OREGON DEPARTMENT OF EDUCATION

Standards By Design:

Fourth Grade for English Language Arts & Literacy (CCSS)

English Language Arts & Literacy (CCSS)

Fourth Grade

Instruction in the Common Core State Standards (CCSS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects will prepare Oregon students to be proficient in the four strands of the English language arts (ELA) skills—Reading, Writing, Language, and Speaking and Listening. Because students need grade-level literacy skills to access full content in school, the emphasis in the Common Core is to learn to read and write in ELA and to develop those skills, specific to the content, in all other classes. For grades K-5, the ELA and subject-area literacy standards are integrated; for grades 6-11/12, they are separate but parallel.

Literature - The following standards offer a focus for instruction in literary text and help ensure that students gain adequate exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades.

Key Ideas and Details

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

4.RL.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

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

4.RL.2 Determine a theme of a story, drama, or poem from details in the text; summarize the text.

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

4.RL.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

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

4.RL.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).

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

Standards are identified by grade, strand, and number (or number and letter, where applicable); for example, **8.RL.1**, means *grade 8, Reading Literature, standard 1*.

4.RL.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.

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

4.RL.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

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

4.RL.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.

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

4.RL.8 (Not applicable to literature)

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

4.RL.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

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

4.RL.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.

Informational Text - The following standards offer a focus for instruction in informational text and help ensure that students gain adequate exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades.

Key Ideas and Details

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

4.RI.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

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

4.RI.2 Determine the main idea of a text and explain how it is supported by key details; summarize the text.

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

4.RI.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

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

4.RI.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.

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

4.RI.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.

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

4.RI.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

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

4.RI.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.

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

4.RI.8 Explain how an author uses reasons and evidence to support particular points in a text.

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

4.RI.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

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

4.RI.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.

Standards are identified by grade, strand, and number (or number and letter, where applicable); for example, **8.RL.1**, means *grade 8, Reading Literature, standard 1*.

Foundational Skills - These standards are directed toward fostering students' understanding and working knowledge of concepts of print, the alphabetic principle, and other basic conventions of the English writing system. These foundational skills are not an end in and of themselves; rather, they are necessary and important components of an effective, comprehensive reading program designed to develop proficient readers with the capacity to comprehend texts across a range of types and disciplines.

Print Concepts

Anchor Standard: There are no anchor standards associated with Foundational Skills.

4.RF.1 There is not a grade 4 standard for this concept. Please see preceding grades for more information.

Phonological Awareness

Anchor Standard: There are no anchor standards associated with Foundational Skills.

4.RF.2 There is not a grade 4 standard for this concept. Please see preceding grades for more information.

Phonics and Word Recognition

Anchor Standard: There are no anchor standards associated with Foundational Skills.

4.RF.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

Anchor Standard: There are no anchor standards associated with Foundational Skills.

4.RF.4 Read with sufficient accuracy and fluency to support comprehension.

a. Read grade-level text with purpose and understanding.

b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings.

c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

Writing - The following standards offer a focus for instruction in writing to help ensure that students gain adequate mastery of a range of skills and applications. Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, and they should address increasingly demanding content and sources.

Text Types and Purposes

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

4.W.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.

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

4.W.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.

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

4.W.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

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

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

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

4.W.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.)

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

4.W.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

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

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

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

4.W.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.

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

4.W.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

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

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

Speaking and Listening - The following standards offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Students advancing through the grades are expected to meet each year’s grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.

Comprehension and Collaboration

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

4.SL.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.

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

4.SL.2 Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

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

4.SL.3 Identify the reasons and evidence a speaker provides to support particular points.

Presentation of Knowledge and Ideas

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

4.SL.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.

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

4.SL.5 Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.

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

4.SL.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 for specific expectations.)

Language - The following standards offer a focus for instruction to help ensure that students gain adequate mastery of a range of skills and applications. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.

Standards are identified by grade, strand, and number (or number and letter, where applicable); for example, **8.RL.1**, means *grade 8, Reading Literature, standard 1*.

Conventions of Standard English

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

4.L.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

a. Use relative pronouns (who, whose, whom, which, that) and relative adverbs (where, when, why).

b. Form and use the progressive (e.g., I was walking; I am walking; I will be walking) verb tenses.

c. Use modal auxiliaries (e.g., can, may, must) to convey various conditions.

d. Order adjectives within sentences according to conventional patterns (e.g., a small red bag rather than a red small bag).

e. Form and use prepositional phrases.

f. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.

g. Correctly use frequently confused words (e.g., to, too, two; there, their).

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

4.L.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

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

4.L.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

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

4.L.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.

Standards are identified by grade, strand, and number (or number and letter, where applicable); for example, **8.RL.1**, means *grade 8, Reading Literature, standard 1*.

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.

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

4.L.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).

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

4.L.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).

Standards are identified by grade, strand, and number (or number and letter, where applicable); for example, **8.RL.1**, means *grade 8, Reading Literature, standard 1*.

OREGON DEPARTMENT OF EDUCATION

Standards By Design:

Fourth Grade for Science (2014)

Science (2014)

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?"

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.

Clarification statements supply examples or additional clarification to the performance expectations and **assessment boundary statements** specify the limits to large scale assessment.

For the complete version of these standards and the specific articulation of the Three-Dimensions (Science and Engineering Practices, Discipline Core Ideas and Crosscutting Concepts), please review the grade level documents at www.ode.state.or.us/search/page/?id=1577.

4-PS3 Energy

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.

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

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.

Clarification statements supply examples or additional clarification to the performance expectations and **assessment boundary statements** specify the limits to large scale assessment.

For the complete version of these standards and the specific articulation of the Three-Dimensions (Science and Engineering Practices, Discipline Core Ideas and Crosscutting Concepts), please review the grade level documents at www.ode.state.or.us/search/page/?id=1577.

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.

4-LS1 From Molecules to Organisms: Structures and Processes

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.

4-ESS1 Earth's Place in the Universe

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 statements supply examples or additional clarification to the performance expectations and **assessment boundary statements** specify the limits to large scale assessment.

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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.

4-ESS2 Earth's Systems

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.

4-ESS3 Earth and Human Activity

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.

Clarification statements supply examples or additional clarification to the performance expectations and **assessment boundary statements** specify the limits to large scale assessment.

For the complete version of these standards and the specific articulation of the Three-Dimensions (Science and Engineering Practices, Discipline Core Ideas and Crosscutting Concepts), please review the grade level documents at www.ode.state.or.us/search/page/?id=1577.

Assessment Boundary: Assessment is limited to earthquakes, floods, tsunamis, and volcanic eruptions.

3-5-ETS1 Engineering Design

3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

3-5-ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Clarification statements supply examples or additional clarification to the performance expectations and **assessment boundary statements** specify the limits to large scale assessment.

For the complete version of these standards and the specific articulation of the Three-Dimensions (Science and Engineering Practices, Discipline Core Ideas and Crosscutting Concepts), please review the grade level documents at www.ode.state.or.us/search/page/?id=1577.

OREGON DEPARTMENT OF EDUCATION

Standards By Design:

Fourth Grade for Mathematics (CCSS)

Mathematics (CCSS)

Fourth Grade

Mathematical Practices (4.MP)

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

4.MP.1 Make sense of problems and persevere in solving them.

4.MP.2 Reason abstractly and quantitatively.

4.MP.3 Construct viable arguments and critique the reasoning of others.

4.MP.4 Model with mathematics.

4.MP.5 Use appropriate tools strategically.

4.MP.6 Attend to precision.

4.MP.7 Look for and make use of structure.

4.MP.8 Look for and express regularity in repeated reasoning.

Operations and Algebraic Thinking (4.OA)

4.OA.A Use the four operations with whole numbers to solve problems.

4.OA.1 Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 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.OA.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

4.OA.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

4.OA.B Gain familiarity with factors and multiples.

K-8 standards are grouped by cluster, and identified by grade, domain, and number; for example, **4.OA.3**, means *grade 4, Operations and Algebraic Thinking, standard 3*. In High School, standards are grouped by conceptual category, domain, and number; for example, **A.CED.1**, means *Algebra, Creating Equations, standard 1*.

4.OA.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.

4.OA.C Generate and analyze patterns.

4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.

Number and Operations in Base Ten (4.NBT)(Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.)

4.NBT.D Generalize place value understanding for multi-digit whole numbers.

4.NBT.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.

4.NBT.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

4.NBT.3 Use place value understanding to round multi-digit whole numbers to any place.

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

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

4.NBT.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

4.NBT.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Number and Operations - Fractions (4.NF)(Grade 4 expections in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12 and 100.)

4.NF.F Extend understanding of fraction equivalence and ordering.

4.NF.1 Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

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4.NF.2 Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

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

4.NF.3 Understand a fraction *a/b* with *a* > 1 as a sum of fractions 1/*b*.

4.NF.3a Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

4.NF.3b 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.

4.NF.3c 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.

4.NF.3d 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.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.

4.NF.4a Understand a fraction *a/b* as a multiple of 1/*b*.

4.NF.4b Understand a multiple of *a/b* as a multiple of 1/*b*, and use this understanding to multiply a fraction by a whole number.

4.NF.4c 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.

4.NF.H Understand decimal notation for fractions, and compare decimal fractions.

4.NF.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.

4.NF.6 Use decimal notation for fractions with denominators 10 or 100.

4.NF.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.

Measurement and Data (4.MD)

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

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4.MD.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table.

4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

4.MD.J Represent and interpret data.

4.MD.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.

4.MD.K Geometric measurement: understand concepts of angle and measure angles.

4.MD.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:

- 4.MD.5a 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.
- 4.MD.5b An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.

4.MD.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

4.MD.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

Geometry (4.G)

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

4.G.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

4.G.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

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

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OREGON DEPARTMENT OF EDUCATION

Standards By Design:

Fourth Grade for Social Sciences (2011)

Social Sciences (2011)

Fourth Grade

It is essential that these standards be addressed in contexts that promote Social Science Analysis, civic responsibility, understanding global relationships, enhanced communication, making connections between the past, present and future, and the ability to evaluate historical and contemporary issues. Focus (to include but not limited to): Oregon History

Historical Knowledge

Relate significant events and eras in local, state, United States, and world history to past and present issues and developments.

4.1. Identify and describe historic Native American Indian groups that lived in Oregon prior to contact with Europeans and at the time of early European exploration, including ways these groups adapted to and interacted with the physical environment.

4.2. Explain how key individuals and events influenced the early growth and changes in Oregon.

4.3. Give examples of changes in Oregon's agricultural, industrial, political, and business development over time.

4.4. Identify the 9 federally recognized Oregon tribes and their aboriginal boundaries.

Historical Thinking

Use multiple perspectives, primary sources, context, and reasoning skills to understand the significance of events, people, ideas and institutions.

4.5. Distinguish between fact and fiction in historical accounts by comparing documentary sources on historical figures and events with fictional characters and events in stories.

4.6. Create and evaluate timelines that show relationships among people, events, and movements in Oregon history.

4.7. Use primary and secondary sources to create or describe a narrative about events in Oregon history.

Geography

Understand and use geographic skills and concepts to interpret contemporary and historical issues.

4.8. Use geographical tools (e.g., maps, GIS, Google Earth) to identify absolute and relative locations and physical characteristics of places in Oregon.

4.9. Explain the influence of Oregon and the Northwest's physical systems on humans, including Native Americans.

4.10. Compare and contrast varying patterns of settlements in Oregon, past and present, and consider future trends.

4.11. Identify conflicts involving use of land, natural resources, economy, and competition for scarce resources, different political views, boundary disputes, and cultural differences within Oregon and between different geographical areas.

4.12. Explain how people in Oregon have modified their environment and how the environment has influenced people's lives.

4.13. Describe how technological developments, societal decisions, and personal practices influence Oregon's sustainability (dams, wind turbines, etc.).

Civics and Government

Understand and apply knowledge about governmental and political systems, and the rights and responsibilities of citizens.

4.14. Explain the organization and functions of Oregon government.

4.15. Describe and evaluate how historical Oregon governments affected groups within the state (citizens, foreigners, women, class systems, minority groups, tribes).

4.16. Explain the process of Oregon statehood.

Economics/Financial Literacy

Understand economic concepts and principles and how available resources are allocated in a market and other economies. Understand and apply knowledge and skills to manage one's financial resources effectively for lifetime financial security.

4.17. Analyze different buying choices and their opportunity costs while demonstrating the difference between needs and wants.

4.18. Identify key industries of Oregon.

Social Science Analysis

Design and implement strategies to research for reliable information, analyze issues, explain perspectives, and resolve issues using the social sciences.

4.19. Compare eyewitness and secondhand accounts of an event.

4.20. Describe the sequence of events in given current and historical accounts.

4.21. Analyze historical accounts related to Oregon to understand cause-and-effect.