CCSSM, Geometric Measurement*, CCSS Writing Team, August 2011, page 26)

Common Core Cluster

Represent and interpret data.

Mathematically proficient students communicate precisely by engaging in discussion about their reasoning using appropriate mathematical language. The terms students should learn to use with increasing precision with this cluster are: **line plot, length, mass, liquid volume**

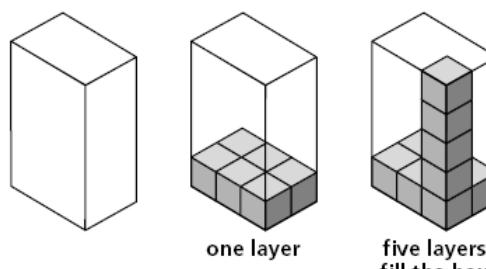
Common Core Standard	Unpacking What do these standards mean a child will know and be able to do?
<p>5.MD.2 Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots. <i>For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.</i></p>	<p>5.MD.2 This standard provides a context for students to work with fractions by measuring objects to one-eighth of a unit. This includes length, mass, and liquid volume. Students are making a line plot of this data and then adding and subtracting fractions based on data in the line plot.</p> <p>Example: Students measured objects in their desk to the nearest $\frac{1}{2}$, $\frac{1}{4}$, or $\frac{1}{8}$ of an inch then displayed data collected on a line plot. How many object measured $\frac{1}{4}$? $\frac{1}{2}$? If you put all the objects together end to end what would be the total length of all the objects?</p> <p>Example: Ten beakers, measured in liters, are filled with a liquid.</p>  <p>The line plot above shows the amount of liquid in liters in 10 beakers. If the liquid is redistributed equally, how much liquid would each beaker have? (This amount is the mean.)</p> <p>Students apply their understanding of operations with fractions. They use either addition and/or multiplication to determine the total number of liters in the beakers. Then the sum of the liters is shared evenly among the ten beakers.</p>

Common Core Cluster

Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

Students recognize volume as an attribute of three-dimensional space. They understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps. They understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. They select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume. They decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes. They measure necessary attributes of shapes in order to determine volumes to solve real world and mathematical problems.

Mathematically proficient students communicate precisely by engaging in discussion about their reasoning using appropriate mathematical language. The terms students should learn to use with increasing precision with this cluster are: **measurement, attribute, volume, solid figure, right rectangular prism, unit, unit cube, gap, overlap, cubic units (cubic cm, cubic in., cubic ft, nonstandard cubic units), multiplication, addition, edge lengths, height, area of base**

Common Core Standard	Unpacking What do these standards mean a child will know and be able to do?
5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement. <ul style="list-style-type: none"> a. A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume. b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units. 	5.MD.3, 5.MD.4, and 5.MD.5 These standards represent the first time that students begin exploring the concept of volume. In third grade, students begin working with area and covering spaces. The concept of volume should be extended from area with the idea that students are covering an area (the bottom of cube) with a layer of unit cubes and then adding layers of unit cubes on top of bottom layer (see picture below). Students should have ample experiences with concrete manipulatives before moving to pictorial representations. Students’ prior experiences with volume were restricted to liquid volume. As students develop their understanding volume they understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. This cube has a length of 1 unit, a width of 1 unit and a height of 1 unit and is called a cubic unit. This cubic unit is written with an exponent of 3 (e.g., in ³ , m ³). Students connect this notation to their understanding of powers of 10 in our place value system. Models of cubic inches, centimeters, cubic feet, etc are helpful in developing an image of a cubic unit. Students’ estimate how many cubic yards would be needed to fill the classroom or how many cubic centimeters would be needed to fill a pencil box.
5.MD.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.	
5.MD.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. <ul style="list-style-type: none"> a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the 	(3×2) represented by first layer $(3 \times 2) \times 5$ represented by number of 3×2 layers $(3 \times 2) + (3 \times 2) + (3 \times 2) + (3 \times 2) + (3 \times 2) = 6 + 6 + 6 + 6 + 6 = 30$ 6 representing the size/area of one layer

edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.

- b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.
- c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

The major emphasis for measurement in Grade 5 is volume. Volume not only introduces a third dimension and thus a significant challenge to students' spatial structuring, but also complexity in the nature of the materials measured. That is, solid units are "packed," such as cubes in a three-dimensional array, whereas a liquid "fills" three-dimensional space, taking the shape of the container. The unit structure for liquid measurement may be psychologically one dimensional for some students.

"Packing" volume is more difficult than iterating a unit to measure length and measuring area by tiling. Students learn about a unit of volume, such as a cube with a side length of 1 unit, called a unit cube.5.MD.3 They pack cubes (without gaps) into right rectangular prisms and count the cubes to determine the volume or build right rectangular prisms from cubes and see the layers as they build.5.MD.4 They can use the results to compare the volume of right rectangular prisms that have different dimensions. Such experiences enable students to extend their spatial structuring from two to three dimensions. That is, they learn to both mentally decompose and recompose a right rectangular prism built from cubes into layers, each of which is composed of rows and columns. That is, given the prism, they have to be able to decompose it, understanding that it can be partitioned into layers, and each layer partitioned into rows, and each row into cubes. They also have to be able to compose such as structure, multiplicatively, back into higher units. That is, they eventually learn to conceptualize a layer as a unit that itself is composed of units of units—rows, each row composed of individual cubes—and they iterate that structure. Thus, they might predict the number of cubes that will be needed to fill a box given the net of the box.

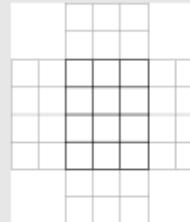
Another complexity of volume is the connection between "packing" and "filling." Often, for example, students will respond that a box can be filled with 24 centimeter cubes, or build a structure of 24 cubes, and still think of the 24 as individual, often discrete, not necessarily *units of volume*. They may, for example, not respond confidently and correctly when asked to fill a graduated cylinder marked in cubic centimeters with the amount of liquid that would fill the box. That is, they have not yet connected their ideas about filling volume with those concerning packing volume. Students learn to move between these conceptions, e.g., using the same container, both filling (from a graduated cylinder marked in ml or cc) and packing (with cubes that are each 1 cm^3). Comparing and discussing the volume-units and what they represent can help students learn a general, complete, and interconnected conceptualization of volume as filling three-dimensional space.

Students then learn to determine the volumes of several right rectangular prisms, using cubic centimeters, cubic inches, and cubic feet. With guidance, they learn to increasingly apply multiplicative reasoning to determine volumes, looking for and making use of structure. That is, they understand that multiplying the length times the width of a right rectangular prism can be viewed as determining how many cubes would be in each layer if the prism were packed with or built up from unit cubes.5.MD.5a They also learn that the height of the prism tells how many layers would fit in the prism. That is, they understand that volume is a derived attribute that, once a length unit is specified, can be computed as the product of three length measurements or as the product of one area and one length measurement.

Then, students can learn the formulas $V = l \times w \times h$ and $V = B \times h$ for right rectangular prisms as efficient methods for computing volume, maintaining the connection between these methods and their previous work with computing the number of unit cubes that pack a right rectangular prism. 5.MD.5b They use these competencies to find the volumes of right rectangular prisms with edges whose lengths are whole numbers and solve real-world and mathematical problems involving such prisms.

Students also recognize that volume is additive and they find the total volume of solid figures composed of two right rectangular prisms. 5.MD.5c For example, students might design a science station for the ocean floor that is composed of several rooms that are right rectangular prisms and that meet a set criterion specifying the total volume of the station. They draw their station and justify how their design meets the criterion.

Net for five faces of a right rectangular prism



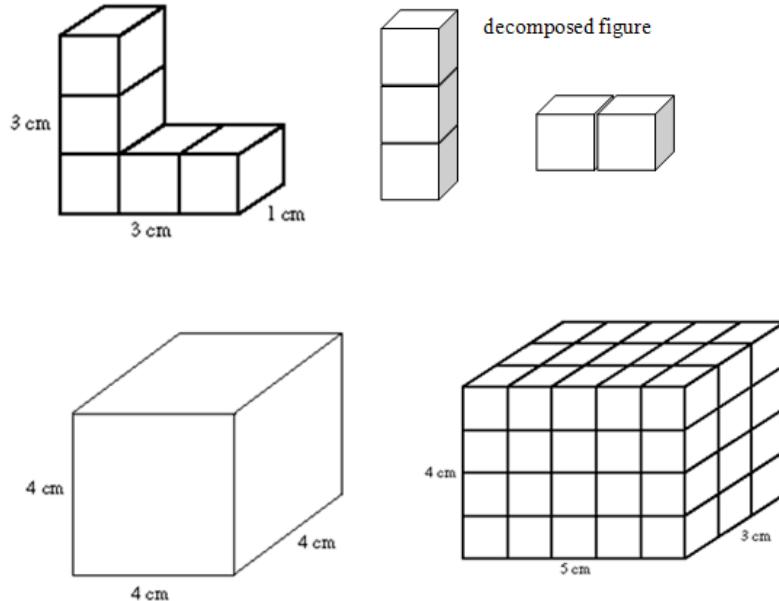
Students are given a net and asked to predict the number of cubes required to fill the container formed by the net. In such tasks, students may initially count single cubes or repeatedly add the number of cubes in a row to determine the number in each layer, and repeatedly add the number in each layer to find the total number of unit cubes. In folding the net to make the shape, students can see how the side rectangles fit together and determine the number of layers.

(Progressions for the CCSSM, Geometric Measurement, CCSS Writing Team, August 2011, page 26)

5. MD.5a & b These standards involve finding the volume of right rectangular prisms (see picture above). Students should have experiences to describe and reason about why the formula is true. Specifically, that they are covering the bottom of a right rectangular prism (length x width) with multiple layers (height). Therefore, the formula (length x width x height) is an extension of the formula for the area of a rectangle.

5.MD.5c This standard calls for students to extend their work with the area of composite figures into the context of volume. Students should be given concrete experiences of breaking apart (decomposing) 3-dimensional figures into right rectangular prisms in order to find the volume of the entire 3-dimensional figure.

Examples:



students need multiple opportunities to measure volume by filling rectangular prisms with cubes and looking at the relationship between the total volume and the area of the base. They derive the volume formula (volume equals the area of the base times the height) and explore how this idea would apply to other prisms. Students use the associative property of multiplication and decomposition of numbers using factors to investigate rectangular prisms with a given number of cubic units.

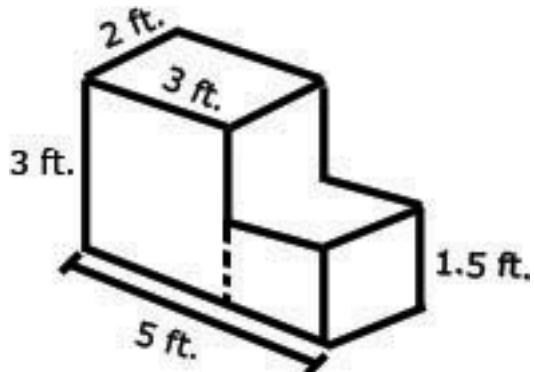
Example:

When given 24 cubes, students make as many rectangular prisms as possible with a volume of 24 cubic units. Students build the prisms and record possible dimensions.

Length	Width	Height
1	2	12
2	2	6
4	2	3
8	3	1

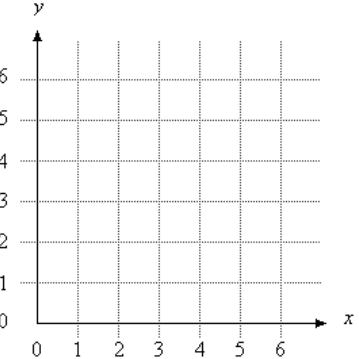
Example:

Students determine the volume of concrete needed to build the steps in the diagram below.



Common Core Cluster**Graph points on the coordinate plane to solve real-world and mathematical problems.**

Mathematically proficient students communicate precisely by engaging in discussion about their reasoning using appropriate mathematical language. The terms students should learn to use with increasing precision with this cluster are: **coordinate system, coordinate plane, first quadrant, points, lines, axis/axes, x-axis, y-axis, horizontal, vertical, intersection of lines, origin, ordered pairs, coordinates, x-coordinate, y-coordinate**

Common Core Standard	Unpacking What do these standards mean a child will know and be able to do?
<p>5.G.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).</p>	<p>5.G.1 and 5.G.2 These standards deal with only the first quadrant (positive numbers) in the coordinate plane. Although students can often “locate a point,” these understandings are beyond simple skills. For example, initially, students often fail to distinguish between two different ways of viewing the point $(2, 3)$, say, as instructions: “right 2, up 3”; and as the point defined by being a distance 2 from the y-axis and a distance 3 from the x-axis. In these two descriptions the 2 is first associated with the x-axis, then with the y-axis.</p> <p>Example: Connect these points in order on the coordinate grid below: $(2, 2)$ $(2, 4)$ $(2, 6)$ $(2, 8)$ $(4, 5)$ $(6, 8)$ $(6, 6)$ $(6, 4)$ and $(6, 2)$.</p> <p style="text-align: center;">Coordinate Grid</p>  <p>What letter is formed on the grid?</p> <p><i>Solution: “M” is formed.</i></p>

Example:

Plot these points on a coordinate grid.

Point A: (2,6)

Point B: (4,6)

Point C: (6,3)

Point D: (2,3)

Connect the points in order. Make sure to connect Point D back to Point A.

1. What geometric figure is formed? What attributes did you use to identify it?
2. What line segments in this figure are parallel?
3. What line segments in this figure are perpendicular?

solutions: trapezoid, line segments AB and DC are parallel, segments AD and DC are perpendicular

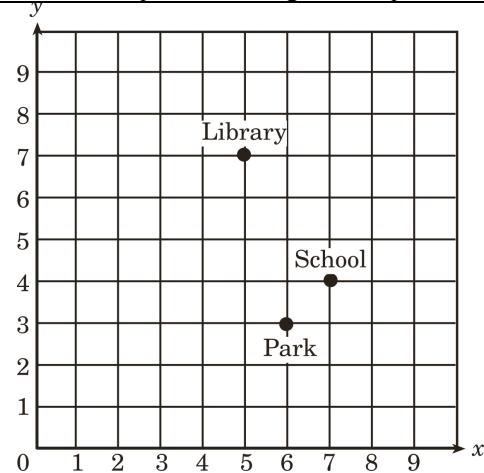
Example:

Emanuel draws a line segment from (1, 3) to (8, 10). He then draws a line segment from (0, 2) to (7, 9). If he wants to draw another line segment that is parallel to those two segments what points will he use?

5.G.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

This standard references real-world and mathematical problems, including the traveling from one point to another and identifying the coordinates of missing points in geometric figures, such as squares, rectangles, and parallelograms.

Example:
Using the coordinate grid, which ordered pair represents the location of the School?
Explain a possible path from the school to the library.



Example:

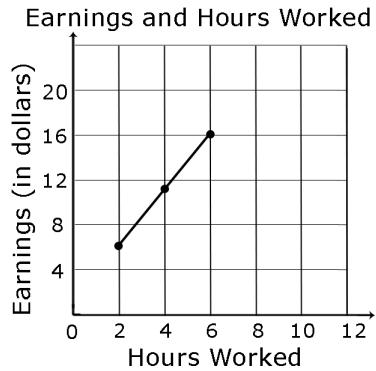
Sara has saved \$20. She earns \$8 for each hour she works.

If Sara saves all of her money, how much will she have after working 3 hours? 5 hours? 10 hours?

Create a graph that shows the relationship between the hours Sara worked and the amount of money she has saved.
What other information do you know from analyzing the graph?

Example:

Use the graph below to determine how much money Jack makes after working exactly 9 hours.



Common Core Cluster

Classify two-dimensional figures into categories based on their properties.

Mathematically proficient students communicate precisely by engaging in discussion about their reasoning using appropriate mathematical language. The terms students should learn to use with increasing precision with this cluster are: **attribute**, **category**, **subcategory**, **hierarchy**, **(properties)-rules about how numbers work**, **two dimensional**

From previous grades: **polygon**, **rhombus/rhombi**, **rectangle**, **square**, **triangle**, **quadrilateral**, **pentagon**, **hexagon**, **cube**, **trapezoid**, **half/quarter circle**, **circle**, **kite**

¹The term “**property**” in these standards is reserved for those attributes that indicate a relationship between components of shapes. Thus, “having parallel sides” or “having all sides of equal lengths” are properties. “**Attributes**” and “**features**” are used interchangeably to indicate any characteristic of a shape, including properties, and other defining characteristics (e.g., straight sides) and nondefining characteristics (e.g., “right-side up”).

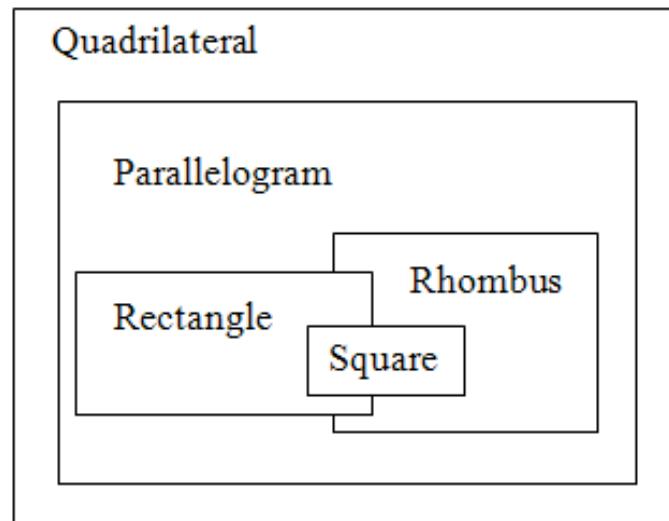
(*Progressions for the CCSSM, Geometry*, CCSS Writing Team, June 2012, page 3 footnote)

Common Core Standard	Unpacking What do these standards mean a child will know and be able to do?
<p>5.G.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. <i>For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.</i></p>	<p>This standard calls for students to reason about the attributes (properties) of shapes. Student should have experiences discussing the property of shapes and reasoning.</p> <p>Example: Examine whether all quadrilaterals have right angles. Give examples and non-examples.</p> <p>Example: If the opposite sides on a parallelogram are parallel and congruent, then rectangles are parallelograms</p> <p>A sample of questions that might be posed to students include: A parallelogram has 4 sides with both sets of opposite sides parallel. What types of quadrilaterals are parallelograms? Regular polygons have all of their sides and angles congruent. Name or draw some regular polygons. All rectangles have 4 right angles. Squares have 4 right angles so they are also rectangles. True or False? A trapezoid has 2 sides parallel so it must be a parallelogram. True or False?</p> <p>The notion of congruence (“same size and same shape”) may be part of classroom conversation but the concepts of congruence and similarity do not appear until middle school.</p> <p>TEACHER NOTE: In the U.S., the term “trapezoid” may have two different meanings. Research identifies these as inclusive and exclusive definitions. The inclusive definition states: A trapezoid is a quadrilateral with <i>at least</i> one pair of parallel sides. The exclusive definition states: A trapezoid is a quadrilateral with exactly one pair of parallel sides. With this definition, a parallelogram is not a trapezoid. North Carolina has adopted the exclusive definition. (<i>Progressions for the CCSSM: Geometry</i>, The Common Core Standards Writing Team, June 2012.)</p>

<p>5.G.4 Classify two-dimensional figures in a hierarchy based on properties.</p>	<p>http://illuminations.nctm.org/ActivityDetail.aspx?ID=70</p> <p>This standard builds on what was done in 4th grade. Figures from previous grades: polygon, rhombus/rhombi, rectangle, square, triangle, quadrilateral, pentagon, hexagon, cube, trapezoid, half/quarter circle, circle, kite</p> <p>A kite is a quadrilateral whose four sides can be grouped into two pairs of equal-length sides that are beside (adjacent to) each other.</p> <p>Example: Create a <u>Hierarchy Diagram</u> using the following terms:</p> <div style="border: 1px solid black; padding: 10px;"> <p>polygons – a closed plane figure formed from line segments that meet only at their endpoints.</p> <p>quadrilaterals - a four-sided polygon.</p> <p>rectangles - a quadrilateral with two pairs of congruent parallel sides and four right angles.</p> <p>rhombi – a parallelogram with all four sides equal in length.</p> <p>square – a parallelogram with four congruent sides and four right angles.</p> </div> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Possible student solution:</p> <pre> graph TD Polygons[Polygons] --> Quadrilaterals[Quadrilaterals] Quadrilaterals --> Rectangles[Rectangles] Quadrilaterals --> Rhombi[Rhombi] Rectangles --> Square[Square] </pre> </div>
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quadrilateral – a four-sided polygon.
parallelogram – a quadrilateral with two pairs of parallel and congruent sides.
rectangle – a quadrilateral with two pairs of congruent, parallel sides and four right angles.
rhombus – a parallelogram with all four sides equal in length.
square – a parallelogram with four congruent sides and four right angles.

Possible student solution:



Student should be able to reason about the attributes of shapes by examining: What are ways to classify triangles? Why can't trapezoids and kites be classified as parallelograms? Which quadrilaterals have opposite angles congruent and why is this true of certain quadrilaterals?, and How many lines of symmetry does a regular polygon have?

TEACHER NOTE: In the U.S., the term “trapezoid” may have two different meanings. Research identifies these as inclusive and exclusive definitions. The inclusive definition states: A trapezoid is a quadrilateral with *at least* one pair of parallel sides. The exclusive definition states: **A trapezoid is a quadrilateral with *exactly* one pair of parallel sides.** With this definition, a parallelogram is not a trapezoid. North Carolina has adopted the exclusive definition. (*Progressions for the CCSSM: Geometry*, The Common Core Standards Writing Team, June 2012.)

Some examples used in this document are from the Arizona Mathematics Education Department

Glossary

Table 1 Common addition and subtraction situations¹

	Result Unknown	Change Unknown	Start Unknown
Add to	Two bunnies sat on the grass. Three more bunnies hopped there. How many bunnies are on the grass now? $2 + 3 = ?$	Two bunnies were sitting on the grass. Some more bunnies hopped there. Then there were five bunnies. How many bunnies hopped over to the first two? $2 + ? = 5$	Some bunnies were sitting on the grass. Three more bunnies hopped there. Then there were five bunnies. How many bunnies were on the grass before? $? + 3 = 5$
	Five apples were on the table. I ate two apples. How many apples are on the table now? $5 - 2 = ?$	Five apples were on the table. I ate some apples. Then there were three apples. How many apples did I eat? $5 - ? = 3$	Some apples were on the table. I ate two apples. Then there were three apples. How many apples were on the table before? $? - 2 = 3$
Take from			
Put Together/ Take Apart³	Total Unknown Three red apples and two green apples are on the table. How many apples are on the table? $3 + 2 = ?$	Addend Unknown Five apples are on the table. Three are red and the rest are green. How many apples are green? $3 + ? = 5, 5 - 3 = ?$	Both Addends Unknown² Grandma has five flowers. How many can she put in her red vase and how many in her blue vase? $5 = 0 + 5, 5 = 5 + 0$ $5 = 1 + 4, 5 = 4 + 1$ $5 = 2 + 3, 5 = 3 + 2$
Compare⁴	Difference Unknown ("How many more?" version): Lucy has two apples. Julie has five apples. How many more apples does Julie have than Lucy? ("How many fewer?" version): Lucy has two apples. Julie has five apples. How many fewer apples does Lucy have than Julie? $2 + ? = 5, 5 - 2 = ?$	Bigger Unknown (Version with "more"): Julie has three more apples than Lucy. Lucy has two apples. How many apples does Julie have? (Version with "fewer"): Lucy has 3 fewer apples than Julie. Lucy has two apples. How many apples does Julie have? $2 + 3 = ?, 3 + 2 = ?$	Smaller Unknown (Version with "more"): Julie has three more apples than Lucy. Julie has five apples. How many apples does Lucy have? (Version with "fewer"): Lucy has 3 fewer apples than Julie. Julie has five apples. How many apples does Lucy have? $5 - 3 = ?, ? + 3 = 5$

¹Adapted from Box 2-4 of Mathematics Learning in Early Childhood, National Research Council (2009, pp. 32, 33).

²These take apart situations can be used to show all the decompositions of a given number. The associated equations, which have the total on the left of the equal sign, help children understand that the = sign does not always mean makes or results in but always does mean is the same number as.

³Either addend can be unknown, so there are three variations of these problem situations. Both Addends Unknown is a productive extension of this basic situation, especially for small numbers less than or equal to 10.

⁴For the Bigger Unknown or Smaller Unknown situations, one version directs the correct operation (the version using more for the bigger unknown and using less for the smaller unknown). The other versions are more difficult.

Table 2 Common multiplication and division situations¹

	Unknown Product $3 \times 6 = ?$	Group Size Unknown ("How many in each group?" Division) $3 \times ? = 18$, and $18 \div 3 = ?$	Number of Groups Unknown ("How many groups?" Division) $? \times 6 = 18$, and $18 \div 6 = ?$
Equal Groups	<p>There are 3 bags with 6 plums in each bag. How many plums are there in all?</p> <p><i>Measurement example.</i> You need 3 lengths of string, each 6 inches long. How much string will you need altogether?</p>	<p>If 18 plums are shared equally into 3 bags, then how many plums will be in each bag?</p> <p><i>Measurement example.</i> You have 18 inches of string, which you will cut into 3 equal pieces. How long will each piece of string be?</p>	<p>If 18 plums are to be packed 6 to a bag, then how many bags are needed?</p> <p><i>Measurement example.</i> You have 18 inches of string, which you will cut into pieces that are 6 inches long. How many pieces of string will you have?</p>
Arrays,² Area³	<p>There are 3 rows of apples with 6 apples in each row. How many apples are there?</p> <p><i>Area example.</i> What is the area of a 3 cm by 6 cm rectangle?</p>	<p>If 18 apples are arranged into 3 equal rows, how many apples will be in each row?</p> <p><i>Area example.</i> A rectangle has area 18 square centimeters. If one side is 3 cm long, how long is a side next to it?</p>	<p>If 18 apples are arranged into equal rows of 6 apples, how many rows will there be?</p> <p><i>Area example.</i> A rectangle has area 18 square centimeters. If one side is 6 cm long, how long is a side next to it?</p>
Compare	<p>A blue hat costs \$6. A red hat costs 3 times as much as the blue hat. How much does the red hat cost?</p> <p><i>Measurement example.</i> A rubber band is 6 cm long. How long will the rubber band be when it is stretched to be 3 times as long?</p>	<p>A red hat costs \$18 and that is 3 times as much as a blue hat costs. How much does a blue hat cost?</p> <p><i>Measurement example.</i> A rubber band is stretched to be 18 cm long and that is 3 times as long as it was at first. How long was the rubber band at first?</p>	<p>A red hat costs \$18 and a blue hat costs \$6. How many times as much does the red hat cost as the blue hat?</p> <p><i>Measurement example.</i> A rubber band was 6 cm long at first. Now it is stretched to be 18 cm long. How many times as long is the rubber band now as it was at first?</p>
General	$a \times b = ?$	$a \times ? = p$, and $p \div a = ?$	$? \times b = p$, and $p \div b = ?$

¹The first examples in each cell are examples of discrete things. These are easier for students and should be given before the measurement examples.

²The language in the array examples shows the easiest form of array problems. A harder form is to use the terms rows and columns: The apples in the grocery window are in 3 rows and 6 columns. How many apples are in there? Both forms are valuable.

³Area involves arrays of squares that have been pushed together so that there are no gaps or overlaps, so array problems include these especially important measurement situations.

Table 3 The properties of operations

Here a , b and c stand for arbitrary numbers in a given number system. The properties of operations apply to the rational number system, the real number system, and the complex number system.

<i>Associative property of addition</i>	$(a + b) + c = a + (b + c)$
<i>Commutative property of addition</i>	$a + b = b + a$
<i>Additive identity property of 0</i>	$a + 0 = 0 + a = a$
<i>Associative property of multiplication</i>	$(a \times b) \times c = a \times (b \times c)$
<i>Commutative property of multiplication</i>	$a \times b = b \times a$
<i>Multiplicative identity property of 1</i>	$a \times 1 = 1 \times a = a$
<i>Distributive property of multiplication over addition</i>	$a \times (b + c) = a \times b + a \times c$

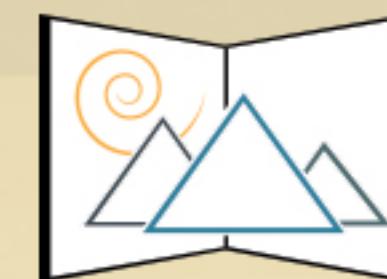
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Content Integration 2016-2017



Grade



CANYONS
School District

CONTENT INTEGRATION (SOCIAL STUDIES & SCIENCE) CURRICULUM MAP

CANYONS SCHOOL DISTRICT

Curriculum Mapping Purpose

Canyons School District's Content Integration curriculum maps are standards-based maps driven by the Utah Core Standards. Student achievement is increased when both teachers and students know where they are going, why they are going there, and what is required of them to get there.

Curriculum Maps are a tool for:

- **ALIGNMENT:** Provides support and coordination between concepts, skills, standards, curriculum, and assessments
- **COMMUNICATION:** Articulates expectations and learning goals for students
- **PLANNING:** Focuses instruction and targets critical information
- **COLLABORATION:** Promotes professionalism and fosters dialogue between colleagues about best practices pertaining to sequencing, unit emphasis and length, integration, and review strategies
- **SCAFFOLDED INSTRUCTION AND GROUPING STRUCTURES:** The organization of a scaffolded classroom includes whole group, small group (e.g., teacher-led skill-based, cooperative learning), partner, and independent work where students are provided support towards mastery. As students assume more responsibility for the learning, gradual support is decreased in order to shift the responsibility for learning from the teacher to the students.

General Instructions

Pacing

This curriculum map provides guidance for intertwining the Utah Core Standards for Social Studies and Science with the Reading Street content. Following the map will allow students to access all core standards by the end of the year. To support students' mastery of the standards, a scope and sequence was developed to address content areas. Attending to these standards will allow teachers to focus instruction for the given unit and better assess students' understanding of each standard.

Units

The scope and sequence was correlated to the Reading Street Unit Theme and Question where applicable. There are five units that are to be covered over the course of the school year, as students will do a keyboarding unit at the beginning of the year. Each unit represents six weeks of instruction. In most cases, there are science and social studies standards that are taught in each unit.

Content Integration Instruction

During the Science and Social Studies content integration block, students will have the opportunity to learn about and experience science and social studies as directed by the Utah State Core curriculum. "Elementary school students learn science and social studies best when; they are involved in first-hand exploration and investigation and inquiry/process skills are nurtured, instruction builds directly on the student's conceptual framework, and when mathematics and communication skills are an integral part of instruction."

The Content integration time in the ELA Block deals with integration of science and social studies content to understand key concepts, principles, generalizations, and theories through the integration of the English Language Arts Standards. The Utah Core states: "By reading texts in history/social studies, science, and other disciplines, students build a foundation of knowledge in these fields that will also give them the background to be better readers in all content areas. Students can only gain this foundation when the curriculum is intentionally and coherently structured to develop rich content knowledge within and across grades. Students also acquire the habits of reading independently and closely, which are essential to their future success."

Optimally, this portion of the day involves students reading, writing, listening and speaking about the topics they are learning about in science and social studies instruction time. Teachers can use this time to provide background knowledge and learning activities to prepare their students for their Science/Social Studies instruction. Ideas and resources for integration can be found in your Content Integration Map.

Scheduling Suggestions

Ideally, the Science and Social Studies block will be schedule back-to-back with the Content Integration time in the ELA block for a fluid flow from building background knowledge in the ELA block to the experiential learning in the Science and Social Studies block. If schedule back-to-back, this block of time can be adjusted so that laboratories, modeling, simulations, and other activities that take extended amounts of time can be incorporated in the day.

Example Performance Assessment

Example performance assessments have been included in the map as ideas on different types of assessments to determine mastery. An example has been listed for every objective from the Utah Science and Social Studies core.

Guidance for Integration

Ideas for how to incorporate literacy, math, art, and other standards with the Social Studies and Science standards have been included in this portion of the map. Links on where to find resources and lesson plans have been provided.

SALTA Materials Content Integration

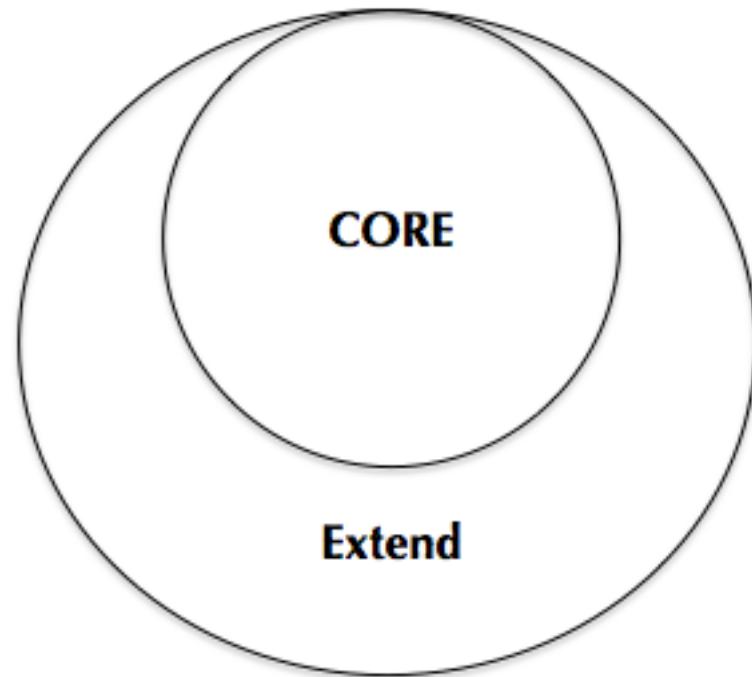
CORE

All SALTA students are taught the Utah **CORE** standards. Core standards are evidence-based, aligned with expectations for success in college and the workplace, and will allow students to compete internationally. The new standards stress rigor, depth, clarity, coherence, and 21st century skills, to prepare students for college and careers.

EXTEND

Extension of core standards provides students with activities that are added to **CORE** to enlarge or deepen understanding. Examples of **EXTEND** include:

- Science Exemplars





Exemplars has helped schools and districts in 50 states and 25 foreign countries to meet the challenges of national, state and local standards.

What Is Exemplars?

Increasingly, schools, districts and states are adopting new standards and revising their science curriculums. Teachers, curriculum coordinators and administrators are grappling with how to incorporate them, along with new authentic assessments and instructional strategies into an already challenging classroom schedule.

We started *Exemplars* to respond to the many teachers we have worked with who have told us how badly they want to implement standards-based assessment and instruction in their classrooms and how challenging it is.

The goal of *Exemplars* is to provide performance assessment inquiry tasks, scoring rubrics, benchmark papers and tips to make it more manageable for educators to implement new standards and this approach to assessment.

Exemplars began in 1993 with authentic assessment in mathematics for grades K–8 to help teachers, schools and districts implement the NCTM standards. It was created with the help of classroom teachers, drawn nationwide from model practitioners – teachers who have been through the process of setting standards, designing authentic inquiry tasks and using rubrics to assess student performance. It has helped schools and districts in 50 states and 25 foreign countries to meet the challenges of national, state and local standards. Response to this teacher-developed, classroom-tested model has been enthusiastic. It is viewed as “so user friendly and non-threatening” that teachers enjoy working with it.

In 1993, *Exemplars* added Mathematics 9–12, and in 1995 we added Science, K–8. RWR (Reading, Writing and Research in the Content Areas) was published for grades 5–8 in 1999. Our newest products include Developing Writers and Spanish *Exemplars*.



Our state and provincial alignments can be viewed online at <http://www.exemplars.com/resources/alignments/index.html>

Science Exemplars

Science Exemplars is based on national standards and is aligned to state and provincial standards; Benchmarks for Science Literacy (Project 2061 of the American Association for the Advancement of Science); National Science Education Standards (National Research Council); and The New Standards Project Science Performance Standards. Our state and provincial alignments can be viewed online at <http://www.exemplars.com/resources/alignments/index.html>

Science Exemplars is focused on the big ideas of science beginning at the K-2 level and is concerned with content as well as process. (See the description of *Exemplars Inquiry Tasks and Rubric* on pages 6-18.)

Science Exemplars is a vehicle for improving assessment and instruction. It improves assessment by providing:

- Inquiry-based assessment tasks
- Rubrics that are aligned to state and national standards in science
- Benchmark papers exemplifying four levels of science performance; Novice, Apprentice, Practitioner and Expert

It improves instruction by:

- Making standards clear to students
- Encouraging students to self-assess
- Giving students the opportunity to work as scientists on interesting investigations and inquiry tasks
- Providing teachers with support by relating each task to the big ideas of science; the context for the problem; interdisciplinary links; and possible solutions

How Do People Use Exemplars?

People use *Exemplars* in many different ways.

- Teachers use *Exemplars* for both assessment and instruction, depending on the circumstances. The tasks in *Exemplars* are inquiry-based performance assessments. They can be used to help **teach** students skills and concepts and to **assess** students' understanding of skills and concepts.

Exemplars include:

- **Preassessments** – given at the beginning of a unit to assess what students already know
- **Formative assessments** – given to inform instruction and assess how students are progressing
- **Culminating or Summative assessments** – given at the end of the unit to assess student understanding
- *Exemplars* engaging inquiry tasks with rubrics tied to national, state and provincial standards, and benchmark papers at Novice, Apprentice, Practitioner and Expert levels make *Exemplars* an ideal vehicle for **professional development**.
- Administrators have found *Exemplars* to be a powerful way of reporting student performance based on national, state and provincial standards to their communities.
- Students use *Exemplars* to learn the practice of science and the process of self-assessment.
- Principals, curriculum coordinators, content area supervisors and staff developers have found *Exemplars* to be an effective way of helping teachers begin to understand standards and performance assessment.



Teachers use *Exemplars* for both assessment and instruction. The tasks in *Exemplars* are inquiry-based performance assessments. They can be used to help **teach** students skills and concepts and to **assess** students' understanding of skills and concepts.



Many teachers will find unifying concepts a useful way to connect one lesson or unit to others throughout the year.

A Guide for Exemplars Science Inquiry Tasks

Exemplars tasks are designed for different developmental levels, and they have been grouped by grades K–2, 3–5 and 6–8. Each task is written with one of these developmental levels in mind. Often, for many tasks, adaptations (in materials, data collection procedures and tools, representations used, data analysis, etc.) can be made for students with more or less sophisticated levels of skills and understanding. Student work samples are benchmarked for the identified grade levels and the tasks as written.

Each task includes the following:

- **Inquiry Task and Essential Question to be Answered**
Describes what science concepts this investigation explores and which science process skills are reinforced during the task. The Essential Question provides the lesson focus or the question students are trying to answer.
- **Big Ideas and Unifying Concepts**
While no single lesson can address the “big ideas” of science, we have included some unifying concepts toward which particular tasks can help build an understanding in relation to other science lessons. Many teachers will find this a useful way to connect one lesson or unit to others throughout the year. Unifying concepts, identified by the national science standards, include:
 - Change-Constancy
 - Cause-Effect
 - Order and Organization
 - Models
 - Systems
 - Interdependence
 - Evolution and Equilibrium
 - Form and Function
 - Design
 - Patterns
 - Scale

- **Science Content**

Science content areas that are addressed and assessed through *Exemplars* Science Inquiry Tasks are identified under five broad headings:

- **Physical Science Concepts** – properties of matter, motion and forces, transfer and transformation of energy
- **Life Science Concepts** – structure and function, reproduction and heredity, regulation and behavior, population and ecosystems, evolution, diversity and adaptations
- **Design Technology** – use of tools, invention, design constraints and advantages, impact on human and other resources
- **Science in Personal and Societal Perspectives** – personal health; populations, resources and environments; natural hazards; risks and benefits; and science, technology and society
- **Earth Science** – earth systems; earth's history; solar system; and natural resource management

- **Time Required for the Task**

Time is estimated and is based upon the teacher's field test.

- **Context**

Describes what the students have already been doing in science to lay the groundwork for this activity and what prior knowledge and skills they might draw upon to accomplish the task.

- **What the Task Accomplishes**

Describes how this investigation task will teach, reinforce, and assess the skills and knowledge identified in the corresponding science standards.

- **How the Student Will Investigate**

Describes how students will be engaged during the task. Includes how the teacher might guide exploration, ask questions, and model skills needed for successful completion of the task.

- **Interdisciplinary Links and Extensions**

Includes suggested topics and activities that can extend the learning from this activity to other content areas



Children are natural inquirers, they still need to be taught the specific skills of inquiry so that they can begin to think and act as scientists do.

- **Teaching Tips and Guiding Questions**
Includes ideas to guide the inquiry process during the lesson(s). While the children engage in exploration, suggested questions are provided to guide their thinking and lead them to the big ideas. Good questions ensure that students build understanding while they manipulate materials and record information. Questions should move from the specific (How is... different from...?) to the general (Can you state a “rule” about...? Do all materials... in the same way?)
- **Concepts to be Assessed**
Identifies unifying concepts (big ideas) and science concepts to be assessed using the *Science Exemplars* Rubric criterion: Science Concepts and Related Content. This brief overview calls attention to what conceptual knowledge and scientific terminology students will demonstrate an understanding and use of in their work samples.
For example:
 - Observing and explaining reactions of bending and not bending (cause-effect);
 - Observing and comparing physical properties of matter (comparing the weight, size, and flexibility of solids);
 - Classifying materials according to properties, etc.
- **Skills to be Developed**
Identifies specific science process skills to be assessed using the *Science Exemplars* Rubric (under the criteria: Scientific Procedures and Reasoning Strategies and Scientific Communication/Using Data). This brief overview calls attention to scientific skills students will demonstrate an understanding and use of in their work samples.
For example: Observing, Predicting, Classifying, Recording, Communicating, Measuring, etc. needed to complete the task.
- **Links to Science (and other) Standards**
Identifies connections to science (and sometimes mathematics) standards.
For example:
 - *Scientific Method*: Students describe, predict, investigate and explain phenomena.
 - *Scientific Theory*: Students look for evidence that explains why things happen, and modify explanations when new observations are made.
 - *Physical Science – Properties of Matter*: Students describe and sort objects and materials according to observations of similarities, and differences of their physical properties (size, weight, color, shape, texture and flexibility).

- **Suggested Materials**

Suggests any advanced preparation and materials needed for the inquiry task to be carried out successfully.

- **Possible Solutions**

Describes possible student solutions – what they should demonstrate; the ways they should organize their data; and possible conclusions they could make.

- **Rubric and Benchmarks**

Describes what is required to achieve each level of performance for a particular task and annotated samples of student work for each of the four performance levels: Novice, Apprentice, Practitioner and Expert. Descriptions attempt to point to the distinctions to look for when using the *Science Exemplars Rubric* to assess different levels of student learning and understanding.

About Student Self-Assessment



You can find copies of *Exemplars* rubrics in your subscriptions or on your CDs. Rubrics may also be downloaded from our web site at www.exemplars.com/resources/rubrics/index.html

As teachers begin to use the *Science Exemplars* Rubric (pgs. 14–15) to assess their students' work, we encourage them to teach their students how to assess their own progress and performance through student rubrics. These rubrics simplify the language of the teacher's rubric, so that students can understand the criteria and become more involved in monitoring their own progress, leading them to become more self-directed learners.

The **primary student version** (pg. 16) of the *Science Exemplars* Rubric uses "friendly" visual representations to help limited readers understand the criteria for performance. The language in the rubric describes (in a positive way) what is happening, rather than what is not happening. For example, the Novice level states that, "I did not use tools YET." This implies that it can and will happen and gives some credit for early efforts. Primary students can use this rubric when conferencing with the teacher and peers about their work as they progress through a task. It can also be used with parents when students take work home to share.

The **intermediate version** (pgs. 17–18) of the student rubric – in worksheet form is presented in a different format than the teacher's rubric. It provides the four criteria, a description of expectations for each criterion, and a space where students are asked to provide evidence that they have met each criterion. This rubric also provides the opportunity for students to customize the rubric for each different inquiry task by filling in the specific tools to be used, the vocabulary and terms that are important, etc. Rather than having students simply state that they have met the criteria, this rubric asks them to note where the **evidence** can be found. Some teachers have students color code each criterion (blue dot for Tools, red dot for Reasoning, etc.) or use a shape (star for Tools, triangle for Reasoning, etc.) and place that code in their lab reports / science journals. Other teachers ask that students write the page or place where the evidence can be found. This process has a double benefit: students spend time documenting their own evidence for meeting standards and teachers save time in looking for it, shifting the responsibility to the student. This rubric is also effective for parent and peer conferencing.

It has been our experience, that students at all grade levels can learn to self-assess, using both work samples from other students (peers and / or student work samples from *Exemplars*) and their own work. The key to student self-assessment is clear consistent criteria, written with descriptive rather than evaluative language, which is presented at an appropriate time during the learning process.

Introducing Rubrics

A rubric is an assessment guide that reflects content standards and performance standards. An assessment rubric tells us what is important,

defines what work meets a standard, and allows us to distinguish between different levels of performance.

Students need to understand the rubric that is being used to assess their performance. Teachers often begin this understanding by developing rubrics with students that **do not** address science. Together, they develop rubrics around classroom management, playground behavior, homework, lunchroom behavior, following criteria with a substitute teacher, etc. Developing rubrics with students to assess the best chocolate chip cookie, sneaker, crayon, etc. is also an informative activity that helps students understand performance levels. After building a number of rubrics with students, a teacher can introduce the *Exemplars Science* rubric (pages 15–16). Since the students will have an understanding of what an assessment guide is, they will be ready to focus on the science criteria and performance levels of the rubric.

We have included a sample rubric (page 13) developed by a teacher which assesses lunchroom behavior. It is very important to have your students develop their own rubric first. Sharing, adjusting, or using the rubric on page 13 can be done after your students have experienced the process for themselves.

The rubrics on pages 52–55 can be used by individual teachers or teams of teachers assessing student work. In the left-hand column the teacher records the evidence they see in the student work that justifies placing the work at that particular level. In the right-hand column the teacher would record the action(s) that can be taken to help the student move to the next performance level.



Assessment (and self-assessment) will become a positive experience if students begin to feel that they have control over correcting and revising work to meet standards.

Guidelines for Using Student Rubrics

- **A Picture is Worth a Thousand Words:** Introduce rubric criteria and descriptions with examples of student work or demonstrations of what performance might look like. Provide several possible ways to meet the standards if they do exist. Guide students to think through the assessment process, looking for evidence. You may choose to introduce one or two criteria at a time before moving on, or introduce all of them at once.
- **Practice Makes Perfect:** Provide opportunities for students to use rubrics to conference with peers, teachers and parents about their work and the work of others. Assessment (and self-assessment) will become a positive experience if students begin to feel that they have control over correcting and revising work to meet standards.
- **Be Open to Suggestions From Students:** The more students understand the criteria, the more they will offer suggestions for other assessments. Guide them to use descriptive rather than evaluative language (avoid words like good, nice, poor) that clearly states what is happening.
- **Be Consistent:** We suggest that you introduce clear criteria and post them in the room as a reminder throughout the year of what good inquiry-based science involves. Students should have their own copies of student rubrics to refer to, so they can track their progress in each criterion as part of their science portfolios for the year.

After building a number of rubrics with students, a teacher can introduce the *Exemplars Science* rubric. Since the students will have an understanding of what an assessment guide is, they will be ready to focus on the science criteria and performance levels of the rubric.

What are the Benefits of Peer and Self-Assessment?

- **Students internalize the criteria for high-quality work.** Students who see clear models of work that meet the standards and understand why the work meets the standards will begin to make comparisons between their performance and the *Exemplars* presented. As science inquiry tasks become more complex and open ended, it is essential that more than one model be provided to assure that students understand several possible ways to meet the standards.
- **Students understand the process of getting to the standard.** Rubrics should show students where they have been, where they are now, and where they need to be at the end of the task. Describing progressive levels of performance becomes a guide for the journey, rather than a blind walk though an assessment maze.
- **Teachers involve students in the monitoring process and shift some of the responsibility for documenting and justifying learning to the students.**

Research has demonstrated that high-performing learners do the following:

- self-monitor,
- self-correct, and
- use feedback from peers to guide their learning process.

Student rubrics, written to identify the essence of the expected learning, can be an excellent vehicle for reflective thinking and peer conferencing.

- **Parents understand expectations and assessment criteria.** When students can articulate to their parents (before, during and at the end of the task), what the standards of performance are, a clear and positive message is received. Parents generally want to support their child's learning and feel helpless, sometimes, because they are unsure of what open-ended tasks are intended to teach. Student rubrics remove the educational jargon yet still describe meaningful learning. Many teachers find rubrics useful during parent conferences as they review science work samples.

- **Students understand that standards are “real” – achievable – and that exceeding the standard is both possible and desirable.** Traditionally, many “good students” have done only what has been asked of them. The *Science Exemplars* rubrics define high-quality performance at the Practitioner level but also suggest that more learning is possible. Excellence is not quite as subjective as it has been in the past and students are encouraged to begin to define why their work exceeds the standards.



Students, teachers and parents all benefit from peer and self assessment.

LUNCHROOM RUBRIC—BEHAVIOR

Criteria	Level 1	Level 2	Level 3
Waiting-in-Line	Outside voice Touching, pushing, shoving Frontsies/backslaps	Inside voice Occasional holding spots for an individual or cuts in line	Stage whispers Stays in space Joins line at end as enters cafeteria
Table Manners	<u>Rude</u> Stealing seat Eating off other's plate Poking/grabbing Throwing food Singing Wandering off	<u>Family</u> Kind words Elbows allowed Using fingers Eating at spot but standing	<u>Restaurant</u> Using please, thank you, excuse me No elbows No singing Chews with mouth closed Using utensils Staying in seat
Noise Level	Outside voice	Inside voice	Quiet inside voice (just above a whisper called a "Stage whisper")
Dismissal Prep	Dirty table/floor No recycling	Mostly clean table Mostly clean floor Some recycling	Clean table Clean floor Correct recycling

Exemplars Science Rubric

Level	Scientific Tools and Technologies	Procedures and Reasoning Strategies	Scientific Communication/Using Data	Scientific Concepts and Related Content
Novice	<ul style="list-style-type: none"> Did not use appropriate scientific tools or technologies (e.g., rulers, pH paper, hand lens, computer, reference materials, etc.) to gather data (via measuring and observing). No evidence of scientific reasoning used. There were so many errors in the process of investigation that the task could not be completed. 	<ul style="list-style-type: none"> No evidence of a strategy or procedure, or used a strategy that did not bring about successful completion of task / investigation. No evidence of scientific reasoning used. 	<ul style="list-style-type: none"> No explanation, or the explanation could not be understood, or was unrelated to the task / investigation. Did not use, or inappropriately used scientific representations and notation (e.g. symbols, diagrams, graphs, tables, etc.). No conclusion stated, or no data recorded. 	<ul style="list-style-type: none"> No use, or mostly inappropriate use, of scientific terminology. No mention or inappropriate references to relevant scientific concepts, principles, or theories (big ideas). Some evidence of understanding observable characteristics and properties of objects, organisms, and/or materials used.
Apprentice	<ul style="list-style-type: none"> Attempted to use appropriate tools and technologies (e.g., rulers, pH paper, hand lens, computer, reference materials, etc.) to gather data (via measuring and observing) but some information was inaccurate or incomplete. Attempted but could not completely carry out testing a question, recording all data and stating conclusions. 	<ul style="list-style-type: none"> Used a strategy that was somewhat useful, leading to partial completion of the task / investigation. Some evidence of scientific reasoning used. Attempted but could not completely carry out testing a question, recording all data and stating conclusions. 	<ul style="list-style-type: none"> An incomplete explanation or explanation not clearly presented (e.g., out of sequence, missing step). Attempted to use appropriate scientific representations and notations, but were incomplete (e.g., no labels on chart). Conclusions not supported or were only partly supported by data. 	<ul style="list-style-type: none"> Used some relevant scientific terminology. Minimal reference to relevant scientific concepts, principles, or theories (big ideas). Evidence of understanding observable characteristics and properties of objects, organisms, and/or materials used.

Exemplars Science Rubric

Level	Scientific Tools and Technologies	Scientific Procedures and Reasoning Strategies	Scientific Communication/ Using Data	Scientific Concepts and Related Content
Practitioner	<ul style="list-style-type: none"> Effectively used some appropriate tools and technologies (e.g., rulers, pH paper, hand lens, computer, reference materials, etc.) to gather and analyze data, with only minor errors. 	<ul style="list-style-type: none"> Used a strategy that led to completion of the investigation / task. Recorded all data. Used effective scientific reasoning. Framed or used testable questions, conducted experiment, and supported results with data. 	<ul style="list-style-type: none"> A clear explanation was presented. Effectively used scientific representations and notations to organize and display information. Appropriately used data to support conclusions. 	<ul style="list-style-type: none"> Appropriately used scientific terminology. Provided evidence of understanding of relevant scientific concepts, principles or theories (big ideas). Evidence of understanding observable characteristics and properties of objects, organisms, and/or materials used.
Expert	<ul style="list-style-type: none"> Accurately and proficiently used all appropriate tools and technologies (e.g., rulers, pH paper, hand lens, computer, reference materials, etc.) to gather and analyze data. 	<ul style="list-style-type: none"> Employed refined and complex reasoning and demonstrated understanding of cause and effect. Applied scientific method accurately: (framed testable questions, designed experiment, gathered and recorded data, analyzed data, and verified results). 	<ul style="list-style-type: none"> Provided clear, effective explanation detailing how the task was carried out. The reader does not need to infer how and why decisions were made. Precisely and appropriately used multiple scientific representations and notations to organize and display information. Interpretation of data supported conclusions, and raised new questions or was applied to new contexts. Disagreements with data resolved when appropriate. 	<ul style="list-style-type: none"> Precisely and appropriately used scientific terminology. Provided evidence of in-depth, sophisticated understanding of relevant scientific concepts, principles or theories (big ideas). Revised prior misconceptions when appropriate. Observable characteristics and properties of objects, organisms, and/or materials used went beyond the task/ investigation to make other connections or extend thinking.

Exemplars® Primary Science Rubric

Level	Science Tools	Science Concepts	Reasoning Strategies	Communication
Novice Getting started No or little understanding	I did not use science tools yet. I have no data.	I do not get it yet.	I mixed up my steps.	I did not record or share my ideas.
Apprentice Almost Student has some understanding	I tried to use some science tools. My data is started.	I get some of it.	I took steps.	I started to record and share my ideas.
Practitioner Got it! Strong understanding Meets the standard	I used science tools. My data is complete.	I get all of it.	I used organized steps.	I recorded and shared my ideas.
Expert Wow, awesome! Exceptional understanding Exceeds the standard	I made excellent use of all science tools. My data is complete. I can demonstrate.	I get all of it. I can teach it to a friend. My ideas shine!	I used organized steps. I made more connections.	I recorded and shared my ideas. I also recorded details and asked questions.

Intermediate Student Rubric

Criteria	What I Need To Do	Evidence of What I Did
Scientific Communication/ Using Data	<p>My data will be in a chart, table, graph, or And will be labeled.</p> <p>My data needs to prove my exploration.</p>	<p>Someone can read my explanation and Understand it.</p>
Scientific Concepts And related Content	<p>Terms I should use and understand:</p> <p>Things I need to be sure to observe or pay attention to:</p> <p>A "Big Idea" that might help me to connect my learning to other things I know or want to learn more about.</p>	

Intermediate Student Rubric

Criteria	To Meet the Standard: What I Need To Do	Evidence of What I Did
Scientific Tools and Technologies	These are the tools I need to use to collect data and do the task:	
Scientific Procedures and Reasoning Strategies	I need to check for mistakes. My hypothesis is: To complete the task I need to follow these steps:	
I need to record these dates:		



When planning, teaching or assessing a science unit, it is important for teachers to consider the varying stages of development in children so that appropriate activities and assessments can be chosen.

Science Education and Developmental Stages of Children Ages 5–11

The information that follows describes the mental development of children between the ages of five and 11. It must be remembered that although children go through these stages in the same order, they do not go through them at the same rates. Some children achieve the later stages at an early age. Some children stay in the early stages for quite a time. All children experience an overlap of stages. Whereas a child may operate in a later stage in one area, he/she may operate in an earlier stage in another area. The stages illustrated conform to current research about children's thinking (learning). When planning, teaching or assessing a science unit, it is important for teachers to consider these stages so that developmentally appropriate activities and assessments are designed for students. Suggestions on how to do this are included along with descriptions of the various developmental levels of children.

Science Education and Developmental Stages of Children Grades K–1

Characteristics

Implications and Appropriate Learning Activities

Pre-operations Stage – Period of Representational and Pre-logical Thought Ages 5–7

- Reasoning is confined to appearance, or what the child sees happening
- Reasoning is not based on adult logic
- Learning is still largely perceptual
- Lacks the concepts of reversibility and conservation of matter
- Discovers that some things can stand for other things – The child's thinking is no longer tied to external actions and is now internalized
- This period is dominated by representational activity and a rapid development of spoken language
- Willingness to ask questions
- Willingness to handle both living and non-living materials
- Enjoyment in using all the senses for exploring and discriminating
- Willingness to collect material for observation or investigation
- Awareness of changes which take place as time passes
- Based on concrete experiences and the immediate environment
- Involve a variety of integrated experiences
- Short exploratory activities

Science Education and Developmental Stages of Children Grades 2–5

Characteristics

Implications and Appropriate Learning Activities

Concrete Operational Stage – Period of Concrete Logical Thought

Ages 7–11

- May include the characteristics of the younger age group
- Learns in concrete terms and obtains concrete information through manipulation of materials and equipment
- Can organize, test and express his/her results in words, pictures or number symbols
- Is capable of demonstrating logical thinking in relation to physical objects
- Is able to mentally hold two or more variables at a time when studying objects
- Has acquired the capacity of reversibility which allows him/her to mentally reverse an action that he/she had previously only done physically
- Is more sociocentric
- Is able to conserve certain properties of objects
- Is able to classify and order objects using one variable
- Is able to think of physically absent things that are based on vivid images of past experience – The child's thinking is restricted to concrete things rather than ideas
- Uses trial and error to draw conclusions about variables
- Desire to find out things for himself/herself
- Willingness to participate in group work
- Appreciation of the need to participate in group work.
- Awareness that there are various ways of testing out ideas and making observations
- Willingness to wait and to keep records in order to observe changes in things
- Enjoys exploring the variety of learning things in the environment
- Interested in discussing things
- Based on concrete experiences and a variety of hands-on materials
- Variety of integrated experiences
- May include cooperative groupings
- Units of study should have more depth than in K–1
- Journals or logs should be used to record information, observations, and to promote critical thinking
- Group discussion should be used to promote involvement and critical thinking
- Should include more discovery along with teacher lecture

Getting Started with Science Portfolios

Ideas for Tracking Performance Over Time

Science Exemplars is designed to make it possible for individual teachers to get started with excellent standards-based, performance assessment and instruction. Each science inquiry task leads teachers through the process of assessing their students, linking assessments to science (and sometimes mathematics) standards, and making sense of the results. While searching the *Science Exemplars* CD-Rom makes it easy for teachers to find problems that fit with particular units of study, we have not yet addressed effective ways to track individual and class performance over time. This section will focus on different aspects of how to successfully implement science portfolios in your classroom.

A portfolio is more than a container to hold and organize student work. Rather, it is a collection of work samples and evidence of learning over time. Without ways to manage and reflect upon what goes into the portfolio, even the best intentions for portfolios can be lost in the busy, day-to-day activity of a science classroom.

Portfolios should:

- Involve students in self- and peer-assessment;
- Provide multiple opportunities (and modes) for students to show evidence of learning and conceptual understanding;
- Guide students to reflect upon ways to improve performance; and
- Be based on some predetermined criteria for collecting that evidence.

Many teachers already use a variety of creative and effective ways to organize student work in science – science journals, learning logs, activity folders, etc. There is no reason to discontinue using anything that works for you now. What we will do is provide you with assessment guidelines; assessment tasks that can be used several times during the year; and management strategies, using the four broad criteria on the *Science Exemplars* Rubric (pgs. 14–15), to track and reflect upon progress and learning over time.

For an example of an assessment task used throughout the year to chart students' progress, please refer to the task *What Is Science?*. This lesson can be found on *The Best of Science Exemplars* CD.



A portfolio is more than a container to hold and organize student work. Rather, it is a collection of work samples and evidence of learning over time.

Effective Classroom Assessment Practices and Guidelines

We suggest four broad guidelines to act as a framework for all of your classroom assessment practices, including the use of science portfolios. They are defined by areas on which to place more or less emphasis and incorporate best practices for science instruction.

1. Clearly define and communicate expectations and standards for assessment.

More of...	Less of...
<ul style="list-style-type: none">• Focus on quality, excellence, and meaningful content• Clear, specific language describing desired learning outcomes, process and products• Clear links to national, state, and district standards for content learning and process skills• Activities are selected to help students demonstrate learning / meeting standards• Student and parent involvement in the assessment process as part of instruction and learning (e.g., before, during and after assignments)• Defining progressive developmental levels, with benchmarks, from Novice level to a level that exceeds the standard• Open posting of standards, benchmarks and assessment criteria	<ul style="list-style-type: none">• Focus on perfection and "right" answers• Vague, evaluative, subjective language (e.g. words like: poor, good or assigning letter grades without consistency)• Activities are the means and the ends• Evaluation criteria developed solely by and known only by the teacher / text developer

2. Use formal and informal assessment strategies/methods to evaluate and ensure the continuous development of every learner and to communicate student progress knowledgeably.

More of...	Less of...
<ul style="list-style-type: none">• Use of variety of modes and artifacts for communicating understanding to teachers, peers, and self• Collect work samples over time that demonstrate learning and conceptual understanding• Application of prior learning to new tasks/ situations and real-world problems• Solving of student-generated problems/ researchable questions to demonstrate learning and understanding• Products developed through cooperative learning groups with expectations for individual accountability• On-going assessment of all stages of the inquiry process including, thorough teacher observations and questioning; graphic organizers; peer feedback; student self-assessment of learning logs, etc.• Use of manipulative and appropriate scientific instruments and technologies to assess student skills and understanding in collecting and analyzing data	<ul style="list-style-type: none">• Only verbal/written modes accepted• Use of a single assessment or a single type of assessment for an entire unit of study, usually at the end• Use of formulas and procedures out of context• Sole use of teacher/text-generated problems to be solved• Individual products and performances as sole means of evaluating learning• End-of-chapter tests, short answer tests, etc. as sole means for evaluating progress• Sole use of pencil and paper tests

3. Use assessment strategies to involve learners in self-assessment activities.

More of...	Less of...
<ul style="list-style-type: none">• Teacher modeling of self-assessment; “thinking aloud” with students; using benchmark work to teach students to assess• Learners monitoring individual and group progress over time• Use of performance standards as the basis for peer conferencing and self-reflection activities• Student-centered language in assessment tools and practices; descriptive rather than subjective• Discourse between students and teachers regarding quality of work – before, during, and after assignments to promote continuous learning• Student input in defining standards and expectations and designing assessment tools• Encouragement for student understanding of strengths, needs and past performances to set personal learning goals	<ul style="list-style-type: none">• Teacher providing all/the only feedback to students on performance/products• Lack of continuity between assessments of skills and concepts• Educational jargon in assessment tools• Non-specific feedback on progress (e.g., “nice work”) which does not guide improvement or reflection• Adults setting all learning goals for students

4. Use a variety of assessment methods in order to continually monitor, reflect upon and adapt instructional practices to meet learner needs.

More of...	Less of...
<ul style="list-style-type: none">• Student learning / performance results drive instructional decisions• Use of on-going assessments to structure flexible groupings and mini lessons for those who need them• Use of embedded assessments as part of the instructional process• Use of conferencing with students to develop standards and identify needs	<ul style="list-style-type: none">• Use of assessments solely for grading, ranking and reporting

The *Science Exemplars* rubric is designed as an analytic rubric that can be used both holistically and analytically. The annotated work samples that we provide with the tasks are scored **holistically**, that is to say that we use all four criteria to determine one level of performance: Novice, Apprentice, Practitioner or Expert.

Analytic and Holistic Scoring Rubrics: What is the Difference?

The *Science Exemplars* rubric (pgs. 14-15) identifies four criteria for assessing student performance.

Dimensions of the rubric include:

- Scientific Tools and Technologies
- Scientific Procedures and Reasoning Strategies
- Scientific Communication
- Scientific Concepts and Related Science Content

Science Exemplars tasks focus on scientific investigation and inquiry. Students are encouraged to develop strategies to test their ideas; to use scientific tools of technology to gather and analyze data; to communicate their understanding by explaining, organizing data and/or drawing conclusions; to use scientific terms and facts appropriately; and to connect scientific terms and facts to the “big ideas” of science – science concepts. The annotated work samples that we provide with the tasks are scored **holistically**, that is to say that we use all four criteria to determine one level of performance: Novice, Apprentice, Practitioner or Expert.

Levels of Performance describe how students might typically demonstrate their understanding of the inquiry task or how they approach the investigation. It is possible for a student to score higher on one criterion than another while working through a complex task. This often causes teachers to question scoring a piece of work holistically.

The greatest advantages to holistic scoring are:

1. To be placed at a particular performance level, the student needs to demonstrate a minimum of mastery of all four criteria for that level; and
2. There is greater scoring reliability between different teachers using the same rubric to score the same student work.

The greatest disadvantage with holistic scoring is that students are sometimes unclear about how to improve their performance.



Analytic scoring takes each of the four criteria and assesses it as separate from the rest. For example, a student could be at a Novice level in use of tools, but at the Apprentice level for scientific procedures. Both students and teachers can use the descriptions in the analytic rubric, throughout the learning process, to determine how to improve performance in each of the four areas (Scientific Tools and Technologies, Scientific Procedures and Reasoning Strategies, Scientific Communication and Scientific Concepts and Related Science Content).

The advantages to scoring analytically are:

1. Teachers can focus instruction and assessment on one (or a few) criterion at a time;
2. Feedback to students is specific enough to assist students in improving performance; and
3. Patterns of strengths and weaknesses can be seen more easily.

The disadvantages might be:

1. It may take longer to assess each criterion separately if all are addressed in a complex task.

The *Science Exemplars* rubric is designed as an analytic rubric that can be used both holistically and analytically. We suggest continuing to use the holistically-scored student work samples in *Science Exemplars* to inform instructional and assessment practices in your classroom. Because portfolios track progress over time, we suggest using a management tool that allows you to record student progress analytically. (We have included two versions on the following pages.)

Each student would have a page like one of these in his/her science portfolio. As tasks are completed, the date/topic (e.g., “9/14/98 – Insect Homes”) and the performance levels (Novice–Expert) are recorded. A brief conference is held with the student to fill in the “Areas to Work On” section. (Even an Expert can improve, so use this to stress excellence, not perfection.) “Areas to Work On” can include: more practice with a measuring device (Scientific Tools), targeting specific process skills (Scientific Procedures), providing models for better data organization (Scientific Communication), and/or using a science vocabulary guide when writing conclusions (Scientific Concepts). The student’s current performance should drive these indicators.

At the end of the marking period, you, students and parents will have a map for identifying strengths and areas of need. Personal learning goals and meaningful practice can be developed once patterns have been identified. In time, peers should be able to conference in small groups to assist each other.

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Science Portfolio for _____

Dates _____

For each Science Inquiry task, your performance will be recorded for the four criteria at the top. We will conference about ways to improve and the progress you are making.

Levels achieved	Scientific Tools and Technologies	Scientific Procedures & Reasoning Strategies	Scientific Communication/ Using data	Scientific Concepts & Related Content	Areas to Work on
Novice					
Apprentice					
Practitioner					
Expert					
Comments about progress					

Science Portfolio for _____

Dates _____

For each Science Inquiry task, your performance will be recorded for the four criteria at the top. We will conference about ways to improve and the progress you are making.

*NAPE	N=Novice	A=Apprentice	P=Practitioner	E=Expert	Scientific Concepts & Related Content	Areas to Work on
Task/Date	Scientific Tools and Technologies	Scientific Procedures & Reasoning Strategies	Scientific Communication/ Using data			
N A P E	N A P E	N A P E	N A P E	N A P E	N A P E	N A P E
N A P E	N A P E	N A P E	N A P E	N A P E	N A P E	N A P E
N A P E	N A P E	N A P E	N A P E	N A P E	N A P E	N A P E
N A P E	N A P E	N A P E	N A P E	N A P E	N A P E	N A P E
Comments about Progress						

Strategies for Successful Cooperative Inquiry

Providing structure, guidance, and ongoing team-building activities are essential as you begin to have your students work in teams, rather than just working in groups. In *Science Exemplars*, there are a variety of group inquiry tasks and group assessment ideas to get you started. We also encourage you to explore the numerous professional books available on cooperative learning to provide additional ideas for your science classroom.



Taking time early in the year to develop teaming skills yields rewards that last beyond your individual classroom.

Short-Term Inquiry Activities

For short-term inquiry activities (lasting one–three class sessions), teams can be formed randomly. Some creative ways might group students by birth month, colors of clothing, drawing names, counting off or perhaps matching “puzzle pieces” made from cut-up pictures. These teams need clearly defined roles and tasks, with opportunities for all students to practice each different role at some time during the school year. Having consistent and clearly defined roles will help students get right to the task at hand. Passing out individual role cards, posting roles on a large chart, or listing them on a team inquiry worksheet are useful ways to help remind students what their contribution to the task will be. (See Cooperative Inquiry worksheet on page 33.)

Assigning Roles

As you design a cooperative inquiry task, review the number of key roles (or number of members) who will be assigned to a team. Be sure that the task really can be done most efficiently with this many students. Otherwise, you will teach your students that it is easier to work alone than together! A few general guidelines about cooperative roles might be:

- Start with pairs and build to three or four – especially with young children. For pairs, reader-writer or writer-checker are good roles to start with. Pairs can take turns performing both roles during the task.
- Take some time to directly teach the skills of how to successfully perform a role. What will the person in that role do (take notes, keep track of time, clean up materials, etc.) and say (“Can you repeat that?” “That was a good idea.” “We need to start cleaning up.”)?
- Monitor roles while students are working and acknowledge when you see them being demonstrated successfully.
- Encourage self- and team-assessment. This can be done using a cooperative group rubric, a class-designed rubric, or checklist that encourages observation and reflection on performance.
- Many small groups are easier to manage than fewer large groups. For most investigations, three–five students per group will be the most productive.

Common Roles and Functions

Below are some of the most common roles you might consider using. For each role, you will see several different names for similar tasks. You may want to combine roles, depending on the task, or have students self-assign roles within their teams. Older students should eventually be able to review and break down a task, determine necessary roles and monitor team progress with little teacher intervention.

- **Task Master/Captain/Reader/Manager:** Keeps track of time, reads directions, keeps team on task, distributes information, makes sure that the team does not disturb others.
- **Checker/Gatekeeper/Coach/Tracker:** Makes sure everyone participates; makes sure everyone agrees before a decision is made; makes sure everyone has verified their information; asks questions to double check supplies, procedures and information.
- **Materials Monitor/Supplies Captain:** Listens to the task and lists materials and tools needed, gets and distributes or sets up supplies, supervises cleanup.
- **Recorder/Secretary/Writer:** Writes important information on charts or posters, makes sure all team members contribute information, asks for clarification before writing.
- **Artist/Illustrator/Graphic Designer:** Draws diagrams or illustrations, creates graphs and charts, prepares overheads and organizes visuals for group presentations.
- **Presenter/Speaker/Communicator:** Acts as main spokesperson for the team, works with the Recorder and Artist to be sure the information is clear for the presentation, checks to be sure that all information is accurate.
- **Traveler:** Acts as a messenger to move from team-to-team to get and share ideas between teams. (This can be helpful when some teams are getting bogged down or when an “extra” role is needed.)
- **Encourager/Cheerleader:** Makes sure that good ideas and full participation are appreciated, keeps the team going when they get bogged down, reminds team members to work together.

Teams Working on Longer Projects

Student teams working on longer investigation projects need to develop a sense of identity and set common goals for success. They need to learn how to actively listen to each other and how to share ideas. Teams also need to be given time to reflect on their progress as a team and set goals for the future. Too often, students are put together to work on projects without any direct teaching of how to make the team function as a team. Taking time early in the year to develop teaming skills yields rewards that last beyond your individual classroom.

Describing the Cooperative Inquiry

Using a planning worksheet, such as the one on the following page, to outline for students what they will be learning about, and how they will be investigating can save teachers time once teams begin to work. Depending on the investigation, both teacher and students may be filling in each of the sections:

Cooperative Inquiry: What is the essential question? What question is being tested? ("Why does water boil?" "How far will a ball roll?")

Concepts and Skills: What skills are needed to complete the task? (observation, prediction, measuring, etc.) What science concepts are being learned? (Predator-Prey, physical properties, etc.)

Team Roles and Responsibilities: What are the tasks and who will do them?

Team Materials: What is needed to complete the task successfully? (measuring tools and technology, recording sheets, materials to test, etc.)

Procedures for Investigating: Are there guidelines for the inquiry task? (Do at least three trials. Verify results. Prepare a chart.)

The Cooperative Inquiry worksheet is also a great organizer for science portfolios. Each student would attach this sheet as a cover page to the data collected, observations, conclusions and assessment information (rubric, checklist, etc.).

Cooperative Inquiry

?

?

Concepts and Skills

Team Roles and Responsibilities

Team Materials

Procedures for Investigating

Three Principles of Cooperative Inquiry

Successful teams should understand and demonstrate evidence of the three key principles below: Assessment can (and should) be done in all three areas.

Individual Accountability:

- Does each member complete his/her part of the task?
- Do they each work for the team's success, rather than their own individual success?
- Is each member motivated by a sense of responsibility to the team?

Positive Interdependence:

- Do the parts come together as a whole because members have relied on each other to contribute?
- Do they listen, share information and plan together?
- Does the success of the team depend on the success and contribution of each member?
- Does the team work together to complete the task effectively?
- How does the team share limited resources and materials?

Productivity and Learning:

- Is the final product of high quality?
- Has every member acquired the intended knowledge, skills and concepts?
- Could every member of the team explain what was learned though this project?
- Does the final product demonstrate a basic knowledge and understanding of science concepts that can be built upon later?

Cooperative-Inquiry Rubric

Here is one sample of a cooperative-inquiry rubric.

Novice	Apprentice	Practitioner	Expert
<ul style="list-style-type: none">The team is unable to complete the assignment as a team.Some individuals do their portions, yet all do not contribute equally.The final product either does not get completed or part of the team does all of the work.Conceptual understanding cannot be assessed.	<ul style="list-style-type: none">The task is completed, but is lacking in detail or evidence of thinking beyond the basic knowledge and comprehension levels. For example, diagrams may be labeled, colored and displayed, but the team has not gone beyond the minimum requirements of defining terms and/or displaying information.There is evidence that the team members have been able to take responsibility for their parts of the task, yet the varying quality of individual parts is evident.The success of a few has led to the team's success, but not all members have contributed, learned, and/or performed equally.In short, it is a good first effort with room for growth.	<ul style="list-style-type: none">The team's solution is complete and well written – all information is correct.Drawings are labeled correctly and the information is organized.Some connections to prior learning are evident and all members can articulate what was learned.Quality of individuals is fairly consistent, contributing to a project that exceeds what one individual would do.There is evidence that the team members have been able to take responsibility for their parts of the task. They have supported each other and solved problems along the way.	<ul style="list-style-type: none">The team's solution is complete, detailed and well written in that terms are accurately defined and all information is correct.Organization and creative thinking are evidenced by such things as: original drawings, use of extended tools and technology and new questions raised for possible further study.The overall organization of the project extends the thinking of the audience.Team members did their jobs, but have redefined or extended them for a higher quality product or performance.



Inquiry science is student-centered and teacher-facilitated. It is in-depth and meaningful. Inquiry is the process to discovering, investigating and understanding the ideas and concepts of science.

The Process of Inquiry

What is Inquiry Science?

The tasks in *Science Exemplars* are inquiry based. For many teachers this term can be confusing. Does inquiry mean hands-on? Does it mean “doing” science activities? Or does it mean more than just those things? Yes, it does.

Inquiry science means that students are actively involved in doing hands-on science. By actively involved we mean that they are working collaboratively with others, posing questions, designing and carrying out investigations, solving problems, and reflecting on results and procedures. Inquiry science is hands-on, but it is also minds-on. Learning in an inquiry science classroom is seen as an active process in which students construct views of how the world works. During this process ideas and understandings are changed, modified and extended based upon the experiences the student has.

Inquiry science is student-centered and teacher-facilitated. It is in-depth and meaningful. Inquiry is the process to discovering, investigating and understanding the ideas and concepts of science.

The Process of Inquiry

Inquiry is a process. Many of the skills you will read about in this section will be familiar to you from your own school experiences. All of us have had to fill out “lab reports” at one time or another during middle and / or high school. For many of us, science was all about the lab reports and very little to do with the actual process of doing science. Inquiry science is much more than a lab report; it is a way of thinking, a way of learning and a way of exploring and investigating the world around us. The lab report can be a part of this, but it is not the sole purpose of inquiry.

Inquiry is not a linear process. It is cyclical in nature. As students explore, observe, question and investigate, new questions are formed, new observations are made and new investigations are begun. Through this process students’ understanding deepens and misconceptions are uncovered and examined.

One misconception that teachers often have is that inquiry science comes naturally to children. While this is partially true: children are natural inquirers, they still need to be taught the specific skills of inquiry so that they can begin to think and act as scientists do. Yet at the same time we do not want to dampen their natural curiosity and wonder by making science overly “skill based.” We also want to ensure that our students are learning the content outlined in our curriculums. In an inquiry science classroom, we can find a way to balance all these.

Preassessment

The process of inquiry should always begin with finding out what students already know. This **preassessment** is critical so that teachers can learn what students already know, what questions they have and what misconceptions they may hold. These will then help guide your unit of study. It is not necessary to teach an idea or concept if students already have an understanding of it. The questions that students have will help you plan what investigations are most worthwhile for students to conduct. You may also find that a number of students hold the same misconception, indicating that more time should be spent on those ideas. A more detailed explanation and some suggestions for preassessment are included in another section.

Exploration

Another critical aspect of inquiry is giving students time for **exploration**. When beginning a unit of study, students need ample time to explore the new materials and the ideas that these materials represent. During this exploration, many observations are made and many questions are posed. You will also find students beginning to conduct investigations as questions form in their minds. Their natural curiosity takes over and they want to find out what, and why and how. This exploration also allows students to become familiar with the materials and what they do. It is difficult to begin a unit with planned investigations if students are unfamiliar with materials and haven't had the opportunity to "play" with them. This "messing about" with materials can be hard for teachers. It means giving up some control and having a bit of chaos in your classroom. Start small, perhaps by only putting out some of the materials first and then slowly adding to them. Ask students to help you come up with some guidelines for these explorations and discuss safety and respect with them as well.

Observation

Observation is an important inquiry skill. These explorations can give you the opportunity to teach students how to be careful observers, how to use their senses to observe and how to record these observations. Again, balance is the key. Let students explore and observe without any other expectations except sharing informally with others through scientist's meetings or class/group discussions what they have explored and observed. Then, when appropriate, you can discuss observation and its role in science and why it's important to observe things carefully and record what was observed so that others can understand.



The understanding and meaning that comes from students seeking answers to their own questions is the most powerful form of learning possible.

Scientist Meeting

The idea of a **scientist meeting** is an important piece of the process. It is an informal or formal gathering of students to share, discuss, debate, demonstrate, analyze and communicate what they are learning and to hear what others are learning. Scientist's meetings should happen on a regular basis and be an integral part of any science unit whether it's after an exploration, an observation, an investigation, a project or research. It can also take many shapes. As the teacher you can decide how to structure it depending upon your students, your topic and your teaching style.

Student Questions

From this exploration/observation as well as later investigations comes many questions. This is the heart of inquiry: **student questions**. Students have so many questions and our teaching should nurture these questions and allow students opportunities to find the answers to their questions. This can often be difficult because as teachers we have time constraints and curriculum to cover. But questioning is a skill that is used throughout our curriculum whether it's science, math, social studies, writing or reading. Therefore, having students raise questions and honoring those questions is never a waste of learning time. The understanding and meaning that comes from students seeking answers to their own questions is the most powerful form of learning possible. You may find that students raise questions whose answers fit nicely with your curriculum objectives. These questions that students raise can be embedded into the investigations you plan and/or be a part of independent research and investigations that students do on their own.

The questions that students raise can also be used for instruction. As students pose questions, record these somewhere for students to refer back to and to give answers to as they discover them. This is also a time when you can teach students how to raise testable questions. Not all questions that students raise are testable in the classroom. It is important for them to learn the types of questions and questioning words (who, what, where, when, how, why) and how they can answer each type of question.

Question might be classified as:

- **Classroom** (meaning we can test it here in the classroom or at home with the materials we have available),
- **Laboratory** (we could test these if we had the necessary equipment and materials, but maybe we could ask a scientist or even a high school science class to find out the answer for us), and
- **Research** (these questions can usually only be answered by looking it up in a book, an encyclopedia, or on the internet). Most if not all questions can be answered, you may not have time to find all the answers, but you will have given your students methods and tools for finding the answers.

Guided Inquiry

Another integral part of the inquiry process is **guided inquiry**. This instructional piece is critical to student learning and understanding. Guided inquiry can take many forms. It can be an opportunity to teach new skills, new concepts and new forms of communication. It can be an opportunity for students to practice skills, concepts and communication. And it can be an opportunity to ensure that your curriculum objectives are being taught as well as honoring student questions and giving them time to find the answers. Guided inquiry is the core of any science unit.

The skills of inquiry include:

- Observing
- Questioning
- Predicting/hypothesizing
- Planning and conducting investigations
- Controlling variables
- Data collection, representation and analysis
- Drawing conclusions

All of these are skills that need to be taught. Students also need opportunities to practice these skills through meaningful investigations of questions and concepts and time to share their learning with others.

Guided inquiry can be conducted in a variety of ways. Here are just a few suggestions:

- Using questions posed by students, or questions from your curriculum or science program, have the whole class plan together ways to investigate the question. Discuss the components/skills of inquiry that need to be in place for investigation and then have students break into smaller groups to investigate. Come back as a whole group to share results and draw conclusions together.
- After exploring materials, have students share questions they have that they would like to investigate (remember to think about developing testable questions). As a whole group assist each group in planning their investigation. Once the smaller groups have investigated they can then share their results and conclusions with the whole class.
- As students begin to plan more of their own investigations, give them opportunities to share their plans before beginning, in order to receive feedback from you and/or the class. You can also have students use planning sheets to ensure that they have all the components in place.



Guided inquiry is the core of any science unit.

- Select a skill that students seem to be struggling with, such as controlling variables. Find tasks/investigations that emphasize this skill and use these to teach the skill to students. After investigating, discuss how well the investigation went and how their results reflect their understanding of this skill.
- Choose investigations that emphasize specific concepts in your unit. Use these investigations to ensure that students are developing a deep understanding of the ideas. These investigations should also allow students to continue practicing the skills of inquiry.
- Drawing conclusions based upon data collected can be practiced not only through science investigations, but through math, reading and social studies. Provide many opportunities for students to collect different types of data and draw conclusions.
- Find tasks/investigations that allow you to teach a variety of ways to collect data. Discuss different representations (charts, tables, diagrams, graphs, etc.) with students. Ask students to think about representations that work best for different kinds of data. Practice these as a whole group, modeling different types, and then have students use these in their own investigations. This can also tie in with mathematical representation.
- Use samples of students' work from investigations to look at and discuss as a whole group. This is also an effective way to reinforce not only the skills being practiced but conceptual learning as well.

Student Directed Inquiry

Once students have had many guided inquiry experiences, they can begin to design and conduct their own investigations to answer their own questions. **Student directed inquiry** should be a part of every science unit. A rule of thumb for me is to give students this opportunity at least once during a unit of study. It usually is at the end of a unit, when students are ready and have a solid grasp of skills and concepts. I often use student directed inquiry as a culminating task and have students present their investigations more formally to the class. The major difference between guided inquiry and student directed inquiry is that students have the responsibility for all aspects of the investigation.

You may ask yourself, what about lectures and demonstrations? What if I have to use a program that my school purchased that isn't inquiry based? These are important questions. The key again is balance. I often use our scientist's meeting time to "lecture" or do a demonstration. I usually wait until students have first explored and investigated the topic and materials for themselves and then introduce appropriate vocabulary or more complex ideas. You will find these "teachable moments" when students are ready for them.

Many schools already have wonderful programs in place for their science curriculum. The most important thing to remember is that no program can be truly inquiry based. It will always be missing the student-directed inquiry component. And many programs tend to be more cookbook in style, where students follow prescribed investigations to get certain results. If you are using such a program, there is much you can do to make it more inquiry based. The simplest thing to do is to allow students to make some of the decisions. For example, if an activity has a great question to investigate and all the steps are given for students to follow, give them only the question and have them plan the steps of the investigation for themselves. Think about some of the suggestions for guided inquiry mentioned above. Use these in conjunction with your program.

Above all, remember that inquiry-based science teaches our students to think. It teaches them that their questions and their ideas are important. After all, this is exactly what real scientists do.

Guiding Students to Design and Conduct Investigations

There are numerous investigations that teach and assess. Here are some sample questions to ask students as they work through their investigations.

(Students can also use these questions and examples as a guide to plan, design and carry out a fair test investigation. The teacher and/or peers can also use this guide to review each other's work and suggest ways to improve.)

Testable Questions

Can you answer this question only by experimenting?

(A Testable Question: Does a banana peel decay faster than an apple peel?)

(Not Testable: Why is the sky blue?)

- What are you curious about?
- What do you want to find out?
- What do you already know about this?
- What is your testable question:

Hypotheses and Making Predictions

What do you think will happen?

- What is your idea?
- What do you already know about this that makes you think so?
- Can you state your prediction to show what you think will happen or change? (When I do this _____, I think that _____ will be the result.)

Procedures

How will you test this? What materials will you need? What are the variables?

- What is your idea for an exploration? Write out each step so someone else could do it from your directions.
- What will you need? Try to be specific. Do not forget your tools for measuring.
- How will you be sure it is a fair test?
- What are the variables that will stay the same? What might change? What will you observe?

Collecting and Organizing Data

What actually happened?

- What did you see? Hear? Smell? Can you add details to your observations?
- What actually happened?
- What did you measure?
- What units of measure (minutes, inches, etc.) will you label in your data?
- Will your data be in a chart? Graph? How will you label the important headings?
- Are there important dates or times included with your data? How often did you record data?
- Can you make a drawing or drawings to clearly show and explain your results? What will be labeled?

Drawing Conclusions

What did you find out? What have you learned?

- Remember your prediction? Did you get the results you expected? Can you use examples from your data to support your results? Can you explain why this happened or extend your thinking about this now?
- Did anything go wrong along the way? Did you have to change your experiment along the way?
- Did anything surprise you?
- Do you have any new ideas or new questions?



You can use *Exemplars* web site to search for science tasks that align with your states' standards. Visit www.exemplars.com/resources/alignments/index.html

Implementing Exemplars in the Classroom

When planning units we recommend using the backwards-design process as a means to assist the teacher with ensuring that units of study are aligned with local or national science standards. This process will also help the teacher understand the necessary scaffolding of science concepts and skills.

The process is as follows:

1. **Select Standards.** These are the standards that you will assess during the course of the unit. It is important to choose a balance of content and skill standards for the unit. It is also important to limit the number of standards you select to three-five total standards for a typical four week unit of study. Select standards that embrace important ideas and skills for the students at your grade level and for the topic you are teaching. If you have a standards-based curriculum use the objectives listed for your grade level.
2. **Build Essential Questions.** Essential questions address the big ideas, concepts, skills and themes of the unit. These questions shape the unit; focus and intrigue students on the issues or ideas at hand; are open ended and no one obvious right answer. These questions should be important and relevant to the students and allow for several standards if not all of the standards selected to be addressed. These questions should engage a wide range of knowledge, skills and resources and pose opportunities for culminating tasks or projects where students can demonstrate how they have grappled with the question.
3. **Design Culminating Tasks.** This final task or project should encompass and help assess each of the standards selected and should enable students to answer or demonstrate understanding of the answer to the essential question. The task should be multi-faceted, allow for multiple points of entry and be performance based. It should allow students to apply their skills and knowledge learned in meaningful and in-depth ways. *Exemplars* tasks that match your standards can be powerful culminating tasks.
4. **Develop Learning and Teaching Activities.** These activities and tasks should address the standards selected and guide student learning towards what they need to know and be able to do in order to achieve the standards. Select relevant *Exemplars* tasks that assist with teaching appropriate content, skills and / or strategies.

There are four major types of learning and teaching activities:

- **Introductory Activities** are used to preassess students' prior knowledge and to generate student interest in the unit of study. These activities tend to be interactive, exploratory and stimulating.
 - **Instructional Activities** are used to provide opportunities for students to learn and demonstrate specific skills, knowledge and habits of mind. These are usually sequenced and scaffolded, tied to specific standards and objectives, interesting, engaging, in-depth, active and interactive and can also be used for formative assessment during the course of the unit to measure student progress and inform instruction.
 - **Assessment Activities and the Culminating Activity** are used to assess both students' progress towards attainment of the standards and for summative purposes at the end of the unit. These activities usually involve some type of product or performance by the student.
- * *All activities selected, both Exemplars tasks and other activities, should be based upon their utility in helping students learn and demonstrate the knowledge and skills identified in the standards selected. Activities should accommodate a range of learning styles and multiple intelligences and be developmentally appropriate. Activities should also have a purposeful and logical progression for both knowledge and skill attainment.*
5. **Create Student Products and Performances.** Consider what criteria you will use to assess student learning both before, during and after the unit. Use the *Exemplars Science* rubric to assess relevant knowledge, skills or problem-solving strategies as students work on and complete *Exemplars* science tasks. Collect and use examples of student work that demonstrates the criteria selected and the different levels of performance. Allow opportunities for students to self-assess using the rubric.

An Example of the Backwards Design Process

Standards:

National Science Standards Grades K–4:

Develop abilities necessary to do scientific inquiry

- Ask questions about objects, organisms, events in the environment
- Plan and conduct simple investigations
- Employ simple equipment and tools to gather data and extend the senses
- Use data to construct a reasonable explanation
- Communicate investigations and explanations

Develop an understanding of position and motion of objects

- The position of an object can be described by locating it relative to another object or the background.
- An object's motion can be described by tracing and measuring its position over time.
- The position and motion of objects can be changed by a force (push or pull). The size of the change is related to the strength of the push or pull.

Essential Question: How do objects move? What forces affect an object's motion?

Culminating Task:

Can You Design a Marble Mover? (Best of Science Exemplars CD-Rom, grades 3–5) In this task students are asked to consider inertia, gravity and friction to design a marble mover that will move a marble a certain distance. In order to do this task students will have had to have numerous opportunities to observe motion and investigate these major forces that affect motion. Students will also have needed to practice the skills of inquiry: questioning, predicting, designing and conducting an investigation, fair testing, collecting and recording data, analysis of that data and drawing conclusions. Students will then present their marble mover to the class. Students will use the *Science Exemplars* Rubric to self-assess their work.

Learning and Teaching Activities*

*This section includes both K–2 and 3–5 tasks. If you are teaching upper elementary students you can easily use the K–2 tasks by giving students more choices in the materials being used, the procedures being followed, or the amount of support you give for recording their investigations. Likewise, for primary grade teachers, you can give students more support with the 3–5 tasks.

- **Introductory Activities:** These might include a K–W–L chart, exploration and observation of things that move around the classroom as well as other motion materials that are available, The task *What Can Motion Be?* (*The Best of Science Exemplars* CD, grades K–2) and the task *Observing Motion: What are some different ways that things can move?* (*Science Exemplars Volume, 5 Spring 2001*, grades K–2). These activities help students to begin to think about and explore the different ways that things move. It is also a time when students begin to form questions about motion.
- **Instructional Activities:** These will include more focused activities around the skills and concepts. It is important to build a foundation of knowledge so that students can understand first that objects can move in different ways, then progress to understanding that there are forces that can change an object’s motion and it’s position. Each of the tasks below provides these guided inquiry experiences. The tasks that are listed are scaffolded and help students to answer the essential questions.
- **Assessment Activities:**
During the course of the unit select two or three of the above tasks to use for formative assessment purposes. These will help inform instruction by providing information about how students are progressing towards the standards and about their understanding of the skills and concepts. This can also be an opportunity to teach students how to self-assess.

Task	Concepts and Skills
<i>How Do Things Move? (Exemplars Science, grades K–5)</i>	<ul style="list-style-type: none">• Observing objects in motion• Applying forces to objects (push and pull)• Questioning• Predicting• Recording data• Drawing conclusions• Communicating
<i>What Can I Learn From Toys that Move? (Exemplars Science, grades K–5)</i>	<ul style="list-style-type: none">• Observing objects in motion• Applying forces to objects (push and pull)• Predicting• Conducting simple investigations• Recording data• Drawing conclusions• Communicating
<i>Will it Roll or Slide (The Best of Science Exemplars CD-Rom, grades K–2)</i>	<ul style="list-style-type: none">• Observing objects in motion• Applying forces to objects (push, pull, gravity, friction)• Predicting• Conducting simple investigations• Controlling variables• Recording data• Drawing conclusions• Communicating
<i>Wind up Toys, Part 1 and 2 (Exemplars Science, grades K–5)</i>	<ul style="list-style-type: none">• Observing objects in motion• Applying forces to objects (push and pull)• Planning and conducting simple investigations• Controlling variables• Recording data• Drawing conclusions• Communicating
<i>How Do Ramps Work? (The Best of Science Exemplars CD-Rom, grades K–2)</i>	<ul style="list-style-type: none">• Observing objects in motion• Applying forces to objects (push, pull, gravity, friction, inertia)• Predicting• Conducting simple investigations• Controlling variables• Recording data• Drawing conclusions• Communicating

<p><i>Which Ball Goes the Farthest? (The Best of Science Exemplars CD-Rom, grades K-2)</i></p>	<ul style="list-style-type: none">• Observing objects in motion• Applying forces to objects (push, pull, gravity, friction, inertia)• Investigate the idea of mass and motion• Predicting• Planning and conducting simple investigations• Controlling variables• Recording data• Drawing conclusions• Communicating
<p><i>How Does Push Affect Distance? (Exemplars Science, grades K-5)</i></p>	<ul style="list-style-type: none">• Observing objects in motion• Applying forces to objects (push, pull, gravity, and inertia)• Predicting• Planning and conducting simple investigations• Controlling Variables• Recording data• Drawing Conclusions• Communicating
<p><i>Rolling and Sliding: How Does Surface Affect Moving Objects? (Exemplars Science, grades K-5)</i></p>	<ul style="list-style-type: none">• Observing objects in motion• Applying forces to objects (push, pull, and friction)• Predicting• Planning and conducting simple investigations• Controlling Variables• Recording data• Drawing Conclusions• Communicating
<p><i>How Far Can you Make a Toy Car Go? (The Best of Science Exemplars CD-Rom, grades 3-5)</i></p>	<ul style="list-style-type: none">• Observing objects in motion• Applying forces to objects (push, pull, gravity, inertia and friction)• Investigating the idea of mass and motion• Predicting• Planning and conducting simple investigations• Controlling Variables• Recording data• Drawing Conclusions• Communicating

<i>How Does a Sail Affect the Motion of a Vehicle? (The Best of Science Exemplars CD-Rom, grades 3–5)</i>	<ul style="list-style-type: none">• Observing objects in motion• Applying forces to objects (push, pull, inertia and friction)• Predicting• Planning and conducting simple investigations• Controlling Variables• Recording data• Drawing Conclusions• Communicating
<i>Weights Affect on Pendulum Motion (The Best of Science Exemplars CD-Rom, grades 3–5)</i>	<ul style="list-style-type: none">• Observing objects in motion• Applying forces to objects (push, pull, gravity, inertia and friction)• Investigating the idea of weight and motion• Predicting• Planning and conducting simple investigations• Controlling variables• Recording data• Drawing conclusions• Communicating
<i>Questions about Inertia (The Best of Science Exemplars CD-Rom, grades 3–5)</i>	<ul style="list-style-type: none">• Observing objects in motion• Applying forces to objects (push, pull, gravity, inertia and friction)• Investigating the idea of mass and motion• Questioning• Predicting• Planning and conducting simple investigations• Controlling variables• Recording data• Drawing conclusions• Communicating

After completing these tasks, students can then pose their own question about motion and forces to plan and conduct an investigation for.

You may have other favorite investigations to include. Think about where they should go in terms of scaffolding: what concepts do they help the student understand? What skills do they teach, practice or reinforce?

Vocabulary

Friction: Resistance to motion of surfaces that touch.

Inertia: Newton's 1st law of motion that states an object at rest tends to stay at rest and an object in motion tends to stay in motion unless they are acted upon by an unbalanced force.

Force: A push or a pull.

Gravity: A force that pulls things down towards the earth.

Mass: The amount of matter or stuff that something is made of

Products and Performances:

Student products and performances will include all work done from these investigations whether it is a recording sheet, a journal entry, a project or research.

The rubrics on the following pages (52–55) can be used by individual teachers or teams of teachers assessing student work. In the left-hand column the teacher records the evidence they see in the student work that justifies placing the work at that particular level. In the right-hand column the teacher would record the action(s) that can be taken to help the student move to the next performance level.

Exemplars Science Rubric Scientific Tools and Technologies

Evidence	Action

Novice	Apprentice	Practitioner	Expert
<ul style="list-style-type: none">• Did not use appropriate scientific tools or technologies (e.g., rulers, pH paper, hand lens, computer, reference materials, etc.) to gather data (via measuring and observing).	<ul style="list-style-type: none">• Attempted to use appropriate tools and technologies (e.g., rulers, pH paper, hand lens, computer, reference materials, etc.) to gather data (via measuring and observing) but some information was inaccurate or incomplete.	<ul style="list-style-type: none">• Effectively used some appropriate tools and technologies (e.g., rulers, pH paper, hand lens, computer, reference materials, etc.) to gather and analyze data, with only minor errors.	<ul style="list-style-type: none">• Accurately and proficiently used all appropriate tools and technologies (e.g., rulers, pH paper, hand lens, computer, reference materials, etc.) to gather and analyze data.

Exemplars Science Rubric Scientific Procedures and Reasoning Strategies

Evidence	Action

Novice	Apprentice	Practitioner	Expert
<ul style="list-style-type: none">• No evidence of a strategy or procedure, or used a strategy that did not bring about successful completion of task/investigation.• No evidence of scientific reasoning used.• There were so many errors in the process of investigation	<ul style="list-style-type: none">• Used a strategy that was somewhat useful, leading to partial completion of task/investigation.• Some evidence of scientific reasoning used.• Attempted but could not completely carry out testing a question, recording all data and stating conclusions.	<ul style="list-style-type: none">• Used a strategy that led to completion of the investigation/task.• Recorded all data.• Used effective scientific reasoning.• Framed or used testable questions, conducted experiment, and supported results.	<ul style="list-style-type: none">• Used a sophisticated strategy and revised strategy where appropriate to complete the task.• Employed refined and complex reasoning and demonstrated understanding of cause and effect.• Applied scientific method accurately: (framed testable questions, designed experiment, gathered and, gathered and recorded data, analyzed data, and verified results).

Exemplars Science Rubric

Scientific Communications/Using Data

Evidence	Action

Novice	Apprentice	Practitioner	Expert
<ul style="list-style-type: none">• No explanation, or the explanation could not be understood, or was unrelated to the task/investigation.• Did not use, or inappropriately used scientific representations and notations (e.g. symbols, diagrams, graphs, tables, etc).• No conclusion stated, or no data recorded.	<ul style="list-style-type: none">• An incomplete explanation or explanation not clearly presented (e.g. out of sequence, missing step).• Attempted to use appropriate scientific representations and notations, but were incomplete (e.g. no labels on chart).• Conclusions not supported or were only partly supported by data.	<ul style="list-style-type: none">• A clear explanation was presented.• Effectively used scientific representations and notations to organize and display information.• Appropriately used data to support conclusions.	<ul style="list-style-type: none">• Provided clear, effective explanations detailing how the task was carried out. The reader does not have to infer how and why decisions were made.• Precisely and appropriately used multiple scientific representations and notations to organize and display information.• Interpretation of data supported conclusions, and raised new questions or was applied to new contexts.• Disagreements with data

Exemplars Science Rubric Scientific Concepts and Content

Evidence	Action

Novice	Apprentice	Practitioner	Expert
<ul style="list-style-type: none">• No use, or mostly inappropriate use, of scientific terminology.• No mention or inappropriate references to relevant scientific concepts, principles, or theories (big ideas).• No evidence of understanding observable characteristics and properties of objects, organisms, and/or materials used.	<ul style="list-style-type: none">• Used some relevant scientific terminology.• Minimal references to relevant scientific concepts, principles, or theories (big ideas).• Some evidence of understanding observable characteristics and properties of objects, organisms, and/or materials used.	<ul style="list-style-type: none">• Appropriately used scientific terminology.• Provided evidence of understanding of relevant scientific concepts, principles or theories (big ideas).• Evidence of understanding observable characteristics and properties of objects, organisms and/or materials used.	<ul style="list-style-type: none">• Precisely and appropriately used scientific terminology.• Provided evidence of in depth, sophisticated understanding of relevant scientific concepts, principles or theories (big ideas).• Revised prior misconceptions when appropriate.• Observable characteristics and properties of objects, organisms, and/or materials used went beyond the task/investigation to make other connections or extend thinking.

Criteria	What I Need to Do	Evidence of What I Did (This area provided for student work).
Scientific Communication Using Data	<p>My data will be in a chart, table, graph or other document and will be labeled.</p> <p>My data needs to prove my exploration.</p> <p>Someone can read my explanation and understand it.</p>	
Scientific Concepts and Related Content	<p>Terms I should use and understand: (Student should create list).</p> <p>Things I need to be sure to observe or pay attention to: (Student should create list).</p> <p>A "Big Idea" that might help me to connect my learning to other things I know or want to learn more about.</p>	
Scientific Tools and Technologies	<p>These are the tools I need to use to collect data and do the task: (Student should create list).</p> <p>I need to check for mistakes.</p>	
Scientific Procedures and Reasoning Strategies	<p>My hypothesis is:</p> <p>To complete the task I need to follow these steps:</p> <p>I need to record these dates:</p>	

5th Grade Content Integration Scope & Sequence

Pacing	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Unit Theme	Meeting Challenges	Doing the Right Thing	Nature as Inventor/Artist	Adapting	Adventurers	The Unexpected
Unit Question	What kinds of challenges do people face and how do they meet them?	What makes people want to do the right thing?	What do people gain from the work of inventors and artists?	How do people and animals adapt to different situations?	Who goes seeking adventure and why?	What can we learn from encounters with the unexpected?
Utah Science Core	Keyboarding Practice	Standard 1: Students will understand that chemical and physical changes occur in matter.	Standard 2: Students will understand that volcanoes, earthquakes, uplift, weathering, and erosion reshape Earth's surface	Standard 5: Students will understand that traits are passed from the parent organism to their offspring, and that sometimes the offspring may possess variations of these traits that may help or hinder survival in a given environment.	ALL SCIENCE UNIT Standard 3: Students will understand that magnetism can be observed when there is an interaction between the magnetic fields of magnets or between a magnet and iron. Standard 4: Students will understand features of static and current electricity.	ALL SOCIAL STUDIES UNIT Standard 4: Students will understand that the 19 th century was a time of incredible change for the United States, including geographic expansion, constitutional crisis, and economic growth. Standard 5: Students will address the causes, consequences and implications of the emergence of the United States as a world power.
Social Studies Core		Standard 1: Students will understand how the exploration and colonization of North America transformed human history	Standard 2: Students will understand the chronology and significance of key events leading to self-government.	Standard 3: Students will understand the rights and responsibilities guaranteed in the United States Constitution and Bill of Rights		
Science Exemplars		235-236, 298, 307, 466	273	223	S3: 348, 506, 507, 716 S4: 730, 205, 257, 435, 713, 718, 263	

<p style="text-align: center;">Unit 2: Doing the right thing</p> <p style="text-align: center;">Reading Street Big Question: What makes people want to do the right thing?</p>		
Content	Social Studies	Science
Essential Question	What motivates people to explore?	How do interactions of matter affect my life?
Student Learning Targets	<ul style="list-style-type: none"> • I can explain the reasons for exploration and colonization. • I can describe the impact of trade. 	<ul style="list-style-type: none"> • I can describe that matter is neither created nor destroyed. • I can evaluate evidence that indicates a physical change has occurred. • I can investigate evidence for changes in matter that occur during a chemical reaction.
Example Performance Assessment	<ul style="list-style-type: none"> • Students will research an early American explorer/colonist and write an information report including: their reasons and motivations for exploration, the technologies used, and their interactions with current population. 	<ul style="list-style-type: none"> • Students will determine the mass of the reactants and products of a baking soda and vinegar chemical reaction in an open and closed system. • Students will observe several changes and then determine whether the changes were chemical and physical and defend their reasoning.
	<p>Standard 1: Students will understand how the exploration and colonization of North America transformed human history.</p> <p>Objective 1: Describe and explain the growth and development of the early American colonies.</p> <ol style="list-style-type: none"> a. Using maps - including pre-1492 maps - and other geographic tools, locate and analyze the routes used by the explorers. b. Explain how advances in technology lead to an increase in exploration (e.g. ship technology) c. Identify explorers who came to the Americas and the nations they represented. d. Determine reasons for the exploration of North America (e.g., religious, economic, political). e. Compare the geographic and cultural differences between the New England, Middle, and Southern colonies (e.g., religious, economic, political). f. Analyze contributions of American Indian people to the colonial settlements. 	<p>Standard 1: Students will understand that chemical and physical changes occur in matter.</p> <p>Objective 1: Describe that matter is neither created nor destroyed even though it may undergo change.</p> <ol style="list-style-type: none"> a. Compare the total weight of an object to the weight of its individual parts after being disassembled. b. Compare the weight of a specified quantity of matter before and after it undergoes melting or freezing. c. Investigate the results of the combined weights of a liquid and a solid after the solid has been dissolved and then recovered from the liquid (e.g., salt dissolved in water then water evaporated). d. Investigate chemical reactions in which the total weight of the materials before and after reaction is the same (e.g., cream and vinegar before and after mixing, borax and glue mixed to make a new substance). <p>Objective 2: Evaluate evidence that indicates a physical change has occurred.</p> <ol style="list-style-type: none"> a. Identify the physical properties of matter (e.g., hard, soft,

	<p>Objective 2: Assess the global impact of cultural and economic diffusion as a result of colonization</p> <ul style="list-style-type: none"> a. Describe the cultural and economic impacts that occurred as a result of trade between North America and other markets (e.g., arts, language, ideas, the beginning and expansion of the slave trade, new agricultural markets). b. Analyze and explain the population decline in American Indian populations (i.e. disease, warfare, displacement). <p>Objective 3: Distinguish between the rights and responsibilities held by different groups of people during the colonial period.</p> <ul style="list-style-type: none"> a. Compare the varying degrees of freedom held by different groups (e.g. American Indians, landowners, women, indentured servants, enslaved people). b. Explain how early leaders established the first colonial governments (e.g. Mayflower compact, charters). c. Describe the basic principles and purposes of the Iroquois Confederacy. 	<ul style="list-style-type: none"> solid, liquid, gas). b. Compare changes in substances that indicate a physical change has occurred. c. Describe the appearance of a substance before and after a physical change. <p>Objective 3: Investigate evidence for changes in matter that occur during a chemical reaction.</p> <ul style="list-style-type: none"> a. Identify observable evidence of a chemical reaction (e.g., color change, heat or light given off, heat absorbed, gas given off). b. Explain why the measured weight of a remaining product is less than its reactants when a gas is produced. c. Cite examples of chemical reactions in daily life. d. Compare a physical change to a chemical change. e. Hypothesize how changing one of the materials in a chemical reaction will change the results.
Essential Vocabulary	Colony, Exploration, Europe, North America, South America, Cultural Diffusion, Indentured Servant, Slavery, Displacement, charter, compact, Iroquois Confederacy	heat, substance, chemical change, dissolve, physical change, matter, product, reactants, solid, liquid, weight
Guidance for Integration	<p>Words of an Explorer Social Studies: 1.1, ELA: W.5.3B, Theater: 5.1 Create a dialogue for an identified explorer that came to America to show experiences and situations that create tension and suspense.</p>	<p>Conservation of Matter Science: 1.1, Math: 5.MD.2, ELA: W.5.2, RI.5.2 Students will determine the mass of the reactants and products of a baking soda and vinegar chemical reaction in an open and closed system (Bottle with lid off = open/ bottle with balloon = closed). After the reaction is complete in the closed system, students will calculate the circumference of a balloon filled with gas from the reaction to determine the volume of gas produced in the reaction (or use water displacement to determine the volume). Students will compare and contrast the difference in the mass of the closed and open systems, and summarize their findings. http://lincoln8science.weebly.com/uploads/3/6/5/0/3650206/lab_conservationmass_both.pdf http://troup612resources.troup.k12.ga.us/curriculum1/science/8_s</p>

		<p>cience/matter/conservation_mass_lab2.pdf</p> <p>Physical vs. Chemical Change Science: 1.2, 1.3, ELA: W.5.8</p> <p>Students travel to different stations and determine if a physical or chemical change has occurred. Students fill out a graphic organizer, and defend their reasoning on categorizing the changes made. Have students brainstorm as many chemical and physical changes they can list that occur while in the real world. (i.e. While Camping:</p> <p style="padding-left: 40px;">Chemical – roasting marshmallows, burning wood, purifying water through boiling, etc.</p> <p style="padding-left: 40px;">Physical – chopping wood, melting chocolate, etc.)</p> <p>http://www.mayfieldschools.org/userfiles/1733/Classes/7032/Lab%20and%20Stations.pdf</p>
Suggested Unit Resources	<p>Standard 1: Objective 1</p> <p>Early Explorers</p> <p>http://edsitement.neh.gov/lesson-plan/what-was-columbus-thinking</p> <p>http://www.loc.gov/teachers/classroommaterials/primarysourcesets/hispanic-exploration/</p> <p>http://www.history.com/topics/exploration/exploration-of-north-america</p> <p>http://www.uintahbasintah.org/unitedstateshistory5th.htm</p> <p>http://www.49online.org/webpages/nschumacher/index.cfm?subpage=465273</p> <p>Colonization</p> <p>http://www.americaslibrary.gov/jb/colonial/jb_colonial_subj.html</p> <p>http://www.plimoth.org/learn</p> <p>www.constitution.org/primarysources/primarysources.html</p> <p>Standard 1: Objective 2</p> <p>Trade</p> <p>http://www.econedlink.org/lessons/index.php?lid=301&type=educator</p> <p>http://www.let.rug.nl/usa/outlines/history-1994/early-america/colonial-indian-relations.php</p> <p>http://theauty.org/images/gallery/albums/education/lp/fur_trading.pdf</p>	<p>State Science OER Textbook: http://www.schools.utah.gov/CURR/science/OER.aspx</p> <p>UEN Teacher Resource Book: http://www.uen.org/core/science/sciber/TRB5/index.shtml</p> <p>USOE Supports: http://www.schools.utah.gov/CURR/science/Elementary/Fifth-Grade.aspx</p> <p>Chemistry Informational Text http://www.chem4kids.com/index.html</p>

Explicit Ties to Reading Street	Reading Street Connection	Content Integration		Reading Street Connection	Content Integration	
		N/A	N/A		N/A	N/A
Reading Street Online Readers	Adventure to the New World (L900) The Colonial Adventure (L500) Colonial New England (L500) Colonization and Native Peoples (L890) From Spain to America (L790) From Spain to America (G4) Journey to the New World (L860) Lewis and Clark (L840) Maine Now and Then (L900) Moving to the United States (L500) The Pilgrims' First Year (L610) A Tale of Gold and Glory (G5) Finding Home (G5)	Adventure in the Americas (L900) Exploring a New World (L830) The Spanish in Florida (L820) St. Augustine & Florida's Spanish Heritage (L1010) St. Augustine: Our First City (L940) A Whole New World (L810) Jamestown (L810) The Jamestown Colony (L890) John Smith and the Survival of Jamestown (L950) Making Connections: American Indians and Settlers (L1000) New World, New Neighbors (L970) Spanish Conquests of the Americas (L930)	The Case of the Disappearing Sugar (G4) Acids and Bases (L900) Baking Chemistry (L950) Building Blocks of Matter (L900) Changes in Matter (L480, L640) Changing Matter (L770) Everyday Reactions (L660) How Matter Changes (L800) How Matter Works (L510) How Things Can Change (L350) Lighter than Air (L870) Matter (L100, L250, L460, L620)	Matter and Its Properties (L640, L760) Matter's Properties (L760) Observing Matter (L100) Properties of Matter (L210, L720, L850, L880) Structure of Matter (L820) Ways Matter Changes (L710) Acids and Bases at Work (L990) Changing Solids, Liquids and Gases (L280) Observing Solids, Liquids and Gases (L270) Understanding Matter (L860) What are Solids, Liquids & Gases? (L240)		
Science Exemplar	<p>What is Oobleck? (235-236) Vocabulary: <i>variables, control, fair test</i></p> <p>Fair Tests: Solids, Liquids, or Gases? (298) Vocabulary: <i>variables, solid, liquid, gas</i></p> <p>Fair Tests: Learn About Liquids (307) Vocabulary: <i>density, viscosity, surface tension, variables</i></p> <p>Observing Changes in States of Matter: What Happens in a Mini-Freezer? (466) Vocabulary: <i>matter, molecules, transfer of heat, sublimation</i></p>					

<p style="text-align: center;">Unit 3: Inventors and Artists</p> <p style="text-align: center;">Reading Street Big Question: What do people gain from the work of inventors and artists?</p>		
Content	Social Studies	Science
Essential Questions	What actions do people take to gain or retain their basic human rights?	Why does the Earth's surface look the way it does?
Student Learning Targets	<ul style="list-style-type: none"> I can compare and contrast the different perspectives on independence of the colonists. I can identify and understand the positive and negative consequences of independence. (e.g. self-government, thoughts about their rights, U.S. Constitution, etc.) 	<ul style="list-style-type: none"> I can describe how weathering and erosion change Earth's surface. I can explain how volcanoes, earthquakes, and uplift affect Earth's surface I can describe how the building up and breaking down of Earth's surface changes over time.
Example Performance Assessment	<ul style="list-style-type: none"> Choose a perspective about independence (e.g. loyalist, independence). Then, write an opinion piece giving reasons, supported by facts and details, for their chosen perspective. Create a T-chart with the positive and negative consequences of independence. Then, write an informational summary from the T-chart. 	<ul style="list-style-type: none"> Create and fill out a graphic organizer where they will draw picture and write observations about weathering and erosion on a stream table.
Content Standards	<p>Standard 2: Students will understand the chronology and significance of key events leading to self-government.</p> <p>Objective 1: Describe how the movement toward revolution culminated in a Declaration of Independence.</p> <ol style="list-style-type: none"> Explain the role of events that led to declaring independence (e.g., French and Indian War, Stamp Act, Boston Tea Party). Analyze arguments both for and against declaring independence using primary sources from Loyalist and patriot perspectives. Explain the content and purpose for the Declaration of Independence. <p>Objective 2: Evaluate the Revolutionary War's impact on self-rule.</p> <ol style="list-style-type: none"> Plot a time line of the key events of the Revolutionary War. Profile citizens who rose to greatness as leaders. 	<p>Standard 2: Students will understand that volcanoes, earthquakes, uplift, weathering, and erosion reshape Earth's surface.</p> <p>Objective 1: Describe how weathering and erosion change Earth's surface.</p> <ol style="list-style-type: none"> Identify the objects, processes, or forces that weather and erode Earth's surface (e.g., ice, plants, animals, abrasion, gravity, water, wind). Describe how geological features (e.g., valleys, canyons, buttes, arches) are changed through erosion (e.g., waves, wind, glaciers, gravity, running water). Explain the relationship between time and specific geological changes. <p>Objective 2: Explain how volcanoes, earthquakes, and uplift affect Earth's surface.</p> <ol style="list-style-type: none"> Identify specific geological features created by volcanoes, earthquakes, and uplift.

	<p>c. Assess how the Revolutionary War changed the way people thought about their own rights.</p> <p>d. Explain how the winning of the war set in motion a need for a new government that would serve the needs of the new states.</p>	<p>b. Give examples of different landforms that are formed by volcanoes, earthquakes, and uplift (e.g., mountains, valleys, new lakes, canyons).</p> <p>c. Describe how volcanoes, earthquakes, and uplift change landforms.</p> <p>d. Cite examples of how technology is used to predict volcanoes and earthquakes.</p> <p>Objective 3: Relate the building up and breaking down of Earth's surface over time to the various physical land features.</p> <p>a. Explain how layers of exposed rock, such as those observed in the Grand Canyon, are the result of natural processes acting over long periods of time.</p> <p>b. Describe the role of deposition in the processes that change Earth's surface.</p> <p>c. Use a time line to identify the sequence and time required for building and breaking down of geologic features on Earth.</p> <p>d. Describe and justify how the surface of Earth would appear if there were no mountain uplift, weathering, or erosion.</p>
Essential Vocabulary	revolution, independence, declaration, self-rule	earthquakes, erode, erosion, faults, uplift, volcanoes, weathering, buttes, arches, glaciers, geological, deposition
Guidance for Integration	<p>Loyalist Vs. Patriots Social Studies: 2.1, ELA: W.5.1, RI.5.9 Discuss differences about independence by using http://www.slideshare.net/bmtoth/loyalists-vs-patriots-presentation. Students choose a perspective about independence (e.g. loyalist, patriots). Then, write an opinion piece giving reasons, supported by facts and details, for their chosen perspective. (more resources available below)</p> <p>Consequences of Independence Social Studies: 2.2, ELA: RI.5.3, W.5.2 Create a T-Chart and record the positive and negative consequences of independence from the text found at: http://american94565.tripod.com/theamericanrevolution/index.html. Then, write an informational summary from the T-chart.</p>	<p>Stream Table Erosion Science: 2.1, 2.3, ELA: W.5.8, Students should create and fill out a graphic organizer where they will draw picture and write observations about weathering and erosion on a stream table. http://www.dpc.ucar.edu/projects/bvsd03/deBackerUnit2Act1.html</p> <p>Earth's Changing Surface Science 2.2 http://geology.utah.gov/utahgeo/hazards/eqfault/wfault_flyby.htm</p>

Suggested Unit Resources	<p>Standard 2: Objective 1</p> <p>Loyalists and Patriots http://www.slideshare.net/bmtoth/loyalists-vs-patriots-presentation.</p> <p>http://www.ducksters.com/history/american_revolution/patriots_and_loyals.php</p> <p>http://www2.needham.k12.ma.us/eliot/technology/lessons/am_rev_bioloy_pat_argue.pdf</p> <p>Causes of the American Revolution http://american94565.tripod.com/theamericanrevolution/index.html</p> <p>Declaration of Independence http://www.archives.gov/exhibits/charters/declaration.html</p> <p>http://www.youtube.com/watch?v=vrSeCYSnj5Y</p> <p>American Revolution: http://www.history.com/topics/american-revolution (36 short video clips)</p> <p>http://www.pbs.org/ktca/liberty/chronicle_boston1774.html</p> <p>Standard 2: Objective 2</p> <p>Consequences of Independence http://american94565.tripod.com/theamericanrevolution/index.html</p> <p>Revolutionary War http://www.ushistory.org/declaration/revwartimeline.htm</p>	State Science OER Textbook: http://www.schools.utah.gov/CURR/science/OER.aspx UEN Teacher Resource Book: http://www.uen.org/core/science/sciber/TRB5/index.shtml USOE Supports: http://www.schools.utah.gov/CURR/science/Elementary/Fifth-Grade.aspx								
Explicit Ties to Reading Street	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; background-color: #d3d3d3;">Reading Street Connection</th> <th style="text-align: center; background-color: #d3d3d3;">Content Integration</th> <th style="text-align: center; background-color: #d3d3d3;">Reading Street Connection</th> <th style="text-align: center; background-color: #d3d3d3;">Content Integration</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> <u>Unit 2, Week 5: The Midnight Ride of Paul Revere</u> Main Selection Day 2 Writing-Historical Fiction </td><td style="vertical-align: top;"> After reading The Midnight Ride of Paul Revere and discussing historical fiction have students read the Paul Revere biography and timeline at http://www.landofthebrave.info/paul-revere.htm and then make a fact or fiction t-chart showing which parts of the story were fact and which were fiction. </td><td style="text-align: center; vertical-align: middle;">N/A</td><td style="text-align: center; vertical-align: middle;">N/A</td></tr> </tbody> </table>	Reading Street Connection	Content Integration	Reading Street Connection	Content Integration	<u>Unit 2, Week 5: The Midnight Ride of Paul Revere</u> Main Selection Day 2 Writing-Historical Fiction	After reading The Midnight Ride of Paul Revere and discussing historical fiction have students read the Paul Revere biography and timeline at http://www.landofthebrave.info/paul-revere.htm and then make a fact or fiction t-chart showing which parts of the story were fact and which were fiction.	N/A	N/A	
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Reading Street Online Readers	American Revolution Heroes (L600) Revere's Ride (L590) Paul Revere's Ride (L910) Paul Revere and the American Revolutionary War (L910) Home of the Brave (L650) Living in a Democracy (L650) The Power of the People (L810) After the Midnight Ride (G5) Molly Pitcher: An American Hero (G5) The Story of our Freedom (G3)	Choosing Freedom (L980) Conflict in the Colonies (L1030) Key Conflicts of the Revolution (G5) On the Road to Revolution (L1120) Starting America: Thomas Jefferson & His Writings (L800) Thomas Jefferson: A Man of Ideas (G3) Thomas Jefferson (L520) Turning Points and the Fight for Freedom (G5) The War for Independence (G5) The Fourth of July (L390)	Exploring Inner Space (L450) Tom Rides Out the Quake (L680) Rock Canyon Challenge (L890) The Journey Through Earth (L850) The Shaping of the Continents (L1020) The Inside Story Of Earth (G5) The Shaping of the Continents (G5) The Journey Through the Earth (G5) Looking for Changes (G4) Flash Flood (L470) Exploring the World Below (L1110) Rocks, Wind, & Water (L470) Earth: The Inside Story (L1110)	From Volcanoes to Islands (G3) From Volcanoes to Islands (G3) Earth's Changing Surface (L790) Changes on Earth (L590) Changes to Earth's Surface (L720) The Changing Surface of the Earth (L850) Follow a River (L790) Ice! (L840) Mountains of the World (L1020) Our Changing Earth (L590) Reshaping Earth's Surface (L730) The Hidden Worlds of Caves (L1000)
Science Exemplars	Learning to Read Topo Maps: Where Does Our Water Come From and Where Does it Go? (273) <i>Vocabulary: scale, erosion</i>			

<p style="text-align: center;">Unit 4: Adapting</p> <p style="text-align: center;">Reading Street Big Question: How do people and animals adapt to different situations?</p>		
Content	Social Studies	Science
Essential Question	Which rights and privileges should our government guarantee?	What traits do parents pass on to their offspring that help them survive in their environment?
Student Learning Targets	<ul style="list-style-type: none"> I can communicate what the rights and privileges that the U.S. Constitution and Bill of Rights guarantees me. 	<ul style="list-style-type: none"> I can use supporting evidence to explain how traits are transferred from parents to offspring I can describe how characteristics give a species a survival advantage in particular environments
Example Performance Assessment	<ul style="list-style-type: none"> Students use textual evidence to write an opinion piece on the topic of rights of young people in the United States. Explain the steps a bill must go through to become law. Create a poster on how the Bill of Rights protects free speech today. 	<ul style="list-style-type: none"> Students track and record the passage of genetic traits through three generations, summarize their findings, and present their findings to their classmates. Students will complete a natural selection simulation using gold fish crackers to determine if a specific trait offers an advantage for survival. Small group data will be combined, for student analysis. Students will summarize their findings, and compare how they are similar or different to the class findings, and report on these similarities and differences.
Content Standards	<p>Standard 3: Students will understand the rights and responsibilities guaranteed in the United States Constitution and Bill of Rights</p> <p>Objective 1: Assess the underlying principles of the US Constitution as the framework for the United States' form of government, a compound constitutional republic.</p> <ol style="list-style-type: none"> Recognize ideas from documents used to develop the Constitution (e.g. Magna Carta, Iroquois Confederacy, Articles of Confederation, Virginia Plan). Analyze goals outlined in the Preamble. Distinguish between the role of the Legislative, Executive, and Judicial branches of the government. Explain the process of passing a law. Describe the concept of checks and balances. Discover the basis for the patriotic and citizenship traditions we have today (i.e. Pledge of Allegiance, flag) 	<p>Standard 5: Students will understand that traits are passed from the parent organism to their offspring, and that sometimes the offspring may possess variations of these traits that may help or hinder survival in a given environment.</p> <p>Objective 1: Using supporting evidence, show that traits are transferred from a parent organism to its offspring.</p> <ol style="list-style-type: none"> Make a chart and collect data identifying various traits among a given population (e.g., the hand span of students in the classroom, the color and texture of different apples, the number of petals of a given flower). Identify similar physical traits of a parent organism and its offspring (e.g., trees and saplings, leopards and cubs, chickens and chicks). Compare various examples of offspring that do not initially resemble the parent organism but mature to become similar to the parent organism (e.g., mealworms)

	<p>Objective 2: Assess how the US Constitution has been amended and interpreted over time, and the impact these amendments have had on the rights and responsibilities of citizens of the United States.</p> <ul style="list-style-type: none"> a. Explain the significance of the Bill of Rights. b. Identify how the rights of selected groups have changed and how the Constitution reflects those changes (e.g., women, enslaved people). c. Analyze the impact of the Constitution on their lives today (e.g. freedom of religion, speech, press, assembly, petition). 	<p>and darkling beetles, tadpoles and frogs, seedlings and vegetables, caterpillars and butterflies).</p> <ul style="list-style-type: none"> d. Contrast inherited traits with traits and behaviors that are not inherited but may be learned or induced by environmental factors (e.g., cat purring to cat meowing to be let out of the house; the round shape of a willow is inherited, while leaning away from the prevailing wind is induced). e. Investigate variations and similarities in plants grown from seeds of a parent plant (e.g., how seeds from the same plant species can produce different colored flowers or identical flowers). <p>Objective 2: Describe how some characteristics could give a species a survival advantage in a particular environment.</p> <ul style="list-style-type: none"> a. Compare the traits of similar species for physical abilities, instinctual behaviors, and specialized body structures that increase the survival of one species in a specific environment over another species (e.g., difference between the feet of snowshoe hare and cottontail rabbit, differences in leaves of plants growing at different altitudes, differences between the feathers of an owl and a hummingbird, differences in parental behavior among various fish).
Essential Vocabulary	Constitution, confederation, preamble, legislative, executive, judicial, amendment, petition, assembly, check and balance	inherited, environment, species, offspring, traits, variations, survival, instincts, population, specialized structure, organism, life cycle, parent organism, learned behavior
Guidance for Integration	<p>What Are Your Rights? Social Studies: 3.1, ELA: W.5.1, RI.5.1 Students use textual evidence to write an opinion piece on the topic of rights of young people in the United States. Students will have three days during which they will watch a video, read texts, use graphic organizers, and write an opinion piece using the text presented. http://schools.nyc.gov/NR/rdonlyres/8CA2E48F-6A23-42B0-9343-2613CA2B46D4/0/NYCDOE_G5_LiteracySS_YourRights_Final.pdf</p>	<p>Pasta Genetics Science 5.1, ELA: RI.5.2, W.5.8, SL.5.4 Students track and record the passage of genetic traits through three generations, summarize their findings, and present their findings to their classmates. https://gsoutreach.gs.washington.edu/files/pastagenetics_12-10-10.pdf</p> <p>Natural Selection in Goldfish Science 5.2, ELA: RI.5.9, SL.5.4, W.5.8, Math: 5.MD.2 Students will complete a natural selection simulation using gold fish crackers to determine if a specific trait offers an advantage for</p>

	<p>Bill of Rights</p> <p>Social Studies: 3.2, ELA: W.5.2, SL.5.1, SL.5.2, SL.5.4</p> <p>Use speaking and writing to explain the steps a bill must go through to become law. Create a poster on how the Bill of Rights protects free speech today.</p> <p>http://www.uen.org/Lessonplan/preview.cgi?LPid=23829kkk</p> <p>http://www.uen.org/Rubric/rubric.cgi?rubric_id=19967</p>	<p>survival. Small group data will be combined, for student analysis. Students will summarize their findings, and compare how they are similar or different to the class findings, and report on these similarities and differences.</p> <p>http://www.nku.edu/~bowlingb2/NaturalSelectionActivity/LP_2.pdf</p>		
Suggested Unit Resources	<p>Standard 3: Objective 1 & 2</p> <p>http://schools.nyc.gov/NR/rdonlyres/8CA2E48F-6A23-42B0-9343-2613CA2B46D4/0/NYCDOE_G5_LiteracySS_YourRights_Final.pdf</p> <p>Standard 3: Objective 1</p> <p>Documents to Develop the Constitution</p> <p>http://teacher.scholastic.com/scholasticnews/indepth/constitution_day/constitution_day/index.asp?article=benfranklin</p> <p>http://www.loc.gov/exhibits/creating-the-united-states/road-to-the-constitution.html</p> <p>http://www.enchantedlearning.com/history/us/documents/constitution/census.shtml</p> <p>Preamble</p> <p>http://www.youtube.com/watch?v=yHp7sMqPL0g</p> <p>http://blog.richmond.edu/openwidelookinside/archives/358</p> <p>Process of Passing a Law</p> <p>http://www.uen.org/Lessonplan/preview.cgi?LPid=23801</p> <p>Checks and Balances & Branches of Government</p> <p>http://www.congressforkids.net/games/checksandbalances/2_checksandbalances.htm</p> <p>Standard 3: Objective 2</p> <p>Constitution</p> <p>http://www.history.com/images/media/pdf/Constitution-LessonPlans.pdf</p>	<p>State Science OER Textbook:</p> <p>http://www.schools.utah.gov/CURR/science/OER.aspx</p> <p>UEN Teacher Resource Book:</p> <p>http://www.uen.org/core/science/sciber/TRB5/index.shtml</p> <p>USOE Supports:</p> <p>http://www.schools.utah.gov/CURR/science/Elementary/Fifth-Grade.aspx</p> <p>Paint's Family Tree</p> <p>http://www.uen.org/Lessonplan/preview?LPid=2712</p> <p>Instinct vs. Learned Behavior</p> <p>http://www.uen.org/Lessonplan/preview?LPid=11338</p> <p>Genetics Science Learning Center - Intro to Heredity</p> <p>http://teach.genetics.utah.edu/content/heredity/</p>		
Explicit Ties to Reading Street	<p>Reading Street Connection</p> <p>N/A</p>	<p>Content Integration</p> <p>N/A</p>	<p>Reading Street Connection</p> <p>NA</p>	<p>Content Integration</p> <p>N/A</p>
Reading Street Online	<ul style="list-style-type: none"> The Freedoms of Speech and Assembly in the United States (L1020) 	<ul style="list-style-type: none"> Surviving the Elements (L760) Amazing Ants (L280) Changing for Survival: Bird Adaptations (L860) 		

Readers	<ul style="list-style-type: none"> • The Power of the People (L810) • The United States Government (L810) • A Trip to Capital Hill (L860) • Words of Freedom: The U.S. Constitution (L890) • Home of the Brave (L650) • Living in a Democracy (L650) • D is for Democracy (L750) • Our Government (L670) • The People Who Gave Us the U.S. Constitution (L820) • The Freedoms of Speech and Assembly in the United States (L1020) 	<ul style="list-style-type: none"> • Animals Adapt (G3) Masters of Disguise (G5) Surviving the Weather: Animals in Their Environment (L760)
Science Exemplars	<p>Spring Seed Planting (223) Vocabulary: <i>evolution, diversity, adaptation</i></p>	

<p style="text-align: center;">Unit 5: Adventurers</p> <p style="text-align: center;">Reading Street Big Question: who goes seeking adventure and why?</p>		
Content	Science Part 1	Science Part 2
Essential Question	<ul style="list-style-type: none"> • How is the Earth's similar to a magnetic field similar to a magnet and how is the magnetic field observable? 	<ul style="list-style-type: none"> • What are the features of static and current electricity?
Student Learning Targets	<ul style="list-style-type: none"> • I can investigate and compare the behavior of magnets. • I can describe how the magnetic field of Earth and a magnet are similar. 	<ul style="list-style-type: none"> • I can describe the behavior of static electricity. • I can analyze and predict the behavior of current electricity.
Example Performance Assessment	<ul style="list-style-type: none"> • Compare and contrast different types of magnets and their strength. <p>Draw a picture showing the magnetic field of a magnet, and then compare it to the magnetic field of the Earth. List the similarities and differences.</p>	<ul style="list-style-type: none"> • Compare and contrast the different amount of static electricity produced from a balloon, a plastic baggie, a glass rod, and a metal rod. • Build a working model of a parallel and series circuit. Compare and contrast the two types of circuits using a Venn diagram.
Content Standards	<p>Standard 3: Students will understand that magnetism can be observed when there is an interaction between the magnetic fields of magnets or between a magnet and iron.</p> <p>Objective 1: Investigate and compare the behavior of magnetism using magnets.</p> <ol style="list-style-type: none"> Compare various types of magnets (e.g., permanent, temporary, and natural magnets) and their abilities to push or pull iron objects they are not touching. Investigate how magnets will both attract and repel other magnets. Compare permanent magnets and electromagnets. Research and report the use of magnets that is supported by sound scientific principles. <p>Objective 2: Describe how the magnetic field of Earth and a magnet are similar.</p> <ol style="list-style-type: none"> Compare the magnetic fields of various types of magnets (e.g., bar magnet, disk magnet, horseshoe magnet). Compare Earth's magnetic field to the magnetic field of a magnet. Construct a compass and explain how it works. Investigate the effects of magnets on the needle of a 	<p>Standard 4: Students will understand features of static and current electricity.</p> <p>Objective 1: Describe the behavior of static electricity as observed in nature and everyday occurrences.</p> <ol style="list-style-type: none"> List several occurrences of static electricity that happen in everyday life. Describe the relationship between static electricity and lightning. Describe the behavior of objects charged with static electricity in attracting or repelling without touching. Compare the amount of static charge produced by rubbing various materials together (e.g., rubbing fur on a glass rod produces a greater charge than rubbing the fur with a metal rod, the static charge produced when a balloon is rubbed on hair is greater than when a plastic bag is rubbed on hair). Investigate how various materials react differently to statically charged objects. <p>Objective 2: Analyze the behavior of current electricity.</p> <ol style="list-style-type: none"> Draw and label the components of a complete electrical circuit that includes switches and loads (e.g., light bulb,

	<p>compass and compare this to the effects of Earth's magnetic field on the needle of a compass (e.g., magnets effect the needle only at close distances, Earth's magnetic field affects the needle at great distances, magnets close to a compass overrides the Earth's effect on the needle).</p> <p>a.</p>	<p>bell, speaker, motor).</p> <ul style="list-style-type: none"> b. Predict the effect of changing one or more of the components (e.g., battery, load, wires) in an electric circuit. c. Generalize the properties of materials that carry the flow of electricity using data by testing different materials. d. Investigate materials that prevent the flow of electricity. Make a working model of a complete circuit using a power source, switch, bell or light, and a conductor for a pathway.
Essential Vocabulary	magnets, attract, repel, electromagnet, magnetic field, compass	battery, complete circuit, incomplete circuit, current, conductor, insulator, pathway, power source, attract, switch, load
Guidance for Integration	<p>Comparing Magnet Strength Science: 3.1, ELA: RI.5.9, W.5.8, W.5.9 Compare and contrast different types of magnets and their strength by collecting data on how many paperclips each type of magnet will hold. Have students complete a lab report on their findings, complete with question, background information from informational text, hypothesis, materials list, procedure, data, and conclusions. http://www.delta-education.com/downloads/samples_dsm/MagnetsLink2.pdf</p> <p>Discovering Magnetic Fields Science: 3.2, ELA: RI.5.9, Visual Arts: 1.2 Draw a picture showing the magnetic field of a magnet, and then compare it to the magnetic field of the Earth. List the similarities and differences. http://www.uen.org/Lessonplan/preview?LPid=2702</p>	<p>A Hair Raising Experience Science 4.1, ELA: RI.5.9 Compare and contrast the different amount of static electricity produced from a balloon, a plastic baggie, a glass rod, and a metal rod. Write observations about the differences in their science notebook, and what might account for these differences using information from informational text. http://www.uen.org/Lessonplan/preview?LPid=2226</p> <p>Snaptricity Snap Circuits Science 4.2, ELA: RI.5.9 Use the snaptricity snap circuits build a working model of a parallel and series circuit. Using a Venn Diagram, compare and contrast the two types of circuits, and describe times when each type of circuit might be useful.</p>
Suggested Unit Resources	State Science OER Textbook: http://www.schools.utah.gov/CURR/science/OER.aspx UEN Teacher Resource Book: http://www.uen.org/core/science/sciber/TRB5/index.shtml USOE Supports: http://www.schools.utah.gov/CURR/science/Elementary/Fifth-Grade.aspx	State Science OER Textbook: http://www.schools.utah.gov/CURR/science/OER.aspx UEN Teacher Resource Book: http://www.uen.org/core/science/sciber/TRB5/index.shtml USOE Supports: http://www.schools.utah.gov/CURR/science/Elementary/Fifth-Grade.aspx

Explicit Ties to Reading Street	Reading Street Connection	Reading Street Connection	Content Integration	Content Integration
	N/A	N/A	N/A	N/A
Reading Street Leveled Readers	<ul style="list-style-type: none"> Magnetic Fun (L650) Electricity and Magnetism (L740) Poles Apart (L880) Electric & Magnetic Power (L790) Forces in Motion (L760) Magnetism (L710) Magnetism and Its Uses (L840) Our Magnetic Earth (L860) 		<ul style="list-style-type: none"> The Light Bulb (L930) Poles Apart (L880) Electricity (L640) Forms of Energy (L710) The Light Bulb (L900) The Power of Electricity (L770) Putting Energy to Work (L950) 	
Science Exemplars	<p>How Powerful Is A Magnet? (348) <i>Vocabulary: hypothesis, magnetism</i></p> <p>Learning About Magnetism, Part I: What Do You Know About Magnets? (506)</p> <p>Learning About Magnetism, Part II: What Question Do You Have About Magnets? (507) <i>Vocabulary: testable questions</i></p> <p>How Strong Is A Magnet? (716) <i>Vocabulary: attraction, repulsion, positive, negative</i></p>		<p>Static Electricity: What Variable Will You Test? (730) <i>Vocabulary: variables</i></p> <p>What Is Static Electricity? (205) <i>Vocabulary: attraction, repulsion, charge</i></p> <p>Demonstrating Static Electricity (257) <i>Vocabulary: attraction, repulsion, charge</i></p> <p>Static Electricity: What Will Happen When You Put a "Charged" Pen Near a Tissue-Paper Spiral? (435) <i>Vocabulary: attraction, repulsion, charge</i></p> <p>Can You Design an Investigation to Learn More About Static Electricity? (713) <i>Vocabulary: static electricity</i></p> <p>Can You Light the Bulb? (718) <i>Vocabulary: current electricity</i></p> <p>Can You Get Two Light Bulbs to Light? (263) <i>Vocabulary: current electricity, parallel, series, closed, open circuits</i></p> <p>Learning About Electricity, Part I: Can You Wire A House? (504) <i>Vocabulary: conductors, nonconductor, switches, series and</i></p>	

		<p><i>parallel circuits</i></p> <p>Learning About Electricity, Part II: How Many Electrical Circuits Can You Make? (505)</p> <p><i>Vocabulary: conductors, nonconductor, switches, series and parallel circuits.</i></p> <p>Conserving Electricity (824) *extension project</p>
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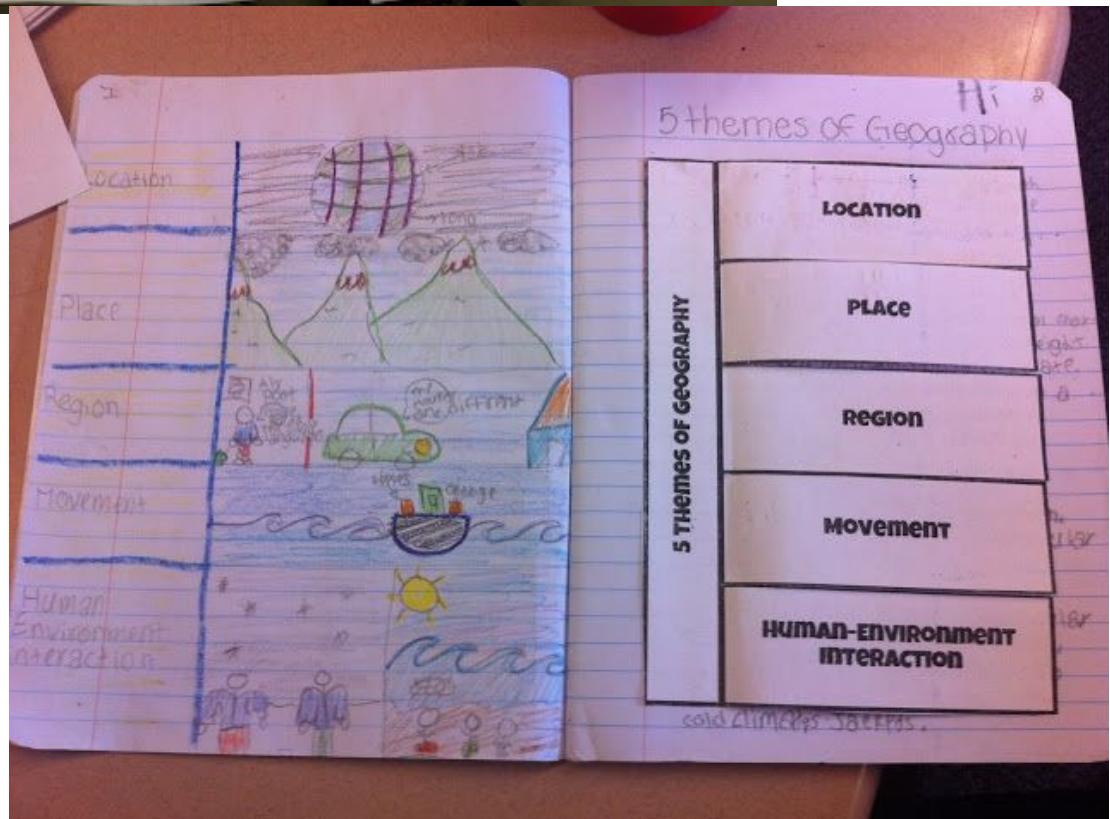
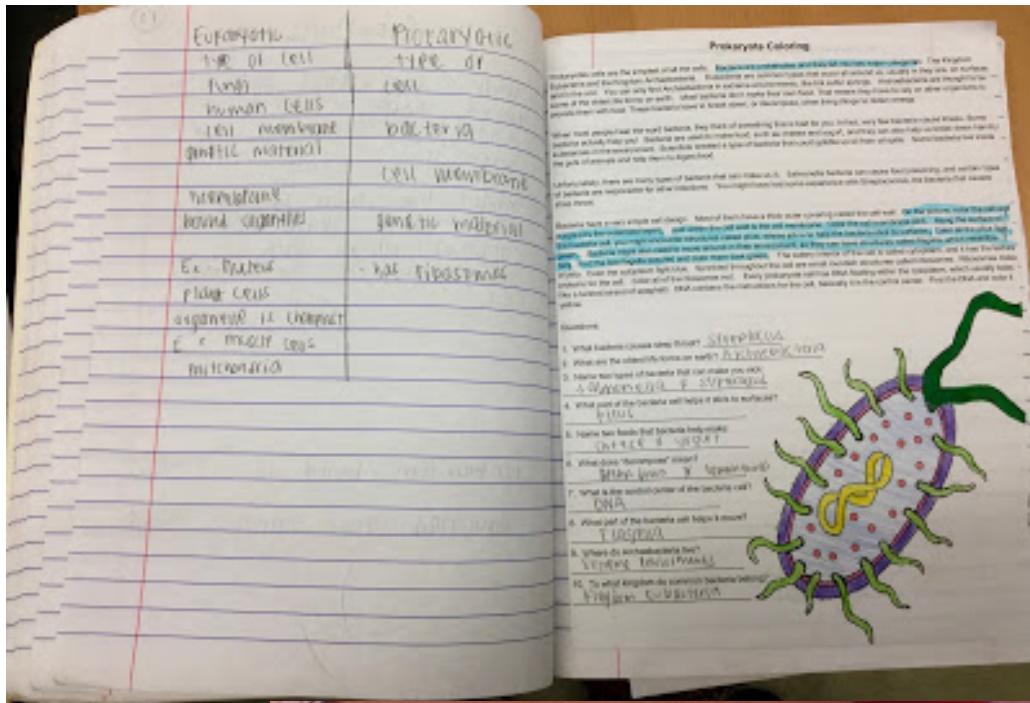
<p style="text-align: center;">Unit 6: The Unexpected</p> <p style="text-align: center;">Reading Street Big Question: What can we learn from encounters with the unexpected?</p>		
Content	Social Studies	Social Studies
Essential Question	<ul style="list-style-type: none"> • Why do historical conflicts often occur when basic needs or rights are threatened? 	<ul style="list-style-type: none"> • Why do historical conflicts often occur when basic needs or rights are threatened?
Student Learning Targets	<ul style="list-style-type: none"> • I can evaluate the conflicts of the Civil War and the causes. • I can identify the impacts of the Civil War. 	<ul style="list-style-type: none"> • I can describe the role of the United States during one of the following wars (World War I, the Great Depression and World War II). • and how the USA became a world power. • I can identify a major social movement (civil rights) and its leader during the 20th century.
Example Performance Assessment	<ul style="list-style-type: none"> • Compare and contrast the perspectives of the North and South that led to the Civil War. • Explain positive and negative effects of early industrialization on the lives of Americans. • 	<ul style="list-style-type: none"> • Discuss the principles of just war theory, the basis of international agreements such as the Geneva Conventions that regulate the conduct of nations in wartime. • Compare and contrast two different leaders of a human rights movement and the process they used to further their cause.
Content Standards	<p>Standard 4: Students will understand that the 19th century was a time of incredible change for the United States, including geographic expansion, constitutional crisis, and economic growth</p> <p>Objective 2 Assess the geographic, cultural, political, and economic divisions between regions that contributed to the Civil War.</p> <ol style="list-style-type: none"> a. Describe the impact of physical geography on the cultures of the northern and southern regions (e.g. industrial resources, agriculture, climate). b. Compare how cultural and economic differences of the North and South led to tensions. c. Identify the range of individual responses to the growing political conflicts between the North and South (e.g. states rights advocates, abolitionists, slaveholders, enslaved people). <p>Objective 3 Evaluate the course of events of the Civil War and its impact both immediate and long-term.</p> <ol style="list-style-type: none"> d. Identify the key ideas, events, and leaders of the Civil 	<p>Standard 5: Students will address the causes, consequences and implications of the emergence of the United States as a world power.</p> <p>Objective 1 Describe the role of the United States during World War I, the Great Depression, and World War II.</p> <ol style="list-style-type: none"> a. Review the impact of World War I on the United States. b. Summarize the consequences of the Great Depression on the United States (e.g. mass migration, the New Deal). c. Analyze how the United States' involvement in World War II led to its emergence as a superpower. <p>Objective 2 Assess the impact of social and political movements in recent United States history.</p> <ol style="list-style-type: none"> a. Identify major social movements of the 20th century (e.g. the women's movement, the civil rights movement, child labor reforms). b. Identify leaders of social and political movements <p>Objective 3 Evaluate the role of the United States as a world power.</p>

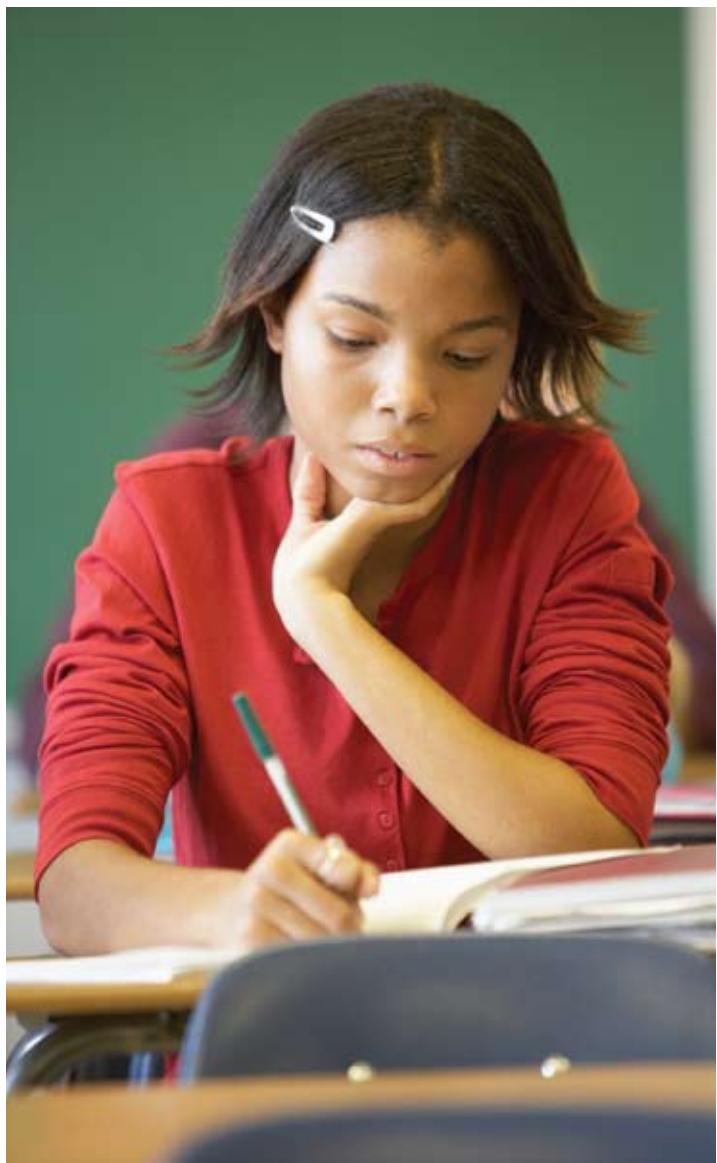
	<p>War using primary sources (e.g. Gettysburg Address, Emancipation Proclamation, news accounts, photographic records, diaries).</p> <p>e. Contrast the impact of the war on individuals in various regions (e.g. North, South, West).</p> <p>f. Explain how the Civil War helped forge ideas of national identity.</p> <p>g. Examine the difficulties of reconciliation within the nation.</p> <p>Objective 4 Understand the impact of major economic forces at work in the post-Civil War.</p> <p>a. Assess how the free-market system in the United States serves as an engine of change and innovation.</p> <p>b. Describe the wide-ranging impact of the Industrial Revolution (e.g. inventions, industries, innovations).</p> <p>c. Evaluate the roles new immigrants played in the economy of this time.</p> <p>Objective 1 Investigate the significant events during America's expansion and the roles people played.</p> <p>b. Identify key reasons why people move and the traits necessary for survival.</p> <p>c. Examine causes and consequences of important events in the United States expansion (e.g. Louisiana Purchase, Lewis and Clark expedition, treaties with American Indians, Homestead Act, Trail of Tears, California Gold Rush).</p> <p>d. Compare the trails that were important during westward expansion (e.g. Oregon, Mormon, Spanish, California).</p> <p>Assess the impact of expansion on native inhabitants of the west.</p>	<p>a. Assess differing points of view on the role of the US as a world power (e.g. influencing the spread of democracy, supporting the rule of law, advocating human rights, promoting environmental stewardship).</p> <p>b. Identify a current issue facing the world and propose a role the United States could play in being part of a solution (e.g. genocide, child labor, civil rights, education, public health, environmental protections, suffrage, economic disparities).</p> <p>e.</p>
Essential Vocabulary	expansion, Civil War, abolition, Underground Railroad, compromise, emancipation, reconciliation, free-market system, industrial revolution	depression, migration, superpower, democracy, rule of law, human rights, suffrage, genocide
Guidance for Integration	<p>Exploring the Perspectives of the Civil War Social Studies: 4.2, 4.3, ELA: W.5.2, RI.5.7, RI.5.6</p> <ul style="list-style-type: none"> • Compare and contrast the perspectives of the North and South that led to the Civil War using a WebQuest in which students will create a journal entry, newspaper article, and chart. 	<p>Just War Theory Social Studies: 5.1, ELA: RI.5.1, RI.5.6, RI.5.8, SL.5.2</p> <p>Discuss the principles of just war theory, the basis of international agreements such as the Geneva Conventions that regulate the conduct of nations in wartime. Students consider the</p>

	<p>http://questgarden.com/45/67/6/070227071016/t-index.htm</p> <p>Effects of the Industrial Revolution</p> <p>Social Studies: 4.4, ELA: SL.5.1, SL.5.2, RI.5.1, RI.5.3, RI.5.9</p> <p>Students will read first hand accounts, conduct interviews, and draw conclusions about the effect of industry on American life.</p> <p>http://edsitement.neh.gov/lesson-plan/was-there-industrial-revolution-americans-work-civil-war#section-16899</p>	<p>six principles of <i>jus ad bellum</i>, or what makes a war just, as applied to World War II. They will read Roosevelt's Joint Address to Congress Leading to a Declaration of War Against Japan (the "day that will live in infamy" speech) in order to assess whether or not Roosevelt spelled out the case for a just war.</p> <p>http://www-tc.pbs.org/thewar/downloads/just_war.pdf</p> <p>http://www.pbs.org/thewar/detail_5337.htm</p> <p>http://www.pbs.org/thewar/detail_5339.htm</p> <p>Human Rights</p> <p>Social Studies: 5.2, 5.3, ELA: W.5.1, W.5.8, W.5.9, RI.5.1, RI.5.3</p> <p>Students read about two different leads from different human right movements. Using a graphic organizer, students compare and contrast the different leaders and the process they used to further their cause. Write an opinion paper on what characteristics make a good leader.</p> <p>http://www.ducksters.com/history/civil_rights/</p>
Suggested Unit Resources	<p>Standard 4: Objective 2-4</p> <p>Civil War</p> <p>http://www.civilwar.org/education/students/kidswebsites.html</p> <p>Pink & Say by Patricia Polacco (book)</p> <p>Up the Learning Tree by Marcia Vaughan</p> <p>Standard 4: Objective 4</p> <p>Industrial Revolution</p> <p>http://www.kidinfo.com/american_history/industrial_revolution.html</p>	<p>Standard 5: Objective 1 & 3</p> <p>WWI</p> <p>http://www.uen.org/Lessonplan/preview.cgi?LPid=23850</p> <p>Great Depression</p> <p>http://www.jonathanfeicht.com/great-depression.html</p> <p>WWII</p> <p>http://www.bbc.co.uk/schools/primaryhistory/world_war2/</p> <p>http://www.ducksters.com/history/world_war_ii/</p> <p>Standard 5: Objective 2</p> <p>20th Century Social Movements</p> <p>http://fifthhistory.wikispaces.com/Standard+5+20th+Century</p> <p>The Story of Ruby Bridges by Robert Coles</p> <p>http://www.rubybridges.com/story.htm</p> <p>Rosa Parks</p> <p>http://discoverer.prod.sirs.com/discoverweb/disco/do/article?</p>

Explicit Ties to Reading Street	Reading Street Connection	Content Integration	Content Integration	Content Integration
	N/A	N/A	N/A	N/A
Reading Street Leveled Readers	<ul style="list-style-type: none"> • Sweet Freedom! (860) • The California Gold Rush (L720) • The United States Moves West (L860) • From Territory to Statehood (770) • Go West! (L840) • A Shifting Society (L1000) • William Carney: An American Hero (L440) The Long Journey West (L680) • A Spy in Disguise (L100) • From Six Months to Six Days (L330) • Becoming a Melting Pot (L1000) • The Golden Spike (L800) • A Railroad Over the Sierra (L1000) • The Land of Opportunity (L 1170) • The Incredible Alexander Graham Bell (L720) The California Gold Rush (L720) 		<ul style="list-style-type: none"> • Danger! Children at Work (L960) • Land of Plenty (L710) • Operation Inspiration (L810) • Equality in American Schools (L1010) The Civil Rights Movement (L1090) • The Women's Movement (L860) Navajo Code Talkers (L1100) • A Safe Haven (L870) • Innocent Prisoners! Life in a Japanese American Internment Camp (L820) • Great Women in U.S. History (L680) • Tulips for Annie's Mother (L480) • It's Our Right (L920) The Most Dangerous Woman in America (L870) 	

Using Interactive Notebooks as a tool to help organize Content Integration Time





Integrating Interactive Notebooks

*A daily learning cycle to
empower students for science*

—Cheryl Waldman and Kent J. Crippen—

An interactive notebook can be a powerful instructional tool, allowing students to take control of their learning while processing information and engaging in self-reflection. The three-part learning cycle of an interactive notebook makes it easy to use and integrate into the science lesson. The basic idea has its roots in a number of programs (TCI 2000; AVID 2007), but applying knowledge about how students learn science can make this an even more effective tool.

At its best, an interactive notebook provides a varied set of strategies to create a personal, organized, and documented learning record. In addition to presenting techniques for design, implementation, and assessment, this article describes how interactive notebooks empower students for science achievement.

Design

Based upon the flow of information between teachers and students in a science lesson, the interactive notebook is composed of three types of activities. *In* activities provide a scaffold for class discussion by activating prior knowledge and motivating students immediately as they come into the classroom. *Through* activities allow the teacher to direct student learning from a fragmented conceptual knowledge to understanding. *Out* activities emphasize reflection on key concepts at the end of the lesson, before students go out of the classroom. The *in*, *through*, and *out* activities provide a daily rhythm of learning. *In* and *out* activities are prompted student responses; *through* activities are provided by the teacher.

Each class period begins with students completing an *in* activity that reviews a concept from the previous class, introduces the topic of the day, or probes their prior knowledge related to the topic at hand. Based on their own understanding and creativity, students direct this activity as they respond to teacher prompts or questions—resulting in an output of information. *In* activities take about 5 minutes to complete and can be done alone or in small groups. While circulating around the room, the teacher quickly provides individualized feedback and uses the activity to prompt discussion for the lesson to follow.

The daily lesson constitutes the *through* activity. This can include conducting lecture or discussion, engaging in a laboratory procedure, or viewing a film or documentary during class—all of which are initiated and directed by the teacher. In *through* activities, objective information (course concepts) is provided to students—resulting in an input of information.

An *out* activity occurs at the end of class. It closes the day's lesson with an emphasis on reviewing key concepts, using deliberate practice, or drawing connections among ideas. Like *in* activities, *out* activities are teacher-initiated, but student-directed. Teachers provide the prompts, but students produce the answers, diagrams, and so on—allowing them to reflect on their own learning.

Individual student work created from participating in the *in* and *out* activities is mapped onto the left page of a standard spiral-bound notebook; *through* activities are placed on the right-hand page. Students quickly become familiar with

this daily learning cycle and come to expect it each class (Figure 1). However, the cycle can be modified for extended projects or laboratory activities. Color and highlighting are used throughout the notebook to emphasize and reinforce learning. Students are expected to use color to emphasize main concepts and vocabulary, to indicate levels of questions they write, and to distinguish details of diagrams and concept maps.

The power of an interactive notebook lies in the *in* and *out* activities, while the *through* activity functions primarily as an informational element. The activities on the left side of an interactive notebook (*in* and *out*) are meant to

- ◆ engage students with the new information included on the right side of the page (*through*),
- ◆ assess student understanding both prior to and after instruction,
- ◆ emphasize their thinking about thinking (meta-cognition), and
- ◆ create representations of their understanding that demonstrate learning (Figure 2).

In and *out* activities are distinguished by their purpose, not by the types of strategy employed. In fact, depending on the lesson goals, the *in* and *out* activities might use the same strategies. For example, students may be asked to review concepts from a previous lesson by contrasting and comparing during an *in* activity (e.g., mitochondria versus chloroplasts). Or, they may be asked to contrast and compare an *out* activity following a *through* lesson (e.g., plant versus animal cell structure).

Interactive notebooks are designed to foster thinking, writing, and documenting science in a variety of

FIGURE 1
Structural overview of an interactive notebook.

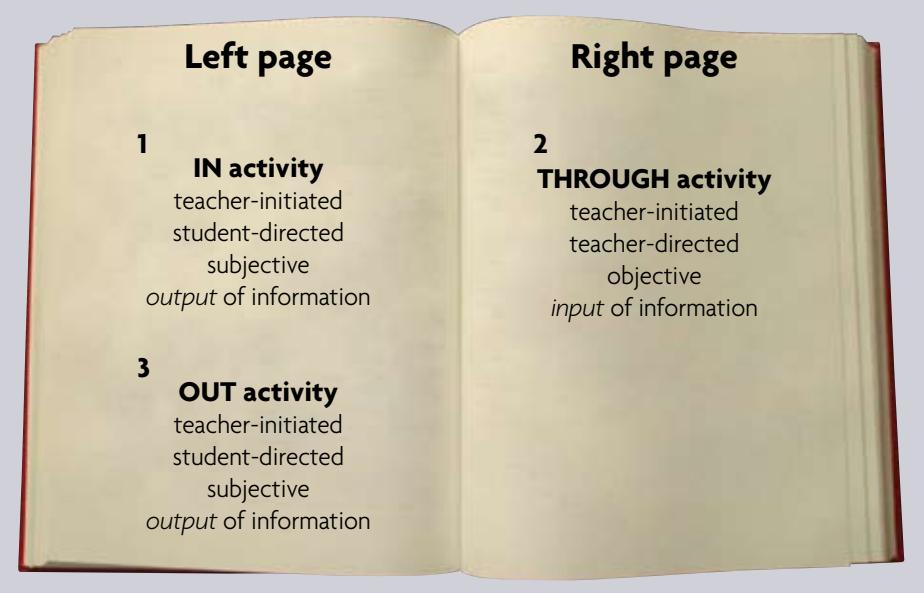


FIGURE 2

Example interactive notebook activities.

Left side

Examples of student-directed *in* and *out* activities:

- ◆ A drawing, photo, or magazine picture that illustrates a new concept or idea
- ◆ Questions, opinions, and personal reflections about the new information
- ◆ Predictions, contradictions, or quotations relating to the *through* activity
- ◆ Practice problems or inquiry activities
- ◆ Metaphors, analogies, acronyms, poems, songs, or cartoons that capture the new information or issue
- ◆ Connections between the information, and the student's life, another course, or the world
- ◆ Reflections on and summary of activities

Right side

Examples of teacher-directed *through* activities:

- ◆ Lecture, discussion, or reading notes
- ◆ Laboratory procedure or rough draft
- ◆ Film, video, and documentary facts or notes
- ◆ Small- or large-group discussion notes
- ◆ Collaborative group process summary
- ◆ Excerpts of a news or journal article
- ◆ Vocabulary exercises
- ◆ Worksheets and activities

formats. Most current, high-level strategies for inquiry science are easily adapted to the pages of an interactive notebook. These include Vee maps (Coffman and Riggs 2006; Roehrig, Luft, and Edwards 2001) or the science writing heuristic (Hand and Keys 1999), as well as note-taking systems such as Cornell notes (Pauk 2006).

Empowerment

At professional development programs across our large school district, we hear teachers speak of the interactive notebook being successfully implemented in all forms of high school science (e.g., biology, chemistry, physics, Earth science) at various levels (e.g., introductory, honors, advanced placement). While the depth, breadth, and general requirements of the strategies vary based on classroom and curricular factors, the cycle of *in-through-out* activities is consistent among all classes that have used it successfully.

Our personal classroom research indicates that interactive notebooks contribute to learning; students perceive them as tools that positively impact their ability to learn science; and the notebook increases their ability to organize the materials associated with learning. Figure 3 (p. 54) illustrates the positive relationship between student notebook scores and final course grades for a group of students over one quarter of instruction. Student grades increase proportionally to their notebook scores—we believe the interactive notebook accounts for a significant amount of increased student learning.

Interactive notebooks can empower students for learning science because they

- ◆ require active engagement with course concepts;
- ◆ incorporate self-reflection;
- ◆ allow students to express their personal values,

experiences, and feelings;

- ◆ teach organizational skills;
- ◆ create pride in and ownership of class work; and
- ◆ help students visualize and demonstrate understanding as evidence of self-regulation.

The *in* and *out* activities of the interactive notebook require students to actively engage with the language, concepts, and skills of the curriculum. Active learning requires self-reflection and the explicit integration of new knowledge and experiences. Learning environments that include these components demonstrate a strong relationship with student achievement (Tuan, Chin, and Shieh 2005).

Emphasizing self-reflection affords students the opportunity to identify weaknesses in their understanding and to establish the personal relevance of ideas presented in the *through* activities. The interactive notebook also provides opportunities for students to engage in self-reflective and collaborative experiences that allow for meaningful negotiations between peers and the teacher. Students within a group may differ in their interpretation of and subsequent conclusions about data. At this point, the teacher may act as facilitator to ensure that student consensus occurs.

While acquiring and integrating new knowledge and skills, students come to view the notebook as a personal, organized, and documented record of their understanding. Each student's notebook becomes a unique expression of their effort and creativity, as well as a demonstration of their pride in and ownership of their work. Working within the interactive notebook, students become aware of the knowledge and skills required to control their learning—an understanding that can contribute to confidence and feelings of empowerment (Pajares 1996).

Student perception of the notebook's importance for success is often based on the organizational components of the process (e.g., numbered pages, a table of contents, handouts affixed to pages, and left- and right-side activities). By knowing where to locate the materials needed for learning, students feel more confident in their ability to learn science. The following student quotation, representative of most student comments from our classroom research, highlights how a student's perception changes with use of an interactive notebook: "This is the only class I am organized in. I feel more organized than I ever have before."

Implementation

In the first days of the school year, each student is provided with (or must obtain) an identical spiral notebook. Once students have their interactive notebooks, the learning cycle begins and quickly becomes the daily routine. The structure of the *in* and *out* activities creates positive learning actions focused on sensemaking.

A strict format for introducing these tools should be designed in advance and followed closely. Our script includes the following rules:

- ◆ The process of an interactive notebook should be thoroughly explained to students, and a follow-up explanatory letter should be sent to parents.
- ◆ Only spiral bound notebooks should be used so the notebook can fold in half (no three-ring binders or bound-composition notebooks).
- ◆ A spiral notebook of about 70–100 pages is typi-

- cally needed for one semester of work.
- ◆ Notebooks are taken home or securely stored in the classroom.
- ◆ All students should number their pages the same way (left side: even, right side: odd).
- ◆ Pages should not be torn out of the notebook.
- ◆ Students should write only with pencil, as use of ink pens promotes the tearing out of pages when mistakes are made. If pens are allowed, the teacher must strongly enforce the rule on not tearing out pages.
- ◆ Glue or tape is used to attach handouts or photocopies to the spiral-bound pages.
- ◆ Covers and inside pages should be designed to reflect defined criteria such as laboratory format, instructions for equipment use, author page, grading rubrics, or assignment types.
- ◆ At the beginning of the notebook, pages are set aside for reference handouts and a table of contents.
- ◆ Score sheets, grading rubrics, and assignment types should be affixed to the same place in all notebooks.
- ◆ Colored pencils, scissors, and glue sticks or tape (double-sided works best) are required daily supplies that need to be brought to class or supplied by the teacher.

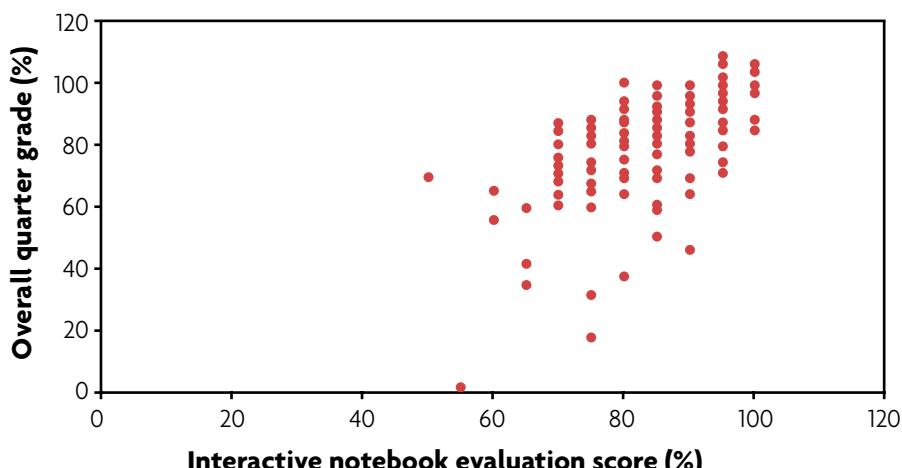
If multiple sheets need to be affixed to notebook pages at the beginning of a new unit, then students participate in a "glue festival" to attach handouts, labs, note outlines, and so on. For efficiency, students are given a limited amount of time (e.g., approximately 10 minutes). Trimming papers, gluing and coloring the various diagrams, and responding to the *in* and *out* prompts contribute to the degree of personal ownership and on-task behavior related to this learning strategy.

FIGURE 3

The impact of student notebooks.

Some exams included extra credit questions that resulted in final grade percentages higher than 100%.

Overall Grade as a Function of Interactive Notebook Score (n=156)



Assessment

Since nearly all student work is completed in the notebook, assessment is simplified. However, the teacher is not required to take home and read hundreds of notebooks. Figure 4 summarizes a variety of easily adaptable grading techniques. Scores can be recorded on a seating chart,

FIGURE 4

Assessment strategies for an interactive notebook.

Quick grades for *in* and *out* activities:

- ✓ The teacher walks around the room or students hold up notebooks for a visual inspection.
- ✓ The teacher uses the seating chart to record scores or stamps student notebooks individually to verify assignment completion.
- ✓ Students complete a simple teacher-designed self-evaluation form and hand it in.
- ✓ A 3-point rating scale is used for feedback (Wow = 3, What is expected = 2, Made an attempt = 1).

Summative evaluations:

- ✓ Completeness is evaluated two to four times a semester.
- ✓ Rubrics are created and used for grading paragraphs, summaries, and other more complex student work.
- ✓ At the end of semester, rubrics with a standard numerical score are used to measure quality, depth, effort, completeness, organization, and improvement.

within each student's notebook, or summarized on small slips of paper.

Conclusion

The power of an interactive notebook resides in students' engagement with sensemaking, metacognitive activities. Oftentimes students arrive to class and immediately launch into challenging new material, without setting the context by reflecting on previous classes. Similarly, classes sometimes end in midstream, finishing with the closing bell rather than with a reflection on the big ideas learned that day. *In* and *out* activities help teachers avoid these situations and provide an opportunity for students to reflect on their learning. While we suggest that the format of the interactive notebook be strictly defined, the utility of the design allows for the inclusion of a wide range of existing classroom activities.

Over the past few years, a good number of teachers from across our school district have been using action research in their classrooms to evaluate the impact of the interactive notebook. The response we hear is universally positive: These strategies are helping students engage in and learn science. Workshops for teachers on using the interactive notebook are very popular, and participating teachers who go on to implement interac-

Students treasure their interactive notebooks because they are personal and reflective; teachers value them because they represent a simple yet powerful method for helping students learn science.

tive notebooks comment that they will never go back to their previous strategies. Although the results of this research are incomplete, we find the endorsement by respected colleagues to be encouraging.

Working with the interactive notebook, students come to value sensemaking and become aware of the knowledge and skills required to control their learning. This in turn empowers students to become confident and focused, thereby improving their achievement. Students treasure their interactive notebooks because they are personal and reflective; teachers value them because they represent a simple yet powerful method for helping students learn science. ■

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Using Interactive Notebooks

Interactive notebooks are a tool to help organize science and social studies information for students as they go through the day. For instance, you may have students read an informational passage at one of the stations during the ELA block, and then have students write a summary of that information in the content integration time of the ELA block, and during science/social studies time, have students complete an activity related to the topic. Helping students organize the information from these 3 different parts of the day allows teachers to pull all pieces together for students, organize information for spiral review, and provide a record of student progress. Notebooks can be formatted in different ways, but should include 3 distinct sections: In, Out and Through.

In:

The “In” section is utilized to review concepts from previous lesson, introduce a new topic, or probe prior knowledge related to the new topic. You may choose to have students read a few paragraphs about a new topic, have them brainstorm with friends information related to a new topic, or have them summarize information that has been previously taught that might be related to a new topic.

Through:

The daily lesson is the through activity. This can include explicit instruction or discussion, engaging in a laboratory procedure, or viewing a film or clip during class.

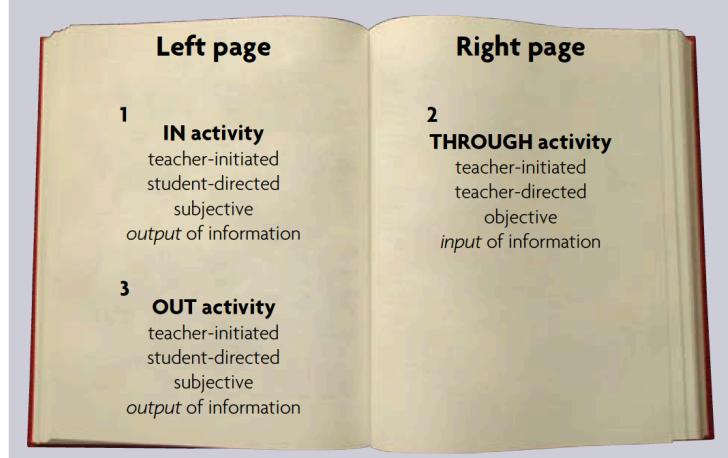
Out:

Out activities are teacher-initiated, but student directed. The teacher provides the prompt, but the students produce the answer, diagrams, and so on – allowing them to reflect on their learning. For example, after reviewing the water cycle, students might be asked to write about the journey of a water droplet through the water cycle in a narrative form. The more students process information, the more likely they are to understand and retain the information longer.

Important Things to Remember:

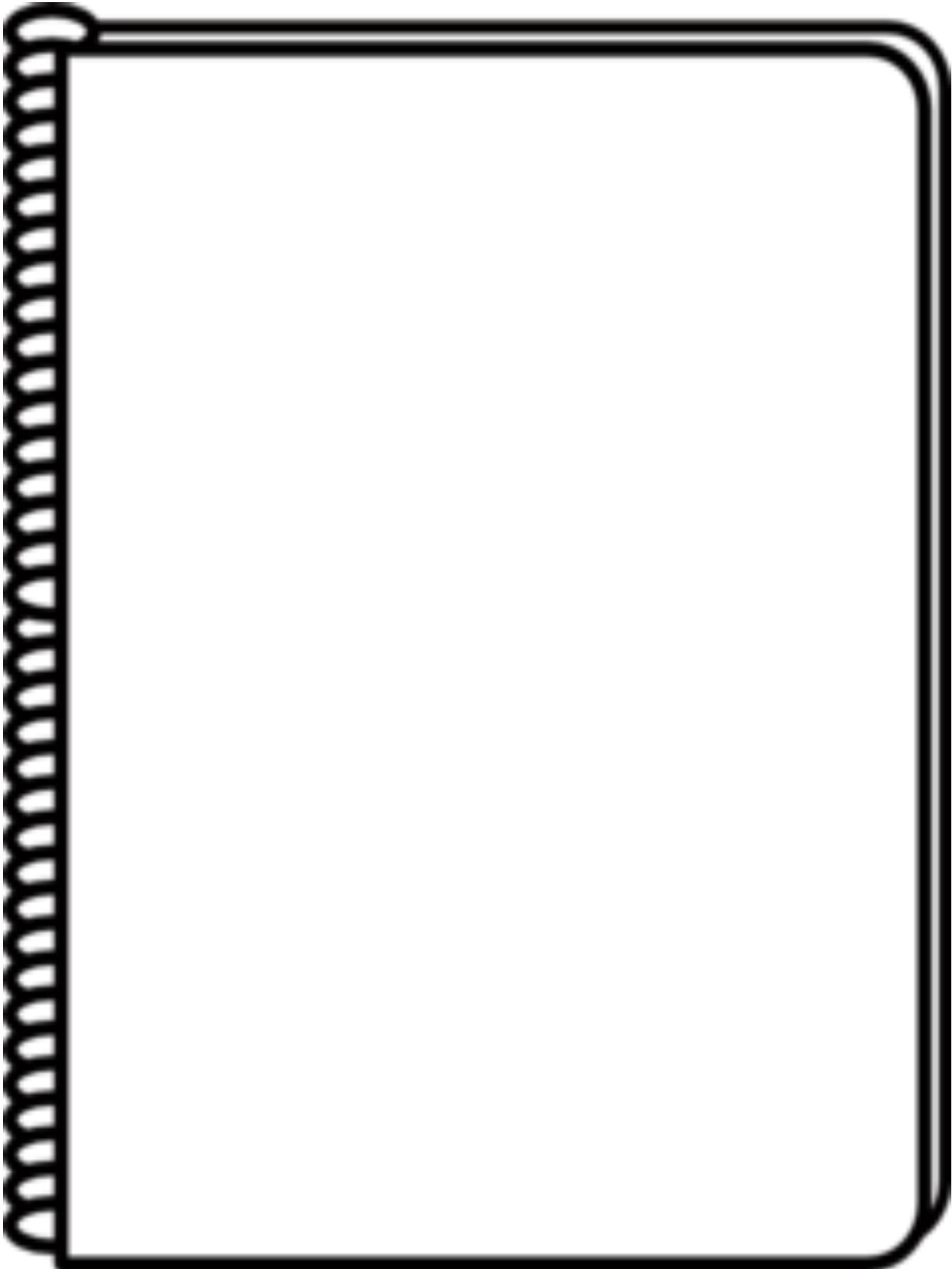
- Every notebook page should have a title, and should be recorded into the table of contents
- Number the pages sequentially, and ensure all students are numbering pages the same. When you go back to reference a topic, all students should be able to go back to the

Structural overview of an interactive notebook.



same page number. (Students, turn to page 12, and review the diagram of the water cycle)

- Do not remove any pages.
- Both right and left pages should be numbered. The first pages are reserved for a table of contents and instructions. Other information will be included as appendices.
- Use color to help organize your information
- Handouts, foldables, and other papers should be glued or taped in place. No staples.
- Notebooks should be graded weekly using self, peer, and teacher rubrics.



Interactive Notebook Score Sheet

Interactive Notebook Rubric

3	<ul style="list-style-type: none">• Notebook contents are complete, dated, labeled, and organized• Information on right-side and left-side topics correct• Displays superior understanding of content material• Well developed processing assignments that use color and effective diagrams• In-depth reflections about the work done
2	<ul style="list-style-type: none">• Notebook contents are almost complete, dated, labeled, and organized• Information on right-side and left-side topics are mostly correct• Displays limited concept of understanding of content material• Processing assignments incomplete or lack use of color and effective diagrams• Shows reflection about the work done
1	<ul style="list-style-type: none">• Notebook contents are incomplete or not dated, labeled, or organized• Notes are Cornell style, with few or no questions• Information on right-side and left-side topics are partially correct• Displays superficial understanding of content materials• Processing assignments show minimal processing of information• Shows little reflection about the work done

Interactive Notebook Rubric

3	<ul style="list-style-type: none">• Notebook contents are complete, dated, labeled, and organized• Information on right-side and left-side topics correct• Displays superior understanding of content material• Well developed processing assignments that use color and effective diagrams• In-depth reflections about the work done
2	<ul style="list-style-type: none">• Notebook contents are almost complete, dated, labeled, and organized• Information on right-side and left-side topics are mostly correct• Displays limited concept of understanding of content material• Processing assignments incomplete or lack use of color and effective diagrams• Shows reflection about the work done
1	<ul style="list-style-type: none">• Notebook contents are incomplete or not dated, labeled, or organized• Notes are Cornell style, with few or no questions• Information on right-side and left-side topics are partially correct• Displays superficial understanding of content materials• Processing assignments show minimal processing of information

- Shows little reflection about the work done

Interactive Notebook

Table of Contents

Interactive Notebook

Important Vocabulary

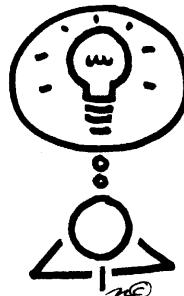
The Left Side (In & Out Activities)

The left page demonstrates your understanding of the information from the right side of the page. You work with the input and interact with the information in creative, unique and individual ways. The left side incorporates and reflects how you learn science as well as what you learn in science.

OUTPUT GOES ON THE LEFT SIDE!

Left side items include:

- Brainstorming
- Concept maps
- Riddles
- Your questions
- Pictographs
- Cartoons
- Venn Diagrams
- Data and Graphs you generate
- Analysis writing
- Reflecting writing
- Quick write
- Four square
- Mnemonics
- Significant statements
- Flowchart
- Graphic organizers
- Drawing
- Writing prompts



Things to Know About Left Sides

- Every left side pages gets used
- Always use color . . . It helps the brain learn and organize information
- Quizzes and tests are left side items
- Homework problems are left sides

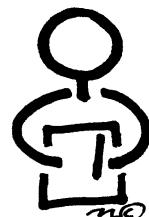
The Right Side (Through Activities)

The right page is a place where you put all information that we learn in class.

INPUT GOES ON THE RIGHT SIDE!

Right side items include:

- Notes
- Guest speaker Notes
- Vocabulary words and definitions
- Video and film Notes
- Teacher Questions
- Readings
- Sample Problems



Keys to Fantastic Right Sides

- Always start the page with the date and title at the top
- The right side is for writing down information you are given in class
- Use Cornell style notes for lecture, discussion, etc.
- Write up your student questions ASAP
- Write summaries at the bottom of each page of notes to reduce amount you have to study
- Use highlighting and color to make important info stand out



the

Unit Reflection:

At the end of each unit, you will be asked to reflect upon your work. This writing sample begins on the left side of the notebook and continues on the right. While there is no required length, high quality reflection uses 1-2 pages of the notebook. Attach the parent feedback form at the bottom of the right hand page as required.

High Quality Reflection:

Select up to 4 items that represent your best work, 2 from the left side, 2 from the right side. Address the specific reasons why you chose these items as your best work as well as what these assignments reflect about your skills as a scientist/engineer. Please note: Reasoning that it was “fun” or just that you liked it is NOT adequate reflection. Some ideas to consider include:

- What about the left side activities helped you better understand and recall the material?
- How did you use different levels of questions to help you reach a deeper level of understanding?
- What did you learn from the activity (both content-wise and learning-wise)?
- What aspects of the work were high quality and why?
- What you would do differently in the future and why?

Assessment of Skill Set:

High quality reflection also examines your skill as a student. Skills you might discuss are your organization, analysis, logic, creativity, thoroughness, accuracy of information, ability to put new information together, understanding new concepts, etc. What specific study skills have you employed to be successful in this class? What organizational strategies appear in the notebook helped you learn the most? Elaborate.

Assessment of Unit Work as a Whole:

Indicate your overall rating of your notebook based on the rubric. Justify your rating with specific examples. Has your notebook improved from past notebooks? Explain.

Looking to the Future:

What are your goals for improvement in this class? List specific areas in which you feel you need to improve or need help improving. What specific changes would you like to see in this class? Explain.

Dear Parent/Guardian:

This Interactive Notebook represents your student's learning to date and should contain the work your student has completed in science class. Please take some time to look at his or her Interactive Notebook, read the reflection written in the notebook, and respond to any of the following:

The work I found most interesting was _____ because...

What does the notebook reveal about your student's learning habits or talents?

My student's biggest concern about this class is...

Parent/Guardian Signature: _____ Date: _____

If you have immediate concerns, please feel free to contact me at:

Dear Parent/Guardian:

This Interactive Notebook represents your student's learning to date and should contain the work your student has completed in science class. Please take some time to look at his or her Interactive Notebook, read the reflection written in the notebook, and respond to any of the following:

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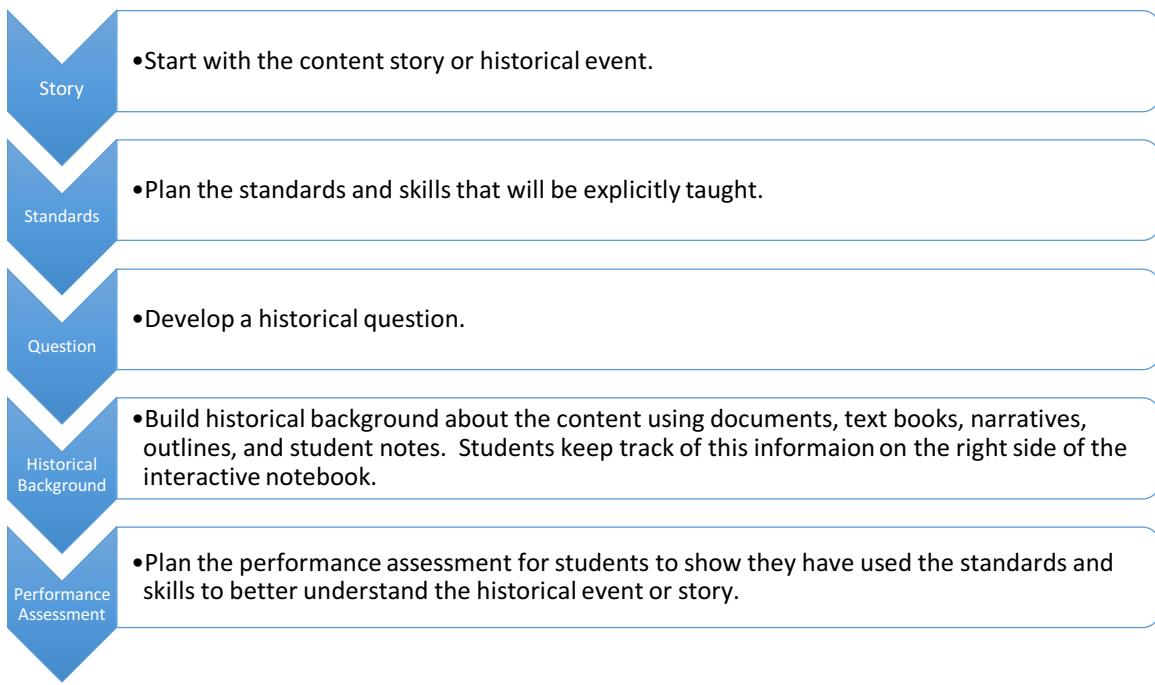
If you have immediate concerns, please feel free to contact me at:

Adult Input Page

To the adult: Completing this page will help your student to have a better understanding of the material learned in class. When a person teaches another, both learn, but the "teacher" often learns much more than the "student!" Your student should discuss and teach you a concept covered in class. Please write down one or two sentences explaining what YOU LEARNED from the discussion and tutoring.

Date	What I LEARNED	Adult Signature

Steps to Create an Integrated Social Studies Lesson



Example

1. The story of Betsy Ross and what flags symbolize
2. Standards
 - a. Draw Conclusions
 - b. Social Studies: Basis for the patriotic and citizenship traditions we have today (Flags and Flag Etiquette)
3. What does a flag say about you?
4. Students build background knowledge about flags and Betsy Ross by:
 - a. Reading short passages about Betsy Ross, flags, and flag etiquette.
 - b. Take notes from teacher inputs on the right side of their interactive notebook.
 - c. Distribute photos of different flags and have students in small groups draw conclusions about what they think the colors and symbols mean.
 - d. Use the USA flag and one other flag to teach what the colors and symbols mean on those flags.
5. On the left side of the interactive notebook, have students create a flag using colors and symbols to represent themselves. Have students write a brief description about their flag. Let students view each others flag and draw conclusions about their classmates based on only looking at the flag they created.

The Historical Thinking Skills of Sourcing and Corroboration

Sourcing

Sourcing is a skill historians use when they first encounter any type of document to determine who wrote the document, when it was written, as well as the circumstances of its creation.

Importance of Sourcing

Sourcing documents provides students important insights into primary or secondary sources before even reading it. The source of a document can change the entire meaning of what is behind the words, charts, graphs, or political cartoon. Before reading a document, students should ask

- Who wrote this?
- What is the author's perspective?
- Why was it written?
- When was it written?
- Where was it written?
- Is this source Reliable? Why? Why not?

Example



Source:

- Estelle Ishigo watercolor painting, "Home," Heart Mountain, December 1942
- Estelle Ishigo was a European American sent to Heart Mountain Relocation Camp due to her husband's Japanese heritage.

Possible Sourcing Questions about this painting.

1. Who created this painting?
2. Is the Artist a reliable source for what housing was like in the internment camps?
3. Why would this be an accurate depiction of an internment camp?
4. Where was she when this was created? Why is that important?

Corroboration

Corroboration asks students to consider details across multiple sources to determine points of agreement and disagreement. Anytime a student compares different sources that is considered to be corroboration. After reading or viewing two or more documents on the same subject students answer the following questions:

- After reading the first document, what does the other document say?
- Do these documents agree? Why or why not?
- Is one document more reliable than the other document?

Core Standards for Corroboration:

- **4th Grade:**
 - [CCSS.ELA-LITERACY.RI.4.6](#)
Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided
 - [CCSS.ELA-LITERACY.RI.4.9](#)
Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.
- **5th Grade:**
 - [CCSS.ELA-LITERACY.RI.5.6](#)
Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.
 - [CCSS.ELA-LITERACY.RI.5.9](#)
Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

Online Resources for Primary Sources

UEN. See image below

<http://onlinelibrary.uen.org/library>

Links to primary and secondary resources including the ones listed above as well as a couple others.

Library of congress

<https://www.loc.gov/>

National database of historical records including primary and secondary sources

Mountain West Digital Library

<http://mwdl.org/>

A central search portal for digital collections about the Mountain West region.

National Archives for Teachers

<http://www.archives.gov/education/>

Activities, tools, and a document search engine for using historical documents in lesson plans.

The screenshot shows the Utah's Online Library homepage. At the top left is the logo for "Utah's Online Library". At the top right is the "uen" logo with the text "A SERVICE OF THE UTAH EDUCATION NETWORK www.uen.org". Below the header are three main categories: "General Reference Collection", "Utah Collection", and "Additional Library Resources". The "Additional Library Resources" section contains links to various educational websites, with the "National Archives" link highlighted by a red rectangular box.

General Reference Collection	Utah Collection	Additional Library Resources
CultureGrams	Counties of Utah	ALA Websites for Kids
Digital Science Online	Deseret Morning News	DocsTeach
Digital Science Online - Spanish	Open Educational Resources	eThemes
EBSCO	Preschool Pioneer	Library of Congress
eMedia	The Salt Lake Tribune	Mountain West Digital Library
Gale Kids InfoBits Grades K-6	Utah State Archives	National Archives
Gale Research in Context Grades 6-8	Utah Collections Multimedia Encyclopedia	NROC HippoCampus
Gale Reference Collection Grades 9-12	Utah Digital Newspapers	Spanish Resources
LearningExpress Library	Utah's Local Newspapers	Thinkfinity
NoodleTools		
Soundzabound		
World Book Encyclopedia		

The 5 E Learning Cycle Model

An Inquiry Approach to Science Learning

Engagement	Object, event or question used to engage students. Connections facilitated between what students know and can do.
Exploration	Objects and phenomena are explored. Hands-on/lab-based activities with guidance.
Explanation	Students explain their understanding of their findings. Teacher elaborates on their findings with explicit instruction.
Elaboration	Activities allow students to apply concepts in context, and build on or extend understanding and skill.
Evaluation	Students assess their knowledge, skills and abilities. Activities permit evaluation of student development and lesson effectiveness.

Engage: Learner has a need to know, therefore, defines questions, issues or problems that relate to his/her world.

Learner	Teacher
Calls upon prior knowledge	Poses problems
Identifies problems to solve, decisions to be made, conflict to be resolved	Ask questions
Writes questions, problems, etc.	Assess prior knowledge

Explore: Learner gathers, organizes, interprets, analyzes, and evaluates data.

Learner	Teacher
Hypothesizes and Predicts	Shows students how to use new tools
Explores resources and materials	Guide students in taking more and more responsibility in investigations
Design and carry out investigations with care	Help design and carry out skills of recording, document, and drawing conclusions
Analyze data and draw conclusions	Help students form tentative explanations

Explain and Clarify: Learner clarifies understandings discovered, reaches conclusions or generalizations and communicates in varying modes and forms.

Learner	Teacher
Express ideas in a variety of ways: Interactive Notebooks	Provides feedback
Share understandings and feedback, while working collaboratively with other students	Explicitly teaches the new content/objective ensure student understanding
Offer explanations	
Tie findings from investigations to material explicitly taught by teacher	

Expand: Learner applies these conclusions or generalizations to solve problems, make decisions, perform tasks, resolve conflicts or make meaning

Learner	Teacher
Applies new knowledge	Provides feedback
Solves problems	Makes open suggestions
Seek further clarification	Asks new questions
Reflect with adults and peers	Ensures student reflection

CSD ELEMENTARY LAB REPORT EXPECTATIONS

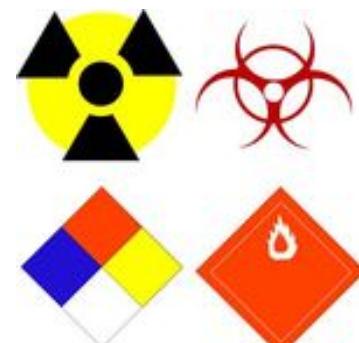
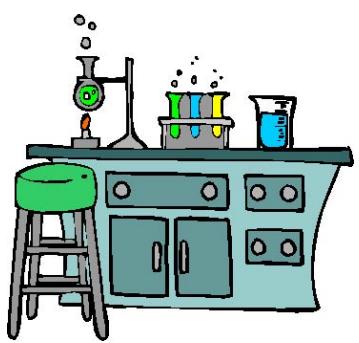
Introduction	TITLE Appropriately title your lab as per teacher instruction.
	PURPOSE This section should describe the purpose or the problem and be in paragraph form. A purpose should include any research information on the subject. It should also include relevant background information and why the lab activity is important. References should be cited when applicable.
	VARIABLES A variable is anything that you can change in an experiment. Only 1 variable should be changed during an experiment. The rest of the variables should be controlled. For example, if you are trying to determine which amount of fertilizer helps plants grow the tallest, your variable is the amount of fertilizer. The controls would be the amount of water, the type of plants, etc.
	HYPOTHESIS To construct a hypothesis, express what you think will be the effect of the independent variable on the dependent variable. This should be a cause and effect statement like the one below: <i>As the <u>independent variable</u> describe how you change it, the <u>dependent variable</u> will describe the effect.</i> Example: As the diameter of a cars tires increase, the maximum speed of the car will decrease.
	PROCEDURE This section should include a short paragraph describing the steps involved in the lab. Steps must be written in sentence form (no lists) and must not contain "we," "I," "us," etc.
Data & Observations	DATA COLLECTION This section should include all data collected. In most cases, data should be presented in a table. Make sure that all column headings include units for all data and calculations. Any qualitative (descriptive) observations should be written in complete sentences. Students should collect enough data to confidently say if their hypothesis is correct or incorrect. If data points are inconsistent (25, 3, 35) students shouldn't just take an average of those 3 numbers and draw a conclusion. Instead, they should notice that the 3 doesn't belong, and that they should continue to collect data until they see a pattern. 3 data points usually isn't enough data to determine an appropriate conclusion.
	DATA & GRAPHS This section should include graphs representing the data set, or graphs representing averages of the data set in a visual format. There are many types of graphs that could be used, such as bar graphs, histograms, scatter plots, line graphs, pie charts, etc. <i>Graphs should have an appropriate title, labeled axes, and display an appropriate scale.</i>
Conclusion	This section of your lab report is the concluding statement of your argument. It should be written in paragraph formatting and include the following: <ul style="list-style-type: none">• Restatement of the purpose of the lab• A brief account of what you did and how it came out• State whether hypothesis was correct or incorrect<ul style="list-style-type: none">○ Use data from the lab to support your claim○ Describe relationships that were observed• Discuss problems encountered in the experiment if appropriate• List suggestions for further study

ELEMENTARY LAB REPORT RUBRIC

Title	1 Point		0 Points	
	Appropriate title included in report.		No title included in report	
Introduction	3 Points	2 Points	1 Point	0 Points
	Introduction is in paragraph form, describes purpose, gives hypothesis, and shares detailed background information (at least 3 pieces).	Introduction is in paragraph form, describes purpose, and gives hypothesis, but does not provide enough background information.	Introduction is in paragraph form and either describes purpose or give hypothesis.	Introduction shares no relevant information or is not in paragraph form.
Procedure	3 Points	2 Points	1 Point	0 Points
	Steps are in paragraph form and written as full sentences (no listing), and there are no "I" statements.	Steps are in paragraph form and written as full sentences (no listing).	Steps are in paragraph form, but some procedures are listed.	Procedure exists entirely in list form, or lacks specificity.
Data	5 Points	3 Points	1 Point	0 Points
	Data tables and graph are included with all aspects labeled; information graphed is relevant, neat, and concise.	Data tables and graphs are included, but have missing labels, or lack of relevance and neatness.	Data table or graph not included.	No table or graphs included.
Conclusion	3 Points	2 Points	1 Point	0 Points
	Conclusion is in paragraph form with description of hypothesis result, reasons/explanation why results occurred using data points as evidence	Conclusion is in paragraph form with description of hypothesis results, reason results were occurred doesn't include appropriate data points	Conclusion is in paragraph form with description of hypothesis result included.	No appropriate conclusion given.

Science Lab Group Member Responsibilities

Assigned jobs should rotate between members of the lab group

Lead Engineer 	Assistant Engineer 	Safety Manager 	Materials Manager 
Lead Engineer 	Assistant Engineer 	Safety Manager 	Materials Manager 

Materials Manager Responsibilities <ul style="list-style-type: none"> • Responsible for the pre-lab check-out and the post-lab check-in of all lab materials • Ensure work area is clean • Appoint team members to help with cleanup when needed 	Safety Manager Responsibilities <ul style="list-style-type: none"> • Report any safety incidents or broken lab equipment to teacher • Ensure all group members are following lab safety procedures • Report any group problems to teacher 	Assistant Engineer Responsibilities <ul style="list-style-type: none"> • Check lab reports of other group members to ensure completion • Assist with group discussions about lab, hypotheses, processes, results, etc. 	Lead Engineer Responsibilities <ul style="list-style-type: none"> • Keep group on-task • Share summary of group work/results with the class • Guide group members to arrive at appropriate conclusion based on lab hypothesis, processes, results, etc.
Materials Manager Responsibilities <ul style="list-style-type: none"> • Responsible for the pre-lab check-out and the post-lab check-in of all lab materials • Ensure work area is clean • Appoint team members to help with cleanup when needed 	Safety Manager Responsibilities <ul style="list-style-type: none"> • Report any safety incidents or broken lab equipment to teacher • Ensure all group members are following lab safety procedures • Report any group problems to teacher 	Assistant Engineer Responsibilities <ul style="list-style-type: none"> • Check lab reports of other group members to ensure completion • Assist with group discussions about lab, hypotheses, processes, results, etc. 	Lead Engineer Responsibilities <ul style="list-style-type: none"> • Keep group on-task • Share summary of group work/results with the class • Guide group members to arrive at appropriate conclusion based on lab hypothesis, processes, results, etc.

Standards-Based Reporting

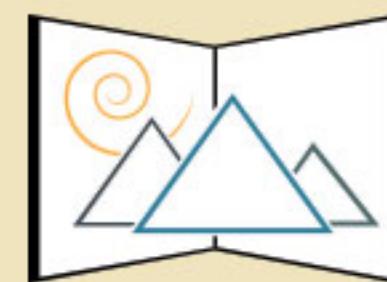


I-CANYONS
STUDENTS REPORTS

PRACTICE
PROGRESS
ACHIEVE

5th

Grade



CANYONS
School District

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Report Card	pages 3-4
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Purpose of the I-CANYONS Student Reports

The purpose is to communicate with parents and students about academic achievements, process of learning, and rate of progress. It is intended to inform students and parents or guardians about learning successes and to guide improvements when needed.

This report card is designed to communicate:

- Growth over time toward on grade level standards in language arts and math
- Mastery of academic standards in language arts and math
- Learning Skills that support academic success

The report card will consist of standards that students will be taught over the course of the school year and expected to master. Not all standards will be reported, only standards that are critical for communication with parents. Mastery can be achieved at any point during the school year.

Students will demonstrate their application of skills and understanding through class assessments, assignments, and projects.

Mastery of the standards is achieved when students demonstrate acquisition and application of knowledge and skills consistently over time to support future learning. A focus on mastery increases the likelihood of all students meeting high learning expectations.



Student Name: REPORT TEST

Student ID: 9999999

Academic Year: 2016-17

Grade: 05

I-CANYONS Student Reports 2016 - 2017

School Information

School: ELEMENTARY

Principal: PRINCIPAL

Phone #: (801) 555-5555

Teacher: Teacher

Attendance			
	PR1	PR2	EYS
Days in Term	0	0	0
Absent	0	0	0
Tardy	0	0	0

Key
PR1 : Progress Report 1
PR2 : Progress Report 2
EYS : End of Year Summary

Learning Skills Legend

C = Consistently

U = Usually

S = Sometimes

R = Rarely

PR1 PR2 EYS

Learning Skills

- Actively engaged in learning
- Respects rights, opinions, and property of others
- Cooperates with others
- Follows rules and procedures
- Completes tasks on time
- Works well independently
- Listens

Parent Information

This Report Card is designed to communicate:

- Mastery of academic standards in language arts, math and science;
- Learning skills that support academic success; and
- Growth over time on grade-level benchmarks in reading and math.

Mastery of the standards is achieved when students demonstrate that they can apply acquired knowledge and skills consistently over time to support future learning.

Students will demonstrate their application of skills and understanding through class assessments, assignments, projects and other indicators.

On the back page of this Report Card you will find the standards students will be taught and expected to master by the end of the year. Your child's progress toward mastery will be reported in November and March. The end of year summary in June will report if mastery has been achieved.

Clarifying Remarks (optional)

PR1 Comments

Progress Report 1 (PR1) & Progress Report 2 (PR2)

3 : On Track at this Time - Student is on track to master this standard by the end of the school year.

2 : Progressing - Student is making progress toward meeting the standard at this time; sometimes demonstrating skills needed to meet standards, at other times showing a lack of understanding or ability to apply the concept or skills.

1 : Insufficient Progress - Student is showing risk of not mastering the standard by the end of the year and is receiving intervention support.

* : Early Mastery - Student has already mastered this standard and is receiving support to extend learning.

Year End Summary (EYS)

3M : Mastered - Student has mastered this standard.

2NYM : Not Yet Mastered - Student has mastered some but not all of the skills necessary to consistently apply this standard to future learning.

1NYM : Not Yet Mastered - Student will require on-going intervention to master this standard.

Additional Information

: Modified Standard - Please see the attached report for additional information.

Blank : Not Yet Assessed

Language Arts

PR1

PR2

EYS

Speaking and Listening: I can...

- Engage effectively in conversations by coming prepared, following discussion rules, building upon other's ideas, drawing conclusions, and summarizing key ideas

--	--	--

Reading Literature and Informational Texts: I can...

- Ask and answer questions to demonstrate understanding by quoting accurately when referring to the text and drawing inferences
- Identify and summarize main ideas and key details
- Recognize and compare structures in texts (e.g., sequence, character, digital sources)
- Describe and analyze points of view

Foundational Skills: I can...

- Recognize and apply grade-level phonics in multisyllable words

--	--	--

- Read grade level text fluently with accuracy, appropriate rate, and expression to support comprehension

--	--	--

Writing: I can...

- Write opinion pieces using ordered reasons supported by facts and details
- Write informational texts to convey ideas with supporting details, quotations, and specific vocabulary
- Write narrative text to develop real or imagined experiences with a well-developed conclusion
- Use technology to produce and publish writing

Language: I can...

- Use grammar skills when writing or speaking
- Apply grade level spelling when writing
- Use context clues, affixes, and roots to determine the meaning of vocabulary words and phrases

Mathematics

PR1

PR2

EYS

Operation and Algebraic Thinking: I can...

- Solve numerical expressions using parentheses, brackets, or braces
- Create patterns and analyze their relationships

Numbers and Operations Base Ten: I can...

- Explain patterns in powers of ten
- Understand place value in the decimal system
- Fluently multiply multi-digit whole numbers
- Model and divide multi-digit whole numbers
- Model and calculate decimals to the hundredths place using the four operations

Numbers and Operations - Fractions: I can...

- Add and subtract fractions with unlike denominators
- Multiply fractions
- Divide fractions
- Solve word problems with fractions using multiplication

Measurement and Data: I can...

- Solve problems using measurement conversions
- Solve problems in all operations using line plots
- Understand and measure volume

Geometry: I can...

- Solve problems using points on a coordinate plane
- Classify 2D shapes by their properties

Science

PR1

PR2

EYS

Physical Science: I can...

- Describe the chemical and physical changes that occur in matter
- Describe the features of static and current electricity
- Explain the principals of magnetic fields and how they interact

Earth Science: I can...

- Explain how volcanoes, earthquakes, uplift, weathering, and erosion reshape Earth's surface

Life Science: I can...

- Explain how traits are inherited and how they affect survival

Student Name: REPORT TEST

Academic Standards**Progress Report 1 (PR1) & Progress Report 2 (PR2)**

3 : On Track at this Time - Student is on track to master this standard by the end of the school year.

2 : Progressing - Student is making progress toward meeting the standard at this time; sometimes demonstrating skills needed to meet standards, at other times showing a lack of understanding or ability to apply the concept or skills.

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Language Arts

PR1

PR2

EYS

Speaking and Listening: I can...

- Engage effectively in conversations by coming prepared, following discussion rules, building upon other's ideas, drawing conclusions, and summarizing key ideas

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-------------------------------------	-------------------------------------	-------------------------------------

Reading Literature and Informational Texts: I can...

- Ask and answer questions to demonstrate understanding by quoting accurately when referring to the text and drawing inferences
- Identify and summarize main ideas and key details
- Recognize and compare structures in texts (e.g., sequence, character, digital sources)
- Describe and analyze points of view

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Foundational Skills: I can...

- Recognize and apply grade-level phonics in multisyllable words

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-------------------------------------	-------------------------------------	-------------------------------------

- Read grade level text fluently with accuracy, appropriate rate, and expression to support comprehension

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-------------------------------------	-------------------------------------	-------------------------------------

Writing: I can...

- Write opinion pieces using ordered reasons supported by facts and details
- Write informational texts to convey ideas with supporting details, quotations, and specific vocabulary
- Write narrative text to develop real or imagined experiences with a well-developed conclusion
- Use technology to produce and publish writing

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Language: I can...

- Use grammar skills when writing or speaking
- Apply grade level spelling when writing
- Use context clues, affixes, and roots to determine the meaning of vocabulary words and phrases

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Mathematics

PR1

PR2

EYS

Operation and Algebraic Thinking: I can...

- Solve numerical expressions using parentheses, brackets, or braces
- Create patterns and analyze their relationships

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Numbers and Operations Base Ten: I can...

- Explain patterns in powers of ten
- Understand place value in the decimal system
- Fluently multiply multi-digit whole numbers
- Model and divide multi-digit whole numbers
- Model and calculate decimals to the hundredths place using the four operations

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Numbers and Operations - Fractions: I can...

- Add and subtract fractions with unlike denominators
- Multiply fractions
- Divide fractions
- Solve word problems with fractions using multiplication

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Measurement and Data: I can...

- Solve problems using measurement conversions
- Solve problems in all operations using line plots
- Understand and measure volume

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Geometry: I can...

- Solve problems using points on a coordinate plane
- Classify 2D shapes by their properties

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Science

PR1

PR2

EYS

Physical Science: I can...

- Describe the chemical and physical changes that occur in matter
- Describe the features of static and current electricity
- Explain the principals of magnetic fields and how they interact

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Earth Science: I can...

- Explain how volcanoes, earthquakes, uplift, weathering, and erosion reshape Earth's surface

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Life Science: I can...

- Explain how traits are inherited and how they affect survival

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

How to Mark the Report Card:

Yellow boxes indicate caution. The standard may not be ready to be assessed.

Checkmarks indicate standards are ready to be assessed and marked.

Learning Skills Rubric

Indicator	Consistently	Usually	Sometimes	Rarely
Actively engaged in learning	<p>$\geq 95\%$ of the time, the student can:</p> <ul style="list-style-type: none"> Participate interactively (saying, writing, doing) Show attention by listening (see below) and reacting appropriately 	<p>$\geq 80\%$ of the time, the student can:</p> <ul style="list-style-type: none"> Participate interactively (saying, writing, doing) Show attention by listening (see below) and reacting appropriately 	<p>$\geq 60\%$ of the time, the student can:</p> <ul style="list-style-type: none"> Participate interactively (saying, writing, doing) Show attention by listening (see below) and reacting appropriately 	<p>$\leq 59\%$ of the time, the student can:</p> <ul style="list-style-type: none"> Participate interactively (saying, writing, doing) Show attention by listening (see below) and reacting appropriately
Respects rights, opinions, and property of others	<p>$\geq 95\%$ of the time, the student can:</p> <ul style="list-style-type: none"> Keep my hands and feet to myself Be polite Value others' opinions Use materials appropriately 	<p>$\geq 80\%$ of the time, the student can:</p> <ul style="list-style-type: none"> Keep my hands and feet to myself Be polite Value others' opinions Use materials appropriately 	<p>$\geq 60\%$ of the time, the student can:</p> <ul style="list-style-type: none"> Keep my hands and feet to myself Be polite Value others' opinions Use materials appropriately 	<p>$\leq 59\%$ of the time, the student can:</p> <ul style="list-style-type: none"> Keep my hands and feet to myself Be polite Value others' opinions Use materials appropriately
Cooperates with others	<p>$\geq 95\%$ of the time, the student can:</p> <ul style="list-style-type: none"> Work together in a positive manner for a common purpose Compromise when needed to benefit the task Seek input from others to understand their point of view (e.g., taking turns, sharing, asking questions, listening to the response) 	<p>$\geq 80\%$ of the time, the student can:</p> <ul style="list-style-type: none"> Work together in a positive manner for a common purpose Compromise when needed to benefit the task Seek input from others to understand their point of view (e.g., taking turns, asking questions, listening to the response) 	<p>$\geq 60\%$ of the time, the student can:</p> <ul style="list-style-type: none"> Work together in a positive manner for a common purpose Compromise when needed to benefit the task Seek input from others to understand their point of view (e.g., taking turns, asking questions, listening to the response) 	<p>$\leq 59\%$ of the time, the student can:</p> <ul style="list-style-type: none"> Work together in a positive manner for a common purpose Compromise when needed to benefit the task Seek input from others to understand their point of view (e.g., taking turns, asking questions, listening to the response)
Follows rules and procedures	<p>$\geq 95\%$ of the time, the student can follow:</p> <ul style="list-style-type: none"> Directions the first time given 	<p>$\geq 80\%$ of the time, the student can follow:</p> <ul style="list-style-type: none"> Directions the first time given 	<p>$\geq 60\%$ of the time, the student can follow:</p> <ul style="list-style-type: none"> Directions the first time given 	<p>$\leq 59\%$ of the time, the student can follow:</p> <ul style="list-style-type: none"> Directions the first time given

Learning Skills Rubric

	<ul style="list-style-type: none"> • Class rules • School rules 	<ul style="list-style-type: none"> • Class rules • School rules 	<ul style="list-style-type: none"> • Class rules • School rules 	<ul style="list-style-type: none"> • Class rules • School rules
Indicator	Consistently	Usually	Sometimes	Rarely
Completes tasks on time	<p><u>>95% of the time, the student can complete in a timely manner:</u></p> <ul style="list-style-type: none"> • Assignments • Classroom activities • Homework 	<p><u>>80% of the time, the student can complete in a timely manner:</u></p> <ul style="list-style-type: none"> • Assignments • Classroom activities • Homework 	<p><u>>60% of the time, the student can complete in a timely manner:</u></p> <ul style="list-style-type: none"> • Assignments • Classroom activities • Homework 	<p><u><59% of the time, the student/ can complete in a timely manner:</u></p> <ul style="list-style-type: none"> • Assignments • Classroom activities • Homework
Works well independently	<p><u>>95% of the time, I can:</u></p> <ul style="list-style-type: none"> • Self monitor for understanding. • Ask for help when needed. • Work on my own, undistracted 	<p><u>>80% of the time, I can:</u></p> <ul style="list-style-type: none"> • Self monitor for understanding. • Clarify assignment, if needed. • Work on my own, undistracted 	<p><u>>60% of the time, I can:</u></p> <ul style="list-style-type: none"> • Self monitor for understanding. • Clarify assignment, if needed. • Work on my own, undistracted 	<p><u><59% of the time, I can:</u></p> <ul style="list-style-type: none"> • Self monitor for understanding. • Clarify assignment, if needed. • Work on my own, undistracted
Listens	<p><u>>95% of the time, I can:</u></p> <ul style="list-style-type: none"> • Sit up • Lean forward • Act interested/ask questions • Nod/note taking • Track the speaker with your eyes 	<p><u>>80% of the time, I can:</u></p> <ul style="list-style-type: none"> • Sit up • Lean forward • Act interested/ask questions • Nod/note taking • Track the speaker with your eyes 	<p><u>>60% of the time, I can:</u></p> <ul style="list-style-type: none"> • Sit up • Lean forward • Act interested/ask questions • Nod/note taking • Track the speaker with your eyes 	<p><u><59% of the time, I can:</u></p> <ul style="list-style-type: none"> • Sit up • Lean forward • Act interested/ask questions • Nod/note taking • Track the speaker with your eyes

Standards Based Reporting Teacher Resource Guide

There are a variety of resources available to elementary teachers to support Standards Based Grading. Each document provides ease in monitoring student achievement.

Reading Street Standards Alignment Document: <ul style="list-style-type: none"> Alignment of report card standards with skill description for weekly and unit assessments Identifies the number of test questions used to assess the skill. Details the alignment of test question(s) with the skill and standard. 	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="5">Weekly Test Item Analysis—Grade 3</th></tr> <tr> <th>TEST</th><th>SECTION</th><th>ITEMS</th><th>SKILL</th><th>COMMON CORE STATE STANDARD</th></tr> </thead> <tbody> <tr> <td rowspan="6" style="vertical-align: middle; text-align: center;">Weekly Test 9</td><td>Vocabulary</td><td>1–7</td><td>Understand and use new vocabulary</td><td>Language 4.a.</td></tr> <tr> <td>Phonics</td><td>8–12</td><td>Consonant blends (squ, spl, thr, str)</td><td>Foundational Skills 3.</td></tr> <tr> <td rowspan="3" style="vertical-align: middle; text-align: center;">Comprehension</td><td>13–15, 19, 20</td><td>Author's purpose</td><td>Informational Text 6.</td></tr> <tr> <td>16, 18</td><td>Fact and opinion, Generalize</td><td>Informational Text 1.</td></tr> <tr> <td>17</td><td>R Compare and contrast</td><td>Informational Text 6.</td></tr> <tr> <td>Written Response</td><td>Look Back and Write</td><td>Respond to literature</td><td>Literature 3. (Also Literature 1., Writing 4., 5., 10., Language 1., 2.)</td></tr> </tbody> </table>	Weekly Test Item Analysis—Grade 3					TEST	SECTION	ITEMS	SKILL	COMMON CORE STATE STANDARD	Weekly Test 9	Vocabulary	1–7	Understand and use new vocabulary	Language 4.a.	Phonics	8–12	Consonant blends (squ, spl, thr, str)	Foundational Skills 3.	Comprehension	13–15, 19, 20	Author's purpose	Informational Text 6.	16, 18	Fact and opinion, Generalize	Informational Text 1.	17	R Compare and contrast	Informational Text 6.	Written Response	Look Back and Write	Respond to literature	Literature 3. (Also Literature 1., Writing 4., 5., 10., Language 1., 2.)
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envision 2.0 Standard Alignment Document: <ul style="list-style-type: none"> Alignment of report card standards with topics. Details the alignment of test question(s) with the skill and standard. Connections are identified Topic-Lesson (ie. 13-3 =Topic 13-Lesson 3) 	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">3rd Grade Math District-Wide Standards-Based Benchmark</th></tr> <tr> <th rowspan="7" style="vertical-align: middle; text-align: center;">Operations & Algebraic Thinking</th> <th>Description</th> <th># of items</th> <th>Questions</th> </tr> </thead> <tbody> <tr> <td>Understand and represent multiplication (3.OA.1,3,4,5) (1.NBT.3)</td> <td>1</td> <td>14</td> </tr> <tr> <td>Understand and represent division (3.OA.2-6)</td> <td></td> <td></td> </tr> <tr> <td>Fluently multiply two one-digit numbers within 100 (3.OA.7)</td> <td></td> <td></td> </tr> <tr> <td>Fluently divide two one-digit numbers within 100 (3.OA.7)</td> <td>1</td> <td>15</td> </tr> <tr> <td>Solve two-step word problems involving addition and subtraction (3.OA.8 & 9)</td> <td></td> <td></td> </tr> <tr> <td>Solve two-step word problems involving addition and subtraction (3.OA.8 & 9)</td> <td></td> <td></td> </tr> </tbody> </table>	3rd Grade Math District-Wide Standards-Based Benchmark				Operations & Algebraic Thinking	Description	# of items	Questions	Understand and represent multiplication (3.OA.1,3,4,5) (1.NBT.3)	1	14	Understand and represent division (3.OA.2-6)			Fluently multiply two one-digit numbers within 100 (3.OA.7)			Fluently divide two one-digit numbers within 100 (3.OA.7)	1	15	Solve two-step word problems involving addition and subtraction (3.OA.8 & 9)			Solve two-step word problems involving addition and subtraction (3.OA.8 & 9)									
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Canvas Course Access

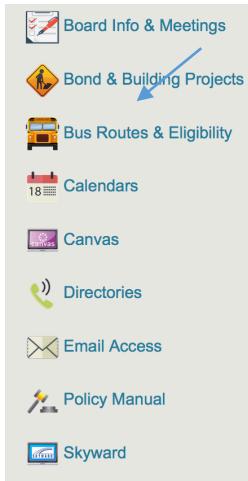
Elementary Standards Based Grading

Log into Canvas: <https://canyons.instructure.com>

District Home Page:

Please request to be added to the course through your school Ed Tech or email Monica.Lewis@canyondistrict.org

Login: CSD email username and password



Elementary Standards Based Grading Course

The screenshot shows the 'Elementary Standards-Based Grading' course on the Canvas platform. At the top left, there's a purple rectangular placeholder with a checkmark icon. Below it, a file named 'Elementary Standards-Based Grading' is listed under 'STANDARDS-101'. A blue arrow points from the sidebar to this file. The sidebar on the left includes links for Home, Modules (which is highlighted in blue), Files, Assignments, Quizzes, Announcements, Conferences, People, Grades, Outcomes, Syllabus, Collaborations, Discussions, Pages, and Settings. At the bottom of the sidebar, there's a list of books: 'A REPAIR KIT FOR GRADING 15 Fixes for Broken Grades' by Ken O'Connor and 'DEVELOPING STANDARDS-BASED REPORT CARDS' by Thomas R. Guskey and Jane M. Bailey.

Course Contents

Modules:

- Each module aligns with the *Repair Kit for Grading, 15 Fixes for Broken Grades*.
- Provides teachers with professional development to better understand standards based grading and practices.
- Assignments are aligned with each module (optional). Upon completion 1 licensure point will be awarded.

Files:

- **Grade Level Folders**
 - Report Card
 - Supporting documents for ELA/Math details the alignment of assessment question(s) with the skill and standard.
 - Document detailing how to mark report card.
- **Parent Teacher Conference Resources**
 - SEP agendas
- **Technology Supports**
 - Skyward guides
- **Special Education Documents**
- **Mastery Training Documents**

15 Fixes for Broken Grades

Fixes that Distort Achievement

1. Don't include student behaviors in grades; include only achievement (effort, participation, adherence to class rules, etc.).
2. Don't reduce marks on "work" submitted late; provide support the learner.
3. Don't give points for extra credit or use bonus points; seek only evidence that more work has resulted in a higher level of achievement.
4. Don't punish academic dishonesty with reduced grades; apply other consequences and reassess to determine actual level of achievement.
5. Don't consider attendance in grade determination; report absences separately.
6. Don't include group scores in grades; use only individual achievement.

Fixes for Low-Quality or Poorly Organized Evidence

7. Don't organize information in grading records by assessment methods or simply summarize into a single grade; organize and report evidence by standards/learning goals.
8. Don't assign grades using inappropriate or unclear performance standards; provide clear descriptions of achievement expectations.
9. Don't assign grades based on student's achievement compared to other students; compare each students' performance to present students.
10. Don't rely on evidence gathered using assessments that fail to meet standards of quality; rely only on quality assessments.

Fixes for Inappropriate Grade Calculation

11. Don't rely only on the mean; consider other measures such as median or mode and use professional judgment.
12. Don't include zeros in grade determination when evidence is missing or as punishment; use alternatives, such as reassessing to determine real achievement or use "I" for Incomplete or Insufficient Evidence.

Fixes to Support Learning

13. Don't use "checks for understanding" or practice (homework) to determine grades; use only evidence that demonstrates mastery.
14. Don't summarize evidence accumulated over time when learning is developmental and will grow with time and repeated opportunities; in those instances emphasize more recent achievement.
15. Don't leave students out of the grading process. Involve students; they can—and should—play key roles in assessment and grading that promote achievement.



Guidelines for using the *hashtag* on the Report Card

- The only standards with a *hashtag* are those in which learning opportunities are **modified** for a student.
 - ✓ The standards should align with the student's IEP
- General Education and Special Education teachers must discuss the standards represented with the *hashtag*.
- Student achievement towards standards marked a **3-On Track at this Time** or **3M-Mastered** will not have a *hashtag*. Mastery of a standard is accomplished without curriculum modifications.
- Teachers should meet with parents to explain the use of the *hashtag* to ensure information communicated to the parents.
 - ✓ Explain the modification being made to the standard (i.e. different level of work, modified curriculum, modified standard).
 - ✓ The Special Education Teacher should provide connections to the IEP progress report.

Accommodation	Modification
Accommodations are: <ul style="list-style-type: none">• adaptions in how a student accesses information and demonstrates learning• provided to give students equal access to learning opportunities to demonstrate knowledge	Modifications are: <ul style="list-style-type: none">• adaptions to a curriculum that may alter the grade-level expectations, but does not alter content standards.• changes to instructional level, performance criteria, and/or curriculum.
Example: A student is provided extended time to complete assignments or assessments.	Example: A third grade student receives reading instruction on a first grade reading level.

5th Grade I-CANyons Report Card Standards

Speaking and Listening

- Engage effectively in conversations by coming prepared, following discussion rules, building upon other's ideas, draw conclusions, and summarize key ideas SL.5.1

Reading Literature and Informational Texts:

- Ask and answer questions to demonstrate understanding by quoting accurately when referring to the text and drawing inferences RL.5.1, RI.5.1, SL.5.3
- Identify and summarize main ideas and key details RL.5.2, RI.5.2, SL.5.2
- Recognize and compare structures in texts (e.g., sequence, character, digital sources) RL.5.3, RL.5.5, RL.5.7, RI.5.3, RI.5.5, RI.5.7
- Describe and analyze points of view RL.5.6, RI.5.6

Foundational Skills:

- Recognize and apply grade-level phonics in multisyllable words RF.5.3
- Read grade level text fluently with accuracy, appropriate rate, and expression to support comprehension RF.5.4, RL.5.10, RI.5.10

Writing

- Write opinion pieces using ordered reasons supported by facts and details W.5.1
- Write informational texts to convey ideas with supporting details, quotations, and specific vocabulary W.5.2, W.5.7, RI.5.9, L.5.3
- Write narrative text to develop real or imagined experiences with a well-developed conclusion W.5.3, RL.5.9, L.5.6
- Use technology to produce and publish writing W.5.6, W.5.8

Language

- Use grammar skills when writing or speaking L.5.1, L.5.2
- Apply grade level spelling when writing L.5.2.e
- Use context clues, affixes, and roots to determine the meaning of vocabulary words and phrases L.5.4, R.L.5.4, R.I.5.4

5th Grade SuccessNet Skill Alignment to the I-CANYONS Report Card Standards

Category	I-CANYONS Report Card Standard	SuccessNet Skill Alignment
Speaking and Listening	Engage effectively in conversations by coming prepared, following discussion rules, building upon other's ideas, draw conclusions, and summarize key ideas SL.5.1	N/A
Reading Literature and Informational Texts	Ask and answer questions to demonstrate understanding by quoting accurately when referring to the text and drawing inferences RL.5.1, RI.5.1, SL.5.3	<ul style="list-style-type: none"> • Draw Conclusions • Fact and Opinion • Generalize
	Identify and summarize main ideas and key details RL.5.2, RI.5.2, SL.5.2	<ul style="list-style-type: none"> • Main Idea and Supporting Details • Theme
	Recognize and compare structures in texts (e.g., sequence, character, digital sources) RL.5.3, RL.5.5, RL.5.7, RI.5.3, RI.5.5, RI.5.7	<ul style="list-style-type: none"> • Cause and Effect • Character • Plot • Sequence • Setting • Graphic Sources • Compare and Contrast
	Describe and analyze points of view RL.5.6, RI.5.6	<ul style="list-style-type: none"> • Author's Purpose
Foundational Skills	Recognize and apply grade-level phonics in multisyllable words RF.5.3	<ul style="list-style-type: none"> • Word Analysis • Suffixes • Word Families • Complex Spelling Patterns
	Read grade level text fluently with accuracy, appropriate rate, and expression to support comprehension RF.5.4, RL.5.10, RI.5.10	N/A
Writing	Write opinion pieces using ordered reasons supported by facts and details W.5.1	N/A
	Write informational texts to convey ideas with supporting details, quotations, and specific vocabulary W.5.2, W.5.7, RI.5.9, L.5.3	N/A
	Write narrative text to develop real or imagined experiences with a well-developed conclusion W.5.3, RL.5.9, L.5.6	N/A
	Use technology to produce and publish writing W.5.6, W.5.8	N/A

Language	Use grammar skills when writing or speaking L.5.1, L.5.2	<ul style="list-style-type: none"> • Adjectives • Adverbs • Modifiers • Nouns • Prepositions • Sentences • Subject/Verb Agreement • Subjects and Predicates • Verbs
	Apply grade level spelling when writing L.5.2.e Use context clues, affixes, and roots to determine the meaning of vocabulary words and phrases L.5.4, R.L.5.4, R.I.5.4	N/A <ul style="list-style-type: none"> • Antonyms • Greek and Latin Roots • Homonyms • Prefixes and Suffixes • Words, Multiple Meaning • Words, Unfamiliar • Words, Unknown • Word Origins • Shades of Meaning • Word Endings • Compound Words • Idioms • Morphemes

5th Grade ELA Progression

**Mark a 3 on the report card
for the given term if the student shows mastery of the listed skills and standards.**

Speaking and Listening			
Standard	Term 1	Term 2 Assess standards below while maintaining Term 1 skills and standards	Term 3 Assess standards below while maintaining Term 1 & 2 skills and standards
Engage effectively in conversations by coming prepared, following discussion rules, building upon other's ideas, draw conclusions, and summarize key ideas SL.5.1	<ul style="list-style-type: none">Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.Follow agreed-upon rules for discussions and carry out assigned roles.	<ul style="list-style-type: none">Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.	<ul style="list-style-type: none">Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.

Reading Literature and Informational Skills

Standard	Term 1	Term 2 Assess standards below while maintaining Term 1 skills and standards	Term 3 Assess standards below while maintaining Term 1 & 2 skills and standards
Ask and answer questions to demonstrate understanding by quoting accurately when referring to the text and drawing inferences RL.5.1, RI.5.1, SL.5.3		To determine mastery on the reading literature and informational text standards, consider the amount of scaffolding the student requires. <ul style="list-style-type: none"> • If a student requires significant teacher and/or peer support to read and comprehend a grade-level text within the appropriate text complexity band, then the student would achieve a 1. • If a student is inconsistent in their skills and at times requires teacher or peer prompting or support to read and comprehend a grade-level text within the appropriate text complexity band, then the student would achieve a 2. • If a student is able to read and comprehend grade-level text within the appropriate text complexity band and requires no support to do so, then the student would achieve a 3. 	
Identify the main idea and key details RL.5.2, RI.5.2, SL.5.2			
Recognize and compare structures in texts (e.g., sequence, character, digital sources) RL.5.3, RL.5.5,			

RL.5.7, RI.5.3, RI.5.5,
RI.5.7

**Describe and analyze
points of view**

RL.5.6, RI.5.6

Foundational Skills			
Standard	Term 1	Term 2 Assess standards below while maintaining Term 1 skills and standards	Term 3 Assess standards below while maintaining Term 1 & 2 skills and standards
Recognize and apply grade-level phonics in multisyllable words RF.5.3	Read words involving: <ul style="list-style-type: none">• VCCV, VCV• Long Vowel Digraphs• Endings –ed, -ing• Contractions• R-Controlled Vowels• Final Syllables	Read words involving ALL of Term 1, plus: <ul style="list-style-type: none">• Compound Words• Prefixes• Suffixes	Read words involving ALL of Term 1 & 2, plus: <ul style="list-style-type: none">• Greek Word Parts• Latin Roots
Read grade level text fluently with accuracy, appropriate rate, and expression to support comprehension. RF.5.4, RL.5.10, RI.5.10	<ul style="list-style-type: none">• Read grade level text fluently with accuracy, rate of 114 wcpm, and expression to support comprehension.	<ul style="list-style-type: none">• Read grade level text fluently with accuracy, rate of 129 wcpm, and expression to support comprehension.	<ul style="list-style-type: none">• Read grade level text fluently with accuracy, rate of 143 wcpm, and expression to support comprehension.

Writing

Standard	Term 1	Term 2 Assess standards below while maintaining Term 1 skills and standards	Term 3 Assess standards below while maintaining Term 1 & 2 skills and standards
Write opinion pieces using ordered reasons supported by facts and details W.5.1	N/A	Student can do 2 of the following: <ul style="list-style-type: none"> • Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose. • Provide logically ordered reasons that are supported by facts and details. • Link opinion and reasons using words, phrases, and clauses (e.g., <i>consequently, specifically</i>). • Provide a concluding statement or section related to the opinion presented. 	Student can do ALL of the following: <ul style="list-style-type: none"> • Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose. • Provide logically ordered reasons that are supported by facts and details. • Link opinion and reasons using words, phrases, and clauses (e.g., <i>consequently, specifically</i>). • Provide a concluding statement or section related to the opinion presented.
Write informational texts to convey ideas with supporting	Student can do 3 of the following: <ul style="list-style-type: none"> • Introduce a topic clearly, provide a general observation 	Student can do ALL of the following: <ul style="list-style-type: none"> • Introduce a topic clearly, provide a general observation 	N/A

details, quotations, and specific vocabulary W.5.2, W.5.7, RI.5.9, L.5.3	<p>and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.</p> <ul style="list-style-type: none"> • Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. • Link ideas within and across categories of information using words, phrases, and clauses (e.g., <i>in contrast, especially</i>). • Use precise language and domain-specific vocabulary to inform about or explain the topic. • Provide a concluding statement or section related to the information or explanation presented. 	<p>and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.</p> <ul style="list-style-type: none"> • Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. • Link ideas within and across categories of information using words, phrases, and clauses (e.g., <i>in contrast, especially</i>). • Use precise language and domain-specific vocabulary to inform about or explain the topic. • Provide a concluding statement or section related to the information or explanation presented. 	
Write narrative text to develop real or imagined experiences with a well-developed conclusion W.5.3, RL.5.9, L.5.6	<p>Student can do 2 of the following:</p> <ul style="list-style-type: none"> • Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. • Use narrative techniques, such as dialogue, description, and pacing, to develop 	<ul style="list-style-type: none"> • 	<p>Student can do ALL of the following:</p> <ul style="list-style-type: none"> • Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. • Use narrative techniques, such as dialogue,

	<p>experiences and events or show the responses of characters to situations.</p> <ul style="list-style-type: none"> • Use a variety of transitional words, phrases, and clauses to manage the sequence of events. • Use concrete words and phrases and sensory details to convey experiences and events precisely. • Provide a conclusion that follows from the narrated experiences or events. 		<p>description, and pacing, to develop experiences and events or show the responses of characters to situations.</p> <ul style="list-style-type: none"> • Use a variety of transitional words, phrases, and clauses to manage the sequence of events. • Use concrete words and phrases and sensory details to convey experiences and events precisely. <p>Provide a conclusion that follows from the narrated experiences or events.</p>
<p>Use technology to produce and publish writing</p> <p>W.5.6, 5.8</p>	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. 	<ul style="list-style-type: none"> • With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.

Language			
Standard	Term 1	Term 2 Assess standards below while maintaining Term 1 skills and standards	Term 3 Assess standards below while maintaining Term 1 & 2 skills and standards
<p>Use grammar skills when writing or speaking.</p> <p>L.5.1, L.5.2</p>	<ul style="list-style-type: none"> • Use verb tense to convey various times, sequences, states, and conditions. • Recognize and correct inappropriate shifts in verb tense. 	<ul style="list-style-type: none"> • Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences. • Form and use the perfect (e.g., <i>I had walked; I have walked; I will have walked</i>) verb tenses. 	<ul style="list-style-type: none"> • Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences. • Use underlining quotation marks, or italics to indicate titles of works. • Use punctuation to separate items in a series. • Use a comma to separate an introductory element from the rest of the sentence. • Use a comma to set off the words <i>yes</i> and <i>no</i> (e.g., <i>Yes, thank you</i>), to set off a tag question from the rest of the sentence (e.g., <i>It's true, isn't it?</i>), and to indicate direct address (e.g., <i>Is that you, Steve?</i>).

<p>Apply spelling patterns when writing.</p> <p>L.5.2.e</p>	<p>For spelling patterns taught so far:</p> <ul style="list-style-type: none"> Spell grade-appropriate words correctly, consulting references as needed. 	<p>For spelling patterns taught so far:</p> <ul style="list-style-type: none"> Spell grade-appropriate words correctly, consulting references as needed. 	<p>For spelling patterns taught so far:</p> <ul style="list-style-type: none"> Spell grade-appropriate words correctly, consulting references as needed.
<p>Use context clues, affixes, and roots to determine the meaning of vocabulary words and phrases.</p> <p>L.5.4, R.L.5.4, R.I.5.4</p>	<ul style="list-style-type: none"> Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase. 	<ul style="list-style-type: none"> Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases. 	<ul style="list-style-type: none"> Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., <i>photograph</i>, <i>photosynthesis</i>).

Grade 5

Operations and Algebraic Thinking

- Solve numerical expressions using parentheses, brackets, or braces 5.OA.1
- Create patterns and analyze their relationships 5.OA.3

Numbers and Operations Base Ten

- Explain patterns in powers of ten 5.NBT. 1-2
- Understand place value in the decimal system 5.NBT. 3-4
- Fluently multiply multi-digit whole numbers 5.NBT.5
- Model and divide multi-digit whole numbers 5.NBT.6
- Model and calculate decimals to the hundredths place using the four operations 5.NBT.7

Numbers and Operations – Fractions

- Add and subtract fractions with unlike denominators 5.NF.1
- Multiply fractions 5.NF.4
- Divide fractions 5.NF.7
- Solve word problems with fractions using multiplication 5.NF.2,3,4,6,7

Measurement and Data

- Solve problems using measurement conversions 5.MD.1
- Solve problems in all operations using line plots 5.MD.2
- Understand and measure volume 5.MD.3-5

Geometry

- Solve problems using points on a coordinate plane 5.G.1-2
- Classify 2D shapes by their properties 5.G.3-4

5th Grade Math Progression

Mark a 3 on the report card

for the given term if the student shows mastery of the listed skills and standards.

Operations and Algebraic Thinking			
Standard	Term 1	Term 2	Term 3
Solve numerical expressions using parentheses 5.OA.1	• NA	• N/A	<ul style="list-style-type: none">Maintain mastery of Term 2 skills and standards.Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
Create patterns and analyze their relationships 5.OA.3	• NA	• N/A	<ul style="list-style-type: none">Maintain mastery of Term 2 skills and standards.Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. <i>For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6"</i>

			<i>and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.</i>
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Numbers and Operations Base Ten			
Standard	Term 1	Term 2	Term 3
Explain patterns in powers of ten 5.NBT. 1-2	<ul style="list-style-type: none"> Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1/10$ of what it represents in the place to its left. 	<ul style="list-style-type: none"> Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. 	<ul style="list-style-type: none"> Maintain mastery of Term 1 and Term 2 skills and standards.
Understand place value in the decimal system 5.NBT. 3-4	<ul style="list-style-type: none"> Read, write, and compare decimals to thousandths. <ul style="list-style-type: none"> a) Read and write decimals to thousandths using base-ten numerals, number names, and expanded 	<ul style="list-style-type: none"> Maintain mastery of Term 1 skills and standards. 	<ul style="list-style-type: none"> Maintain mastery of Term 1 skills and standards.

	<p>form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.</p> <p>b) Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.</p> <ul style="list-style-type: none"> • Use place value understanding to round decimals to any place. 		
Fluently multiply multi-digit whole numbers 5.NBT.5	<ul style="list-style-type: none"> • Fluently multiply multi-digit whole numbers using the standard algorithm. 	<ul style="list-style-type: none"> • Maintain mastery of Term 1 skills and standards. 	<ul style="list-style-type: none"> • Maintain mastery of Term 1 skills and standards.
Model and divide multi-digit whole numbers 5.NBT.6	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Maintain mastery of Term 1 skills and standards. • Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. 	<ul style="list-style-type: none"> • Maintain mastery of Term 1 skills and standards.

<p>Model and calculate decimals to the hundredths place using the four operations</p> <p>5.NBT.7</p>	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Multiply and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. • Add and subtract decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. 	<ul style="list-style-type: none"> • Maintain mastery of Term 1 and Term 2 skills and standards.
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Numbers and Operations - Fractions			
Standard	Term 1	Term 2	Term 3
<p>Add and subtract fractions with unlike denominators</p>	<ul style="list-style-type: none"> • NA 	Add and subtract fractions with unlike denominators (may include mixed numbers) by replacing given fractions with equivalent fractions in such a	Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in

5.NF.1		way as to produce an equivalent sum or difference of fractions with like denominators. <i>For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)</i>	such a way as to produce an equivalent sum or difference of fractions with like denominators. <i>For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)</i>
Multiply fractions 5.NF.4	• NA	• NA	<ul style="list-style-type: none"> • Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction <ul style="list-style-type: none"> a) Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. <i>For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)</i> b) Find the area of a rectangle with fractional side lengths by tiling it with unit

			<p>squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.</p>
<p>Divide fractions</p> <p>5.NF.7</p>	<ul style="list-style-type: none"> • NA 	<ul style="list-style-type: none"> • NA 	<ul style="list-style-type: none"> • Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. <ul style="list-style-type: none"> a) Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$

			<p><i>because $(1/12) \times 4 = 1/3$.</i></p> <p>b) Interpret division of a whole number by a unit fraction, and compute such quotients. <i>For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.</i></p> <p>c) Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. <i>For example, how much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally?</i></p>
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			<i>How many 1/3-cup servings are in 2 cups of raisins?</i>
Solve word problems with fractions using multiplication 5.NF.6	• NA	• NA	• Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

Measurement and Data			
Standard	Term 1	Term 2	Term 3
Solve problems using measurement conversions 5.MD.1	• NA	• NA	• Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these

			conversions in solving multi-step, real world problems.
Solve problems in all operations using line plots 5.MD.2	• NA	• NA	<ul style="list-style-type: none"> Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots. <i>For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally</i>
Understand and measure volume 5.MD.3-5	• NA	• NA	<ul style="list-style-type: none"> Recognize volume as an attribute of solid figures and understand concepts of volume measurement. <ol style="list-style-type: none"> A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. A solid figure which can be packed without gaps or overlaps using n unit

			<p>cubes is said to have a volume of n cubic units.</p> <ul style="list-style-type: none"> • Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units. • Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. <ul style="list-style-type: none"> a) Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.
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			<p>b) Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.</p> <p>c) Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.</p>
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Geometry			
Standard	Term 1	Term 2	Term 3
Solve problems using points on a coordinate plane	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> NA 	<ul style="list-style-type: none"> Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the

5.G.1-2			<p>intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).</p> <ul style="list-style-type: none"> • Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.
Classify 2D shapes by their properties	<ul style="list-style-type: none"> • NA 	<ul style="list-style-type: none"> • NA 	<ul style="list-style-type: none"> • Understand that attributes belonging to a category of two-dimensional figures also belong to all

5.G.3-4			<p>subcategories of that category. <i>For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.</i></p> <ul style="list-style-type: none">• Classify two-dimensional figures in a hierarchy based on properties.
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