



Standards-Based Progress Reports

“A Parent’s Guide”

Grade 4

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 4

CCS Standards: Reading - Literature	Long-Term Target(s)
RL.4.1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.	I can explain what a text says using specific details from the text. I can make inferences using specific details from text.
RL.4.2. Determine a theme of a story, drama, or poem from details in the text; summarize the text.	I can determine the theme of a story, drama, or poem. I can summarize a story, drama, or poem.
RL.4.3. 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).	I can describe a story's character, setting, or events using specific details from the text.
RL.4.4. 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).	I can determine word meaning in a text. I can identify word meaning alluding from classic mythology.
RL.4.5. 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.	I can use literary terms to describe parts of a story, poem, or drama (e.g., verse, rhythm, meter, casts of characters, settings, descriptions, dialogue, stage directions). I can describe the differences in structure of poems, drama and prose.
RL.4.6. Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.	I can compare and contrast different narrators' points of view.
RL.4.7. 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.	I can make connections between a text and the text's visuals.
RL.4.9. 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.	I can compare how similar ideas and stories are portrayed between different cultures.
RL.4.10. 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.	I can read grade-level literary texts proficiently and independently. I can read above-grade literary texts with scaffolding and support.

CCS Standards: Reading – Informational Text	Long-Term Target(s)
RI.4.1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.	<p>I can explain what a text says using specific details from the text.</p> <p>I can make inferences using specific details from the text.</p>
RI.4.2. Determine the main idea of a text and explain how it is supported by key details; summarize the text.	<p>I can determine the main idea using specific details from the text.</p> <p>I can summarize informational or persuasive text.</p>
RI.4.3. 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.	I can explain the main points in a historical, scientific, or technical text, using specific details in the text.
RI.4.4. 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>I can determine the meaning of academic words or phrases in an informational text.</p> <p>I can determine the meaning of content words or phrases in an informational text.</p>
RI.4.5. 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.	I can describe the organizational structure in informational or persuasive text (chronology, comparison, cause/effect, problem/solution).
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.	I can compare and contrast a first-hand and second-hand account of the same event or topic.
RI.4.7. 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.	<p>I can interpret information presented through charts, graphs, timelines, or websites.</p> <p>I can explain how visual or graphic information helps me understand the text around it.</p>
RI.4.8. Explain how an author uses reasons and evidence to support particular points in a text.	I can explain how an author uses reasons and evidence to support particular points in a text.
RI.4.9. Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.	I can accurately synthesize information from two texts on the same topic.

<p>W.4.2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</p> <ol style="list-style-type: none"> 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., <i>another, for example, also, because</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>I can write informative/explanatory texts that convey ideas and information clearly.</p> <ol style="list-style-type: none"> a. I can introduce a topic clearly. a. I can group supporting facts together about a topic in an informative/explanatory text a. I can use text, formatting, illustrations, and multi-media to support my topic. b. I can develop the topic with facts, definitions, details, and quotations. c. I can use linking words and phrases to connect ideas within categories of information. (e.g., <i>another, for example, also, because</i>) d. I can use precise, content-specific language/vocabulary to inform or explain about a topic. e. I can construct a concluding statement or section of an informative/explanatory text.
<p>W.4.3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.</p> <ol style="list-style-type: none"> 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. 	<p>I can write narrative text about real or imagined experiences or events.</p> <ol style="list-style-type: none"> a. I can establish a situation. a. I can introduce the narrator and/or characters of my narrative. a. I can organize events in an order that makes sense in my narrative. a. I can use dialogue and descriptions to show the actions, thoughts and feelings of my characters. b. I can use transitional words and phrases to show the sequence of events in a narrative text. c. I can use sensory details to describe experiences and events precisely. d. I can write a conclusion to my narrative.
<p>W.4.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.</p>	<p>I can produce writing that is appropriate to task, purpose, and audience.</p>
<p>W.4.5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.</p>	<p>With support from peers and adults, I can use the writing process to produce clear and coherent writing (with support):</p>

CCS Standards: Speaking & Listening	Long-Term Target(s)
<p>SL.4.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 4 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>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.</p> <p>d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.</p>	<p>I can effectively engage in discussions with diverse partners about 4th grade topics and texts.</p> <p>I can express my own ideas clearly during discussions.</p> <p>I can build on other's ideas during discussions.</p> <p>a. I can prepare myself to participate in discussions.</p> <p>a. I can draw on information to explore ideas in the discussion.</p> <p>b. I can follow our class norms when I participate in a conversation.</p> <p>c. I can ask questions that are on the topic being discussed.</p> <p>c. I can answer questions about the topic being discussed.</p> <p>c. I can connect my questions and responses to what others say.</p> <p>d. After a discussion, I can explain what I understand about the topic being discussed.</p>
<p>SL.4.2. Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.</p>	<p>I can paraphrase portions of a text that is read aloud to me.</p> <p>I can paraphrase information that is presented in visual media and/or numbers.</p>
<p>SL.4.3. Identify the reasons and evidence a speaker provides to support particular points.</p>	<p>I can identify the reason a speaker provides to support a particular point.</p> <p>I can identify evidence a speaker provides to support particular points.</p>
<p>SL.4.4. 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.</p>	<p>I can report on a topic or text using organized facts and details.</p> <p>I can speak clearly and at an understandable pace.</p>
<p>SL.4.5. Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.</p>	<p>I can add audio or visual support to a presentation in order to enhance main ideas or themes.</p>

<p>L.4.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.</p> <ol style="list-style-type: none"> Choose words and phrases to convey ideas precisely.* Choose punctuation for effect.* Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion). 	<p>I can express ideas using carefully chosen words.</p> <p>I can choose punctuation for effect in my writing.</p> <p>I use formal English when appropriate.</p>
<p>L.4.4. 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.</p> <ol style="list-style-type: none"> Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., <i>telegraph</i>, <i>photograph</i>, <i>autograph</i>). 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>I can use a variety of strategies to determine the meaning of words and phrases.</p> <ol style="list-style-type: none"> I can use context to help me to determine what a word or phrase means. I can use common affixes and roots as clues to help me determine what a word means. (e.g., <i>telegraph</i>, <i>photograph</i>, <i>autograph</i>) I can use resource materials (glossaries, dictionaries, thesauruses) to help me determine the pronunciation and meaning of key words and phrases.
<p>L.4.5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.</p> <ol style="list-style-type: none"> Explain the meaning of simple similes and metaphors (e.g., <i>as pretty as a picture</i>) in context. Recognize and explain the meaning of common idioms, adages, and proverbs. Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms). 	<p>I can analyze figurative language, word relationships, and slight differences in word meanings.</p> <ol style="list-style-type: none"> I can explain the meaning of simple similes in context. I can explain the meaning of simple metaphors in context. I can explain the meaning of common idioms. I can explain the meaning of common adages. I can explain the meaning of common proverbs. I can name synonyms and antonyms for vocabulary words.

Math

Standards for:
Mathematics

Grade 4 » Introduction

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In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

- 1) Students generalize their understanding of place value to 1,000,000, understanding the relative sizes of numbers in each place. They apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations, in particular the distributive property, as they develop, discuss, and use efficient, accurate, and generalizable methods to compute products of multi-digit whole numbers. Depending on the numbers and the context, they select and accurately apply appropriate methods to estimate or mentally calculate products. They develop fluency with efficient procedures for multiplying whole numbers; understand and explain why the procedures work based on place value and properties of operations; and use them to solve problems. Students apply their understanding of models for division, place value, properties of operations, and the relationship of division to multiplication as they develop, discuss, and use efficient, accurate, and generalizable procedures to find quotients involving multi-digit dividends. They select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context.
- 2) Students develop understanding of fraction equivalence and operations with fractions. They recognize that two different fractions can be equal (e.g., $15/9 = 5/3$), and they develop methods for generating and recognizing equivalent fractions. Students extend previous understandings about how fractions are built from unit fractions, composing fractions from unit fractions, decomposing fractions into unit fractions, and using the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number.
- 3) Students describe, analyze, compare, and classify two-dimensional shapes. Through building, drawing, and analyzing two-dimensional shapes, students deepen their understanding of properties of two-dimensional objects and the use of them to solve problems involving symmetry.

Grade 4 Overview

Operations and Algebraic Thinking

- Use the four operations with whole numbers to solve problems.
- Gain familiarity with factors and multiples.
- Generate and analyze patterns.

Number and Operations in Base Ten

- Generalize place value understanding for multi-digit whole numbers.
- Use place value understanding and properties of operations to perform multi-digit arithmetic.

Number and Operations—Fractions

- Extend understanding of fraction equivalence and ordering.
- Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
- Understand decimal notation for fractions, and compare decimal fractions.

Measurement and Data

- Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
- Represent and interpret data.
- Geometric measurement: understand concepts of angle and measure angles.

Geometry

- Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

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 4

“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)
4.OA.1. Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.	I can explain what a multiplication equation represents.
4.OA.2. Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison. ¹ (See Glossary, Table 2)	<p>I can explain the relationship between multiplication and addition.</p> <p>I can use multiplication and division to solve problems.</p> <p>I can represent the context of a multiplication and division word problem using drawings and equations.</p>
4.OA.3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	<p>I can solve multi-step word problems using all four operations.</p> <p>I can represent the context of a word problem, (including problems with remainders) using drawings and equations.</p> <p>I can use variables to represent unknown quantities in a problem.</p> <p>I can check the reasonableness of my answer using a variety of strategies.</p>
4.OA.4. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.	<p>I can name the factors of all whole numbers 0-100.</p> <p>I can explain the relationship between factors and multiples.</p> <p>I can determine whether any number 0-100 is a multiple of a given one-digit number.</p> <p>I can determine whether any number 0-100 is prime or composite.</p>

<p>4.OA.5. Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. <i>For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.</i></p>	<p>I can create a number or shape pattern that follows a rule.</p> <p>I can describe what I notice about the pattern besides the rule itself.</p>
<p>CCS Standards: Number and Operations in Base Ten Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000</p>	<p>Long-Term Target(s)</p>
<p>4.NBT.1. Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. <i>For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.</i></p>	<p>I can explain the relationship between digits in different places within a whole number.</p>
<p>4.NBT.2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.</p>	<p>I can read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form.</p> <p>I can compare multi-digit numbers using the symbols $>$, $=$, and $<$</p>
<p>4.NBT.3. Use place value understanding to round multi-digit whole numbers to any place.</p>	<p>I can round multi-digit whole numbers to a given place.</p>
<p>4.NBT.4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.</p>	<p>I can explain the relationship between addition and subtraction.</p> <p>I can add and subtract multi-digit whole numbers fluently.</p>
<p>4.NBT.5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</p>	<p>I can multiply whole numbers using a variety of strategies. (4 digits x 1 digit; 2 digits x 2 digits).</p> <p>I can prove my calculations are correct using equations, rectangular arrays, and/or area models.</p>

<p>4.NBT.6. Find whole-number quotients and remainders with up to four-digit dividends and one-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 whole-number quotients and remainders using a variety of strategies.</p> <p>I can prove my calculations are correct using equations, rectangular arrays, and/or area models.</p>
<p>CCS Standards: Number and Operations – Fractions Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, 100.</p>	<p>Long-Term Target(s)</p>
<p>4.NF.1. Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.</p>	<p>I can explain the concept of fraction equivalence.</p> <p>I can create equivalent fractions.</p> <p>I can reason about fraction size and equivalence using visual models.</p>
<p>4.NF.2. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$ and justify the conclusions, e.g., by using a visual fraction model.</p>	<p>I can compare two fractions with different numerators and denominators using appropriate mathematical symbols ($<$ $>$ $=$).</p> <p>I can prove my fraction comparisons using visual models.</p>

<p>4.NF.3. Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.</p> <p>a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.</p> <p>b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. <i>Examples:</i> $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2\ 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$.</p> <p>c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.</p> <p>d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.</p>	<p>I can describe a fraction as the sum of smaller fractions.</p> <p>I can prove my fraction decomposition using equations and visual models.</p> <p>I can add and subtract fractions and mixed numerals with like denominators using a variety of strategies.</p> <p>I can solve problems involving addition and subtraction of fractions (with like denominators).</p> <p>I can represent the context of a fraction word problem using a variety of models.</p>
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<p>4.NF.4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.</p> <p>a. Understand a fraction a/b as a multiple of $1/b$. <i>For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.</i></p> <p>b. Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. <i>For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)</i></p> <p>c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. <i>For example, if each person at a party will eat $3/8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?</i></p>	<p>I can multiply a fraction by a whole number.</p> <p>I can represent fractions using various multiplication equations.</p> <p>I can solve word problems involving multiplication of fractions by a whole number.</p>
<p>4.NF.5. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. (Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.)</p> <p><i>For example, express $3/10$ as $30/100$, and add $3/10 + 4/100 = 34/100$.</i></p>	<p>I can create equivalent fractions whose denominators are 10 and 100.</p> <p>I can add fractions with denominators of 10 and 100.</p> <p>I can explain my strategies for adding fractions.</p>
<p>4.NF.6. Use decimal notation for fractions with denominators 10 or 100. <i>For example, rewrite 0.62 as $62/100$; describe a length as 0.62 meters; locate 0.62 on a number line diagram.</i></p>	<p>I can explain the relationship between decimals and fractions.</p> <p>I can use decimals to describe fractions with denominators of 10 and 100.</p>

<p>4.NF.7. Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$ and justify the conclusions, e.g., by using a visual model.</p>	<p>I can compare two decimals to the hundredths place using appropriate mathematical symbols ($<$, $>$, $=$).</p> <p>I can prove my decimal comparisons using models.</p>
<p>CCS Standards: Measurement and Data</p>	<p>Long-Term Target(s)</p>
<p>4.MD.1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. <i>For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...</i></p>	<p>I can describe the approximate sizes of units within one measurement system (metric, standard, time, etc.).</p> <p>I can compare larger and smaller units within the same measurement system.</p> <p>I can convert a given measurement into an equivalent unit.</p>
<p>4.MD.2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.</p>	<p>I can solve measurement word problems involving distances, time, mass, volume, and money.</p> <p>I can represent measurement quantities using diagrams (with a measurement scale).</p>
<p>4.MD.3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. <i>For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.</i></p>	<p>I can use area and perimeter formulas to solve problems.</p> <p>I can represent the context of an area and perimeter word problem using a variety of models.</p>
<p>4.MD.4. Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. <i>For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.</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 a line plot to solve fraction word problems involving addition and subtraction.</p>

<p>4.MD.5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:</p> <p>a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles.</p> <p>b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.</p>	<p>I can describe angles using geometric vocabulary.</p> <p>I can explain how to measure an angle.</p>
<p>4.MD.6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.</p>	<p>I can measure and draw angles using a protractor.</p>
<p>4.MD.7. Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.</p>	<p>I can determine the measurement of a larger angle using smaller angle measurements.</p> <p>I can find unknown angles using a variety of strategies.</p> <p>I can solve word problems that involve unknown angle measurements.</p>
<p>CCS Standards: Geometry</p>	<p>Long-Term Target(s)</p>
<p>4.G.1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.</p>	<p>I can draw points, lines (parallel and perpendicular), line segments, rays, and angles (right, acute, obtuse).</p> <p>I can identify points, lines, line segments, rays, and angles in other shapes.</p>
<p>4.G.2. 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.</p>	<p>I can classify shapes based on lines and angles.</p> <p>I can identify right triangles.</p>

4.G.3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

I can identify a line of symmetry in a two-dimensional figure.

I can recognize when a figure is symmetrical and when it is not.

I can draw lines of symmetry (two-dimensional).

Science

Content Standards

For

Science

Grade 4
Core Themes, Content Standards and Expected Performances

Content Standards	Expected Performances
<p>Physical Science</p> <p><i>Forces and Motion – What makes objects move the way they do?</i></p> <p>4.1 - The position and motion of objects can be changed by pushing or pulling.</p> <ul style="list-style-type: none"> ◆ The size of the change in an object’s motion is related to the strength of the push or pull. ◆ The more massive an object is, the less effect a given force will have on its motion. 	<p>B 8. Describe the effects of the strengths of pushes and pulls on the motion of objects.</p> <p>B 9. Describe the effect of the mass of an object on its motion.</p>
<p>Life Science</p> <p><i>Matter and Energy in Ecosystems – How do matter and energy flow through ecosystems?</i></p> <p>4.2 - All organisms depend on the living and non-living features of the environment for survival.</p> <ul style="list-style-type: none"> ◆ When the environment changes, some organisms survive and reproduce, and others die or move to new locations. 	<p>B 10. Describe how animals, directly or indirectly, depend on plants to provide the food and energy they need in order to grow and survive.</p> <p>B 11. Describe how natural phenomena and some human activities may cause changes to habitats and their inhabitants.</p>
<p>Earth Science</p> <p><i>Energy in the Earth’s Systems – How do external and internal sources of energy affect the Earth’s systems?</i></p> <p>4.3 - Water has a major role in shaping the Earth’s surface.</p> <ul style="list-style-type: none"> ◆ Water circulates through the Earth’s crust, oceans and atmosphere. 	<p>B 12. Describe how the sun’s energy impacts the water cycle.</p> <p>B 13. Describe the role of water in erosion and river formation.</p>
<p>Physical Science</p> <p><i>Energy Transfer and Transformations – What is the role of energy in our world?</i></p> <p>4.4 - Electrical and magnetic energy can be transferred and transformed.</p> <ul style="list-style-type: none"> ◆ Electricity in circuits can be transformed into light, heat, sound and magnetic effects. ◆ Magnets can make objects move without direct contact between the object and the magnet. 	<p>B 14. Describe how batteries and wires can transfer energy to light a light bulb.</p> <p>B 15. Explain how simple electrical circuits can be used to determine which materials conduct electricity.</p> <p>B 16. Describe the properties of magnets, and how they can be used to identify and separate mixtures of solid materials.</p>