



Standards-Based Progress Reports

“A Parent’s Guide”

Grade 5

Includes the following:

- Guide to Standards-Based Grading
- Standards for English/Language Arts (ELA)
- Standards for Mathematics
- Scope and Sequence for Science

Norwalk Public Schools

K-5 Guide to Standards Based Grading

(2016 - 2017)

In K-5 in the Norwalk Public Schools, we envision a student and parent-friendly progress report with clearly defined learning targets aligned to high quality, balanced assessments. Our Standards-Based Progress Report seeks to provide meaningful feedback so both students and parents can track student progress toward mastery of key academic concepts, reflect upon strengths and weaknesses, and identify multiple pathways to deeper learning.

What are standards?

Educational standards are the learning goals for what students should know and be able to do at each grade level. Educational standards help teachers ensure their students have the skills and knowledge they need to be successful, while also helping parents understand what is expected of their children. For example:

What is standards-based grading?

Standards-based grading communicates how students are performing on a set of clearly defined learning targets called standards. The standards we use are those identified by the Connecticut State Department of Education. The purpose of standards-based grading is to identify what a student knows, or is able to do, in relation to pre-established learning targets. This is in contrast to the practice of simply averaging grades/scores over the course of a grading period, which can mask what a student has learned, or not learned, in a specific content area in the current grade.

How does standards-based grading differ from traditional grading?

Unlike with traditional grading systems, a standards-based grading system measures a student's mastery of grade-level standards by prioritizing the most recent, consistent level of performance.

Thus a student who may have struggled at the beginning of the year, or when first encountering new material, may still be able to demonstrate mastery of key content/concepts by the end of a grading period.

In a traditional grading system, a student's performance for an entire grading period is averaged together. Early quiz scores that were low would be averaged together with more proficient performance later in the course, resulting in a lower overall grade than current performance indicates.

Standards-based report cards separate academic performance from work habits and behavior in order to provide students and parents a more accurate view of a student's progress in both academic and behavioral areas. Variables such as effort, participation, timeliness, cooperation, attitude and attendance are reported separately, not as an indicator of a student's academic performance.

What do each of the numbers in the 4 point scale indicate?

An Academic Rating of (1) would indicate minimal understanding of a standard. The student shows limited evidence of understanding the standard and therefore does not meet the standard. For example:

Students at this level are beginning to identify concepts, vocabulary and/or use skills. They are unable to make connections among ideas or extend the information. While it might be expected that all students are performing at this level when learning begins, subsequent practice should lead to increased levels of performance.

An Academic Rating of (2) would indicate that a student is approaching/developing an understanding of a standard, but still may be in need of additional instruction and/or support. For example:

The difference between an Academic Rating of (1) and an Academic Rating of (2) student is the ability to demonstrate some understanding. At an Academic Rating of (2), a student can correctly identify some concepts and/or vocabulary, and/or use some skills. Students at an Academic Rating of (2) do not make connections among ideas nor are they able to demonstrate their learning without support.

An Academic Rating of (3) would indicate that a student has independently met the standard. The student demonstrates mastery of the standard. For example:

An Academic Rating of (3) represents those students who are independently able to meet the standards. Students who are performing at an Academic Rating of (3) understand and use concepts and/or vocabulary and/or skills independently. These students understand not just the "what," but can correctly explain and/or demonstrate the "how" and "why."

An Academic Rating of (4) would indicate that a student exceeds a standard by consistently demonstrating an advanced level of understanding and/or the ability to apply his/her knowledge at a higher level (Webb's Depth of Knowledge 3 & 4). For example:

A student who is able to consistently perform at an Academic Rating of (4) is one who independently demonstrates extensions of his/her knowledge. S/He should be able to create analogies and/or find connections, integrating areas of study. Not all standards can be rated (4).

ELA

Standards for:
English/Language Arts
(ELA)

College and Career Readiness Anchor Standards for Reading

The K–5 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Key Ideas and Details

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 the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

Craft and Structure

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

Integration of Knowledge and Ideas

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

Range of Reading and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

Reading Standards: Foundational Skills (K–5)

RF

These standards are directed toward fostering students' understanding and working knowledge of concepts of print, the alphabetic principle, and other basic conventions of the English writing system. These foundational skills are not an end in and of themselves; rather, they are necessary and important components of an effective, comprehensive reading program designed to develop proficient readers with the capacity to comprehend texts across a range of types and disciplines. Instruction should be differentiated: good readers will need much less practice with these concepts than struggling readers will. The point is to teach students what they need to learn and not what they already know—to discern when particular children or activities warrant more or less attention.

College and Career Readiness Anchor Standards for Writing

The K-5 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Text Types and Purposes*

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
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.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
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.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

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 tasks, purposes, and audiences.

College and Career Readiness Anchor Standards for Speaking and Listening

The K-5 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Comprehension and Collaboration

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.
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas

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.
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

College and Career Readiness Anchor Standards for Language

The K–5 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Knowledge of Language

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.

Vocabulary Acquisition and Use

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

ELA Common Core State Standards and Long-Term Learning Targets Grade 5

CCS Standards: Reading - Literature	Long-Term Target(s)
RL.5.1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.	I can explain what a text says using quotes from the text. I can make inferences using quotes from 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.	I can determine a theme based on details in a literary text. I can summarize a literary text.
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).	I can compare and contrast literary elements using details from the text (two or more characters' points of view, settings, events).
RL.5.4. Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.	I can determine the meaning of literal and figurative language (metaphors and similes) in text.
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.	I can explain how a series of chapters, scenes of stanzas fit together to create a larger literary text.
RL.5.6. Describe how a narrator's or speaker's point of view influences how events are described.	I can describe how a narrator's point of view influences the description of events.
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).	I can analyze how visual and multimedia elements add to the meaning, tone or beauty of literary text.
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.	I can compare and contrast stories in the same genre for approach to theme and topic.
RL.5.10. 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.	I can read grade-level literary texts proficiently and independently.

CCS Standards: Reading – Foundational Skills	Long-Term Target(s)
<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>	<p>I can use a variety of strategies to read words.</p>
<p>RF.5.4. Read with sufficient accuracy and fluency to support comprehension.</p> <p>a. Read grade-level text with purpose and understanding.</p> <p>b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression.</p> <p>c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.</p>	<p>I can read 5th grade level texts accurately and fluently to make meaning.</p> <p>a. I can read 5th grade texts with purpose and understanding.</p> <p>b. I can read 5th grade texts with fluency.</p> <p>c. I can use clues in the text to check my accuracy.</p> <p>c. I can re-read to make sure that what I'm reading makes sense.</p>
Standards: Writing	Long-Term Target(s)
<p>W.5.1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.</p> <p>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.</p> <p>b. Provide logically ordered reasons that are supported by facts and details.</p> <p>c. Link opinion and reasons using words, phrases, and clauses (e.g., <i>consequently</i>, <i>specifically</i>).</p> <p>d. Provide a concluding statement or section related to the opinion presented.</p>	<p>I can write an opinion piece that supports a point of view with reasons and information.</p> <p>a. I can introduce the topic of my opinion piece.</p> <p>a. I can create an organizational structure in which I group together related ideas.</p> <p>b. I can identify reasons that support my opinion.</p> <p>c. I can use linking words to connect my opinion and reasons.</p> <p>d. I can construct a concluding statement or section for my opinion piece.</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>With support from adults, I can use technology to publish a piece of writing.</p> <p>I can use technology to collaborate with others to produce a piece of writing.</p> <p>I can use type a minimum of two pages in a single sitting.</p>
<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>I can build knowledge about multiple aspects of a topic by conducting research.</p> <p>I can use several sources to build my knowledge about 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>I can recall information that is important to a topic.</p> <p>I can document what I learn about a topic by taking notes.</p> <p>I can summarize or paraphrase information in my notes and in finished work.</p> <p>I can provide a list of sources I used to gather information.</p>
<p>W.5.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.</p> <p>a. Apply <i>grade 5 Reading standards</i> 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]”).</p> <p>b. Apply <i>grade 5 Reading standards</i> 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]”).</p>	<p>I can choose evidence from literary or informational texts to support analysis, reflection and research.</p> <p>a. (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]”)</p> <p>b. (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]”)</p>
<p>W.5.10. 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.</p>	<p>I can adjust my writing practices for different time frames, tasks, purposes, and audiences.</p>

CCS Standards: Language	Long-Term Target(s)
<p>L.5.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</p> <ol 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. Use verb tense to convey various times, sequences, states, and conditions. Recognize and correct inappropriate shifts in verb tense.* Use correlative conjunctions (e.g., <i>either/or, neither/nor</i>). 	<p>I can use grammar conventions to send a clear message to a reader or listener.</p> <ol style="list-style-type: none"> I can explain what conjunctions, prepositions, and interjections are and how they're used in sentences. I can use the perfect verb tenses. (e.g., <i>I had walked; I have walked; I will have walked</i>) I can use verb tense to convey various times, sequences, states, and conditions. I can identify an inappropriate shift in verb tense. I can correct an inappropriate shift in verb tense. I can use correlative conjunctions. (e.g., <i>either/or, neither/nor</i>)
<p>L.5.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <ol style="list-style-type: none"> 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>). Use underlining, quotation marks, or italics to indicate titles of works. Spell grade-appropriate words correctly, consulting references as needed. 	<p>I can use conventions to send a clear message to my reader.</p> <ol style="list-style-type: none"> I can use punctuation to separate items in a series. I can use a comma to separate an introductory word or phrase from the rest of the sentence. I can use a comma to set off the words <i>yes</i> and <i>no</i>. (e.g., <i>Yes, thank you</i>) I can use a comma to set off a tag question from the rest of the sentence. (e.g., <i>It's true, isn't it?</i>) I can use a comma to indicate direct address. (e.g., <i>Is that you, Steve?</i>) I can use underlining, quotation marks, or italics to indicate titles of works. I can spell grade-appropriate words correctly. I can consult reference materials to check and correct my spelling.
<p>L.5.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.</p> <ol style="list-style-type: none"> Expand, combine, and reduce sentences for meaning, reader/listener interest, and style. Compare and contrast the varieties of English (e.g., <i>dialects, registers</i>) used in stories, dramas, or poems. 	<p>I can use my knowledge of language and its conventions when writing, speaking, reading, or listening.</p> <ol style="list-style-type: none"> I can use a variety of sentence structures in my writing. I can compare and contrast the varieties of English (e.g., <i>dialects, registers</i>) used in different kinds of texts. (e.g., <i>stories, dramas, poems</i>)

Math

Standards for:
Mathematics

Grade 5 » Introduction

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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 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; and (3) developing understanding of volume.

- 1) 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) 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) 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.

Grade 5 Overview

Operations and Algebraic Thinking

- Write and interpret numerical expressions.
- Analyze patterns and relationships.

Number and Operations in Base Ten

- Understand the place value system.
- Perform operations with multi-digit whole numbers and with decimals to hundredths.

Number and Operations—Fractions

- Use equivalent fractions as a strategy to add and subtract fractions.
- Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

Measurement and Data

- Convert like measurement units within a given measurement system.
- Represent and interpret data.
- Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

Geometry

- Graph points on the coordinate plane to solve real-world and mathematical problems.
- Classify two-dimensional figures into categories based on their properties.

Mathematical Practices

- 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.

Math Common Core State Standards and Long-Term Learning Targets Grade 5

“Fluency” is defined as accuracy, efficiency, and flexibility. (Russell, S. J. (2000). Developing computational fluency with whole numbers in the elementary grades. *The New England Math Journal*, 32(2), 40-54.)

CCS Standards: Operations and Algebraic Thinking	Long-Term Target(s)
5.OA.1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	<p>I can communicate using mathematical symbols (parentheses, brackets, braces).</p> <p>I can evaluate expressions that involve parentheses, brackets, and/or braces.</p>
5.OA.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>I can translate words into expressions.</p> <p>I can explain the relationship between numbers in an expression (without any calculations).</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. <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>I can analyze patterns based on relationships and operations.</p> <p>I can create numeric patterns using given rules.</p> <p>I can graph ordered pairs on a coordinate plane.</p>
CCS Standards: Number and Operations in Base Ten	Long-Term Target(s)
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.	I can explain the relationship between digits in different decimal places.
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>I can explain the connection between the number of zeros in a number and the multiples of 10.</p> <p>I can explain the connection between the decimal point and multiplying/dividing by 10.</p> <p>I can use exponents to show powers of 10.</p>

<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>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>I can read, write, and compare decimals to the thousandths place.</p> <p>I can explain decimals using base-ten numerals, number names, and expanded form.</p> <p>I can compare decimals using the symbols $>$, $=$, and $<$</p>
<p>5.NBT.4. Use place value understanding to round decimals to any place.</p>	<p>I can round decimals to any given place.</p>
<p>5.NBT.5. Fluently multiply multi-digit whole numbers using the standard algorithm.</p>	<p>I can fluently multiply multi-digit whole numbers.</p>
<p>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>I can explain the relationship between multiplication and division.</p> <p>I can find quotients using a variety of strategies.</p> <p>I can prove my calculations are correct using equations, rectangular arrays, and/or area models.</p>
<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>I can add, subtract, multiply, and divide decimals using a variety of strategies.</p> <p>I can explain the relationship between addition and subtraction.</p> <p>I can prove my calculations are correct using models.</p> <p>I can explain my reasoning and solutions to decimal problems in writing.</p>
<p>CCS Standards: Number and Operations – Fractions</p>	<p>Long-Term Target(s)</p>
<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. <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>I can add and subtract fractions and mixed numbers with unlike denominators.</p>

<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 to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. <i>For example, recognize an incorrect result $2/5 + 1/2 = 3/7$, by observing that $3/7 < 1/2$.</i></p>	<p>I can solve word problems involving addition and subtraction of fractions (with unlike denominators).</p> <p>I can represent the context of a fraction word problem using a variety of models.</p> <p>I can use benchmark fractions and number sense to check for reasonable answers.</p>
<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. <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>I can explain the relationship between fractions and division.</p> <p>I can solve word problems involving division and express my answers in fraction form.</p> <p>I can represent the context of a fraction word problem using a variety of models.</p>
<p>5.NF.4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.</p> <p>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></p> <p>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.</p>	<p>I can multiply a whole number or fraction by a fraction.</p> <p>I can prove my product is correct using visual models.</p> <p>I can solve word problems involving multiplication by fractions.</p> <p>I can find the area of a rectangle (with fractional side lengths) using a variety of strategies.</p>

<p>5.NF.5. Interpret multiplication as scaling (resizing), by:</p> <p>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.</p> <p>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.</p>	<p>I can compare the size of a product to the size of its factors (without performing multiplication).</p> <p>I can explain the result of multiplying a given number by a fraction greater than and less than 1.</p>
<p>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.</p>	<p>I can solve word problems involving multiplication by fractions and mixed numbers.</p> <p>I can represent the context of a fraction word problem using a variety of models.</p>

<p>5.NF.7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.¹</p> <p>a. 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. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ 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? How many $1/3$-cup servings are in 2 cups of raisins?</i></p> <p>(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.)</p>	<p>I can explain the relationship between multiplication, division, and fractions.</p> <p>I can represent the context of a word problem (involving division of fractions) using models and equations.</p> <p>I can solve word problems involving division of fractions using a variety of strategies.</p>
<p>CCS Standards: Measurement and Data</p>	<p>Long-Term Target(s)</p>
<p>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.</p>	<p>I can convert among units within one measurement system (metric, standard, time, etc.).</p> <p>I can solve measurement word problems involving conversions.</p> <p>I can represent the context of the measurement word problem using a variety of models.</p>

<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>I can make a line plot to display a data set involving fractions of a measurement unit.</p> <p>I can use information from a line plot to solve problems.</p>
<p>5.MD.3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.</p> <p>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.</p> <p>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>	<p>I can explain the concept of volume using unit cubes.</p> <p>I can explain the difference between the volumes of two- and three-dimensional (solid) figures.</p>
<p>5.MD.4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.</p>	<p>I can measure the volume of objects using a variety of methods and the appropriate units.</p>
<p>5.MD.5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.</p> <p>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.</p> <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>	<p>I can explain the relationship between the concepts of volume, multiplication, and addition.</p> <p>I can solve real-word problems involving volume.</p> <p>I can represent the context of a volume problem using models.</p>

CCS Standards: Geometry	Long-Term Target(s)
<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>I can describe a coordinate system using correct vocabulary (axes, origin, points, plane, coordinates, quadrants).</p>
<p>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>I can graph points on a coordinate plane.</p> <p>I can represent the context of a problem using a coordinate plane.</p> <p>I can explain the meaning of the graph within the context of a real-world problem.</p>
<p>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 squares are rectangles, so all squares have four right angles.</p>	<p>I can reason using the attributes and categories of geometric figures.</p>
<p>5.G.4. Classify two-dimensional figures in a hierarchy based on properties.</p>	<p>I can classify shapes based on properties.</p>

Science

Content Standards

For

Science

Grade 5 Core Themes, Content Standards and Expected Performances	
Content Standards	Expected Performances
<p>Physical Science</p> <p><i>Energy Transfer and Transformations – What is the role of energy in our world?</i></p> <p>5.1 - Sound and light are forms of energy.</p> <ul style="list-style-type: none"> ◆ Sound is a form of energy that is produced by the vibration of objects and is transmitted by the vibration of air and objects. ◆ Light is a form of energy that travels in a straight line and can be reflected by a mirror, refracted by a lens, or absorbed by objects. 	<p>B 17. Describe the factors that affect the pitch and loudness of sound produced by vibrating objects.</p> <p>B 18. Describe how sound is transmitted, reflected and/or absorbed by different materials.</p> <p>B 19. Describe how light is absorbed and/or reflected by different surfaces.</p>
<p>Life Science</p> <p><i>Structure and Function – How are organisms structured to ensure efficiency and survival?</i></p> <p>5.2 - Perceiving and responding to information about the environment is critical to the survival of organisms.</p> <ul style="list-style-type: none"> ◆ The sense organs perceive stimuli from the environment and send signals to the brain through the nervous system. 	<p>B 20. Describe how light absorption and reflection allow one to see the shapes and colors of objects.</p> <p>B 21. Describe the structure and function of the human senses and the signals they perceive.</p>
<p>Earth Science</p> <p><i>Earth in the Solar System – How does the position of Earth in the solar system affect conditions on our planet?</i></p> <p>5.3 - Most objects in the solar system are in a regular and predictable motion.</p> <ul style="list-style-type: none"> ◆ The positions of the Earth and moon relative to the sun explain the cycles of day and night, and the monthly moon phases. 	<p>B 22. Explain the cause of day and night based on the rotation of Earth on its axis.</p> <p>B 23. Describe the monthly changes in the appearance of the moon, based on the moon's orbit around the Earth.</p>
<p><i>Science and Technology in Society – How do science and technology affect the quality of our lives?</i></p> <p>5.4 - Humans have the capacity to build and use tools to advance the quality of their lives.</p> <ul style="list-style-type: none"> ◆ Advances in technology allow individuals to acquire new information about the world. 	<p>B 24. Compare and contrast the structures of the human eye with those of the camera.</p> <p>B 25. Describe the uses of different instruments, such as eye glasses, magnifiers, periscopes and telescopes, to enhance our vision.</p>