

Fourth Grade English Language Arts Standards

Strand: Reading Standards for Literature Grade Level: 4

Substrands & Standards

Key Ideas and Details

1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
2. Determine a theme of a story, drama, or poem from details in the text; summarize the text.
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).

Craft and Structure

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). (See grade 4 Language standards 4-6 on page 15 for additional expectations.)
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.
6. Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.

Integration of Knowledge and Ideas

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.
8. (Not applicable to literature)
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.

Range of Reading and Level of Text Complexity

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.

Strand: Reading Standards for Informational Text Grade Level: 4

Substrands & Standards

Key Ideas and Details

1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
2. Determine the main idea of a text and explain how it is supported by key details; summarize the text.
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.

Craft and Structure

4. Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a *grade 4 topic or subject area*. (See grade 4 Language standards 4-6 additional expectations.)
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.
6. Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.

Integration of Knowledge and Ideas

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.
8. Explain how an author uses reasons and evidence to support particular points in a text.
9. Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.

Range of Reading and Level of Text Complexity

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

Strand: Reading Standards: Foundational Skills Grade Level: 4

Substrands & Standards

Print Concepts

1. n/a

Phonological Awareness

2. n/a

Fourth Grade English Language Arts Standards

Phonics and Word Recognition

3. Know and apply grade-level phonics and word analysis skills in decoding words.

- a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.

Fluency

4. Read with sufficient accuracy and fluency to support comprehension. a. Read on-level text with purpose and understanding.

- b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings.
- c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

Strand: Writing Standards Grade Level: 4

Substrands & Standards

Text Types and Purposes

1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

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

2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

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

3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

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

Production and Distribution of Writing

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

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

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

Research to Build and Present Knowledge

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

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

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

- a. Apply *grade 4 Reading standards* to literature (e.g., "Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character's thoughts, words, or actions].").
- b. Apply *grade 4 Reading standards* to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text").

Range of Writing

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

Strand: Speaking and Listening Standards Grade Level: 4

Substrands & Standards

Fourth Grade English Language Arts Standards

Comprehension and Collaboration

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

Presentation of Knowledge and Ideas

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.
 - a. Plan and deliver a narrative presentation that: relates ideas, observations, or recollections; provides a clear context; and includes clear insight into why the event or experience is memorable.
5. Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.
6. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation. (See grade 4 Language standards 1 and 3 on page 14 for specific expectations.)

Strand: Language Standards Grade Level: 4

Substrands & Standards

Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Write fluidly and legibly in cursive or joined italics.
 - b. Use interrogative, relative pronouns (*who, whose, whom, which, that*) and relative adverbs (*where, when, why*).
 - c. Form and use the progressive (e.g., *I was walking; I am walking; I will be walking*) verb tenses.
 - d. Use modal auxiliaries (e.g., *can, may, must*) to convey various conditions.
 - e. Order adjectives within sentences according to conventional patterns (e.g., *a small red bag* rather than *a red small bag*).
 - f. Form and use prepositional phrases.
 - g. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.
 - h. Correctly use frequently confused words (e.g., *to, too, two; there, their*).
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
 - a. Use correct capitalization.
 - b. Use commas and quotation marks to mark direct speech and quotations from a text.
 - c. Use a comma before a coordinating conjunction in a compound sentence.
 - d. Spell grade-appropriate words correctly, consulting references as needed.

Knowledge of Language

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

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple meaning words and phrases based on *grade 4 reading and content*, choosing flexibly from a range of strategies.
 - a. Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.
 - b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *telegraph, photograph, autograph*).
 - c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases and to identify alternate word choices *in all content areas*.
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
 - a. Explain the meaning of simple similes and metaphors (e.g., *as pretty as a picture*) in context.
 - b. Recognize and explain the meaning of common idioms, adages, and proverbs.
 - c. Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).
6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., *quizzed, whined, stammered*) and that are basic to a particular topic (e.g., *wildlife, conservation, and endangered* when discussing animal preservation).

Fourth Grade Math Standards

Operations and Algebraic Thinking

4.OA

Use the four operations with whole numbers to solve problems.

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.
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.
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.

Gain familiarity with factors and multiples.

4. Find all factor pairs for a whole number in the range 1–100. 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.

Generate and analyze patterns.

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. *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.*

Number and Operations in Base Ten

4.NBT

Generalize place value understanding for multi-digit whole numbers.

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. *For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.*
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.
3. Use place value understanding to round multi-digit whole numbers to any place.

Use place value understanding and properties of operations to perform multi-digit arithmetic.

4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.
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.
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.

Number and Operations-Fractions

4.NF

Extend understanding of fraction equivalence and ordering.

1. Explain why a fraction $\frac{a}{b}$ is equivalent to a fraction $\frac{(n \times a)}{(n \times b)}$ 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.
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 $\frac{1}{2}$. 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.

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

3. Understand a fraction $\frac{a}{b}$ with $a > 1$ as a sum of fractions $\frac{1}{b}$.
 - a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
 - 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. *Examples:* $\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$; $\frac{3}{8} = \frac{1}{8} + \frac{2}{8}$; $2 \frac{1}{8} = 1 + 1 + \frac{1}{8} = \frac{8}{8} + \frac{8}{8} + \frac{1}{8}$.

Fourth Grade Math Standards

- 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.
 - 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.
4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
- a. Understand a fraction a/b as a multiple of $1/b$. For example, use a visual fraction model to represent $5/4$ as the product $5 \times \{1/4\}$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.
 - 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. 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, $n \times (a/b) = (n \times a)/b$.)
 - 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. 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?

Understand decimal notation for fractions, and compare decimal fractions.

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. For example, express $3/10$ as $30/100$, and add $3/10 + 4/100 = 34/100$.
6. Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as $62/100$; describe a length as 0.62 meters; locate 0.62 on a number line diagram.
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 the number line or another visual model.

Measurement and Data

4.MD

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

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. 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 $\{1, 12\}$, $\{2, 24\}$, $\{3, 36\}$.
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.
3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. 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.

Represent and interpret data.

4. Make a line plot to display a data set of measurements in fractions of a unit ($1/2$, $1/4$, $1/8$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.

Geometric measurement: understand concepts of angle and measure angles.

5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:
 - 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 $1/360$ of a circle is called a "one-degree angle," and can be used to measure angles.
 - b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.
6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
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.

Fourth Grade Math Standards

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

1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
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. (Two dimensional shapes should include special triangles, e.g., equilateral, isosceles, scalene, and special quadrilaterals, e.g., rhombus, square, rectangle, parallelogram, trapezoid.)
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.

Fourth Grade English Language Development Standards

Elaboration on Critical Principles for Developing Language & Cognition in Academic Contexts Part I: Interacting in Meaningful Ways

Texts and Discourse in Context	English Language Development Level Continuum			
<p>Part I, strands 1–8 Corresponding Common Core State Standards for English Language Arts:</p> <ol style="list-style-type: none"> SL.3.1,6; L.3.1,3,6 W.3.6; L.3.1,3,6 SL.3.1,6; L.3.1,3,6 W.3.4-5; SL.3.1,6; L.3.1,3,6 SL.3.1-3; L.3.3 RL.3.1-7,9-10; RI.3.1-7,9-10; SL.3.2-3; L.3.3,4,6 RL.3.3-4,6; RI.3.2,6,8; SL.3.3; L.3.3-6 RL.3.4-5; RI.3.4-5; SL.3.3; L.3.3-6 <p>Purposes for using language include: Describing, entertaining, informing, interpreting, analyzing, recounting, explaining, persuading, negotiating, justifying, evaluating, etc.</p> <p>Text types include:</p> <p>Informational text types include: description (e.g., science log entry); procedure (e.g., how to solve a mathematics problem); recount (e.g., autobiography, science experiment results); information report (e.g., science or history report); explanation (e.g., how or why something happened); exposition (e.g., opinion); response (e.g., literary analysis); etc.</p> <p>Literary text types include: stories (e.g., fantasy, legends, fables); drama (e.g., readers' theater); poetry; retelling a story; etc.</p> <p>Audiences include: Peers (one-to-one) Small group (one-to-group) Whole group (one-to-many)</p>	<p>A. Collaborative</p>	<p style="text-align: center;">Emerging</p> <p>1. Exchanging information and ideas Contribute to conversations and express ideas by asking and answering <i>yes-no</i> and <i>wh-</i> questions and responding using short phrases.</p> <p>2. Interacting via written English Collaborate with peers on joint writing projects of short informational and literary texts, using technology where appropriate for publishing, graphics, etc.</p> <p>3. Offering opinions Offer opinions and negotiate with others in conversations using basic learned phrases (e.g., <i>I think...</i>), as well as open responses in order to gain and/or hold the floor.</p> <p>4. Adapting language choices Recognize that language choices (e.g., vocabulary) vary according to social setting (e.g., playground versus classroom) with substantial support from peers or adults.</p> <p>5. Listening actively Demonstrate active listening to read-alouds and oral presentations by asking and answering basic questions with prompting and substantial support.</p> <p>6. Reading/viewing closely Describe ideas, phenomena (e.g., insect metamorphosis), and text elements (e.g., main idea, characters, setting) based on understanding of a select set of grade-level texts and viewing of multimedia with substantial support.</p> <p>7. Evaluating language choices Describe the language writers or speakers use to support an opinion or present an idea (e.g., by identifying the phrases or words in the text that provide evidence) with prompting and substantial support.</p> <p>8. Analyzing language choices Distinguish how different words produce different effects on the audience (e.g., describing a character as <i>happy</i> versus <i>sad</i>).</p>	<p style="text-align: center;">Expanding</p> <p>1. Exchanging information and ideas Contribute to class, group, and partner discussions, including sustained dialogue, by following turn-taking rules, asking relevant questions, affirming others, and adding relevant information.</p> <p>2. Interacting via written English Collaborate with peers on joint writing projects of longer informational and literary texts, using technology where appropriate for publishing, graphics, etc.</p> <p>3. Offering opinions Offer opinions and negotiate with others in conversations using an expanded set of learned phrases (e.g., <i>I agree with X, and...</i>), as well as open responses in order to gain and/or hold the floor, provide counter-arguments, etc.</p> <p>4. Adapting language choices Adjust language choices (e.g., vocabulary, use of dialogue, etc.) according to purpose (e.g., persuading, entertaining), social setting, and audience (e.g., peers versus adults) with moderate support from peers or adults.</p> <p>5. Listening actively Demonstrate active listening to read-alouds and oral presentations by asking and answering detailed questions with occasional prompting and moderate support.</p> <p>6. Reading/viewing closely Describe ideas, phenomena (e.g., how cows digest food), and text elements (e.g., main idea, characters, events) in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia with moderate support.</p> <p>7. Evaluating language choices Describe the specific language writers or speakers use to present or support an idea (e.g., the specific vocabulary or phrasing used to provide evidence) with prompting and moderate support.</p> <p>8. Analyzing language choices Distinguish how different words with similar meanings (e.g., describing a character as <i>happy</i> versus <i>ecstatic</i>) produce shades of meaning and different effects on the audience.</p>	<p style="text-align: center;">Bridging</p> <p>1. Exchanging information and ideas Contribute to class, group, and partner discussions, including sustained dialogue, by following turn-taking rules, asking relevant questions, affirming others, adding relevant information, building on responses, and providing useful feedback.</p> <p>2. Interacting via written English Collaborate with peers on joint writing projects of a variety of longer informational and literary texts, using technology where appropriate for publishing, graphics, etc.</p> <p>3. Offering opinions Offer opinions and negotiate with others in conversations using a variety of learned phrases (e.g., <i>That's a good idea, but X</i>), as well as open responses in order to gain and/or hold the floor, provide counter-arguments, elaborate on an idea, etc.</p> <p>4. Adapting language choices Adjust language choices according to purpose (e.g., persuading, entertaining), task, and audience (e.g., peer-to-peer versus peer-to-teacher) with light support from peers or adults.</p> <p>5. Listening actively Demonstrate active listening to read-alouds and oral presentations by asking and answering detailed questions with minimal prompting and light support.</p> <p>6. Reading/viewing closely Describe ideas, phenomena (e.g., volcanic eruptions), and text elements (e.g., central message, character traits, major events) using key details based on understanding of a variety of grade-level texts and viewing of multimedia with light support.</p> <p>7. Evaluating language choices Describe how well writers or speakers use specific language resources to support an opinion or present an idea (e.g., whether the vocabulary or phrasing used to provide evidence is strong enough) with light support.</p> <p>8. Analyzing language choices Distinguish how multiple different words with similar meanings (e.g., <i>pleased</i> versus <i>happy</i> versus <i>ecstatic</i>, <i>heard</i> versus <i>knew</i> versus <i>believed</i>) produce shades of meaning and different effects on the audience. Different words with similar meaning (e.g., <i>walk</i>, <i>march</i>, <i>strut</i>, <i>prance</i>) produce shades of meaning and a different effect.</p>

Fourth Grade English Language Development Standards

Elaboration on Critical Principles for Developing Language & Cognition in Academic Contexts Part I: Interacting in Meaningful Ways

Texts and Discourse in Context	English Language Development Level Continuum			
<p>Part I, strands 9–12 Corresponding Common Core State Standards for English Language Arts</p> <p>9. SL.3.4-6; L.3.1,3,6 10. W.3.1-8,10; L.3.1-3,6 11. W.3.1,4,10; SL.3.4,6; L.3.1-3,6 12. W.3.4-5; SL.3.4,6; L.3.1,3,5-6</p> <p>Purposes for using language include: Describing, entertaining, informing, interpreting, analyzing, recounting, explaining, persuading, negotiating, justifying, evaluating, etc.</p> <p>Text types include: Informational text types include: description (e.g., science log entry); procedure (e.g., how to solve a mathematics problem); recount (e.g., autobiography, science experiment results); information report (e.g., science or history report); explanation (e.g., how or why something happened); exposition (e.g., opinion); response (e.g., literary analysis); etc.</p> <p>Literary text types include: stories (e.g., fantasy, legends, fables); drama (e.g., readers’ theater); poetry; retelling a story; etc.</p> <p>Audiences include: Peers (one-to-one) Small group (one-to-group) Whole group (one-to-many)</p>	<p>C. Productive</p>	<p style="text-align: center;">Emerging</p> <p>9. Presenting Plan and deliver very brief oral presentations (e.g., retelling a story, tell, describing an animal).</p> <p>10. Writing a.) Write short literary and informational texts (e.g., description of a flashlight) collaboratively (e.g., joint construction of texts with an adult or with peers) and sometimes independently. b) Paraphrase texts and recount experiences using key words from notes or graphic organizers.</p> <p>11. Supporting opinions Support opinions by providing good reasons and some textual evidence or relevant background knowledge (e.g., referring to textual evidence or knowledge of content).</p> <p>12. Selecting language resources Use a select number of general academic and domain-specific words to add detail (e.g., adding the word <i>dangerous</i> to describe a place, using the word <i>habitat</i> when describing animal behavior) while speaking and writing.</p>	<p style="text-align: center;">Expanding</p> <p>9. Presenting Plan and deliver brief oral presentations on a variety of topics and content areas (e.g., retelling a story, explaining a science process, etc.)</p> <p>10. Writing a) Write longer literary and informational texts (e.g., an explanatory text on how flashlights work) collaboratively (e.g., joint construction of texts with an adult or with peers) and with increasing independence using appropriate text organization. b) Paraphrase texts and recount experiences using complete sentences and key words from notes or graphic organizers.</p> <p>11. Supporting opinions Support opinions by providing good reasons and increasingly detailed textual evidence (e.g., providing examples from the text) or relevant background knowledge about the content.</p> <p>12. Selecting language resources Use a growing number of general academic and domain-specific words in order to add detail, create an effect (e.g., using the word <i>suddenly</i> to signal a change), or create shades of meaning (e.g., <i>scurry</i> versus <i>dash</i>) while speaking and writing.</p>	<p style="text-align: center;">Bridging</p> <p>9. Presenting Plan and deliver longer oral presentations on a variety of topics in a variety of content areas (e.g., retelling a story, explaining a science process or historical event, etc.</p> <p>10. Writing Write longer and more detailed literary and informational texts (e.g., an explanatory text on how flashlights work) collaboratively (e.g., joint construction of texts with an adult or with peers) and independently using appropriate text organization and growing understanding of register. b) Paraphrase texts and recount experiences using increasingly detailed complete sentences and key words from notes or graphic organizers.</p> <p>11. Supporting opinions Support opinions or persuade others by providing good reasons and detailed textual evidence (e.g., specific events or graphics from text) or relevant background knowledge about the content.</p> <p>12. Selecting language resources Use a wide variety of general academic and domain-specific words, synonyms, antonyms, and non-literal language to create an effect, precision, and shades of meaning while speaking and writing</p>

Fourth Grade English Language Development Standards

Elaboration on Critical Principles for Developing Language & Cognition in Academic Contexts Part II: Learning About How English Works				
Texts and Discourse in Context	English Language Development Level Continuum			
<p>Part II, strands 1–2 Corresponding Common Core State Standards for English Language Arts:</p> <p>1. RL.3.5; RI.3.5; W.3.1-5; SL.3.4</p> <p>2. RL.3.5; RI.3.5; W.3.1-4; SL.3.4; L.3.1,3</p> <p>Purposes for using language include: Describing, entertaining, informing, interpreting, analyzing, recounting, explaining, persuading, negotiating, justifying, evaluating, etc.</p> <p>Text types include: Informational text types include: description (e.g., science log entry); procedure (e.g., how to solve a mathematics problem); recount (e.g., autobiography, science experiment results); information report (e.g., science or history report); explanation (e.g., how or why something happened); exposition (e.g., opinion); response (e.g., literary analysis); etc.</p> <p>Literary text types include: stories (e.g., fantasy, legends, fables); drama (e.g., readers' theater); poetry; retelling a story; etc.</p> <p>Audiences include: Peers (one-to-one) Small group (one-to-group) Whole group (one-to-many)</p>	A. Structuring Cohesive Texts	Emerging	Expanding	Bridging
	<p>1. Understanding text structure Apply understanding of how different text types are organized to express ideas (e.g., how a story is organized sequentially) to comprehending texts and writing basic texts.in shared language activities guided by the teacher, with peers, and sometimes independently.</p> <p>2. Understanding cohesion a) Apply basic understanding of language resources that refer the reader back or forward in text (e.g., how pronouns refer back to nouns in text) to comprehending texts and writing basic texts. b) Apply basic understanding of how ideas, events, or reasons are linked throughout a text using everyday connecting words or phrases (e.g., <i>then, next</i>) to comprehending texts and writing basic texts.</p>	<p>1. Understanding text structure Apply understanding of how different text types are organized to express ideas (e.g., how a story is organized sequentially with predictable stages) to comprehending texts and writing texts with increasing cohesion.</p> <p>2. Understanding cohesion a) Apply growing understanding of language resources that refer the reader back or forward in text (e.g., how pronouns refer back to nouns in text) to comprehending texts and writing texts with increasing cohesion. b) Apply growing understanding of how ideas, events, or reasons are linked throughout a text using a variety of connecting words or phrases (e.g., <i>at the beginning/end, first/next</i>) to comprehending texts and writing texts with increasing cohesion.</p>	<p>1. Understanding text structure Apply understanding of how different text types are organized to express ideas (e.g., how a story is organized sequentially with opinion/arguments are structured logically, grouping related ideas) to comprehending texts and writing cohesive texts.</p> <p>2. Understanding cohesion a) Apply increasing understanding of language resources that refer the reader back or forward in text (e.g., how pronouns or synonyms refer back to nouns in text) to comprehending and writing cohesive texts. b) Apply increasing understanding of how ideas, events, or reasons are linked throughout a text using an increasing variety of connecting and transitional words or phrases (e.g., <i>for example, afterward, first/next/last</i>) to comprehending texts and writing cohesive texts.</p>	

Elaboration on Critical Principles for Developing Language & Cognition in Academic Contexts Part II: Learning About How English Works				
Texts and Discourse in Context	English Language Development Level Continuum			
<p>Part II, strands 1–2 Corresponding Common Core State Standards for English Language Arts:</p> <p>3. W.3.5; SL.3.6; L.3.1,3,6</p> <p>4. W.3.5; SL.3.6; L.3.1,3,6</p> <p>5. W.3.5; SL.3.4,6; L.3.1,3,6</p> <p>Purposes for using language include: Describing, entertaining, informing, interpreting, analyzing, recounting, explaining, persuading, negotiating, justifying, evaluating, etc.</p> <p>Text types include: Informational text types include: description (e.g., science log entry); procedure (e.g., how to solve a mathematics problem); recount (e.g., autobiography, science experiment results); information report (e.g., science or history report); explanation (e.g., how or why something happened); exposition (e.g., opinion); response (e.g., literary analysis); etc.</p> <p>Literary text types include: stories (e.g., fantasy, legends, fables); drama (e.g., readers' theater); poetry; retelling a story; etc.</p> <p>Audiences include: Peers (one-to-one) Small group (one-to-group) Whole group (one-to-many)</p>	B. Expanding & Enriching Ideas	Emerging	Expanding	Bridging
	<p>3. Using verbs and verb phrases Use frequently used verbs, different verb types (e.g., doing, saying, being/having, thinking/feeling), and verb tenses appropriate for the text type and discipline to convey time (e.g., simple past for recounting an experience).</p> <p>4. Using nouns and noun phrases Expand noun phrases in simple ways (e.g., adding an adjective to a noun) in order to enrich the meaning of sentences and add details about ideas, people, things, etc.</p> <p>5. Modifying to add details Expand sentences with adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause, etc.) about a familiar activity or process (e.g., <i>They walked to the soccer field.</i>).</p>	<p>3. Using verbs and verb phrases Use a growing number of verb types (e.g., doing, saying, being/having, thinking/feeling) and verb tenses appropriate for the text type and discipline to convey time (e.g., simple past for retelling, simple present for a science description).</p> <p>4. Using nouns and noun phrases Expand noun phrases in a growing number of ways (e.g., adding comparative/superlative adjectives to nouns) in order to enrich the meaning of sentences and add details about ideas, people, things, etc.</p> <p>5. Modifying to add details Expand sentences with adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause, etc.) about a familiar or new activity or process (e.g., <i>They worked quietly; They ran across the soccer field.</i>).</p>	<p>3. Using verbs and verb phrases Use a variety of verb types (e.g., doing, saying, being/having, thinking/feeling) and verb tenses appropriate for the text type and discipline to convey time (e.g., simple present for a science description, simple future to predict).</p> <p>4. Using nouns and noun phrases Expand noun phrases in a variety of ways (e.g., adding comparative/ superlative adjectives to noun phrases, simple clause embedding) in order to enrich the meaning of sentences and add details about ideas, people, things, etc.</p> <p>5. Modifying to add details Expand sentences with adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause, etc.) about a range of familiar and new activities or processes (e.g., <i>They worked quietly all night in their room.</i>).</p>	

Fourth Grade English Language Development Standards

Elaboration on Critical Principles for Developing Language & Cognition in Academic Contexts Part II: Learning About How English Works

Texts and Discourse in Context	English Language Development Level Continuum			
<p>Part II, strands 1–2 Corresponding Common Core State Standards for English Language Arts:</p> <p>6. W.3.1-3,5; SL.3.4,6; L.3.1,3,6 7. W.3.1-3,5; SL.3.4,6; L.3.1,3,6</p> <p>Purposes for using language include: Describing, entertaining, informing, interpreting, analyzing, recounting, explaining, persuading, negotiating, justifying, evaluating, etc.</p> <p>Text types include: Informational text types include: description (e.g., science log entry); procedure (e.g., how to solve a mathematics problem); recount (e.g., autobiography, science experiment results); information report (e.g., science or history report); explanation (e.g., how or why something happened); exposition (e.g., opinion); response (e.g., literary analysis); etc.</p> <p>Literary text types include: stories (e.g., fantasy, legends, fables); drama (e.g., readers' theater); poetry; retelling a story; etc.</p> <p>Audiences include: Peers (one-to-one) Small group (one-to-group) Whole group (one-to-many)</p>	C. Connecting & Condensing Ideas	<p style="text-align: center;">Emerging</p> <p>6. Connecting ideas Combine clauses in a few basic ways to make connections between and join ideas (e.g., creating compound sentences using <i>and, but, so</i>).</p> <p>7. Condensing ideas Condense clauses in simple ways (e.g., changing: <i>It's green. It's red. -> It's green and red.</i>) to create precise and detailed sentences.</p>	<p style="text-align: center;">Expanding</p> <p>6. Connecting ideas Combine clauses in an increasing variety of ways (e.g., creating compound and complex sentences) to make connections between and join ideas, for example, to express cause/effect (e.g., <i>The deer ran because the mountain lion came.</i>) or to make a concession (e.g., <i>She studied all night even though she wasn't feeling well.</i>).</p> <p>7. Condensing ideas Condense clauses in a growing number of ways (e.g., through embedded clauses as in, <i>It's a plant. It's found in the rainforest. -> It's a green and red plant that's found in the tropical rainforest.</i>) to create precise and detailed sentences.</p>	<p style="text-align: center;">Bridging</p> <p>6. Connecting ideas Combine clauses in a wide variety of ways (e.g., creating compound and complex sentences) to make connections between and join ideas, for example, to express cause/effect (e.g., <i>The deer ran because the mountain lion approached them.</i>), to make a concession (e.g., <i>She studied all night even though she wasn't feeling well.</i>), or to link two ideas that happen at the same time (e.g., <i>The cubs played while their mother hunted.</i>).</p> <p>7. Condensing ideas Condense clauses in a variety of ways (e.g., through embedded clauses and other condensing as in, <i>It's a plant. It's green and red. It's found in the tropical rainforest. -> It's a green and red plant that's found in the tropical rainforest.</i>) to create precise and detailed sentences.</p>

Elaboration on Critical Principles for Developing Language & Cognition in Academic Contexts Part III: Using Foundational Literacy Skills

<p>Foundational Literacy Skills:</p> <p style="text-align: center;">Literacy in an Alphabetic Writing System</p> <ul style="list-style-type: none"> • Print concepts • Phonological awareness • Phonics & word recognition • Fluency 	<p>See Appendix A for information on teaching reading foundational skills to English learners of various profiles based on age, native language, native language writing system, schooling experience, and literacy experience and proficiency. Some considerations are:</p> <ul style="list-style-type: none"> • Native language and literacy (e.g., phoneme awareness or print concept skills in native language) should be assessed for potential transference to English language and literacy. • Similarities between native language and English should be highlighted (e.g., phonemes or letters that are the same in both languages). • Differences between native language and English should be highlighted (e.g., some phonemes in English may not exist in the student's native language; native language syntax may be different from English syntax).
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Fourth Grade History/Social Studies Standards

CALIFORNIA: A CHANGING STATE

Students learn the story of their home state, unique in American history in terms of its vast and varied geography, its many waves of immigration beginning with pre-Columbian societies, its continuous diversity, economic energy, and rapid growth. In addition to the specific treatment of milestones in California history, students examine the state in the context of the rest of the nation, with an emphasis on the U.S. Constitution and the relationship between state and federal government.

4.1 Students demonstrate an understanding of the physical and human geographic features that define places and regions in California.

Explain and use the coordinate grid system of latitude and longitude to determine the absolute locations of places in California and on Earth.

Distinguish between the North and South Poles; the equator and the prime meridian; the tropics; and the hemispheres, using coordinates to plot locations.

Identify the state capital and describe the various regions of California, including how their characteristics and physical environments such as water, landforms, vegetation and climate affect human activity.

Identify the locations of the Pacific Ocean, rivers, valleys, and mountain passes and explain their effects on the growth of towns.

Use maps, charts, and pictures to describe how communities in California vary in land use, vegetation, wildlife, climate, population density, architecture, services, and transportation.

Web Links

<http://www.nationalgeographic.com/xpeditions/atlas/index.html?Parent=usofam&Rootmap=usca&Mode=d>
Printable maps

<http://memory.loc.gov/ammem/cbhtml/cbgeog.html>
California: The Name and the Geography

<http://www.humboldt.edu/~cga/calatlas/index.html>
Interactive map of California

<http://www.mariner.org/educationalad/ageofex/activities.php>
Age of Exploration: activities for students and teachers

<http://www.unitedstreaming.com>
Globes and Us

Maps: Types, Symbols, and Terms

Maps: Types, Symbols, and Terms

Finding Your Way: Using Maps and Globes

4.2 Students describe the social, political, cultural, and economic life and interactions among people of California from the pre-Columbian societies to the Spanish mission and Mexican rancho periods.

Discuss the major nations of California Indians, including their geographic distribution, economic activities, legends, and religious beliefs; and describe how they depended on, adapted to, and modified the physical environment by cultivation of land and use of sea resources.

Identify the early land and sea routes to, and European settlements in, California with a focus on the exploration of the North Pacific by explorers, noting especially the importance of mountains, deserts, ocean currents, and wind patterns.

Describe the Spanish exploration and colonization of California, including the relationships among soldiers, missionaries, and Indians.

Describe the mapping of, geographic basis of, and economic factors in the placement and function of the Spanish missions; understand how the mission system expanded the influence of Spain and Catholicism throughout New Spain and Latin America.

Describe the daily lives of the people, native and nonnative, who occupied the presidios, missions, ranchos, and pueblos.

Discuss the role of the Franciscans in changing the economy of California from a hunter-gatherer economy to an agricultural economy.

Describe the effects of the Mexican War for Independence on Alta California, including its effects on the territorial boundaries of North America.

Discuss the period of Mexican rule in California and its attributes, including land grants, secularization of the missions, and the rise of the rancho economy.

Web Links

<http://memory.loc.gov/ammem/cbhtml/cbintro.html>

The First People of California, Spanish California , The Missions, Mexican California (also links to personal narratives of the Gold Rush)

<http://www.cr.nps.gov/nr/twhp/wwwlps/lessons/66gran/66gran.htm>

Puebloan Indians, before, during and after Spanish contact

<http://www.suhsd.k12.ca.us/mvm/netlinks/1missions4/1missions4.html>

California Missions: A Treasure Hunt (Tour a California mission)

<http://www.nhm.org/education/cahistory/galleon/index.html>

Life on a Galleon: New world exploration

<http://www.nhm.org/education/cahistory/brand/index.html>

The Rancho Period – why brands were used

http://score.rims.k12.ca.us/score_lessons/rancho/

Rancho San Pedro – Life on a Rancho

<http://www.unitedstreaming.com>

Exploring the World: The Viking Explorers

Exploring the World: The Age of Exploration begins

Exploring the World: Spanish Explorers of North America

Exploring the World: The Conquistadors and the Aztecs

Living History: Living in Spanish Colonial America

4.3 Students explain the economic, social, and political life in California from the establishment of the Bear Flag Republic through the Mexican-American War, the Gold Rush, and the granting of statehood.

Identify the locations of Mexican settlements in California and those of other settlements, including Fort Ross and Sutter's Fort.

Compare how and why people traveled to California and the routes they traveled.

Analyze the effects of the Gold Rush on settlements, daily life, politics, and the physical environment.

Study the lives of women who helped build early California.

Discuss how California became a state and how its new government differed from those during the Spanish and Mexican periods.

Web Links

<http://www.kidport.com/RefLib/UsaHistory/CalGoldRush/CalGoldRush.htm>

Site offers many topics on the Gold Rush (how it started, trails taken and effects of the Gold Rush)

<http://www.calgoldrush.com/index.html>

The journey by land and sea to California (timeline of John Sutter)

<http://www.museumca.org/goldrush/>

Gold fever, Natives and Immigrants and curriculum materials

<http://www.pbs.org/goldrush/index.html>

Gold Rush – teacher resources and related links

<http://www.isu.edu/~tritmich/Oregontrail.html>

Oregon Trail

<http://www.nhm.org/education/cahistory/seal/index.html>

The California State Seal – click on objects to find out what each symbol means

<http://www.unitedstreaming.com>

United States Expansionism

Colonizing the American West

Gone West :The Growth of a Nation

Trail to Riches: The California Gold Rush and Settlement of the Pacific Northwest

The West Region: People and Heritage

U.S. Geography: The West

4.4 Students explain how California became an agricultural and industrial power, tracing the transformation of the California economy and its political and cultural development since the 1850s.

Understand the story and lasting influence of the Pony Express, Overland Mail Service, Western Union, and the building of the transcontinental railroad, including the contributions of Chinese workers to its construction.

Explain how the Gold Rush transformed the economy of California, including the types of products produced and consumed, changes in towns such as Sacramento and San Francisco, and economic conflicts between diverse groups of people.

Discuss immigration and migration to California between 1850 and 1900, including the diverse composition of those who came; the countries of origin and their relative locations; and conflicts and accords among the diverse

Describe rapid American immigration, internal migration, settlement, and the growth of towns and cities.

Discuss the effects of the Great Depression, the Dust Bowl, and World War II on California.

Describe the development and locations of new industries since the turn of the century, such as the aerospace industry, electronics industry, large-scale commercial agriculture and irrigation projects, the oil and automobile industries, communications and defense industries, and important trade links with the Pacific Basin.

Trace the evolution of California's water system into a network of dams, aqueducts, and reservoirs.

Describe the history and development of California's public education system, including universities and community colleges.

Analyze the impact of twentieth-century Californians on the nation's artistic and cultural development, including the rise of the entertainment industry.

Web Links

<http://score.rims.k12.ca.us/activity/goldmountain/>

Activity on Chinese immigration

http://www.eduplace.com/rdg/gen_act/travel/pony.html

Pony Express – Social Studies /Math activity

<http://history1900s.about.com/library/photos/blyindexdepression.htm>

Photographs from the Great Depression

<http://cpr.org/Museum/Exhibits.html>

Transcontinental Railroad Exhibits

http://www.blm.gov/education/00_resources/articles/steel_rails_and_iron_horses/

How a steam engine works

<http://www.unitedstreaming.com>

America in the 20th Century: The Great Depression

The West Region: The People and Heritage

The American Industrial Revolution

Dust Bowl

4.5 Students understand the structures, functions, and powers of the local, state, and federal governments as described in the U.S. Constitution.

Understand the purpose of the California Constitution, its key principles, and its relationship to the U.S. Constitution.

Explain the structures and functions of state governments, including the roles and responsibilities of their elected officials.

Describe the components of California's governance structure including cities and towns, Indian rancherias and reservations, counties and school districts.

Web Links

<http://www.unitedstreaming.com>

Native America: Removal

Native America: Expansion

This is Our Government

Fourth Grade

The performance expectations in fourth grade help students formulate answers to questions such as: “What are waves and what are some things they can do? How can water, ice, wind and vegetation change the land? What patterns of Earth’s features can be determined with the use of maps? How do internal and external structures support the survival, growth, behavior, and reproduction of plants and animals? What is energy and how is it related to motion? How is energy transferred? How can energy be used to solve a problem?” Fourth grade performance expectations include PS3, PS4, LS1, ESS1, ESS2, ESS3, and ETS1 Disciplinary Core Ideas from the *NRC Framework*. Students are able to use a model of waves to describe patterns of waves in terms of amplitude and wavelength, and that waves can cause objects to move. Students are expected to develop understanding of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation. They apply their knowledge of natural Earth processes to generate and compare multiple solutions to reduce the impacts of such processes on humans. In order to describe patterns of Earth’s features, students analyze and interpret data from maps. Fourth graders are expected to develop an understanding that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. By developing a model, they describe that an object can be seen when light reflected from its surface enters the eye. Students are able to use evidence to construct an explanation of the relationship between the speed of an object and the energy of that object. Students are expected to develop an understanding that energy can be transferred from place to place by sound, light, heat, and electric currents or from object to object through collisions. They apply their understanding of energy to design, test, and refine a device that converts energy from one form to another. The crosscutting concepts of patterns; cause and effect; energy and matter; systems and system models; interdependence of science, engineering, and technology; and influence of engineering, technology, and science on society and the natural world are called out as organizing concepts for these disciplinary core ideas. In the fourth grade performance expectations, students are expected to demonstrate grade-appropriate proficiency in asking questions, developing and using models, planning and carrying out investigations, analyzing and interpreting data, constructing explanations and designing solutions, engaging in argument from evidence, and obtaining, evaluating, and communicating information. Students are expected to use these practices to demonstrate understanding of the core ideas.

4-PS3 Energy

4-PS3 Energy

Students who demonstrate understanding can:

- 4-PS3-1. Use evidence to construct an explanation relating the speed of an object to the energy of that object.** [Assessment Boundary: Assessment does not include quantitative measures of changes in the speed of an object or on any precise or quantitative definition of energy.]
- 4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.** [Assessment Boundary: Assessment does not include quantitative measurements of energy.]
- 4-PS3-3. Ask questions and predict outcomes about the changes in energy that occur when objects collide.** [Clarification Statement: Emphasis is on the change in the energy due to the change in speed, not on the forces, as objects interact.] [Assessment Boundary: Assessment does not include quantitative measurements of energy.]
- 4-PS3-4. Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.*** [Clarification Statement: Examples of devices could include electric circuits that convert electrical energy into motion energy of a vehicle, light, or sound; and, a passive solar heater that converts light into heat. Examples of constraints could include the materials, cost, or time to design the device.] [Assessment Boundary: Devices should be limited to those that convert motion energy to electric energy or use stored energy to cause motion or produce light or sound.]

The performance expectations above were developed using the following elements from the NRC document *A Framework for K-12 Science Education*:

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Asking Questions and Defining Problems Asking questions and defining problems in grades 3–5 builds on grades K–2 experiences and progresses to specifying qualitative relationships.</p> <ul style="list-style-type: none"> ▪ Ask questions that can be investigated and predict reasonable outcomes based on patterns such as cause and effect relationships. (4-PS3-3) <p>Planning and Carrying Out Investigations Planning and carrying out investigations to answer questions or test solutions to problems in 3–5 builds on K–2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.</p> <ul style="list-style-type: none"> ▪ Make observations to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution. (4-PS3-2) <p>Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in 3–5 builds on K–2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.</p> <ul style="list-style-type: none"> ▪ Use evidence (e.g., measurements, observations, patterns) to construct an explanation. (4-PS3-1) ▪ Apply scientific ideas to solve design problems. (4-PS3-4) 	<p>PS3.A: Definitions of Energy</p> <ul style="list-style-type: none"> ▪ The faster a given object is moving, the more energy it possesses. (4-PS3-1) ▪ Energy can be moved from place to place by moving objects or through sound, light, or electric currents. (4-PS3-2),(4-PS3-3) <p>PS3.B: Conservation of Energy and Energy Transfer</p> <ul style="list-style-type: none"> ▪ Energy is present whenever there are moving objects, sound, light, or heat. When objects collide, energy can be transferred from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air; as a result, the air gets heated and sound is produced. (4-PS3-2),(4-PS3-3) ▪ Light also transfers energy from place to place. (4-PS3-2) ▪ Energy can also be transferred from place to place by electric currents, which can then be used locally to produce motion, sound, heat, or light. The currents may have been produced to begin with by transforming the energy of motion into electrical energy. (4-PS3-2),(4-PS3-4) <p>PS3.C: Relationship Between Energy and Forces</p> <ul style="list-style-type: none"> ▪ When objects collide, the contact forces transfer energy so as to change the objects' motions. (4-PS3-3) <p>PS3.D: Energy in Chemical Processes and Everyday Life</p> <ul style="list-style-type: none"> ▪ The expression "produce energy" typically refers to the conversion of stored energy into a desired form for practical use. (4-PS3-4) <p>ETS1.A: Defining Engineering Problems</p> <ul style="list-style-type: none"> ▪ Possible solutions to a problem are limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account. (<i>secondary to 4-PS3-4</i>) 	<p>Energy and Matter</p> <ul style="list-style-type: none"> ▪ Energy can be transferred in various ways and between objects. (4-PS3-1),(4-PS3-2),(4-PS3-3),(4-PS3-4) <p>-----</p> <p>Connections to Engineering, Technology, and Applications of Science</p> <p>-----</p> <p>Influence of Science, Engineering and Technology on Society and the Natural World</p> <ul style="list-style-type: none"> ▪ Engineers improve existing technologies or develop new ones. (4-PS3-4) <p>-----</p> <p>Connections to Nature of Science</p> <p>-----</p> <p>Science is a Human Endeavor</p> <ul style="list-style-type: none"> ▪ Most scientists and engineers work in teams. (4-PS3-4) ▪ Science affects everyday life. (4-PS3-4)

Connections to other DCIs in fourth grade: N/A

Articulation of DCIs across grade-levels: **K.PS2.B** (4-PS3-3); **K.ETS1.A** (4-PS3-4); **2.ETS1.B** (4-PS3-4); **3.PS2.A** (4-PS3-3); **5.PS3.D** (4-PS3-4); **5.LS1.C** (4-PS3-4); **MS.PS2.A** (4-PS3-3); **MS.PS2.B** (4-PS3-2); **MS.PS3.A** (4-PS3-1),(4-PS3-2),(4-PS3-3),(4-PS3-4); **MS.PS3.B** (4-PS3-2),(4-PS3-3),(4-PS3-4); **MS.PS3.C** (4-PS3-3); **MS.PS4.B** (4-PS3-2); **MS.ETS1.B** (4-PS3-4); **MS.ETS1.C** (4-PS3-4)

Common Core State Standards Connections:

ELA/Literacy –

- 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. (4-PS3-1)
- 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. (4-PS3-1)
- RI.4.9** Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. (4-PS3-1)
- W.4.2** Write informative/explanatory texts to examine a topic and convey ideas and information clearly. (4-PS3-1)
- W.4.7** Conduct short research projects that build knowledge through investigation of different aspects of a topic. (4-PS3-2),(4-PS3-3),(4-PS3-4)
- W.4.8** Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. (4-PS3-1),(4-PS3-2),(4-PS3-3),(4-PS3-4)
- W.4.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. (4-PS3-1)

Mathematics –

- 4.OA.A.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. (4-PS3-4)

4-PS4 Waves and their Applications in Technologies for Information Transfer

4-PS4 Waves and their Applications in Technologies for Information Transfer

Students who demonstrate understanding can:

- 4-PS4-1. Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.** [Clarification Statement: Examples of models could include diagrams, analogies, and physical models using wire to illustrate wavelength and amplitude of waves.] [Assessment Boundary: Assessment does not include interference effects, electromagnetic waves, non-periodic waves, or quantitative models of amplitude and wavelength.]
- 4-PS4-2. Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.** [Assessment Boundary: Assessment does not include knowledge of specific colors reflected and seen, the cellular mechanisms of vision, or how the retina works.]
- 4-PS4-3. Generate and compare multiple solutions that use patterns to transfer information.*** [Clarification Statement: Examples of solutions could include drums sending coded information through sound waves, using a grid of 1's and 0's representing black and white to send information about a picture, and using Morse code to send text.]

The performance expectations above were developed using the following elements from the NRC document *A Framework for K-12 Science Education*:

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Developing and Using Models Modeling in 3–5 builds on K–2 experiences and progresses to building and revising simple models and using models to represent events and design solutions.</p> <ul style="list-style-type: none"> ▪ Develop a model using an analogy, example, or abstract representation to describe a scientific principle. (4-PS4-1) ▪ Develop a model to describe phenomena. (4-PS4-2) <p>Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in 3–5 builds on K–2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.</p> <ul style="list-style-type: none"> ▪ Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution. (4-PS4-3) <p style="text-align: center;">-----</p> <p style="text-align: center;"><i>Connections to Nature of Science</i></p> <p>Scientific Knowledge is Based on Empirical Evidence</p> <ul style="list-style-type: none"> ▪ Science findings are based on recognizing patterns. (4-PS4-1) 	<p>PS4.A: Wave Properties</p> <ul style="list-style-type: none"> ▪ Waves, which are regular patterns of motion, can be made in water by disturbing the surface. When waves move across the surface of deep water, the water goes up and down in place; there is no net motion in the direction of the wave except when the water meets a beach. (<i>Note: This grade band endpoint was moved from K–2.</i>) (4-PS4-1) ▪ Waves of the same type can differ in amplitude (height of the wave) and wavelength (spacing between wave peaks). (4-PS4-1) <p>PS4.B: Electromagnetic Radiation</p> <ul style="list-style-type: none"> ▪ An object can be seen when light reflected from its surface enters the eyes. (4-PS4-2) <p>PS4.C: Information Technologies and Instrumentation</p> <ul style="list-style-type: none"> ▪ Digitized Information can be transmitted over long distances without significant degradation. High-tech devices, such as computers or cell phones, can receive and decode information—convert it from digitized form to voice—and vice versa. (4-PS4-3) <p>ETS1.C: Optimizing The Design Solution</p> <ul style="list-style-type: none"> ▪ Different solutions need to be tested in order to determine which of them best solves the problem, given the criteria and the constraints. (<i>secondary to 4-PS4-3</i>) 	<p>Patterns</p> <ul style="list-style-type: none"> ▪ Similarities and differences in patterns can be used to sort and classify natural phenomena. (4-PS4-1) ▪ Similarities and differences in patterns can be used to sort and classify designed products. (4-PS4-3) <p>Cause and Effect</p> <ul style="list-style-type: none"> ▪ Cause and effect relationships are routinely identified. (4-PS4-2) <p style="text-align: center;">-----</p> <p style="text-align: center;"><i>Connections to Engineering, Technology, and Applications of Science</i></p> <p>Interdependence of Science, Engineering, and Technology</p> <ul style="list-style-type: none"> ▪ Knowledge of relevant scientific concepts and research findings is important in engineering. (4-PS4-3)
<p><i>Connections to other DCIs in fourth grade: 4.PS3.A (4-PS4-1); 4.PS3.B (4-PS4-1); 4.ETS1.A (4-PS4-3)</i></p> <p><i>Articulation of DCIs across grade-levels: K.ETS1.A (4-PS4-3); 1.PS4.B (4-PS4-2); 1.PS4.C (4-PS4-3); 2.ETS1.B (4-PS4-3); 2.ETS1.C (4-PS4-3); 3.PS2.A (4-PS4-3); MS.PS4.A (4-PS4-1); MS.PS4.B (4-PS4-2); MS.PS4.C (4-PS4-3); MS.LS1.D (4-PS4-2); MS.ETS1.B (4-PS4-3)</i></p>		
<p><i>Common Core State Standards Connections:</i></p> <p><i>ELA/Literacy –</i></p> <p>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. (4-PS4-3)</p> <p>RI.4.9 Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. (4-PS4-3)</p> <p>SL.4.5 Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes. (4-PS4-1),(4-PS4-2)</p> <p><i>Mathematics –</i></p> <p>MP.4 Model with mathematics. (4-PS4-1),(4-PS4-2)</p> <p>4.G.A.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. (4-PS4-1),(4-PS4-2)</p>		

4-LS1 From Molecules to Organisms: Structures and Processes

4-LS1 From Molecules to Organisms: Structures and Processes

Students who demonstrate understanding can:

- 4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.** [Clarification Statement: Examples of structures could include thorns, stems, roots, colored petals, heart, stomach, lung, brain, and skin.] [Assessment Boundary: Assessment is limited to macroscopic structures within plant and animal systems.]
- 4-LS1-2. Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.** [Clarification Statement: Emphasis is on systems of information transfer.] [Assessment Boundary: Assessment does not include the mechanisms by which the brain stores and recalls information or the mechanisms of how sensory receptors function.]

The performance expectations above were developed using the following elements from the NRC document *A Framework for K-12 Science Education*:

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Developing and Using Models Modeling in 3–5 builds on K–2 experiences and progresses to building and revising simple models and using models to represent events and design solutions.</p> <ul style="list-style-type: none"> ▪ Use a model to test interactions concerning the functioning of a natural system. (4-LS1-2) <p>Engaging in Argument from Evidence Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s).</p> <ul style="list-style-type: none"> ▪ Construct an argument with evidence, data, and/or a model. (4-LS1-1) 	<p>LS1.A: Structure and Function</p> <ul style="list-style-type: none"> ▪ Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction. (4-LS1-1) <p>LS1.D: Information Processing</p> <ul style="list-style-type: none"> ▪ Different sense receptors are specialized for particular kinds of information, which may be then processed by the animal’s brain. Animals are able to use their perceptions and memories to guide their actions. (4-LS1-2) 	<p>Systems and System Models</p> <ul style="list-style-type: none"> ▪ A system can be described in terms of its components and their interactions. (4-LS1-1),(4-LS1-2)
<p><i>Connections to other DCIs in fourth grade:</i> N/A</p> <p><i>Articulation of DCIs across grade-levels:</i> 1.LS1.A (4-LS1-1); 1.LS1.D (4-LS1-2); 3.LS3.B (4-LS1-1); MS.LS1.A (4-LS1-1),(4-LS1-2); MS.LS1.D (4-LS1-2)</p> <p><i>Common Core State Standards Connections:</i></p> <p><i>ELA/Literacy –</i></p> <p>W.4.1 Write opinion pieces on topics or texts, supporting a point of view with reasons and information. (4-LS1-1)</p> <p>SL.4.5 Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes. (4-LS1-2)</p> <p><i>Mathematics –</i></p> <p>4.G.A.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded across the line into matching parts. Identify line-symmetric figures and draw lines of symmetry. (4-LS1-1)</p>		

4-ESS1 Earth’s Place in the Universe

4-ESS1 Earth’s Place in the Universe

Students who demonstrate understanding can:

- 4-ESS1-1. Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.** [Clarification Statement: Examples of evidence from patterns could include rock layers with marine shell fossils above rock layers with plant fossils and no shells, indicating a change from land to water over time; and, a canyon with different rock layers in the walls and a river in the bottom, indicating that over time a river cut through the rock.] [Assessment Boundary: Assessment does not include specific knowledge of the mechanism of rock formation or memorization of specific rock formations and layers. Assessment is limited to relative time.]

The performance expectations above were developed using the following elements from the NRC document *A Framework for K-12 Science Education*:

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in 3–5 builds on K–2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.</p> <ul style="list-style-type: none"> ▪ Identify the evidence that supports particular points in an explanation. (4-ESS1-1) 	<p>ESS1.C: The History of Planet Earth</p> <ul style="list-style-type: none"> ▪ Local, regional, and global patterns of rock formations reveal changes over time due to earth forces, such as earthquakes. The presence and location of certain fossil types indicate the order in which rock layers were formed. (4-ESS1-1) 	<p>Patterns</p> <ul style="list-style-type: none"> ▪ Patterns can be used as evidence to support an explanation. (4-ESS1-1) <p style="text-align: center;">-----</p> <p style="text-align: center;"><i>Connections to Nature of Science</i></p> <p>Scientific Knowledge Assumes an Order and Consistency in Natural Systems</p> <ul style="list-style-type: none"> ▪ Science assumes consistent patterns in natural systems. (4-ESS1-1)
<p><i>Connections to other DCIs in fourth grade:</i> N/A</p> <p><i>Articulation of DCIs across grade-levels:</i> 2.ESS1.C (4-ESS1-1); 3.LS4.A (4-ESS1-1); MS.LS4.A (4-ESS1-1); MS.ESS1.C (4-ESS1-1) MS.ESS2.A (4-ESS1-1); MS.ESS2.B (4-ESS1-1)</p> <p><i>Common Core State Standards Connections:</i></p> <p><i>ELA/Literacy –</i></p> <p>W.4.7 Conduct short research projects that build knowledge through investigation of different aspects of a topic. (4-ESS1-1)</p> <p>W.4.8 Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. (4-ESS1-1)</p> <p>W.4.9 Draw evidence from literary or informational texts to support analysis, reflection, and research. (4-ESS1-1)</p> <p><i>Mathematics –</i></p> <p>MP.2 Reason abstractly and quantitatively. (4-ESS1-1)</p> <p>MP.4 Model with mathematics. (4-ESS1-1)</p> <p>4.MD.A.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. (4-ESS1-1)</p>		

4-ESS2 Earth's Systems

4-ESS2 Earth's Systems

Students who demonstrate understanding can:

4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation. [Clarification Statement: Examples of variables to test could include angle of slope in the downhill movement of water, amount of vegetation, speed of wind, relative rate of deposition, cycles of freezing and thawing of water, cycles of heating and cooling, and volume of water flow.] [Assessment Boundary: Assessment is limited to a single form of weathering or erosion.]

4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features. [Clarification Statement: Maps can include topographic maps of Earth's land and ocean floor, as well as maps of the locations of mountains, continental boundaries, volcanoes, and earthquakes.]

The performance expectations above were developed using the following elements from the NRC document *A Framework for K-12 Science Education*:

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Planning and Carrying Out Investigations Planning and carrying out investigations to answer questions or test solutions to problems in 3–5 builds on K–2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.</p> <ul style="list-style-type: none"> Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon. (4-ESS2-1) <p>Analyzing and Interpreting Data Analyzing data in 3–5 builds on K–2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used.</p> <ul style="list-style-type: none"> Analyze and interpret data to make sense of phenomena using logical reasoning. (4-ESS2-2) 	<p>ESS2.A: Earth Materials and Systems</p> <ul style="list-style-type: none"> Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind, living organisms, and gravity break rocks, soils, and sediments into smaller particles and move them around. (4-ESS2-1) <p>ESS2.B: Plate Tectonics and Large-Scale System Interactions</p> <ul style="list-style-type: none"> The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Most earthquakes and volcanoes occur in bands that are often along the boundaries between continents and oceans. Major mountain chains form inside continents or near their edges. Maps can help locate the different land and water features areas of Earth. (4-ESS2-2) <p>ESS2.E: Biogeology</p> <ul style="list-style-type: none"> Living things affect the physical characteristics of their regions. (4-ESS2-1) 	<p>Patterns</p> <ul style="list-style-type: none"> Patterns can be used as evidence to support an explanation. (4-ESS2-2) <p>Cause and Effect</p> <ul style="list-style-type: none"> Cause and effect relationships are routinely identified, tested, and used to explain change. (4-ESS2-1)
<p><i>Connections to other DCIs in fourth grade: N/A</i></p>		
<p><i>Articulation of DCIs across grade-levels: 2.ESS1.C (4-ESS2-1); 2.ESS2.A (4-ESS2-1); 2.ESS2.B (4-ESS2-2); 2.ESS2.C (4-ESS2-2); 5.ESS2.A (4-ESS2-1); 5.ESS2.C (4-ESS2-2); MS.ESS1.C (4-ESS2-2); MS.ESS2.A (4-ESS2-2); MS.ESS2.B (4-ESS2-2)</i></p>		
<p><i>Common Core State Standards Connections:</i></p> <p>ELA/Literacy –</p> <p>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. (4-ESS2-2)</p> <p>W.4.7 Conduct short research projects that build knowledge through investigation of different aspects of a topic. (4-ESS2-1)</p> <p>W.4.8 Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. (4-ESS2-1)</p> <p>Mathematics –</p> <p>MP.2 Reason abstractly and quantitatively. (4-ESS2-1)</p> <p>MP.4 Model with mathematics. (4-ESS2-1)</p> <p>MP.5 Use appropriate tools strategically. (4-ESS2-1)</p> <p>4.MD.A.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. (4-ESS2-1)</p> <p>4.MD.A.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. (4-ESS2-1),(4-ESS2-2)</p>		

4-ESS3 Earth and Human Activity

4-ESS3 Earth and Human Activity

Students who demonstrate understanding can:

4-ESS3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment. [Clarification Statement: Examples of renewable energy resources could include wind energy, water behind dams, and sunlight; non-renewable energy resources are fossil fuels and fissile materials. Examples of environmental effects could include loss of habitat due to dams, loss of habitat due to surface mining, and air pollution from burning of fossil fuels.]

4-ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.* [Clarification Statement: Examples of solutions could include designing an earthquake resistant building and improving monitoring of volcanic activity.] [Assessment Boundary: Assessment is limited to earthquakes, floods, tsunamis, and volcanic eruptions.]

The performance expectations above were developed using the following elements from the NRC document *A Framework for K-12 Science Education*:

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in 3–5 builds on K–2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.</p> <ul style="list-style-type: none"> Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution. (4-ESS3-2) <p>Obtaining, Evaluating, and Communicating Information Obtaining, evaluating, and communicating information in 3–5 builds on K–2 experiences and progresses to evaluate the merit and accuracy of ideas and methods.</p> <ul style="list-style-type: none"> Obtain and combine information from books and other reliable media to explain phenomena. (4-ESS3-1) 	<p>ESS3.A: Natural Resources</p> <ul style="list-style-type: none"> Energy and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways. Some resources are renewable over time, and others are not. (4-ESS3-1) <p>ESS3.B: Natural Hazards</p> <ul style="list-style-type: none"> A variety of hazards result from natural processes (e.g., earthquakes, tsunamis, volcanic eruptions). Humans cannot eliminate the hazards but can take steps to reduce their impacts. (4-ESS3-2) (<i>Note: This Disciplinary Core Idea can also be found in 3.WC.</i>) <p>ETS1.B: Designing Solutions to Engineering Problems</p> <ul style="list-style-type: none"> Testing a solution involves investigating how well it performs under a range of likely conditions. (<i>secondary to 4-ESS3-2</i>) 	<p>Cause and Effect</p> <ul style="list-style-type: none"> Cause and effect relationships are routinely identified and used to explain change. (4-ESS3-1) Cause and effect relationships are routinely identified, tested, and used to explain change. (4-ESS3-2) <p>-----</p> <p>Connections to Engineering, Technology, and Applications of Science</p> <p>Interdependence of Science, Engineering, and Technology</p> <ul style="list-style-type: none"> Knowledge of relevant scientific concepts and research findings is important in engineering. (4-ESS3-1) <p>Influence of Science, Engineering and Technology on Society and the Natural World</p> <ul style="list-style-type: none"> Over time, people’s needs and wants change, as do their demands for new and improved technologies. (4-ESS3-1) Engineers improve existing technologies or develop new ones to increase their benefits, to decrease known risks, and to meet societal demands. (4-ESS3-2)

Connections to other DCIs in fourth grade: **4.ETS1.C** (4-ESS3-2)

Articulation of DCIs across grade-levels: **K.ETS1.A** (4-ESS3-2); **2.ETS1.B** (4-ESS3-2); **2.ETS1.C** (4-ESS3-2); **5.ESS3.C** (4-ESS3-1); **MS.PS3.D** (4-ESS3-1); **MS.ESS2.A** (4-ESS3-1),(4-ESS3-2); **MS.ESS3.A** (4-ESS3-1); **MS.ESS3.B** (4-ESS3-2); **MS.ESS3.C** (4-ESS3-1); **MS.ESS3.D** (4-ESS3-1); **MS.ETS1.B** (4-ESS3-2)

Common Core State Standards Connections:

ELA/Literacy –

- 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. (4-ESS3-2)
- RI.4.9** Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. (4-ESS3-2)
- W.4.7** Conduct short research projects that build knowledge through investigation of different aspects of a topic. (4-ESS3-1)
- W.4.8** Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. (4-ESS3-1)
- W.4.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. (4-ESS3-1)

Mathematics –

- MP.2** Reason abstractly and quantitatively. (4-ESS3-1),(4-ESS3-2)
- MP.4** Model with mathematics. (4-ESS3-1),(4-ESS3-2)
- 4.OA.A.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. (4-ESS3-1),(4-ESS3-2)

Fourth Grade Health Standards

Nutrition and Physical Activity

Standard 1: Essential Concepts

- 1.1.N Identify and define key nutrients and their functions.
- 1.2.N State the recommended number of servings and serving sizes for different food groups.
- 1.3.N Describe the relationship between food intake, physical activity, and good health.
- 1.4.N Identify how to keep food safe through proper food preparation and storage.
- 1.5.N Explain how food can contain germs that cause illness.
- 1.6.N Explain the importance of drinking plenty of water, especially during vigorous physical activity.
- 1.7.N Describe the benefits of moderate and vigorous physical activity.
- 1.8.N Identify ways to increase and monitor physical activity.

Standard 2: Analyzing Influences

- 2.1.N Identify internal and external influences that affect food choices.
- 2.2.N Analyze advertising and marketing techniques used for food and beverages.
- 2.3.N Identify internal and external influences that affect physical activity.

Standard 3: Accessing Valid Information

- 3.1.N Identify resources for valid information about safe and healthy foods.
- 3.2.N Use food labels to determine nutrient and sugar content.

Standard 4: Interpersonal Communication

- 4.1.N Demonstrate effective communication skills to ask for healthy food choices.

Standard 5: Decision Making

- 5.1.N Describe how to use a decision-making process to select nutritious foods and beverages.
- 5.2.N Describe how to use a decision-making process to select healthy options for physical activity.

Standard 6: Goal Setting

- 6.1.N Make a plan to choose healthy foods and beverages.
- 6.2.N Make a plan to choose physical activities at school and at home.

Standard 7: Practicing Health-Enhancing Behaviors

- 7.1.N Practice how to take personal responsibility for eating healthy foods.
- 7.2.N Practice how to take personal responsibility for limiting sugar consumption in foods, snacks, and beverages.
- 7.3.N Identify ways to establish and maintain healthy eating practices consistent with current research-based guidelines for a nutritionally balanced diet.
- 7.4.N Practice how to take personal responsibility for engaging in physical activity.

Standard 8: Health Promotion

- 8.1.N Support others in making positive food and physical activity choices.

Injury Prevention and Safety

Standard 1: Essential Concepts

- 1.1.S Describe safety hazards, including those related to fire, water, dangerous objects, being home alone, and using the Internet.
- 1.2.S Identify behaviors that may lead to conflict with others.
- 1.3.S Describe the different types of bullying and harassment.
- 1.4.S Examine the effects of bullying and harassment on others.
- 1.5.S Identify basic safety guidelines associated with weather-related emergencies and natural disasters (e.g., floods, earthquakes, and tsunamis).
- 1.6.S Identify disaster preparedness procedures at home, at school, and in the community.
- 1.7.S Describe ways to seek assistance if worried, abused, or threatened.
- 1.8.S Explain the dangers of having weapons at school, at home, and in the community.
- 1.9.S Explain the importance of wearing helmets, pads, mouth guards, water safety vests, and other safety equipment during athletic and outdoor activities.

- 1.10.S Define a gang and how it is different from a club, sports team, or clique.
- 1.11.S Describe the dangers of gang activity.
- 1.12.S Identify positive alternatives to gang activity.
- 1.13.S Demonstrate proper lifting and carrying techniques for handling heavy backpacks and book bags.
- 1.14.S Identify personal protection equipment needed for sports and recreational activities (e.g., mouthpieces, pads, helmets).
- 1.15.S Explain what to do if someone is poisoned (e.g., by household cleaning or paint products): call 9-1-1, a poison control center, or other local emergency number.
- 1.16.S Identify ways to reduce risk of injuries from fires, around water, while riding a motor vehicle, as a pedestrian, on the playground, and from falls.
- 1.17.S Identify ways to prevent vision and hearing damage.
- 1.18.S Explain how courtesy, compassion, and respect toward others reduce conflict and promote nonviolent behavior.
- 1.19.S Demonstrate escape strategies for cases of inappropriate touching or attempted abduction.

Standard 2: Analyzing Influences

- 2.1.S Analyze how emotions contribute to both safe and violent behaviors.
- 2.2.S Examine the influence of violence in media and technology on health behavior.
- 2.3.S Explain that most young people do not use violence to deal with problems.

Standard 3: Accessing Valid Information

- 3.1.S Identify accurate sources of information about injury prevention and safety.
- 3.2.S Demonstrate how to access emergency services and communicate effectively with emergency personnel.
- 3.3.S Identify safe people and places to go to if feeling unsafe or threatened (e.g., school counselor, police department, fire department).
- 3.4.S Identify trusted adults to report to if people are in danger of hurting themselves or others.
- 3.5.S Demonstrate how to dial 9-1-1 or other emergency numbers and how to provide appropriate information.
- 3.6.S Demonstrate the ability to read and follow labels of common household products concerning dangers and safe use, storage, and proper disposal.

Standard 4: Interpersonal Communication

- 4.1.S Demonstrate the ability to use refusal skills in risky situations.
- 4.2.S Practice effective conflict resolution techniques with others.
- 4.3.S Report bullying, harassment, and other dangerous situations.
- 4.4.S Demonstrate refusal skills to avoid gang involvement.
- 4.5.S Demonstrate what to say and do when witnessing bullying.

Standard 5: Decision Making

- 5.1.S Evaluate strategies to avoid potentially dangerous situations.
- 5.2.S Examine the consequences of bullying and harassment.
- 5.3.S Analyze the benefits of using nonviolent means to resolve conflicts.
- 5.4.S Evaluate how following family, school, and community rules can impact safety.

Standard 6: Goal Setting

- 6.1.S Make a personal commitment to use appropriate protective gear while engaging in activities.
- 6.2.S Make a personal commitment to stay away from people involved in gang activity.

Standard 7: Practicing Health-Enhancing Behaviors

- 7.1.S Demonstrate strategies to avoid bullying and other types of harassment.
- 7.2.S Practice disaster preparedness procedures at home and at school.
- 7.3.S Use appropriate protective gear and equipment.
- 7.4.S Follow safety rules and laws at home, at school, and in the community.
- 7.5.S Demonstrate escape strategies for cases of inappropriate touching or attempted abduction.
- 7.6.S Demonstrate the ability to execute an escape plan for incidents of fires, floods, earthquakes, and other natural disasters.

Standard 8: Health Promotion

- 8.1.S Encourage specific measures to improve home or school safety.
- 8.2.S Offer friendship and support to someone who was bullied.
- 8.3.S Encourage others' safety behaviors (e.g., wearing bicycle helmets and seat belts).

Alcohol, Tobacco, and Other Drugs

Standard 1: Essential Concepts

- 1.1.A Describe the harmful short- and long-term effects of alcohol, tobacco, and other drugs, including inhalants.
- 1.2.A Identify ways to cope with situations involving alcohol, tobacco, and other drugs.
- 1.3.A Explain the differences between medicines and illicit drugs.
- 1.4.A Identify family and school rules about alcohol, tobacco, and drug use.
- 1.5.A Explain why individual reactions to alcohol and drug use may vary.

Standard 2: Analyzing Influences

- 2.1.A Identify internal and external influences that affect the use of alcohol, tobacco, and other drugs.
- 2.2.A Examine advertising strategies used for alcohol, tobacco, and other drugs.

Standard 3: Accessing Valid Information

- 3.1.A Identify sources of valid information regarding alcohol, tobacco, and other drugs.

Standard 4: Interpersonal Communication

- 4.1.A Demonstrate refusal skills to resist the pressure to experiment with alcohol, tobacco, and other drugs.
- 4.2.A Practice effective verbal communication skills to request assistance in situations where alcohol, tobacco, and other drugs are being used.

Standard 5: Decision Making

- 5.1.A Evaluate strategies to avoid situations where alcohol, tobacco, and other drugs are being used.

Standard 6: Goal Setting

- 6.1.A Make a plan to choose healthy alternatives to tobacco and drug use.

Standard 7: Practicing Health-Enhancing Behaviors

- 7.1.A Use a variety of effective coping strategies when faced with alcohol, tobacco, and other drug use and abuse by family or friends.

Standard 8: Health Promotion

- 8.1.A Encourage others to be free of alcohol, tobacco, and other drugs.

Fourth Grade Physical Education Standards

STANDARD 1

Students demonstrate the motor skills and movement patterns needed to perform a variety of physical activities.

Body Management

- 1.1 Perform simple balance stunts with a partner while sharing a common base of support.
- 1.2 Change direction quickly to maintain the spacing between two players.
- 1.3 Change direction quickly to increase the spacing between two players.
- 1.4 Determine the spacing between offensive and defensive players based on the speed of the players.

Locomotor Movement

- 1.5 Jump a self-turned rope.

Manipulative Skills

- 1.6 Throw and catch an object with a partner while both partners are moving.
- 1.7 Throw overhand at increasingly smaller targets, using proper follow-through.
- 1.8 Throw a flying disc for distance, using the backhand movement pattern.
- 1.9 Catch a fly ball above the head, below the waist, and away from the body.
- 1.10 Kick a ball to a moving partner, using the inside of the foot.
- 1.11 Kick a stationary ball from the ground into the air.
- 1.12 Punt a ball dropped from the hands.
- 1.13 Strike, with a paddle or racket, a lightweight object that has been tossed by a partner.
- 1.14 Serve a lightweight ball to a partner, using the underhand movement pattern.
- 1.15 Strike a gently tossed ball with a bat, using a side orientation.
- 1.16 Keep a foot-dribbled ball away from a defensive partner.
- 1.17 Keep a hand-dribbled ball away from a defensive partner.
- 1.18 Manipulate an object by using a long-handled implement.
- 1.19 Stop a kicked ball by trapping it with the foot while standing still.
- 1.20 Volley a tossed lightweight ball, using the forearm pass.

Rhythmic Skills

- 1.21 Perform a series of basic square-dance steps.
- 1.22 Perform a routine to music that includes even and uneven locomotor patterns.

STANDARD 2

Students demonstrate knowledge of movement concepts, principles, and strategies that apply to the learning and performance of physical activities.

Movement Concepts

- 2.1 Explain the difference between offense and defense.
- 2.2 Describe ways to create more space between an offensive player and a defensive player.

Body Management

- 2.3 Describe the appropriate body orientation to serve a ball, using the underhand movement pattern.
- 2.4 Describe the appropriate body orientation to strike a ball, using the forehand movement pattern.

Manipulative Skills

- 2.5 Explain the similar movement elements of the underhand throw and the underhand volleyball serve.
- 2.6 Distinguish between punting and kicking and describe the similarities and differences.
- 2.7 Compare and contrast dribbling a ball without a defender and with a defender.
- 2.8 Explain the differences in manipulating an object when using a long-handled implement and when using a short-handled implement.
- 2.9 Identify key body positions used for volleying a ball.

Rhythmic Skills

- 2.10 Design a routine to music that includes even and uneven locomotor patterns.

STANDARD 3

Students assess and maintain a level of physical fitness to improve health and performance.

Fitness Concepts

- 3.1 Participate in appropriate warm-up and cool-down exercises for particular physical activities.
- 3.2 Demonstrate the correct body position for pushing and pulling large objects.

Aerobic Capacity

- 3.3 Participate three to four days each week, for increasing periods of time, in continuous moderate to vigorous physical activities at the appropriate intensity to increase aerobic capacity.

Muscular Strength/Endurance

- 3.4 Perform increasing numbers of each: abdominal curl-ups, oblique curl-ups on each side, modified push-ups or traditional push-ups, and triceps push-ups.
- 3.5 Hang by the hands from an overhead bar with the hips and knees each at a 90-degree angle.

Flexibility

- 3.6 Demonstrate basic stretches using proper alignment for hamstrings, quadriceps, hip flexors, triceps, back, shoulders, hip abductors, and calves.

Body Composition

- 3.7 Sustain continuous movement for increasing periods of time while participating in moderate to vigorous physical activity.

Assessment

- 3.8 Measure and record changes in aerobic capacity and muscular strength, using scientifically based health-related physical fitness assessments.
- 3.9 Meet minimum requirements for health-related physical fitness, using scientifically based health related physical fitness assessments.

STANDARD 4

Students demonstrate knowledge of physical fitness concepts, principles, and strategies to improve health and performance.

Fitness Concepts

- 4.1 Identify the correct body alignment for performing lower-body stretches.
- 4.2 Explain the principles of physical fitness: frequency, intensity, time, and type.
- 4.3 Set personal short-term goals for aerobic endurance, muscular strength and endurance, and flexibility and monitor progress by measuring and recording personal fitness scores.
- 4.4 Identify healthful choices for meals and snacks that help improve physical performance.
- 4.5 Explain why the body needs water before, during, and after physical activity.
- 4.6 Explain why the body uses a higher percentage of carbohydrates for fuel during high intensity physical activity and a higher percentage of fat for fuel during low-intensity physical activity.
- 4.7 Explain the purpose of warm-up and cool-down periods.

Aerobic Capacity

- 4.8 Calculate personal heart rate per minute by recording heartbeats for ten-second intervals and 15 second intervals.
- 4.9 Explain why a strong heart is able to return quickly to its resting rate after exertion.
- 4.10 Identify two characteristics of physical activity that build aerobic capacity.
- 4.11 Determine the intensity of personal physical activity by using the concept of perceived exertion.

Muscular Strength/Endurance

- 4.12 Describe the difference between muscular strength and muscular endurance.
- 4.13 Explain why muscular endurance or muscular strength activities do not increase muscle mass in preadolescent children.
- 4.14 Recognize how strengthening major muscles can improve performance at work and play.
- 4.15 Describe the correct form to push and pull heavy objects.

Flexibility

- 4.16 Explain the value of increased flexibility when participating in physical activity.

Body Composition

- 4.17 Explain the effect of regular, sustained physical activity on the body's ability to consume calories and burn fat for energy.

STANDARD 5

Students demonstrate and utilize knowledge of psychological and sociological concepts, principles, and strategies that apply to the learning and performance of physical activity.

Self-Responsibility

- 5.1 Set a personal goal to improve an area of health-related physical fitness and work toward that goal in nonschool time.
- 5.2 Collect data and record progress toward attainment of a personal fitness goal.
- 5.3 Accept responsibility for one's own performance without blaming others.
- 5.4 Respond to winning and losing with dignity and respect.

Social Interaction

- 5.5 Include others in physical activities and respect individual differences in skill and motivation.

Group Dynamics

- 5.6 Accept an opponent's outstanding skill, use of strategies, or ability to work effectively with teammates as a challenge of physical fitness.

Fourth Grade Visual And Performing Arts Standards

DANCE

1.0 ARTISTIC PERCEPTION

Development of Motor Skills and Technical Expertise

- 1.1 Demonstrate mental concentration and physical control in performing dance skills.
- 1.2 Demonstrate the ability to use smooth transitions when connecting one movement phrase to another.

Comprehension and Analysis of Dance Elements

- 1.3 Demonstrate increased range and use of space, time, and force/energy concepts (e.g., pulse/accents, melt/collapse, weak/strong).
- 1.4 Explain the principles of variety, contrast, and unity and apply to a dance sequence.

Development of Dance Vocabulary

- 1.5 Describe a specific movement, using appropriate dance vocabulary.
- 1.6 Identify, define, and use *phrasing* in dances learned or observed.

2.0 CREATIVE EXPRESSION

Creation/Invention of Dance Movements

- 2.1 Create, develop, and memorize set movement patterns and sequences.
- 2.2 Improvise extended movement phrases.

Application of Choreographic Principles and Processes to Creating Dance

- 2.3 Describe, discuss, and analyze the process used by choreographers to create a dance.
- 2.4 Create a dance study that has a beginning, a middle, and an end. Review, revise, and refine.

Communication of Meaning in Dance

- 2.5 Convey a range of feelings through shape/postures and movements when performing for peers.
- 2.6 Perform improvised movement and dance studies with focus and expression.

Development of Partner and Group Skills

- 2.7 Demonstrate additional partner and group skills (e.g., imitating, leading/following, mirroring, calling/responding, echoing).

3.0 HISTORICAL AND CULTURAL CONTEXT

Development of Dance

- 3.1 Perform and identify dances from various countries with different arrangements of dancers (e.g., lines, circles, couples).
- 3.2 Name the musical accompaniment and explain how it relates to the dances they have studied.

History and Function of Dance

- 3.3 Perform and describe dances that reflect the geographical place in which the dances are performed (e.g., deserts, rain forests, islands).

Diversity of Dance

- 3.4 Perform and identify folk/traditional and social dances from California history.

4.0 AESTHETIC VALUING

Description, Analysis, and Criticism of Dance

- 4.1 Use dance vocabulary to describe unique characteristics of dances they have watched or performed from countries studied in the history–social science curriculum (e.g., rhythms, spatial patterns, gestures, intent).
- 4.2 Name and use specific criteria in assessing personal and professional dance choreography (e.g., contrast, phrasing, unity).

Meaning and Impact of Dance

- 4.3 Describe ways in which a dancer effectively communicates ideas and moods (strong technique, projection, and expression).
- 4.4 List the expectations the audience has for a performer and vice versa.

5.0 CONNECTIONS, RELATIONSHIPS, APPLICATIONS

Connections and Applications Across Disciplines

- 5.1 Explain how dance practice relates to and uses the vocabulary of other art subjects (e.g., positive and negative space, shape, line, rhythm, character).
- 5.2 Describe how dancing develops strength, flexibility, and endurance in accordance with physical education standards.
- 5.3 Demonstrate a recognition of personal space and respect for the personal space of others.

Development of Life Skills and Career Competencies

- 5.4 Analyze the choreographic process and its relation to the writing process (e.g., brainstorming, exploring and developing ideas, putting ideas into a form, sequencing).

MUSIC

1.0 ARTISTIC PERCEPTION

Read and Notate Music

- 1.1 Read, write, and perform melodic notation for simple songs in major keys, using solfège.

- 1.2 Read, write, and perform diatonic scales.
- 1.3 Read, write, and perform rhythmic notation, including sixteenth notes, dotted notes, and syncopation (e.g., eighth/quarter/eighth note and eighth-rest/quarter/eighth note).

Listen to, Analyze, and Describe Music

- 1.4 Describe music according to its elements, using the terminology of music.
- 1.5 Classify how a variety of instruments from diverse cultures produce sound (e.g., idiophone, aerophone, chordophone, membranophone).
- 1.6 Recognize and describe aural examples of musical forms, including rondo.

2.0 CREATIVE EXPRESSION

Music Apply Vocal and Instrumental Skills

- 2.1 Sing a varied repertoire of music from diverse cultures, including rounds, descants, and songs with ostinatos, alone and with others.
- 2.2 Use classroom instruments to play melodies and accompaniments from a varied repertoire of music from diverse cultures, including rounds, descants, and ostinatos, by oneself and with others.

Compose, Arrange, and Improvise

- 2.3 Compose and improvise simple rhythmic and melodic patterns on classroom instruments.

3.0 HISTORICAL AND CULTURAL CONTEXT

Role of Music

- 3.1 Explain the relationship between music and events in history.

Diversity of Music

- 3.2 Identify music from diverse cultures and time periods.
- 3.3 Sing and play music from diverse cultures and time periods.
- 3.4 Compare musical styles from two or more cultures.
- 3.5 Recognize the influence of various cultures on music in California.

4.0 AESTHETIC VALUING

Analyze and Critically Assess

- 4.1 Use specific criteria when judging the relative quality of musical performances.

Derive Meaning

- 4.2 Describe the characteristics that make a performance a work of art.

5.0 CONNECTIONS, RELATIONSHIPS, APPLICATIONS

Connections and Applications

- 5.1 Identify and interpret expressive characteristics in works of art and music.
- 5.2 Integrate several art disciplines (dance, music, theatre, or the visual arts) into a well-organized presentation or performance.
- 5.3 Relate dance movements to express musical elements or represent musical intent in specific music.

Careers and Career-Related Skills

- 5.4 Evaluate improvement in personal musical performances after practice or rehearsal.

THEATRE

1.0 ARTISTIC PERCEPTION

Development of the Vocabulary of Theatre

- 1.1 Use the vocabulary of theatre, such as *plot*, *conflict*, *climax*, *resolution*, *tone*, *objectives*, *motivation*, and *stock characters*, to describe theatrical experiences.

Comprehension and Analysis of the Elements of Theatre

- 1.2 Identify a character's objectives and motivations to explain that character's behavior.
- 1.3 Demonstrate how voice (diction, pace, and volume) may be used to explore multiple possibilities for a live reading. *Examples:* "I want you to go." "I want *you* to go." "I want you to *go*."

2.0 CREATIVE EXPRESSION

Development of Theatrical Skills

- 2.1 Demonstrate the emotional traits of a character through gesture and action.

Creation/Invention in Theatre

- 2.2 Retell or improvise stories from classroom literature in a variety of tones (gossipy, sorrowful, comic, frightened, joyful, sarcastic).
- 2.3 Design or create costumes, props, makeup, or masks to communicate a character in formal or informal performances.

3.0 HISTORICAL AND CULTURAL CONTEXT

Role and Cultural Significance of Theatre

- 3.1 Identify theatrical or storytelling traditions in the cultures of ethnic groups throughout the history of California.

History of Theatre

- 3.2 Recognize key developments in the entertainment industry in California, such as the introduction of silent movies, animation, radio and television broadcasting, and interactive video.

4.0 AESTHETIC VALUING

Critical Assessment of Theatre

4.1 Develop and apply appropriate criteria or rubrics for critiquing performances as to characterization, diction, pacing, gesture, and movement.

4.2 Compare and contrast the impact on the audience of theatre, film, television, radio, and other media.

Derivation of Meaning from Works of Theatre

4.3 Describe students' responses to a work of theatre and explain what the playwright did to elicit those responses.

5.0 CONNECTIONS, RELATIONSHIPS, APPLICATIONS

Connections and Applications

5.1 Dramatize events in California history.

5.2 Use improvisation and dramatization to explore concepts in other content areas.

Careers and Career-Related Skills

5.3 Exhibit team identity and commitment to purpose when participating in theatrical experiences.

VISUAL ARTS

1.0 ARTISTIC PERCEPTION

Develop Visual Arts Vocabulary

1.1 Perceive and describe contrast and emphasis in works of art and in the environment.

1.2 Describe how negative shapes/forms and positive shapes/forms are used in a chosen work of art.

1.3 Identify pairs of complementary colors (e.g., yellow/violet; red/green; orange/blue) and discuss how artists use them to communicate an idea or mood.

1.4 Describe the concept of proportion (in face, figure) as used in works of art.

Analyze Art Elements and Principles of Design

1.5 Describe and analyze the elements of art (e.g., color, shape/form, line, texture, space, value), emphasizing form, as they are used in works of art and found in the environment.

2.0 CREATIVE EXPRESSION

Skills, Processes, Materials, and Tools

2.1 Use shading (value) to transform a two-dimensional shape into what appears to be a three-dimensional form (e.g., circle to sphere).

2.2 Use the conventions of facial and figure proportions in a figure study.

2.3 Use additive and subtractive processes in making simple sculptural forms.

2.4 Use fibers or other materials to create a simple weaving.

Communication and Expression Through Original Works of Art

2.5 Use accurate proportions to create an expressive portrait or a figure drawing or painting.

2.6 Use the interaction between positive and negative space expressively in a work of art.

2.7 Use contrast (light and dark) expressively in an original work of art.

2.8 Use complementary colors in an original composition to show contrast and emphasis.

3.0 HISTORICAL AND CULTURAL CONTEXT

Role and Development of the Visual Arts

3.1 Describe how art plays a role in reflecting life (e.g., in photography, quilts, architecture).

Diversity of the Visual Arts

3.2 Identify and discuss the content of works of art in the past and present, focusing on the different cultures that have contributed to California's history and art heritage.

3.3 Research and describe the influence of religious groups on art and architecture, focusing primarily on buildings in California both past and present.

4.0 AESTHETIC VALUING

Derive Meaning

4.1 Describe how using the language of the visual arts helps to clarify personal responses to works of art.

4.2 Identify and describe how a person's own cultural context influences individual responses to works of art.

4.3 Discuss how the subject and selection of media relate to the meaning or purpose of a work of art.

Make Informed Judgments

4.4 Identify and describe how various cultures define and value art differently.

4.5 Describe how the individual experiences of an artist may influence the development of specific works of art.

5.0 CONNECTIONS, RELATIONSHIPS, APPLICATIONS

Connections and Applications

5.1 Select a nonobjective painting, work in small groups to interpret it through dance/movement, and then write a paragraph reporting on the arts experience.

5.2 Identify through research twentieth-century artists who have incorporated symmetry as a part of their work and then create a work of art, using bilateral or radial symmetry.

Visual Literacy

5.3 Construct diagrams, maps, graphs, timelines, and illustrations to communicate ideas or tell a story about a historical event.

Careers and Career-Related Skills

5.4 Read biographies and stories about artists and summarize the readings in short reports, telling how the artists mirrored or affected their time period or culture.

4th Grade
Technology Standards

Level of Skills Definitions			
Observe		<i>Observation of Teacher Modeling Skills</i>	
Basic		<i>Practicing Skills with Teacher's Guidance</i>	
Intermediate		<i>Practicing Skills with Minimal Teacher Support</i>	
Proficient		<i>Applying Skills Independently</i>	
#	Category	Standard	Level of Skills
4.1	Ethics	Practice respectful and responsible use of technology by abiding by School Technology and Internet Use Policy.	NA
4.2	Ethics	Demonstrate an understanding of plagiarism and fair use. Copyright Laws of Material.	NA
4.3	Ethics	Evaluate and use several resources from a variety of information sources to validate accuracy of information.	NA
4.4	Ethics	Demonstrate an understanding of Internet Safety Procedures.	NA
4.5	Keyboarding Skills	Use correct technique for key striking and keying by touch.	Advanced
4.6	Keyboarding Skills	Enter data at a rate of 11-15 words per minute.	Advanced
4.7	Keyboarding Skills	Identify the location and function of the TAB key.	Advanced
4.8	Keyboarding Skills	Use both hands simultaneously on the keyboard.	Advanced
4.9	Keyboarding Skills	Use correct hand-finger, home row, and pairing of fingers.	Advanced
4.10	Keyboarding Skills	Use left hand on the left side of the keyboard.	Advanced
4.11	Keyboarding Skills	Use right hand on the right side of the keyboard.	Advanced
4.12	Keyboarding Skills	Use thumb on the spacebar.	Advanced
4.13	Keyboarding Skills	Locate, identify and use letter, number, and punctuation keys.	Advanced
4.14	Keyboarding Skills	Identify keys on the right and left side of the keyboard.	Advanced
4.15	Keyboarding Skills	Recognize that letters typed on the keyboard are lower case unless the Shift Key is used.	Advanced
4.16	Keyboarding Skills	Identify the location and function of these keys: Enter, Escape, Spacebar, Shift, Arrows, and Backspace.	Advanced
4.17	Keyboarding Skills	Identify and properly use the mouse.	Advanced

4th Grade
Technology Standards

<i>Level of Skills Definitions</i>			
<i>Observe</i>		<i>Observation of Teacher Modeling Skills</i>	
<i>Basic</i>		<i>Practicing Skills with Teacher's Guidance</i>	
<i>Intermediate</i>		<i>Practicing Skills with Minimal Teacher Support</i>	
<i>Proficient</i>		<i>Applying Skills Independently</i>	
#	Category	Standard	Level of Skills
4.18	Keyboarding Skills	Use correct posture.	Advanced
4.19	Keyboarding Skills	Use "single-click", "double-click", and "click-and drag" functions of the mouse.	Advanced
4.20	Word Processing	Understand and use the cut, copy, and paste information.	Advanced
4.21	Word Processing	Use correct spacing between words.	Advanced
4.22	Word Processing	Use correct spacing following punctuation.	Advanced
4.23	Word Processing	Use Spellcheck.	Advanced
4.24	Word Processing	Use appropriate items on a menu bar "Print" and "Save".	Advanced
4.25	Word Processing	Change font, color, and size.	Advanced
4.26	Word Processing	Name and save a file.	Advanced
4.27	Word Processing	Add graphics to a composition.	Advanced
4.28	Word Processing	Insert Header/Footer, Paragraphing Tools, Adjusting alignment.	Basic
4.29	Database	Define the term "database" and provide examples from everyday life (Destiny, Telephone directories, etc.)	Basic
4.30	Database	Define terms related to databases, such as "record" field, and "search".	Basic
4.31	Database	Do simple searches of existing databases .	Basic
4.32	Spreadsheet	Demonstrate an understanding of the spreadsheet as a tool to record, organize, and graph information.	Basic
4.33	Spreadsheet	Identify and explain terms and concepts related to spreadsheets (cell, column, row, values, chart, graphs).	Basic
4.34	Spreadsheet	Enter/Edit data in spreadsheets and perform calculations using simple formulas (+, -, *) observing the changes that occur.	Basic

4th Grade
Technology Standards

<i>Level of Skills Definitions</i>			
<i>Observe</i>	<i>Observation of Teacher Modeling Skills</i>		
<i>Basic</i>	<i>Practicing Skills with Teacher's Guidance</i>		
<i>Intermediate</i>	<i>Practicing Skills with Minimal Teacher Support</i>		
<i>Proficient</i>	<i>Applying Skills Independently</i>		
#	Category	Standard	Level of Skills
4.35	Multimedia	Create, Edit, and Format Text on a Slide.	Basic
4.36	Multimedia	Create a series of slides and organize them to present research or convey an idea.	Basic
4.37	Multimedia	Copy and paste or import graphics, change their size and position on the slide (use of transitions, etc.).	Basic
4.38	Internet Skills	Demonstrate the ability to use icons on desktop to get to district standard sites: Accelerated Reader, etc.	Advanced
4.39	Internet Skills	Manage organize windows, tabs, bookmarks (minimize/maximize).	Intermediate
4.40	Internet Skills	Demonstrate the ability to use a search engine.	Intermediate

MATERIALS AND RESOURCES

Fourth Grade

READING/LANGUAGE ARTS

Benchmark Advance is the basic text for students. The following materials are used:

Teacher's Resources

Five Teacher's resource System Books
Assessment Books
Intervention Resources
ELD Resources
Read-Aloud Handbook
Grammar, Spelling & Vocabulary Workbook
Daily Take-Home Activity Calendars

Small Group Leveled Texts

Units 1-10

Small Group Leveled Texts Teacher Support

Teacher's Guides & Text Evidence Question
Cards Units 1-10
Reader's Theater Handbook

Small Group Reader's Theater

Units 1-10

Texts for ELD

Student Book – Set of 10

Texts for Close Reading Consumable Student Book

Student Books – 1 per student
Teacher Set

Instructional Minutes:

Students will receive a minimum of 120 minutes of instruction in language arts per day.

WRITING

Write from the Beginning and Beyond | Thinking Maps® is the writing program for students.

The following materials are used:

Teacher Manuals:

- ❖ Thinking Maps: *A Language for Learning* - with 8 classroom posters
- ❖ Thinking Maps: Write from the Beginning and Beyond: *Expository/Informative*
- ❖ Thinking Maps: Write from the Beginning and Beyond: *Narrative*
- ❖ Thinking Maps: Write from the Beginning and Beyond: *Response to Literature*
- ❖ Thinking Maps: Write from the Beginning and Beyond: *Setting the Stage*

MATHEMATICS

Go Math! California Student Edition Multi-Volume Grade 4 is the basic text for students. The following materials are used:

Student Materials:

- ❖ California Student Edition Multi-Volume Grade 4
- ❖ Bilingual Mathboard Grade 4
- ❖ California Online Interactive Student Edition (includes Personal Math Trainer) Grade 4
- ❖ SBAC Test Prep Student Edition Grade 4
- ❖ California Downloadable Student Edition PDF Grade 4

Teacher Resource Materials:

- ❖ California Teacher Edition and Planning Guide Bundle Grade 4
- ❖ California Teacher Digital Management Center Grade 4

- ❖ California Assessment Guide Blackline Masters Grade 4
- ❖ California Reteach Workbook Blackline Masters Grade 4
- ❖ California Enrichment Workbook Blackline Masters Grade 4
- ❖ Strategic Intervention Teacher Guide Grade 4
- ❖ SBAC Test Prep Teacher Edition Grade 4
- ❖ Bilingual ExamView CD-ROM Grade 4
- ❖ Grab and Go Differentiated Centers Kit Grade 4
- ❖ Grab and Go Customized Manipulatives Kit Grade 4
- ❖ California Downloadable Student Edition PDF Grade 4

Instructional Minutes:

Students will receive a minimum of 60 minutes of instruction in mathematics per day.

TECHNOLOGY

Student Programs:

- ❖ Amplify
- ❖ Benchmark Universe
- ❖ BrainPOP
- ❖ BrainPOP ELL
- ❖ Go Math!
- ❖ Google Classroom
- ❖ i-Ready
- ❖ MobyMax
- ❖ Renaissance Learning
- ❖ Typing Agent

HISTORY/SOCIAL SCIENCE

California: A Changing State (Harcourt School Publishers) is the basic text for students. The following materials are used:

Teacher Editions:

California: A Changing State
California Homework & Practice Book
California Success for English
Learners
Time for Kids Readers

One Per Student:

California: A Changing State
Homework and Practice Book
Student Edition CD-Rom
Student Edition e-book
Interactive Desk Map: California
Interactive Desk Map: U.S.
Interactive Desk Map: World
Graphic Organizers Write-On/Wipe-off Cards

Teacher Resource Materials:

California ePlanner with Teachers Edition
Interactive Atlas
California Audiotext Collection
California ELA Program Correlation Cards
Picture/Word Cards for Developing Academic Language
California Reading Support and Intervention Book
Social Studies in Action; Resources for the Classroom
Primary Source Collection, Intermediate
TimeLinks; Interactive Time Line package
Time for Kids Readers Collection (1 copy each of 18 titles)
California Assessment Program
Interactive Desk Map Transparencies: California
Interactive Desk Map Transparencies: U.S.
Interactive Desk Map Transparencies: World
California Vocabulary Power
Music CD Collection
All-In One Planner with Assessment CD-ROM
Online Assessment Quick Start Guide for Teachers

SCIENCE

Amplify Science is the adopted curriculum. The following materials are used:

Teacher Editions:

- Energy Conversions
- Vision and Light
- Earth's Features
- Waves, Energy, and Information

*Teacher editions are also available online.

One Per Student:

- 1 Investigation notebook per unit

*Investigation notebooks are also available online.

Teacher Resource Materials:

18 student readers of the following titles:

Earth's Features

- *Arguing to Solve a Mystery*
- *Clues from the Past*
- *Fossil Hunter's Handbook*
- *Rocky Wonders*
- *Through the Eyes of a Geologist*

Vision and Light

- *Crow Scientist*
- *Handbook of Animal Eyes*
- *I See What You Mean*
- *Investigating Animal Senses*
- *Seeing Like a Shrimp and Smelling Like a Snake*
- *How to Train Your Robot*

Energy Conversions

- *Blackout!*
- *Energy Past and Present*
- *It's All Energy*
- *Sunlight and Showers*
- *Systems*
- *Who Thinks About Systems*

Waves, Energy, and Information

- *Patterns in Communication*
- *Seeing Sound*
- *Sound on the Move*
- *The Scientist Who Cracked the Dolphin Code*
- *Warning: Tsunami!*

*Student readers are also available online.

Science kits for the following units:

- Energy Conversions (1 box)
- Vision and Light (3 boxes)
- Earth's Features (3 boxes)
- Waves, Energy, and Information (1 box)

PHYSICAL EDUCATION

SPARK Grades 3 - 6 PE Teacher's Guide

Instructional Minutes:

Students will receive a minimum of 200 minutes of instruction in physical education every ten school days.

