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| 2 | a. Retell texts and recount experiences by using key words.<br>b. Use a select number of general academic and domain-specific words to add detail (e.g., adding the word *generous* to describe a character, using the word *lava* to explain volcanic eruptions) while speaking and writing. | a. Retell texts and recount experiences using complete sentences and key words.<br>b. Use a growing number of general academic and domain-specific words in order to add detail, create an effect (e.g., using the word *suddenly* to signal a change), or create shades of meaning (e.g., *scurry* versus *dash*) while speaking and writing. | a. Retell texts and recount experiences using increasingly detailed complete sentences and key words.<br>b. Use a wide variety of general academic and domain-specific words, synonyms, antonyms, and non-literal language (e.g., He was *as quick as a cricket*) to create an effect, precision, and shades of meaning while speaking and writing. |
| **Applying ELD Standards to Science** | Students use general academic and domain-specific vocabulary and select appropriate affixes, synonyms, and antonyms when writing or speaking about science content. | | |
| **Corresponding Science & Engineering Practices** | 4. Analyzing and interpreting data (K-PS2-2*) | | |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students design solutions to change the direction and speed of objects rolling on a ramp (K-PS2-2*), and determine whether the solutions work as intended. As they design the solutions and gather data on the results, they recount observations (e.g., "The marble rolled faster when the end of the ramp was higher") and use general academic and domain-specific words and phrases specific to the task (e.g., *speed, direction, distance, increase, decrease*). | | |
| **Sample-Specific Science & Engineering Practices** | 1. Asking questions (for science) and defining problems (for engineering)<br>3. Planning and carrying out investigations<br>6. Constructing explanations (for science) and designing solutions (for engineering)<br>8. Obtaining, evaluating, and communicating information | | |

* The Performance Expectations marked with an asterisk integrate traditional science content with engineering through a Practice or Disciplinary Core Idea.

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| **2** | Apply understanding of how different text types are organized to express ideas (e.g., how a story is organized sequentially) to comprehending and composing texts in shared language activities guided by the teacher, with peers, and sometimes independently. | Apply understanding of how different text types are organized to express ideas (e.g., how a story is organized sequentially with predictable stages versus how an information report is organized by topic and details) to comprehending texts and composing texts with increasing independence. | Apply understanding of how different text types are organized predictably to express ideas (e.g., a narrative versus an informative/explanatory text versus an opinion text) to comprehending and writing texts independently. |
| **Applying ELD Standards to Science** | Text types in science include simulations, videos, diagrams, charts, tables, informational narratives, graphics, and labeled illustrations depicting processes, structures, and relationships—among others. Students increase understanding of text by using it in context with the content and investigations, and by having explicit instruction about the organization of the text and its purpose. | | |
| **Corresponding Science & Engineering Practices** | 2. Developing and using models (K-2-ETS1-2) | | |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem (K-2-ETS1-2). For example, teams of students may explore how to refine a boat design using aluminum foil, and then test how many pennies it can hold before it sinks. Each team of students can learn from the previous design as they take turns to test them. They use different text formats appropriate to each task: e.g., a table to record the number of pennies; an illustration with labels to indicate the boat designs; and a descriptive narrative to summarize the process. The teacher provides models of each text format and helps students understand their structure. To support students at the Emerging or early Expanding level of English proficiency, the teacher ensures that each student is paired with another student proficient in English and the student's home language. When students are writing, the teacher provides support by referring students to posted mentor texts, sentence stems, and word walls. The teacher provides more substantial support by circulating and verbally supporting students as they work, affirming their efforts, asking probing questions, and restating their ideas to foster clarity and precision when necessary. | | |
| **Sample-Specific Science & Engineering Practices** | 3. Planning and carrying out investigations<br>4. Analyzing and interpreting data<br>7. Engaging in argument from evidence | | |

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| | activities guided by the teacher, with peers, and sometimes independently. | increasing independence. | independently. |
| **Applying ELD Standards to Science** | Students apply understanding of how ideas, events, or reasons are linked throughout science texts, using a variety of connecting words or phrases (e.g., *for example, after that, first/second/third*) to comprehend and write science texts. | | |
| **Corresponding Science & Engineering Practices** | 2. Developing and using models (K-2-ETS1-2) | | |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students test boat, bridge, or tower designs. Upon completion of testing the designs, students may dictate and/or write narratives of their exploration independently in their science notebooks or as a whole class on a chart with teacher assistance (K-2-ETS1-2). They may use connecting words and phrases in narratives such as the following: "At first, we each had a job to do—to count marbles, to build the boat, to observe the level of the water, or to list the steps we took. Then, we rotated these jobs, so everyone got to test their own boat. We all helped each other. Each time we tried a new boat design, we knew what not to do. Finally, the last boat design held the most pennies." | | |
| **Sample-Specific Science & Engineering Practices** | 3. Planning and carrying out investigations<br>4. Analyzing and interpreting data<br>7. Engaging in argument from evidence | | |

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| **2** | a. Use frequently used verbs (e.g., walk, run) and verb types (e.g., doing, saying, being/having, thinking/feeling) in shared language activities guided by the teacher and sometimes independently.<br><br>b. Use simple verb tenses appropriate to the text type and discipline to convey time (e.g., simple past tense for recounting an experience) in shared language activities guided by the teacher and sometimes independently. | a. Use a growing number of verb types (e.g., doing, saying, being/having, thinking/feeling) with increasing independence.<br><br>b. Use a growing number of verb tenses appropriate to the text type and discipline to convey time (e.g., simple past tense for retelling, simple present for a science description) with increasing independence. | a. Use a variety of verb types (e.g., doing, saying, being/having, thinking/feeling) independently.<br><br>b. Use a wide variety of verb tenses appropriate to the text type and discipline to convey time (e.g., simple present tense for a science description, simple future to predict) independently. |
| **Applying ELD Standards to Science** | Students use a variety of verb types and appropriate verb tenses to express their understanding of scientific concepts and phenomena. | | |
| **Corresponding Science & Engineering Practices** | 4. Analyzing and interpreting data (K-2-ETS1-3) | | |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students work in small groups to create boat models (K-2-ETS1-3) and provide feedback to their peers, using appropriate verb tenses (e.g., "At first, we all *wanted* to make our own boats, but we *learned* the jobs. We *waited* for our turns."). | | |
| **Sample-Specific Science & Engineering Practices** | 2. Developing and using models<br><br>6. Constructing explanations (for science) and designing solutions (for engineering)<br><br>8. Obtaining, evaluating, and communicating information | | |

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| **Applying ELD Standards to Science** | In science and engineering, oral and written texts may have long noun phrases. Students need to be able to identify what the main noun is and also use the detailed information around the noun in order to understand the problem. They also need to be able to provide more detail in their explanations and arguments by expanding noun phrases themselves. |
| **Corresponding Science & Engineering Practices** | 2. Developing and using models (K-2-ETS1-2)<br>6. Constructing explanations (for science) and designing solutions (for engineering) (K-PS3-2*) |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students explore the use of tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area (K-PS3-2*, K-2-ETS1-2).<br>The teacher leads the students through jointly constructing an explanation, adding adjectives: "The largest model we have is a canopy in our playground. The smallest model to block the sunlight we see in our classroom is a sun cap. Can you think of a medium-size sun blocker? When you are out in a pool, what blocks the sun? What might we build or use that does the same?" To support students at the Emerging level of English proficiency, the teacher partners each student with another student who is proficient in both English and the student's home language. The teacher offers multiple opportunities for partner talk, and the students know they can talk in their home language during partner talk if they would like to. When it is time to share ideas to add details to the jointly constructed text, the teacher asks the students to practice what they will say with their partner first. |
| **Sample-Specific Science & Engineering Practices** | 4. Analyzing and interpreting data<br>8. Obtaining, evaluating, and communicating information |

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| **Applying ELD Standards to Science** | Students use modifying words and phrases to express their understanding of scientific concepts and phenomena. |
| **Corresponding Science & Engineering Practices** | 8. Obtaining, evaluating, and communicating information (1-LS1-2) |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students have been exploring how plants and animals' structures are similar between parents and young (offspring), and the teacher invites the children to explore the patterns in parents' and offspring's behavior that help offspring survive (1-LS1-2) by reading texts and using media, modeling the use of adverbials: "*When animals are young*, they signal their needs to their parents by calling *loudly* or *softly*, depending on how many babies there are, and the distance from their parent. *Some* animals cry, others chirp, and others make *all sorts* of sounds. *Usually* the parents feed and comfort their young." The teacher supports the students' use of adverbials in their own speaking and writing, by prompting them to add information about *when, how, where, why, how much,* etc. |
| **Sample-Specific Science & Engineering Practices** | 4. Analyzing data<br>6. Constructing explanations (for science) and designing solutions (for engineering) |

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| 2 | Combine clauses in a few basic ways to make connections between and to join ideas (e.g., creating compound sentences using *and, but, so*) in shared language activities guided by the teacher and sometimes independently. | Combine clauses in an increasing variety of ways to make connections between and to join ideas, for example, to express cause/effect (e.g., *She jumped because the dog barked*) with increasing independence. | Combine clauses in a wide variety of ways (e.g., rearranging complete simple to form compound sentences) to make connections between and to join ideas (e.g., *The boy was hungry. The boy ate a sandwich.* → *The boy was hungry so he ate a sandwich*) independently. |
| **Applying ELD Standards to Science** | Students combine clauses in a variety of ways to express ideas about scientific concepts and phenomena. | | |
| **Corresponding Science & Engineering Practices** | 6. Constructing explanations (for science) and designing solutions (for engineering) (1-LS1-1*) | | |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs (1-LS1-1*). As they investigate mimicking solutions for clothing or equipment inspired by nature, the teacher guides them to combine clauses, through a process of examining a text for the ways an author combines ideas and then trying it out together using joint construction. The result is sentences such as the following: "A turtle hides under its shell *when* threatened by a predator."; "*Although* the turtle may be turned upside down, the shell provides protection."; "Biking helmets protect us *because* we design them to resemble turtle shells." Prior to this lesson, during designated ELD time, students at the Emerging and early Expanding levels of English proficiency have practiced combining similar sentences in more simple ways: "A shell protects a turtle. A helmet protects a person riding a bike."; A shell protects a turtle, and a helmet protects a person riding a bike." The teacher supports students' understanding through using pictures, highlighting cognates (e.g., *protect/proteger*), and allowing students to use their home language in partner discussions. | | |
| **Sample-Specific Science & Engineering Practices** | 7. Engaging in argument from evidence<br>8. Obtaining, evaluating, and communicating information | | |

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| **Corresponding Science & Engineering Practices** | 4. Analyzing and interpreting data (1-ESS1-1) |
| **Sample Integration of Science and ELD Standards in the Classroom** | With guidance from the teacher, students use observations of the sun, moon, and stars to determine patterns that can be predicted (1-ESS1-1). The class is using shadows to make observations about patterns of where the sun is in the sky. Working in pairs, the students have traced their shadow on the blacktop at 9 a.m., noon, and 2 p.m. After each period of time, the teacher and students discuss the length of their shadow and the position of the sun. For example: "At 9 a.m., the sun was in the east. My shadow was long. At noon, my shadow was short. The sun was over my head. At 2 p.m., the sun was in the west. My shadow was long again." With support from the teacher, students can then condense clauses, summarizing as follows: "This morning at 9 a.m., the sun was in the east and my shadow was long. Then, at noon, the sun was over my head and my shadow was short. Later, at 2 p.m., the sun was in the west and my shadow was long again. During the day, the sun moved from the east to over my head to the west. At the same time, my shadow made a pattern of going from long to short to long again." |
| **Sample-Specific Science & Engineering Practices** | 3. Constructing investigations<br>4. Analyzing and interpreting data |

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| **Corresponding Science & Engineering Practices** | 1. Asking questions (for science) and defining problems (for engineering) (3-PS2-3, 3-PS2-4) |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students work in small groups to observe phenomena related to magnetic interactions between two objects that are not in contact with each other (3-PS2-3). They must predict and then determine whether a small broken magnet will work as a latch for a classroom supplies box. The students ask questions about the properties of magnets and other materials, and about the magnet's magnetic forces and the forces' effect on the various materials. During the collaborative conversation, the students ask and respond to questions; build on, affirm, and provide feedback on one another's ideas; add relevant information; and collectively make predictions. After experimentation and analysis of data, students collectively propose a design for using the broken magnet piece as a latch for the supply box (3-PS2-4). |
| **Sample-Specific Science & Engineering Practices** | 3. Planning and carrying out investigations<br>6. Constructing explanations (for science) and designing solutions (for engineering) |

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| **Sample Integration of Science and ELD Standards in the Classroom** | Students have been engaged in investigating the phenomena of energy transformation (4-ESS3-1). Students work in small groups to conduct a short research project on different aspects of humans' impact on Earth's resources. They obtain and combine information to explain how energy and fuels are derived from natural resources and how their uses affect the environment. The students use books, Internet sources, and other reliable media to work together in small groups to construct a coherent explanation of how human uses of energy derived from natural resources affect the environment in multiple ways, how some resources are renewable and others are not, and possible actions that humans could take in the future. Each small group co-constructs a written explanation and prepares a digital presentation with relevant graphics to present their research. |
| **Sample-Specific Science & Engineering Practices** | 1. Asking questions (science) and defining problems (engineering)<br>6. Constructing explanations (science) and designing solutions (engineering)<br>7. Engaging in argument from evidence |

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| **Applying ELD Standards to Science** | Students participate in collaborative conversations where they engage in design and use of models about phenomena; process solutions; and collect evidence. During these conversations, they construct claims and support them with reasons and evidence, working collaboratively to critique explanations or solutions proposed by their peers by citing relevant evidence. In order to persuade others that their arguments are reasonable and supported by evidence, they may gain and/or hold the floor, provide counterarguments respectfully, or elaborate on a peer's ideas. |
| **Corresponding Science & Engineering Practices** | 7. Engaging in argument from evidence (5-LS2-1) |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students have observed, through pictures and simulations, some representations of the movement of matter within ecosystems. Working in small groups, the students build on those experiences by using their science texts and notes as they collaboratively construct their models of how matter moves within ecosystems. Each group constructs an argument about its model, focusing on the movement of matter among plants, animals, decomposers, and the environment. Each group shares its model with another group, while the other group provides feedback based on a co-constructed set of criteria on 1) presentation effectiveness 2) the types of materials and representations used, and 3) whether the cycling of matter is accurate (5-LS2-1). During their conversations, the students refer to a large chart on the classroom wall that contains options for different language purposes, such as entering a conversation (e.g., "One/another piece of evidence that supports our argument is ___."); agreeing and disagreeing (e.g., "I can see your design has ___; however, ___."); or elaborating on an idea (e.g., "That's a good choice for ___, and I'd like to add that ___."). To support students at the Emerging level of English proficiency, the teacher asks each group to practice what each member of the group will share, and no member is permitted to opt out. The teacher has created heterogeneous groups, ensuring that each student at the Emerging level of English proficiency has a "language buddy" who is proficient in both English and the student's home language. The teacher has also created a supportive environment so that the students work together to make sure that each of the other students understands and can communicate that understanding. |
| **Sample-Specific Science & Engineering Practices** | 2. Developing and using models |

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| **Sample Integration of Science and ELD Standards in the Classroom** | Students have observed hazardous phenomena (e.g., earthquakes, tornadoes). They work in small groups to conduct a short research project on reducing the impacts of natural Earth processes on humans, with a culminating task of a written explanation and an oral presentation that uses multimedia (4-ESS3-1, 3-5-ETS1-2). When they engage in collaborative conversations about the information that they are gathering in their research, they may choose to use more everyday English, strategically selecting some domain-specific vocabulary that they are learning through the research (e.g., *nonrenewable energy resources*; *fossil and fissile materials*). As they prepare their written explanation, they co-construct the explanation orally, using everyday English, and then, as they collaboratively construct the written explanation, they discuss which language is most appropriate and powerful to use, based on purpose (to explain multiple solutions to the design problem), task (providing clear and coherent information in written form, using topic-relevant technical terms), and audience (their peers and the teacher). |
| **Sample-Specific Science & Engineering Practices** | N/A |

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| **Sample Integration of Science and ELD Standards in the Classroom** | Students have experimented with magnets, and have observed videos of various inventions that use magnets and electricity. They listen to a teacher read aloud from an informational text about cause-and-effect relationships of electrical and magnetic interactions between two objects and how inventors design solutions to problems by using these scientific principles (3-PS2-3, 3-PS2-4). At strategic points during the teacher read-aloud, students discuss, in pairs, open-ended, detailed questions designed to promote extended discourse (e.g., "In what ways does a magnet affect a compass? How do we know? What changes would you make to X design to make it better?"). The students have an opportunity to practice their response before sharing out to the class. The teacher supports the comprehension of students at the Emerging level of English proficiency by using diagrams labeled in both English and the students' home language to support the ideas in the text and by attending to the meanings of general academic terms (in addition to science-specific terms). Before reading, the teacher also makes sure to show short videos related to the topic in the two primary home languages of students in the classroom: English and Spanish. |
| **Sample-Specific Science & Engineering Practices** | 8. Obtaining, evaluating, and communicating information |

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| **5** | a. Explain ideas, phenomena, processes, and text relationships (e.g., compare/contrast, cause/effect, problem/solution) based on close reading of a variety of grade-level texts and viewing of multimedia, with substantial support.<br>b. Use knowledge of frequently-used affixes (e.g., *un-, mis-*), linguistic context, reference materials, and visual cues to determine the meaning of unknown words on familiar topics. | a. Explain ideas, phenomena, processes, and text relationships (e.g., compare/contrast, cause/effect, problem/solution) based on close reading of a variety of grade-level texts and viewing of multimedia, with moderate support.<br>b. Use knowledge of morphology (e.g., affixes, roots, and base words), linguistic context, and reference materials to determine the meaning of unknown words on familiar and new topics. | a. Explain ideas, phenomena, processes, and text relationships (e.g., compare/contrast, cause/effect, problem/solution) based on close reading of a variety of grade-level texts and viewing of multimedia, with light support.<br>b. Use knowledge of morphology (e.g., affixes, roots, and base words), linguistic context, and reference materials to determine the meaning of unknown words on familiar and new topics. |
| **Applying ELD Standards to Science** | Students obtain and combine information from print and digital sources to explain phenomena and to support analysis, reflection, and research. They observe experiences and read closely to evaluate the merit and accuracy of ideas and methods and to explain the variables that describe and predict phenomena. | | |
| **Corresponding Science & Engineering Practices** | 4. Analyzing and interpreting data (4-ESS2-2)<br>8. Obtaining, evaluating, and communicating information (4-ESS3-1) | | |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students have observed or experienced the phenomena of energy resources. In order to better explain the phenomena of renewable and nonrenewable energy resources, students work in small groups to conduct a short research project. They read texts closely and analyze and interpret data from maps to identify land features of Earth that may hold or harness natural resources, and to explain how energy and fuels are derived from natural resources (e.g. wind energy, water in dams, nonrenewable energy resources, fossil and fissile materials) and how their uses affect the environment (e.g. loss of habitat by use of dams or surface mining, or air pollution by use of fossil fuels) (4-ESS2-2, 4-ESS3-1). The students gather evidence and draw inferences from books, Internet sources, and other reliable media as they work together, using graphic organizers, to construct a coherent explanation of how human uses of energy derived from natural resources affect the environment in multiple ways, how some resources are renewable and others are not, locations on Earth where large-scale system interactions take place, and where humans could possibly take low-environmental-impact actions for the future (e.g., harnessing thermal heat, harnessing wind currents on mountain ranges). The small group co-constructs | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 3, 4, and 5 | | | |
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| **CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>B. Interpretive** | | | |
| **7. Evaluating language choices** | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| **3** | 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. | 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. | 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. |
| **4** | 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 substantial support. | 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 prompting and moderate support. | Describe how well writers and speakers use specific language resources to support an opinion or present an idea (e.g., the clarity or appealing nature of language used to present evidence), with prompting and light support. |
| **5** | 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 substantial support. | Explain how well writers and speakers use language resources to support an opinion or present an idea (e.g., whether the vocabulary used to provide evidence is strong enough, or if the phrasing used to signal a shift in meaning does this well), with moderate support. | Explain how well writers and speakers use specific language resources to support an opinion or present an idea (e.g., the clarity or appealing nature of language used to provide evidence or describe characters, or if the phrasing used to introduce a topic is appropriate), with light support. |
| **Applying ELD Standards to Science** | When critiquing others' presentations on scientific topics, students can describe or explain how well the writers or speakers used particular vocabulary or phrasing, for example, to provide a definition or explanation. | | |
| **Corresponding Science &** | 2. Developing and using models (5-PS1-1) | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 3, 4, and 5 | | | |
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| **CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>B. Interpretive** | | | |
| **8. Analyzing language choices** | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| **3** | Distinguish how different words produce different effects on the audience (e.g., describing a character as *happy* versus *sad*). | Distinguish how different words with similar meanings (e.g., describing a character as *happy* versus *ecstatic*) produce shades of meaning and different effects on the audience. | Distinguish how multiple different words with similar meanings (e.g., *pleased* versus *happy* versus *ecstatic, heard* versus *knew* versus *believed*) produce shades of meaning and different effects on the audience. |
| **4** | Distinguish how different words with similar meanings produce different effects on the audience (e.g., describing a character's actions as *whined* versus *said*). | Distinguish how different words with similar meanings (e.g., describing a character as *smart* versus an *expert*) and figurative language (e.g., *as big as a whale*) produce shades of meaning and different effects on the audience. | Distinguish how different words with related meanings (e.g., *fun* versus *entertaining* versus *thrilling, possibly* versus *certainly*) and figurative language produce shades of meaning and different effects on the audience. |
| **5** | Distinguish how different words with similar meanings produce different effects on the audience (e.g., describing a character as *angry* versus *furious*). | Distinguish how different words with similar meanings (e.g., describing an event as *sad* versus *tragic*) and figurative language (e.g., she ran *like a cheetah*) produce shades of meaning and different effects on the audience. | Distinguish how different words with related meanings (e.g., *fun* versus *thrilling, possibly* versus *certainly*) and figurative language (e.g., *the stream slithered through the parched land*) produce shades of meaning and different effects on the audience. |
| **Applying ELD Standards to Science** | When reading or listening to others' presentations on scientific topics, students can distinguish how the writer's or speaker's selection of different words or phrases with related meanings (e.g., *clear* versus *transparent* versus *translucent*) affects the audience's understanding. | | |
| **Corresponding Science & Engineering** | 2. Developing and using models (4-PS4-2) | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 3, 4, and 5 | | | |
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| CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>C. Productive | | | |
| 9. Presenting | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 3 | Plan and deliver very brief oral presentations (e.g., retelling a story, describing an animal, and the like). | Plan and deliver brief oral presentations on a variety of topics and content areas (e.g., retelling a story, explaining a science process, and the like). | Plan and deliver longer oral presentations on a variety of topics and content areas (e.g., retelling a story, explaining a science process or historical event, and the like). |
| 4 | Plan and deliver brief oral presentations on a variety of topics and content areas (e.g., retelling a story, explaining a science process, reporting on a current event, recounting a memorable experience, and so on), with substantial support. | Plan and deliver longer oral presentations on a variety of topics and content areas (e.g., retelling a story, explaining a science process, reporting on a current event, recounting a memorable experience, and so on), with moderate support. | Plan and deliver oral presentations on a variety of topics in a variety of content areas (e.g., retelling a story, explaining a science process, reporting on a current event, recounting a memorable experience, and so on), with light support. |
| 5 | Plan and deliver brief oral presentations on a variety of topics and content areas (e.g., providing a report on a current event, reciting a poem, recounting an experience, explaining a science process), with moderate support, such as graphic organizers. | Plan and deliver longer oral presentations on a variety of topics and content areas (e.g., providing an opinion speech on a current event, reciting a poem, recounting an experience, explaining a science process), with moderate support. | Plan and deliver oral presentations on a variety of topics in a variety of content areas (e.g., providing an opinion speech on a current event, reciting a poem, recounting an experience, explaining a science process), with light support. |
| **Applying ELD Standards to Science** | Students plan and deliver oral presentations on scientific topics. | | |
| **Corresponding Science & Engineering** | 2. Developing and using models (3-LS1-1)<br>6. Constructing explanations (for science) and designing solutions (for engineering) (3-LS4-2) | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 3, 4, and 5 | | | |
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| CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>C. Productive | | | |
| 10. Writing | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 3 | a. Write short literary and informational texts (e.g., a description of a flashlight) collaboratively (e.g., joint construction of texts with an adult or with peers) and sometimes independently.<br>b. Paraphrase texts and recount experiences using key words from notes or graphic organizers. | 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.<br>b. Paraphrase texts and recount experiences using complete sentences and key words from notes or graphic organizers. | a. 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.<br>b. Paraphrase texts and recount experiences using increasingly detailed complete sentences and key words from notes or graphic organizers. |
| 4 | a. Write short literary and informational texts (e.g., a description of a flashlight) collaboratively (e.g., joint construction of texts with an adult or with peers) and sometimes independently.<br>b. Write brief summaries of texts and experiences using complete sentences and key words (e.g., from notes or graphic organizers). | 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.<br>b. Write increasingly concise summaries of texts and experiences using complete sentences and key words (e.g., from notes or graphic organizers). | a. 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.<br>b. Write clear and coherent summaries of texts and experiences using complete and concise sentences and key words (e.g., from notes or graphic organizers). |

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| | model text.<br><br>b. Students notice that a car light shining on an animal at night reveals the animal's glowing eyes. To explain this phenomenon, students observe the structure and function of the human eye, and compare it to those of other organisms (4-LS1-1, 4-PS4-2). They create tables with brief descriptions that characterize the placement of each organism's eyes and the rationale for such placement (e.g., side placement allows animals to see both in front of and behind them, so as to be aware of predators). |
| **Sample-Specific Science & Engineering Practices** | N/A |

* The Performance Expectations marked with an asterisk integrate traditional science content with engineering through a Practice or Disciplinary Core Idea.

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| **5** | a. Support opinions by expressing appropriate/accurate reasons using textual evidence (e.g., referring to text) or relevant background knowledge about content, with substantial support.<br>b. Express ideas and opinions or temper statements using basic modal expressions (e.g., *can, has to, maybe*). | a. Support opinions or persuade others by expressing appropriate/accurate reasons using some textual evidence (e.g., paraphrasing facts from a text) or relevant background knowledge about content, with moderate support.<br>b. Express attitude and opinions or temper statements with familiar modal expressions (e.g., *maybe/probably, can/must*). | a. Support opinions or persuade others by expressing appropriate/accurate reasons using detailed textual evidence (e.g., quoting the text directly or specific events from text) or relevant background knowledge about content, with mild support.<br>b. Express attitude and opinions or temper statements with nuanced modal expressions (e.g., *probably/certainly, should/would*) and phrasing (e.g., *In my opinion...*). |
| **Applying ELD Standards to Science** | Students construct and support arguments in science with evidence, data, and/or a model. They compare and refine arguments, based on evaluation of the evidence presented. | | |
| **Corresponding Science & Engineering Practices** | 4. Analyzing and interpreting data (3-ESS2-1)<br>7. Engaging in argument from evidence (3-ESS3-1*) | | |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students gather and represent data in tables and graphical displays to describe typical weather conditions expected during a particular season (e.g., winter) (3-ESS2-1), in order to reveal patterns that indicate relationships. Students further analyze data to make sense of phenomena, through the use of logical reasoning, mathematics, and/or computation. They use the data, including quantitative details and background on the effect of heavy rains in specific locations vulnerable to flooding, to persuade others. Then students make a claim about the merit of a design solution that reduces the impacts of a hazard. Students collect information to write and support their claim that a barrier would prevent flooding during heavy storms (e.g., "The levee would probably prevent flooding if ___.") (3-ESS3-1*). | | |
| **Sample-Specific Science & Engineering Practices** | N/A | | |

* The Performance Expectations marked with an asterisk integrate traditional science content with engineering through a Practice or Disciplinary Core Idea.

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| **Applying ELD Standards to Science** | Students use a variety of vocabulary and select appropriate affixes when writing or speaking about science content. |
| **Corresponding Science & Engineering Practices** | 4. Analyzing and interpreting data (5-ESS1-2)<br>7. Engaging in argument from evidence (5-ESS1-1) |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students ask questions that can be investigated in order to graphically represent patterns of the relationships among the light of the sun and the length and direction of shadows; day and night; and the seasonal appearance of stars in the night sky (5-ESS1-2). Later, students develop models using an analogy, example, or abstract representation to support an argument that differences in the apparent brightness of the sun, compared to other stars, are due to their relative distances from Earth (5-ESS1-1). Collaboratively, students develop and/or revise the model, based on evidence that shows the relationships between light and distance.<br>The teacher guides the students to include key vocabulary (such as *distance* and *brightness*) and use of suffixes such as *–er* in their conversations, gathering of information, and explanations: "In the morning, the shadow was __ centimeters *long*; in the afternoon, it's *longer* by __ cm."; "When the light beam goes through the hole to the target white paper, it changes according to the distance. The *closer* the light is, the *brighter* it gets. The *farther*, the *dimmer*." |
| **Sample-Specific Science & Engineering Practices** | 1. Asking questions (for science) and defining problems (for engineering)<br>2. Developing and using models |

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| **Applying ELD Standards to Science** | Text types in science include simulations, videos, diagrams, charts, tables, informational narratives, graphics, and labeled illustrations depicting processes, structures, and relationships. Students increase understanding of text by using it in context with the content and investigations, and by having explicit instruction about the organization of the text and its purpose. |
| **Corresponding Science & Engineering Practices** | 7. Engaging in argument from evidence (4-LS1-1) |
| **Sample Integration of Science and ELD Standards in the Classroom** | To prepare for writing a text with chronological organization, students observe images of various types of animals to identify features for survival (4-LS1-1). They write the name of each animal in one column of a T chart, and write descriptive characteristics for each animal in the other column. Their task is to create instructions for a model of an organism that meets the criteria for an expository text organized chronologically. First, students create an outline that orders the steps for creating the model. Then, students write their text, using key connecting words for chronological organization so that their model can be replicated by others. For example: "*First*, you cut...; *then*, you use... to make...; *finally*, put together... in order to represent... of the organism." |
| **Sample-Specific Science & Engineering Practices** | 8. Obtaining, evaluating, and communicating information |

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| **4** | a. Apply basic understanding of language resources for referring the reader back or forward in text (e.g., how pronouns refer back to nouns in text) to comprehending texts and writing basic texts.<br><br>b. Apply basic understanding of how ideas, events, or reasons are linked throughout a text using everyday connecting words or phrases (e.g., *first, yesterday*) to comprehending texts and writing basic texts. | a. Apply growing understanding of language resources for referring the reader back or forward in text (e.g., how pronouns or synonyms refer back to nouns in text) to comprehending texts and writing texts with increasing cohesion.<br><br>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., *since, next, for example*) to comprehending texts and writing texts with increasing cohesion. | a. Apply increasing understanding of language resources for referring the reader back or forward in text (e.g., how pronouns, synonyms, or nominalizations refer back to nouns in text) to comprehending texts and writing cohesive texts.<br><br>b. Apply increasing understanding of how ideas, events, or reasons are linked throughout a text using an increasing variety of academic connecting and transitional words or phrases (e.g., *for instance, in addition, at the end*) to comprehending texts and writing cohesive texts. |
| **5** | a. Apply basic understanding of language resources for referring the reader back or forward in text (e.g., how pronouns refer back to nouns in text) to comprehending texts and writing basic texts.<br><br>b. Apply basic understanding of how ideas, events, or reasons are linked throughout a text using a select set of everyday connecting words or phrases (e.g., *first/next, at the beginning*) to comprehending texts and writing basic texts. | a. Apply growing understanding of language resources for referring the reader back or forward in text (e.g., how pronouns or synonyms refer back to nouns in text) to comprehending texts and writing texts with increasing cohesion.<br><br>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., *for example, in the first place, as a result*) to comprehending texts and writing texts with increasing cohesion. | a. Apply increasing understanding of language resources for referring the reader back or forward in text (e.g., how pronouns, synonyms, or nominalizations refer back to nouns in text) to comprehending texts and writing cohesive texts.<br><br>b. Apply increasing understanding of how ideas, events, or reasons are linked throughout a text using an increasing variety of academic connecting and transitional words or phrases (e.g., *consequently, specifically, however*) to comprehending texts and writing cohesive texts. |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 3, 4, and 5 | | | |
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| **CA ELD Standards<br>Part II: Learning About How English Works<br>B. Expanding and Enriching Ideas** | | | |
| **3. Using verbs and verb phrases** | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 3 | Use frequently used verbs, different verb types (e.g., doing, saying, being/having, thinking/feeling), and verb tenses appropriate to the text type and discipline to convey time (e.g., simple past for recounting an experience). | Use a growing number of verb types (e.g., doing, saying, being/having, thinking/feeling) and verb tenses appropriate to the text type and discipline to convey time (e.g., simple past for retelling, simple present for a science description). | Use a variety of verb types (e.g., doing, saying, being/having, thinking/feeling) and verb tenses appropriate to the text type and discipline to convey time (e.g., simple present for a science description, simple future to predict). |
| 4 | Use various verbs/verb types (e.g., doing, saying, being/having, thinking/feeling) and tenses appropriate to the text type and discipline (e.g., simple past for recounting an experience) for familiar topics. | Use various verbs/verb types (e.g., doing, saying, being/having, thinking/feeling) and tenses appropriate to the task, text type, and discipline (e.g., simple past for retelling, timeless present for science explanation) for an increasing variety of familiar and new topics. | Use various verbs/verb types (e.g., doing, saying, being/having, thinking/feeling) and tenses appropriate to the task and text type (e.g., timeless present for science explanation, mixture of past and present for historical information report) for a variety of familiar and new topics. |
| 5 | Use frequently used verbs (e.g., take, like, eat) and various verb types (e.g., doing, saying, being/having, thinking/feeling) and tenses appropriate to the text type and discipline (e.g., simple past for recounting an experience) on familiar topics. | Use various verb types (e.g., doing, saying, being/having, thinking/feeling) and tenses appropriate to the task, text type, and discipline (e.g., simple past for recounting an experience, timeless present for a science description) on an increasing variety of topics. | Use various verb types (e.g., doing, saying, being/having, thinking/feeling) and tenses appropriate to the task and text type (e.g., timeless present for science description, mixture of past and present for narrative or history explanation) on a variety of topics. |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 3, 4, and 5 | | | |
|---|---|---|---|
| **CA ELD Standards<br>Part II: Learning About How English Works<br>B. Expanding and Enriching Ideas** | | | |
| **4. Using nouns and noun phrases** | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 3 | 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, and the like. | 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, and the like. | 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, and the like. |
| 4 | Expand noun phrases in simple ways (e.g., adding an adjective) in order to enrich the meaning of sentences and add details about ideas, people, things, and so on. | Expand noun phrases in a variety of ways (e.g., adding adjectives to noun phrases or simple clause embedding) in order to enrich the meaning of sentences and add details about ideas, people, things, and so on. | Expand noun phrases in an increasing variety of ways (e.g., adding general academic adjectives and adverbs to noun phrases or more complex clause embedding) in order to enrich the meaning of sentences and add details about ideas, people, things, and so on. |
| 5 | 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, and the like. | Expand noun phrases in a variety of ways (e.g., adding comparative/ superlative adjectives to noun phrases or simple clause embedding) in order to enrich the meaning of sentences and add details about ideas, people, things, and the like. | Expand noun phrases in an increasing variety of ways (e.g., adding comparative/superlative and general academic adjectives to noun phrases or more complex clause embedding) in order to enrich the meaning of sentences and add details about ideas, people, things, and the like. |
| **Applying ELD Standards to** | In science and engineering, oral and written texts may have long noun phrases. Students need to be able to identify what the main noun is and to use the detailed information around the noun in order to understand the problem. They | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 3, 4, and 5 | | | |
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| **CA ELD Standards<br>Part II: Learning About How English Works<br>B. Expanding and Enriching Ideas** | | | |
| **5. Modifying to add details** | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 3 | Expand sentences with adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause, and the like) about a familiar activity or process (e.g., They walked *to the soccer field*). | Expand sentences with adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause, and the like) about a familiar or new activity or process (e.g., They worked *quietly*; they *ran across the soccer field*). | Expand sentences with adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause, and the like) about a range of familiar and new activities or processes (e.g., They worked *quietly all night in their room*). |
| 4 | Expand sentences with familiar adverbials (e.g., basic prepositional phrases) to provide details (e.g., time, manner, place, cause, and so on) about a familiar activity or process (e.g., They walked *to the soccer field*). | Expand sentences with a growing variety of adverbials (e.g., adverbs, prepositional phrases) to provide details (e.g., time, manner, place, cause, and so on) about a familiar or new activity or process (e.g., They worked *quietly*. They *ran across the soccer field*). | Expand sentences with a variety of adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause, and so on) about a variety of familiar and new activities and processes (e.g., They worked *quietly all night in their room*). |
| 5 | Expand and enrich sentences with adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause, and the like) about a familiar activity or process. | Expand and enrich sentences with adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause, and the like) about a familiar or new activity or process. | Expand and enrich sentences with adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause, and the like) about a variety of familiar and new activities and processes. |
| **Applying ELD Standards to Science** | Students use modifying words and phrases to express their understanding of scientific concepts and phenomena. | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 3, 4, and 5 | | | |
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| **CA ELD Standards<br>Part II: Learning About How English Works<br>C. Connecting and Condensing Ideas** | | | |
| **6. Connecting ideas** | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 3 | Combine clauses in a few basic ways to make connections between and join ideas (e.g., creating compound sentences using *and, but, so*). | 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., *The deer ran because the mountain lion came*) or to make a concession (e.g., *She studied all night even though she wasn't feeling well*). | 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., *The deer ran because the mountain lion approached them*), to make a concession (e.g., *She studied all night even though she wasn't feeling well*), or to link two ideas that happen at the same time (e.g., *The cubs played while their mother hunted*). |
| 4 | Combine clauses in a few basic ways to make connections between and join ideas in sentences (e.g., creating compound sentences using coordinate conjunctions, such as *and, but, so*). | Combine clauses in an increasing variety of ways (e.g., creating complex sentences using familiar subordinate conjunctions) to make connections between and join ideas in sentences, for example, to express cause/effect (e.g., *The deer ran because the mountain lion came*) or to make a concession (e.g., *She studied all night even though she wasn't feeling well*). | Combine clauses in a wide variety of ways (e.g., creating complex sentences using a variety of subordinate conjunctions) to make connections between and join ideas, for example, to express cause/effect (e.g., *Since the lion was at the waterhole, the deer ran away*), to make a concession, or to link two ideas that happen at the same time (e.g., *The cubs played while their mother hunted*). |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 3, 4, and 5 | | | |
|---|---|---|---|
| **CA ELD Standards<br>Part II: Learning About How English Works<br>C. Connecting and Condensing Ideas** | | | |
| **7. Condensing ideas** | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| **3** | Condense clauses in simple ways (e.g., changing: *It's green. It's red.* → *It's green and red*) to create precise and detailed sentences. | Condense clauses in a growing number of ways (e.g., through embedded clauses as in, *It's a plant. It's found in the rain forest.* → *It's a green and red plant that's found in the tropical rain forest*) to create precise and detailed sentences. | Condense clauses in a variety of ways (e.g., through embedded clauses and other condensing as in, *It's a plant. It's green and red. It's found in the tropical rain forest.* → *It's a green and red plant that's found in the tropical rain forest*) to create precise and detailed sentences. |
| **4** | Condense clauses in simple ways (e.g., through simple embedded clauses, as in, The woman is a doctor. She helps children. → The woman is a doctor *who helps children*) to create precise and detailed sentences. | Condense clauses in an increasing variety of ways (e.g., through a growing number of embedded clauses and other condensing, as in, The dog ate quickly. The dog choked. → The dog ate so quickly *that it choked*) to create precise and detailed sentences. | Condense clauses in a variety of ways (e.g., through various types of embedded clauses and other ways of condensing as in, There was a Gold Rush. It began in the 1850s. It brought a lot of people to California. → The Gold Rush that *began in the 1850s* brought a lot of people to California) to create precise and detailed sentences. |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
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| **CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>A. Collaborative** | | | |
| **1. Exchanging information and ideas** | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| **6** | Engage in conversational exchanges and express ideas on familiar topics by asking and answering *yes-no* and *wh-* questions and responding using simple phrases. | Contribute to class, group, and partner discussions by following turn-taking rules, asking relevant questions, affirming others, adding relevant information, and paraphrasing key ideas. | Contribute to class, group, and partner discussions by following turn-taking rules, asking relevant questions, affirming others, adding relevant information and evidence, paraphrasing key ideas, building on responses, and providing useful feedback. |
| **7** | Engage in conversational exchanges and express ideas on familiar topics by asking and answering *yes-no* and *wh-* questions and responding using simple phrases. | Contribute to class, group, and partner discussions by following turn-taking rules, asking relevant questions, affirming others, adding relevant information, and paraphrasing key ideas. | Contribute to class, group, and partner discussions by following turn-taking rules, asking relevant questions, affirming others, adding relevant information and evidence, paraphrasing key ideas, building on responses, and providing useful feedback. |
| **8** | Engage in conversational exchanges and express ideas on familiar topics by asking and answering *yes-no* and *wh-* questions and responding using simple phrases. | Contribute to class, group, and partner discussions by following turn-taking rules, asking relevant questions, affirming others, adding relevant information, and paraphrasing key ideas. | Contribute to class, group, and partner discussions by following turn-taking rules, asking relevant questions, affirming others, adding relevant information and evidence, paraphrasing key ideas, building on responses, and providing useful feedback. |
| **Applying ELD Standards to Science** | Students engage in class, small-group, and partner conversations where they ask and respond to questions, build on others' ideas, and work collaboratively to define problems, plan and carry out investigations, construct explanations, and design solutions. | | |
| **Corresponding Science & Engineering Practices** | 7. Engaging in argument from evidence (MS-LS1-3) | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
|---|---|---|---|
| **CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>A. Collaborative** | | | |
| **2. Interacting via written English** | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| **6** | Engage in short written exchanges with peers and collaborate on simple written texts on familiar topics, using technology when appropriate. | Engage in longer written exchanges with peers and collaborate on more detailed written texts on a variety of topics, using technology when appropriate. | Engage in extended written exchanges with peers and collaborate on complex written texts on a variety of topics, using technology when appropriate. |
| **7** | Engage in short written exchanges with peers and collaborate on simple written texts on familiar topics, using technology when appropriate. | Engage in longer written exchanges with peers and collaborate on more detailed written texts on a variety of topics, using technology when appropriate. | Engage in extended written exchanges with peers and collaborate on complex written texts on a variety of topics, using technology when appropriate. |
| **8** | Engage in short written exchanges with peers and collaborate on simple written texts on familiar topics, using technology when appropriate. | Engage in longer written exchanges with peers and collaborate on more detailed written texts on a variety of topics, using technology when appropriate. | Engage in extended written exchanges with peers and collaborate on complex written texts on a variety of topics, using technology when appropriate. |
| **Applying ELD Standards to Science** | Students collaboratively conduct short research projects to build knowledge through investigation. They recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information; use credible and relevant sources to provide evidence; and represent their research in writing and through multimedia. | | |
| **Corresponding Science & Engineering Practices** | 6. Constructing explanations (for science) and designing solutions (for engineering) (MS-LS1-5) | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
|---|---|---|---|
| **CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>A. Collaborative** | | | |
| **3. Supporting opinions and persuading others** | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 6 | Negotiate with or persuade others in conversations (e.g., to gain and hold the floor or ask for clarification) using basic learned phrases (e.g., *I think..., Would you please repeat that?*), as well as open responses. | Negotiate with or persuade others in conversations (e.g., to provide counter-arguments) using an expanded set of learned phrases (*I agree with X, but...*), as well as open responses. | Negotiate with or persuade others in conversations using appropriate register (e.g., to reflect on multiple perspectives) using a variety of learned phrases, indirect reported speech (e.g., *I heard you say X, and Gabriel just pointed out Y*), as well as open responses. |
| 7 | Negotiate with or persuade others in conversations (e.g., to gain and hold the floor or ask for clarification) using learned phrases (e.g., *I think..., Would you please repeat that?*) and open responses. | Negotiate with or persuade others in conversations (e.g., to provide counter-arguments) using learned phrases (*I agree with X, but...*), and open responses. | Negotiate with or persuade others in conversations using appropriate register (e.g., to acknowledge new information) using a variety of learned phrases, indirect reported speech (e.g., *I heard you say X, and I haven't thought about that before*), and open responses. |
| 8 | Negotiate with or persuade others in conversations (e.g., to gain and hold the floor or to ask for clarification) using learned phrases (e.g., *I think... Would you please repeat that?*) and open responses. | Negotiate with or persuade others in conversations (e.g., to provide counter-arguments) using learned phrases (*I agree with X, but...*) and open responses. | Negotiate with or persuade others in conversations using an appropriate register (e.g., to acknowledge new information and justify views) using a variety of learned phrases, indirect reported speech (e.g., *I heard you say X, and that's a good point. I still think Y, though, because...*) and open responses. |
| **Applying ELD Standards to Science** | Students participate in collaborative conversations where they engage in argument from evidence. During these conversations, they construct arguments and support them with reasons and evidence, and they critique the scientific | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
|---|---|---|---|
| CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>A. Collaborative | | | |
| 4. Adapting language choices | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 6 | Adjust language choices according to social setting (e.g., classroom, break time) and audience (e.g., peers, teacher). | Adjust language choices according to purpose (e.g., explaining, persuading, entertaining), task, and audience. | Adjust language choices according to task (e.g., facilitating a science experiment, providing peer feedback on a writing assignment), purpose, task, and audience. |
| 7 | Adjust language choices according to social setting (e.g., classroom, break time) and audience (e.g., peers, teacher). | Adjust language choices according to purpose (e.g., explaining, persuading, entertaining), task, and audience. | Adjust language choices according to task (e.g., facilitating a science experiment, providing peer feedback on a writing assignment), purpose, task, and audience. |
| 8 | Adjust language choices according to social setting (e.g., classroom, break time) and audience (e.g., peers, teacher). | Adjust language choices according to purpose (e.g., explaining, persuading, entertaining), task, and audience. | Adjust language choices according to task (e.g., facilitating a science experiment, providing peer feedback on a writing assignment), purpose, and audience. |
| **Applying ELD Standards to Science** | Students adjust their language choices according to audience, purpose, and task (e.g., providing evidence to support reasoning used to defend scientific arguments, interpretations, and procedures). | | |
| **Corresponding Science & Engineering Practices** | 4. Analyzing and interpreting data (MS-ESS2-6) | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
|---|---|---|---|
| **CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>B. Interpretive** | | | |
| **5. Listening actively** | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 6 | Demonstrate active listening in oral presentation activities by asking and answering basic questions, with prompting and substantial support. | Demonstrate active listening in oral presentation activities by asking and answering detailed questions, with occasional prompting and moderate support. | Demonstrate active listening in oral presentation activities by asking and answering detailed questions, with minimal prompting and support. |
| 7 | Demonstrate active listening in oral presentation activities by asking and answering basic questions, with prompting and substantial support. | Demonstrate active listening in oral presentation activities by asking and answering detailed questions, with occasional prompting and moderate support. | Demonstrate active listening in oral presentation activities by asking and answering detailed questions, with minimal prompting and support. |
| 8 | Demonstrate active listening in oral presentation activities by asking and answering basic questions, with prompting and substantial support. | Demonstrate active listening in oral presentation activities by asking and answering detailed questions, with occasional prompting and moderate support. | Demonstrate active listening in oral presentation activities by asking and answering detailed questions, with minimal prompting and support. |
| **Applying ELD Standards to Science** | Students listen to oral presentations about science and engineering topics. They demonstrate their active listening by asking and answering detailed questions about what they heard. | | |
| **Corresponding Science & Engineering Practices** | 4. Analyzing and interpreting data (MS-PS1-2) | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
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| **CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>B. Interpretive** | | | |
| **6. Reading/viewing closely** | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 6 | a. Explain ideas, phenomena, processes, and text relationships (e.g., compare/contrast, cause/effect, problem/solution) based on close reading of a variety of grade-level texts and viewing of multimedia, with substantial support.<br><br>b. Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia using some frequently used verbs (e.g., *shows that, based on*).<br><br>c. Use knowledge of morphology (e.g., affixes, roots, and base words), context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar topics. | a. Explain ideas, phenomena, processes, and text relationships (e.g., compare/contrast, cause/effect, problem/solution) based on close reading of a variety of grade-level texts and viewing of multimedia, with moderate support.<br><br>b. Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia using a variety of verbs (e.g., *suggests that, leads to*).<br><br>c. Use knowledge of morphology (e.g., affixes, roots, and base words), context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics. | a. Explain ideas, phenomena, processes, and text relationships (e.g., compare/contrast, cause/effect, problem/solution) based on close reading of a variety of grade-level texts and viewing of multimedia, with light support.<br><br>b. Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia using a variety of precise academic verbs (e.g., *indicates that, influences*).<br><br>c. Use knowledge of morphology (e.g., affixes, roots, and base words), context, reference materials, and visual cues to determine the meaning, including figurative and connotative meanings, of unknown and multiple-meaning words on a variety of new topics. |

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| 8 | a. Explain ideas, phenomena, processes, and text relationships (e.g., compare/contrast, cause/effect, problem/solution) based on close reading of a variety of grade-appropriate texts and viewing of multimedia, with substantial support.<br><br>b. Express inferences and conclusions drawn based on close reading of grade-appropriate texts and viewing of multimedia using some frequently used verbs (e.g., shows that, based on).<br><br>c. Use knowledge of morphology (e.g., affixes, roots, and base words), context, reference materials, and visual cues to determine the meanings of unknown and multiple-meaning words on familiar topics. | a. Explain ideas, phenomena, processes, and text relationships (e.g., compare/contrast, cause/effect, problem/solution) based on close reading of a variety of grade-appropriate texts and viewing of multimedia, with moderate support.<br><br>b. Express inferences and conclusions drawn based on close reading grade-appropriate texts and viewing of multimedia using a variety of verbs (e.g., suggests that, leads to).<br><br>c. Use knowledge of morphology (e.g., affixes, roots, and base words), context, reference materials, and visual cues to determine the meanings of unknown and multiple-meaning words on familiar and new topics. | a. Explain ideas, phenomena, processes, and text relationships (e.g., compare/contrast, cause/effect, problem/solution) based on close reading of a variety of grade-level texts and viewing of multimedia, with light support.<br><br>b. Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia using a variety of precise academic verbs (e.g., indicates that, influences).<br><br>c. Use knowledge of morphology (e.g., affixes, roots, and base words), context, reference materials, and visual cues to determine the meanings, including figurative and connotative meanings, of unknown and multiple-meaning words on a variety of new topics. |
| **Applying ELD Standards to Science** | a. Students obtain and combine information from print and digital sources to explain phenomena and to support analysis, reflection, and research. They observe experiences and read closely to evaluate the merit and accuracy of ideas and methods and to explain the variables that describe and predict phenomena.<br><br>b. Students refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.<br><br>c. Students refer to classroom-generated reference lists of frequently used words, roots, and affixes in science, and examples of texts to recognize patterns in order to contextualize meanings of related words. | | |
| **Corresponding Science & Engineering Practices** | 4. Analyzing and interpreting data (MS-LS2-1) | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
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| CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>B. Interpretive | | | |
| 7. Evaluating language choices | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 6 | Explain how well writers and speakers use language to support ideas and arguments with detailed evidence (e.g., identifying the precise vocabulary used to present evidence, or the phrasing used to signal a shift in meaning) with substantial support. | Explain how well writers and speakers use specific language to present ideas or support arguments and provide detailed evidence (e.g., showing the clarity of the phrasing used to present an argument) with moderate support. | Explain how well writers and speakers use specific language resources to present ideas or support arguments and provide detailed evidence (e.g., identifying the specific language used to present ideas and claims that are well supported and distinguishing them from those that are not) with light support. |
| 7 | Explain how well writers and speakers use language to support ideas and arguments with detailed evidence (e.g., identifying the precise vocabulary used to present evidence, or the phrasing used to signal a shift in meaning) when provided with substantial support. | Explain how well writers and speakers use specific language to present ideas of support arguments and provide detailed evidence (e.g., showing the clarity of the phrasing used to present an argument) when provided with moderate support. | Explain how well writers and speakers use specific language resources to present ideas or support arguments and provide detailed evidence (e.g., identifying the specific language used to present ideas and claims that are well supported and distinguishing them from those that are not) when provided with light support. |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
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| CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>B. Interpretive | | | |
| 8. Analyzing language choices | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 6 | Explain how phrasing or different common words with similar meaning (e.g., choosing to use the word *cheap* versus the phrase *a good saver*) produce different effects on the audience. | Explain how phrasing, different words with similar meaning (e.g., describing a character as *stingy* versus *economical*), or figurative language (e.g., *The room was like a dank cave, littered with food wrappers, soda cans, and piles of laundry*) produce shades of meaning and different effects on the audience. | Explain how phrasing, different words with similar meaning (e.g., *stingy, economical, frugal, thrifty*), or figurative language (e.g., *The room was depressed and gloomy. The room was like a dank cave, littered with food wrappers, soda cans, and piles of laundry*) produce shades of meaning, nuances, and different effects on the audience. |
| 7 | Explain how phrasing or different common words with similar meaning (e.g., choosing to use the word *polite* versus *good*) produce different effects on the audience. | Explain how phrasing, different words with similar meaning (e.g., describing a character as *diplomatic* versus *respectful*) or figurative language (e.g., *The wind blew through the valley like a furnace*) produce shades of meaning and different effects on the audience. | Explain how phrasing, different words with similar meaning (e.g., *refined-respectful-polite-diplomatic*), or figurative language (e.g., *The wind whispered through the night*) produce shades of meaning, nuances, and different effects on the audience. |
| 8 | Explain how phrasing or different common words with similar meanings (e.g., choosing to use the word *persistent* versus the term *hard worker*) produce different effects on the audience. | Explain how phrasing or different words with similar meanings (e.g., describing a character as *stubborn* versus *persistent*) or figurative language (e.g., *Let me throw some light onto the topic*) produce shades of meaning and different effects on the audience. | Explain how phrasing or different words with similar meanings (e.g., *cunning* versus *smart, stammer* versus *say*) or figurative language (e.g., *Let me throw some light onto the topic*) produce shades of meaning, nuances, and different effects on the audience. |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
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| CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>C. Productive | | | |
| 9. Presenting | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| **6** | Plan and deliver brief oral presentations on a variety of topics and content areas. | Plan and deliver longer oral presentations on a variety of topics and content areas, using details and evidence to support ideas. | Plan and deliver longer oral presentations on a variety of topics and content areas, using reasoning and evidence to support ideas, as well as growing understanding of register. |
| **7** | Plan and deliver brief informative oral presentations on familiar topics. | Plan and deliver longer oral presentations on a variety of topics, using details and evidence to support ideas. | Plan and deliver longer oral presentations on a variety of topics in a variety of disciplines, using reasoning and evidence to support ideas, as well as growing understanding of register. |
| **8** | Plan and deliver brief informative oral presentations on concrete topics. | Plan and deliver longer oral presentations on a variety of topics using details and evidence to support ideas. | Plan and deliver longer oral presentations on a variety of concrete and abstract topics using reasoning and evidence to support ideas and using a growing understanding of register. |
| **Applying ELD Standards to Science** | Students plan and deliver oral presentations on science topics. | | |
| **Corresponding Science & Engineering Practices** | 4. Analyzing and interpreting data (MS-ESS2-1) | | |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students use satellite photos and other text to gather information about slow-changing processes on Earth, such as sediment flow areas in the Mississippi Delta, erosion along coastlines, volcanic deposition on the Hawaiian islands, and the diverging Atlantic rift from Iceland south through the Atlantic. With partners, they compare these features and formulate explanations, using a set of transition words, for compare-and-contrast text structure, that they have previously developed for an explanation on a different topic. The students then develop a model to describe the cycling of Earth's materials and the flow of energy that drives the process (MS-ESS2-1). In small groups, they provide critiques of the other groups' models, using accountable talk stems. They then deliver oral | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
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| **CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>C. Productive** | | | |
| **10. Writing** | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 6 | a. Write short literary and informational texts (e.g., an argument for protecting the rain forests) collaboratively (e.g., with peers) and independently.<br>b. Write brief summaries of texts and experiences using complete sentences and key words (e.g., from notes or graphic organizers). | a. Write longer literary and informational texts (e.g., an argument for protecting the rain forests) collaboratively (e.g., with peers) and independently using appropriate text organization.<br>b. Write increasingly concise summaries of texts and experiences using complete sentences and key words (e.g., from notes or graphic organizers). | a. Write longer and more detailed literary and informational texts (e.g., an argument for protecting the rain forests) collaboratively (e.g., with peers) and independently using appropriate text organization and growing understanding of register.<br>b. Write clear and coherent summaries of texts and experiences using complete and concise sentences and key words (e.g., from notes or graphic organizers). |
| 7 | a. Write short literary and informational texts (e.g., an argument for wearing school uniforms) collaboratively (e.g., with peers) and independently.<br>b. Write brief summaries of texts and experiences using complete sentences and key words (e.g., from notes or graphic organizers). | a. Write longer literary and informational texts (e.g., an argument for wearing school uniforms) collaboratively (e.g., with peers) and independently using appropriate text organization.<br>b. Write increasingly concise summaries of texts and experiences using complete sentences and key words (e.g., from notes or graphic organizers). | a. Write longer and more detailed literary and informational texts (e.g., an argument for wearing school uniforms) collaboratively (e.g., with peers) and independently using appropriate text organization and growing understanding of register.<br>b. Write clear and coherent summaries of texts and experiences using complete and concise sentences and key words (e.g., from notes or graphic organizers). |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
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| CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>C. Productive | | | |
| 11. Justifying/arguing | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 6 | a. Justify opinions by providing some textual evidence (e.g., quoting from the text) or relevant background knowledge, with substantial support.<br>b. Express attitude and opinions or temper statements with some basic modal expressions (e.g., *can, has to*). | a. Justify opinions or persuade others by providing relevant textual evidence (e.g., quoting from the text or referring to what the text says) or relevant background knowledge, with moderate support.<br>b. Express attitude and opinions or temper statements with a variety of familiar modal expressions (e.g., *maybe/probably, can/could, must*). | a. Justify opinions or persuade others by providing detailed and relevant textual evidence (e.g., quoting from the text directly or referring to specific textual evidence) or relevant background knowledge, with light support.<br>b. Express attitude and opinions or temper statements with nuanced modal expressions (e.g., *probably/certainly/definitely, should/would, might) and phrasing (e.g., In my opinion ...*). |
| 7 | a. Justify opinions by providing some textual evidence or relevant background knowledge, with substantial support.<br>b. Express attitude and opinions or temper statements with familiar modal expressions (e.g., *can, may*). | a. Justify opinions or persuade others by providing relevant textual evidence or relevant background knowledge, with moderate support.<br>b. Express attitude and opinions or temper statements with a variety of familiar modal expressions (e.g., *possibly/likely, could/would/should*). | a. Justify opinions or persuade others by providing detailed and relevant textual evidence or relevant background knowledge, with light support.<br>b. Express attitude and opinions or temper statements with nuanced modal expressions (e.g., *possibly/potentially/absolutely, should/might*). |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
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| CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>C. Productive | | | |
| 12. Selecting language resources | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 6 | a. Use a select number of general academic words (e.g., *author, chart*) and domain-specific words (e.g., *scene, cell, fraction*) to create some precision while speaking and writing.<br>b. Use knowledge of morphology to appropriately select affixes in basic ways (e.g., *She likes X*). | a. Use a growing set of academic words (e.g., *author, chart, global, affect*), domain-specific words (e.g., *scene, setting, plot, point of view, fraction, cell membrane, democracy*), synonyms, and antonyms to create precision and shades of meaning while speaking and writing.<br>b. Use knowledge of morphology to appropriately select affixes in a growing number of ways to manipulate language (e.g., *She likes X. That's impossible*). | a. Use an expanded set of general academic words (e.g., *affect, evidence, demonstrate, reluctantly*), domain-specific words (e.g., *scene, setting, plot, point of view, fraction, cell membrane, democracy*), synonyms, antonyms, and figurative language to create precision and shades of meaning while speaking and writing.<br>b. Use knowledge of morphology to appropriately select affixes in a variety of ways to manipulate language (e.g., changing *observe* → *observation, reluctant* → *reluctantly, produce* → *production*, and so on). |

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| **Corresponding Science & Engineering Practices** | 4. Analyzing and interpreting data (MS-ESS2-2) |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students view video footage, texts, and images of fossil-layered strata from an archeological survey of an area rich with fossils, and engage in constructing scientific explanations based on evidence obtained from varied sources. The students construct scientific explanations based on evidence from rock strata for how the geologic timescale is used to organize Earth's 4.6-billion-year-old history (MS-ESS2-2). For example, in describing layers, students will recognize the difference between an earlier layer and earliest evidence in the strata sample being analyzed. The rich discussions involve using domain-specific language and appropriate affixes, such as *strata/stratum* or *sediment/sedimentary*. |
| **Sample-Specific Science & Engineering Practices** | 3. Planning and carrying out investigations<br>8. Obtaining, evaluating, and communicating information |

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| **8** | Apply understanding of how different text types are organized to express ideas (e.g., how narratives are organized sequentially) to comprehending texts and to writing brief arguments, informative/ explanatory texts and narratives. | Apply understanding of the organizational features of different text types (e.g., how narratives are organized by an event sequence that unfolds naturally versus how arguments are organized around reasons and evidence) to comprehending texts and to writing increasingly clear and coherent arguments, informative/explanatory texts and narratives. | Apply understanding of the organizational structure of different text types (e.g., how narratives are organized by an event sequence that unfolds naturally versus how arguments are organized around reasons and evidence) to comprehending texts and to writing clear and cohesive arguments, informative/explanatory texts and narratives. |
| **Applying ELD Standards to Science** | Text types in science include simulations, videos, diagrams, charts, tables, informational narratives, graphics, and labeled illustrations depicting processes, structures, and relationships, among others. Students increase understanding of text by using it in context with content and investigations, and by having explicit instruction about the organization of the text and its purpose. | | |
| **Corresponding Science & Engineering Practices** | 4. Analyzing and interpreting data (MS-PS4-1) | | |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students work in small groups, using a slinky or rope model attached to a spring scale, to investigate a wave's amplitude. The students use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave (MS-PS4-1). Using data from their investigations and from informational text, digital representations of waves, and electronic data, students gather information to explain the relationship between a wave and its energy, using both quantitative and qualitative representations. Students determine the type of text and the text organization that are appropriate for their purposes. For example, they may create illustrations of the wave and a table depicting varying amplitudes and the corresponding force (energy) measured for each trial, as well as writing an informational text in chronological order to explain the setup, the process, and their interpretation of their findings. | | |
| **Sample-Specific Science & Engineering Practices** | 3. Planning and carrying out investigations<br>8. Obtaining, evaluating, and communicating information | | |

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| | linked throughout a text using everyday connecting words or phrases (e.g., *at the end, next*) to comprehending texts and writing brief texts. | using a variety of connecting words or phrases (e.g., *for example, as a result, on the other hand*) to comprehending texts and writing texts with increasing cohesion. | and transitional words or phrases (e.g., *for instance, in addition, consequently*) to comprehending texts and writing texts with increasing cohesion. |
| **8** | a. Apply knowledge of familiar language resources for referring to make texts more cohesive (e.g., how pronouns refer back to nouns in text) to comprehending and writing brief texts.<br>b. Apply basic understanding of how ideas, events, or reasons are linked throughout a text using everyday connecting words or phrases (e.g., *at the end, next)* to comprehending and writing brief texts. | a. Apply knowledge of familiar language resources for referring to make texts more cohesive (e.g., how pronouns refer back to nouns in text, how using synonyms helps avoid repetition) to comprehending and writing texts with increasing cohesion.<br>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., *for example, as a result, on the other hand*) to comprehending and writing texts with increasing cohesion. | a. Apply knowledge of familiar language resources for referring to make texts more cohesive (e.g., how pronouns, synonyms, or nominalizations are used to refer backward in a text) to comprehending texts and writing cohesive texts.<br>b. Apply increasing understanding of how ideas, events, or reasons are linked throughout a text using an increasing variety of academic connecting and transitional words or phrases (e.g., *for instance, in addition, consequently*) to comprehending and writing texts with increasing cohesion. |
| **Applying ELD Standards to Science** | a. Students apply increasing understanding of language resources for referring the reader back or forward in text (e.g., how pronouns or synonyms refer back to nouns in text) to comprehending texts and writing cohesive science texts.<br>b. Students apply understanding of how ideas, events, or reasons are linked throughout science texts, using a variety of connecting words or phrases (e.g., *consequently, specifically, however, moreover*), to comprehending and writing science texts. | | |
| **Corresponding Science & Engineering Practices** | 4. Analyzing and interpreting data (MS-PS2-2) | | |
| **Sample Integration of Science and ELD Standards in the** | Students conduct an investigation and evaluate and revise the experimental design to produce data to serve as the basis for evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object (MS-PS2-2). They map out a trajectory path over which they will push a chair with nothing on it and measure its mass, the force of the pull, and the | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
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| CA ELD Standards<br>Part II: Learning About How English Works<br>B. Expanding and Enriching Ideas | | | |
| 3. Using verbs and verb phrases | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 6 | Use a variety of verb types (e.g., doing, saying, being/having, thinking/feeling), tenses (e.g., present, past, future, simple, progressive) appropriate to the text type and discipline (e.g., simple past and past progressive for recounting an experience) on familiar topics. | Use various verb types (e.g., doing, saying, being/having, thinking/feeling, reporting), tenses (e.g., present, past, future, simple, progressive, perfect) appropriate to the task, text type, and discipline (e.g., simple present for literary analysis) on an increasing variety of topics. | Use various verb types (e.g., doing, saying, being/having, thinking/feeling, reporting), tenses (e.g., present, past, future, simple, progressive, perfect) appropriate to the task, text type, and discipline (e.g., the present perfect to describe previously made claims or conclusions) on a variety of topics. |
| 7 | Use a variety of verbs in different tenses (e.g., present, past, future, simple, progressive) appropriate to the text type and discipline (e.g., simple past and past progressive for recounting an experience) on familiar topics. | Use a variety of verbs in different tenses (e.g., present, past, future, simple, progressive, perfect) appropriate to the task, text type, and discipline (e.g., simple present for literary analysis) on an increasing variety of topics. | Use a variety of verbs in different tenses (e.g., present, past, future, simple, progressive, perfect) appropriate to the task, text type, and discipline (e.g., the present perfect to describe previously made claims or conclusions) on a variety of topics. |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
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| **CA ELD Standards<br>Part II: Learning About How English Works<br>B. Expanding and Enriching Ideas** | | | |
| **4. Using nouns and noun phrases** | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| **6** | Expand noun phrases in simple ways (e.g., adding a sensory adjective to a noun) in order to enrich the meaning of sentences and add details about ideas, people, things, and the like. | Expand noun phrases in a variety of ways (e.g., adding comparative/ superlative adjectives to noun phrases or simple clause embedding) in order to enrich the meaning of sentences and add details about ideas, people, things, and the like. | Expand noun phrases in an increasing variety of ways (e.g., adding comparative/superlative and general academic adjectives to noun phrases or more complex clause embedding) in order to enrich the meaning of sentences and add details about ideas, people, things, and the like. |
| **7** | Expand noun phrases in basic ways (e.g., adding a sensory adjective to a noun) in order to enrich the meaning of sentences and add details about ideas, people, and things. | Expand noun phrases in a growing number of ways (e.g., adding adjectives to nouns or simple clause embedding) in order to enrich the meaning of sentences and add details about ideas, people, and things. | Expand noun phrases in an increasing variety of ways (e.g., more complex clause embedding) in order to enrich the meaning of sentences and add details about ideas, people, and things. |
| **8** | Expand noun phrases in basic ways (e.g., adding a sensory adjective to a noun) in order to enrich the meaning of sentences and add details about ideas, people, things, and so on. | Expand noun phrases in a growing number of ways (e.g., adding prepositional or adjective phrases) in order to enrich the meaning of sentences and add details about ideas, people, things, and so on. | Expand noun phrases in an increasing variety of ways (e.g., embedding relative or complement clauses) in order to enrich the meaning of sentences and add details about ideas, people, things, and so on. |
| **Applying ELD Standards to Science** | In science and engineering, oral and written texts may have long noun phrases. Students need to be able to identify what the main noun is and also to use the detailed information around the noun in order to understand the problem. They also need to be able to provide more detail in their explanations and arguments by expanding noun phrases themselves. | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
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| **CA ELD Standards<br>Part II: Learning About How English Works<br>B. Expanding and Enriching Ideas** | | | |
| **5. Modifying to add details** | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 6 | Expand sentences with simple adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause) about a familiar activity or process. | Expand sentences with an increasing variety of adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause) about a familiar or new activity or process. | Expand sentences with a variety of adverbials (e.g., adverbs, adverb phrases and clauses, prepositional phrases) to provide details (e.g., time, manner, place, cause) about a variety of familiar and new activities and processes. |
| 7 | Expand sentences with simple adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause) about a familiar activity or process. | Expand sentences with adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause) about a familiar or new activity or process. | Expand sentences with a variety of adverbials (e.g., adverbs, adverb phrases and clauses, prepositional phrases) to provide details (e.g., time, manner, place, cause) about a variety of familiar and new activities and processes. |
| 8 | Expand sentences with simple adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause) about a familiar activity or process. | Expand sentences with adverbials (e.g., adverbs, adverb phrases, prepositional phrases) to provide details (e.g., time, manner, place, cause) about a familiar or new activity or process. | Expand sentences with increasingly complex adverbials (e.g., adverbs, adverb phrases and clauses, prepositional phrases) to provide details (e.g., time, manner, place, cause) about a variety of familiar and new activities and processes. |
| **Applying ELD Standards to Science** | Students use modifying words and phrases to express their understanding of scientific concepts and phenomena. | | |
| **Corresponding Science & Engineering Practices** | 4. Analyzing and interpreting data (MS-ESS2-2) | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
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| **CA ELD Standards**<br>**Part II: Learning About How English Works**<br>**C. Connecting and Condensing Ideas** | | | |
| **6. Connecting ideas** | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 6 | Combine clauses in a few basic ways to make connections between and join ideas (e.g., creating compound sentences using *and, but, so*). | 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 a reason (e.g., *He stayed at home on Sunday to study for Monday's exam*) or to make a concession (e.g., *She studied all night even though she wasn't feeling well*). | 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 a reason (e.g., *He stayed at home on Sunday because he had an exam on Monday*), to make a concession (e.g., *She studied all night even though she wasn't feeling well*), or to link two ideas that happen at the same time (e.g., *The students worked in groups while their teacher walked around the room*). |
| 7 | Combine clauses in a few basic ways to make connections between and join ideas (e.g., creating compound sentences using *and, but, so;* creating complex sentences using because). | 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 a reason (e.g., *He stayed at home on Sunday in order to study for Monday's exam*) or to make a concession (e.g., *She studied all night even though she wasn't feeling well*). | Combine clauses in a wide variety of ways (e.g., creating compound, complex, and compound–complex sentences) to make connections between and join ideas, for example, to show the relationship between multiple events or ideas (e.g., *After eating lunch, the students worked in groups while their teacher walked around the room*) or to evaluate an argument (e.g., *The author claims X, although there is a lack of evidence to support this claim*). |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 6, 7, and 8 | | | |
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| CA ELD Standards<br>Part II: Learning About How English Works<br>C. Connecting and Condensing Ideas | | | |
| 7. Condensing ideas | | | |
| **Grade** | **Emerging** | **Expanding** | **Bridging** |
| 6 | Condense ideas in simple ways (e.g., by compounding verbs, adding prepositional phrases, or through simple embedded clauses or other ways of condensing as in, This is a story about a girl. The girl changed the world. → This is a story about a girl *who changed the world*) to create precise and detailed sentences. | Condense ideas in an increasing variety of ways (e.g., through various types of embedded clauses and other ways of condensing, as in, Organic vegetables are food. They're made without chemical fertilizers. They're made without chemical insecticides) → Organic vegetables are foods *that are made without chemical fertilizers or insecticides*) to create precise and detailed sentences. | Condense ideas in a variety of ways (e.g., through various types of embedded clauses, ways of condensing, and nominalization as in, They *destroyed* the rain forest. Lots of animals *died* → The *destruction* of the rain forest led to *the death of many animals*) to create precise and detailed sentences. |
| 7 | Condense ideas in simple ways (e.g., by compounding verbs, adding prepositional phrases, or through simple embedded clauses or other ways of condensing as in, This is a story about a girl. The girl changed the world → This is a story about a girl *who changed the world*) to create | Condense ideas in an increasing variety of ways (e.g., through various types of embedded clauses and other ways of condensing, as in, Organic vegetables are food. They're made without chemical fertilizers. They're made without chemical insecticides. → Organic vegetables are foods *that are made without chemical fertilizers or insecticides*) to create precise and detailed sentences. | Condense ideas in a variety of ways (e.g., through various types of embedded clauses, ways of condensing, and nominalization as in, They *destroyed* the rain forest. Lots of animals *died* → The *destruction* of the rainforest led to *the death of many animals*) to create precise and detailed sentences. |

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| **Sample-Specific Science & Engineering Practices** | 3. Planning and carrying out investigations<br>8. Obtaining, evaluating, and communicating information |

* The Performance Expectations marked with an asterisk integrate traditional science content with engineering through a Practice or Disciplinary Core Idea.

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| **Corresponding Science & Engineering Practices** | 4. Analyzing and interpreting data (HS-ESS2-1) |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students develop a model that illustrates how Earth's internal and surface processes operate at different spatial and temporal scales to form continental and ocean-floor features (HS-ESS2-1). Students have worked in pairs to develop their explanation by using drawings and graphics and manipulating physical materials such as cardboard, foam, or clay. Now they gather in small groups to orally explain their understanding. The teacher provides sentence frames to support students in using evidence to explain how the appearance of land features (such as mountains, valleys, and plateaus) and ocean-floor features (such as trenches, ridges, and seamounts) are a result of both constructive forces (such as volcanism, tectonic uplift, or orogeny) and destructive mechanisms (such as weathering, mass wasting, or coastal erosion). Students can also refer to important terms that are posted on charts that they previously developed through explorations and visual representations. |
| **Sample-Specific Science & Engineering Practices** | 6. Constructing explanations (for science) and designing solutions (for engineering)<br>8. Obtaining, evaluating, and communicating information |

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| **Sample-Specific Science & Engineering Practices** | 4. Analyzing and interpreting data<br>5. Using mathematics and computational thinking<br>7. Engaging in argument from evidence |

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| **Applying ELD Standards to Science** | Students participate in collaborative conversations where they engage in argument from evidence. During these conversations, they construct arguments and support them with reasons and evidence, and they critique the scientific methodology, and explanations or solutions, proposed by their peers, by citing relevant evidence. |
| **Corresponding Science & Engineering Practices** | 7. Engaging in argument from evidence (HS-PS4-3) |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students research experimental evidence (phenomena could include resonance, interference, diffraction, or photoelectric effect) and present the evidence to support a claim and to explain how a theory is generally modified in light of new evidence (HS-PS4-3). The teacher guides students in a "four corners" strategy, in which all those who agree on an explanation gather in a corner to discuss the similarities in their argument and then produce a Venn diagram that illustrates those similarities. Each corner group will then pair with a corner group with a differing explanation, to try to persuade others that their ideas are reasonable and supported by appropriate evidence, using learned phrases to respectfully offer counterarguments or to elaborate on a peer's idea. |
| **Sample-Specific Science & Engineering Practices** | 4. Analyzing and interpreting data |

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| **Sample Integration of Science and ELD Standards in the Classroom** | Students work in small groups to research the reasons for different changes in an ecosystem, using a variety of text types and digital media as resources. Students in each group discuss the credibility of their resources, the evidence provided, and possible claims that can be generated about changes in an ecosystem. During small group discussions, students speak more informally as they negotiate with each other and the texts to learn content. To support students at the Emerging and early Expanding levels of English proficiency, the teacher has made it clear that they should use their home language, or a mix of English and their home language, in initial discussions. To facilitate this, the teacher has created linguistically heterogeneous groups and attempted to pair students at the Emerging level of English proficiency with at least one other student who is fluent in English and the student's home language. Students use graphic organizers to organize their information into possible claims and evidence that supports each claim. These changes might be modest biological or physical changes, such as hunting or a seasonal flood, or extreme changes, such as a fire, volcanic eruption, or sea-level rise (HS-LS2-6). Students work with a partner from a different group and share their current claims and evidence related to changes in an ecosystem. During this exchange, the students' language becomes a bit more formal, and the teacher has supported the students by providing language frames, such as "We assert _____ given _____". In pairs, the students evaluate the claims, evidence, and reasoning behind currently accepted explanations or solutions, to determine the merits of the arguments, using precise language that is appropriate for the audience and purpose. The teacher then challenges the students to increase the precision of their language—as appropriate for a chosen audience—while creating a formal written argument that includes the cause-and-effect reasoning behind why an ecosystem changed. To support the students in succeeding in using more precise language in a written context, the teacher leads students through analysis of science texts, creating and posting word walls and language charts that highlight the vocabulary and structural features of written science texts. |
| **Sample-Specific Science & Engineering Practices** | 4. Analyzing and interpreting data<br>5. Using mathematics and computational thinking<br>8. Obtaining, evaluating, and communicating information |

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| **Sample Integration of Science and ELD Standards in the Classroom** | Students plan and conduct investigations with water and a variety of solid materials, to provide evidence for the connections between the hydrologic cycle and system interactions commonly known as the rock cycle (HS-ESS2-5). Students compile their data and prepare for their oral presentation. The teacher provides a two-part, technology-based strategy for students to use tablet computers, or similar devices with a video-recording function, to record their oral presentations. In the first part, students work in pairs to record each other's oral presentations and watch the recorded presentations to predict the detailed and complex questions that they may be asked about the investigation. In the second part, each student practices answering the questions prior to the final presentation. In this way, students are able to anticipate and rehearse their responses to complex questions. After completing this strategy, students are able to communicate their findings to the class in oral presentations. Students in the class listen to the presentations and ask probing and clarifying questions of the presenters, who are now confident and ready to provide oral responses. |
| **Sample-Specific Science & Engineering Practices** | 1. Asking questions<br>4. Analyzing and interpreting data<br>7. Engaging in argument from evidence<br>8. Obtaining, evaluating, and communicating information |

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| **11–12** | a. Explain ideas, phenomena, processes, and text relationships (e.g., compare/contrast, cause/effect, evidence-based argument) based on close reading of a variety of grade-appropriate texts, presented in various print and multimedia formats, using phrases, short sentences, and a select set of general academic and domain-specific words.<br><br>b. Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia, using familiar verbs (e.g., seems that).<br><br>c. Use knowledge of morphology (e.g., common prefixes and suffixes), context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar topics. | a. Explain ideas, phenomena, processes, and relationships within and across texts (e.g., compare/contrast, cause/effect, themes, evidence-based argument) based on close reading of a variety of grade-appropriate texts, presented in various print and multimedia formats, using increasingly detailed sentences, and a range of general academic and domain-specific words.<br><br>b. Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia using a variety of verbs and adverbials (e.g., indicates that, suggests, as a result).<br><br>c. Use knowledge of morphology (e.g., affixes, Greek and Latin roots), context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics. | a. Explain ideas, phenomena, processes, and relationships within and across texts (e.g., compare/contrast, cause/effect, themes, evidence-based argument) based on close reading of a variety of grade-level texts, presented in various print and multimedia formats, using a variety of detailed sentences and precise general academic and domain-specific words.<br><br>b. Explain inferences and conclusions drawn from close reading of grade-level texts and viewing of multimedia using a variety of verbs and adverbials (e.g., creates the impression that, consequently).<br><br>c. Use knowledge of morphology (e.g., derivational suffixes), context, reference materials, and visual cues to determine the meaning, including figurative and connotative meanings, of unknown and multiple-meaning words on a variety of new topics. |
| **Applying ELD Standards to Science** | a. Students obtain and combine information from print and digital sources to explain phenomena and to support analysis, reflection, and research. They observe experiences and read closely to evaluate the merit and accuracy of ideas and methods and to explain the variables that describe and predict phenomena.<br><br>b. Students refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.<br><br>c. Students refer to classroom-generated reference lists of frequently used words, roots and affixes in science, and examples of texts, to recognize patterns in order to contextualize meanings of related words. | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 9–10 and 11–12 | | | |
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| CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>B. Interpretive | | | |
| 7. Evaluating language choices | | | |
| **Grades** | **Emerging** | **Expanding** | **Bridging** |
| **9–10** | Explain how successfully writers and speakers structure texts and use language (e.g., specific word or phrasing choices) to persuade the reader (e.g., by providing evidence to support claims or connecting points in an argument) or create other specific effects, with substantial support. | Explain how successfully writers and speakers structure texts and use language (e.g., specific word or phrasing choices) to persuade the reader (e.g., by providing well-worded evidence to support claims or connecting points in an argument in specific ways) or create other specific effects, with moderate support. | Explain how successfully writers and speakers structure texts and use language (e.g., specific word or phrasing choices) to persuade the reader (e.g., by providing well-worded evidence to support claims or connecting points in an argument in specific ways) or create other specific effects, with light support. |
| **11–12** | Explain how successfully writers and speakers structure texts and use language (e.g., specific word or phrasing choices) to persuade the reader (e.g., by providing evidence to support claims or connecting points in an argument) or create other specific effects. | Explain how successfully writers and speakers structure texts and use language (e.g., specific word or phrasing choices) to persuade the reader (e.g., by providing well-worded evidence to support claims or connecting points in an argument in specific ways) or create other specific effects, with moderate support. | Explain how successfully writers and speakers structure texts and use language (e.g., specific word or phrasing choices) to persuade the reader (e.g., by providing well-worded evidence to support claims or connecting points in an argument in specific ways) or create other specific effects, with light support. |
| **Applying ELD Standards to Science** | When critiquing others' presentations on scientific topics, students can describe or explain how well the writers or speakers used particular vocabulary or phrasing, for example, to provide a definition or explanation. | | |
| **Corresponding Science & Engineering Practices** | 5. Using mathematics and computational thinking (HS-ESS3-3) | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 9–10 and 11–12 | | | |
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| **CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>B. Interpretive** | | | |
| **8. Analyzing language choices** | | | |
| **Grades** | **Emerging** | **Expanding** | **Bridging** |
| **9–10** | Explain how a writer's or speaker's choice of phrasing or specific words (e.g., describing a character or action as *aggressive* versus *bold*) produces nuances and different effects on the audience. | Explain how a writer's or speaker's choice of phrasing or specific words (e.g., using figurative language or words with multiple meanings to describe an event or character) produces nuances and different effects on the audience. | Explain how a writer's or speaker's choice of a variety of different types of phrasing or words (e.g., hyperbole, varying connotations, the cumulative impact of word choices) produces nuances and different effects on the audience. |
| **11–12** | Explain how a writer's or speaker's choice of phrasing or specific words (e.g., describing a character or action as *aggressive* versus *bold*) produces nuances or different effects on the audience. | Explain how a writer's or speaker's choice of phrasing or specific words (e.g., using figurative language or words with multiple meanings to describe an event or character) produces nuances and different effects on the audience. | Explain how a writer's or speaker's choice of a variety of different types of phrasing or words (e.g., hyperbole, varying connotations, the cumulative impact of word choices) produces nuances and different effects on the audience. |
| **Applying ELD Standards to Science** | When reading or listening to others' presentations on scientific topics, students can distinguish how the writer's or speaker's selection of different words or phrases with related meanings (e.g., *clear* versus *transparent* versus *translucent*) affects the audience's understanding. | | |
| **Corresponding Science & Engineering Practices** | 2. Developing and using models (HS-PS1-4) | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 9–10 and 11–12 | | | |
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| CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>C. Productive | | | |
| 9. Presenting | | | |
| **Grades** | **Emerging** | **Expanding** | **Bridging** |
| **9–10** | Plan and deliver brief oral presentations and reports on grade-appropriate topics that present evidence and facts to support ideas. | Plan and deliver a variety of oral presentations and reports on grade-appropriate topics that present evidence and facts to support ideas by using growing understanding of register. | Plan and deliver a variety of oral presentations and reports on grade-appropriate topics that express complex and abstract ideas well supported by evidence and sound reasoning, and are delivered using an appropriate level of formality and understanding of register. |
| **11–12** | Plan and deliver brief oral presentations and reports on grade-appropriate topics that present evidence and facts to support ideas. | Plan and deliver a variety of oral presentations and reports on grade-appropriate topics that present evidence and facts to support ideas using growing understanding of register. | Plan and deliver a variety of oral presentations and reports on grade-appropriate topics that express complex and abstract ideas, well supported by evidence and reasoning, and are delivered using an appropriate level of formality and understanding of register. |
| **Applying ELD Standards to Science** | Students plan and deliver oral presentations on science topics. | | |
| **Corresponding Science & Engineering Practices** | 5. Using mathematics and computational thinking (HS-PS2-4) | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 9–10 and 11–12 | | | |
|---|---|---|---|
| CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>C. Productive | | | |
| 10. Writing | | | |
| **Grades** | **Emerging** | **Expanding** | **Bridging** |
| **9–10** | a. Write short literary and informational texts (e.g., an argument about water rights) collaboratively (e.g., with peers) and independently.<br>b. Write brief summaries of texts and experiences by using complete sentences and key words (e.g., from notes or graphic organizers). | a. Write longer literary and informational texts (e.g., an argument about water rights) collaboratively (e.g., with peers) and independently by using appropriate text organization and growing understanding of register.<br>b. Write increasingly concise summaries of texts and experiences by using complete sentences and key words (e.g., from notes or graphic organizers). | a. Write longer and more detailed literary and informational texts (e.g., an argument about water rights) collaboratively (e.g., with peers) and independently using appropriate text organization and register.<br>b. Write clear and coherent summaries of texts and experiences by using complete and concise sentences and key words (e.g., from notes or graphic organizers). |
| **11–12** | a. Write short literary and informational texts (e.g., an argument about free speech) collaboratively (e.g., with peers) and independently.<br>b. Write brief summaries of texts and experiences using complete sentences and key words (e.g., from notes or graphic organizers). | a. Write longer literary and informational texts (e.g., an argument about free speech) collaboratively (e.g., with peers) and independently using appropriate text organization and growing understanding of register.<br>b. Write increasingly concise summaries of texts and experiences using complete sentences and key words (e.g., from notes or graphic organizers). | a. Write longer and more detailed literary and informational texts (e.g., an argument about free speech) collaboratively (e.g., with peers) and independently using appropriate text organization and register.<br>b. Write clear and coherent summaries of texts and experiences using complete and concise sentences and key words (e.g., from notes or graphic organizers). |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 9–10 and 11–12 | | | |
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| **CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>C. Productive** | | | |
| **11. Justifying/arguing** | | | |
| **Grades** | **Emerging** | **Expanding** | **Bridging** |
| **9–10** | a. Justify opinions by articulating some relevant textual evidence or background knowledge, with visual support.<br>b. Express attitude and opinions or temper statements with familiar modal expressions (e.g., *can, may*). | a. Justify opinions and positions or persuade others by making connections between ideas and articulating relevant textual evidence or background knowledge.<br>b. Express attitude and opinions or temper statements with a variety of familiar modal expressions (e.g., *possibly/likely, could/would*). | a. Justify opinions or persuade others by making connections and distinctions between ideas and texts and articulating sufficient, detailed, and relevant textual evidence or background knowledge, using appropriate register.<br>b. Express attitude and opinions or temper statements with nuanced modal expressions (e.g., *possibly/potentially/ certainly/absolutely, should/might*). |
| **11–12** | a. Justify opinions by articulating some textual evidence or background knowledge with visual support.<br>b. Express attitude and opinions or temper statements with familiar modal expressions (e.g., *can, may*). | a. Justify opinions and positions or persuade others by making connections between ideas and articulating relevant textual evidence or background knowledge.<br>b. Express attitude and opinions or temper statements with a variety of familiar modal expressions (e.g., *possibly/likely, could/would*). | a. Justify opinions or persuade others by making connections and distinctions between ideas and texts and articulating sufficient, detailed, and relevant textual evidence or background knowledge, using appropriate register.<br>b. Express attitude and opinions or temper statements with nuanced modal expressions (e.g., *possibly/potentially/ certainly/absolutely, should/might*). |
| **Applying ELD Standards to Science** | Students construct and support arguments in science with evidence, data, and/or a model. They compare and refine arguments, based on evaluation of the evidence presented. | | |
| **Corresponding Science & Engineering** | 2. Developing and using models (HS-PS1-1) | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 9–10 and 11–12 | | | |
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| CA ELD Standards<br>Part I: Interacting in Meaningful Ways<br>C. Productive | | | |
| 12. Selecting language resources | | | |
| **Grades** | **Emerging** | **Expanding** | **Bridging** |
| 9–10 | a. Use familiar general academic (e.g., *temperature, document*) and domain-specific (e.g., *characterization, photosynthesis, society, quadratic functions*) words to create clear spoken and written texts.<br>b. Use knowledge of morphology to appropriately select basic affixes (e.g., The skull protect*s* the brain). | a. Use an increasing variety of grade-appropriate general academic (e.g., *dominate, environment*) and domain-specific (e.g., *characterization, photosynthesis, society, quadratic functions*) academic words accurately and appropriately when producing increasingly complex written and spoken texts.<br>b. Use knowledge of morphology to appropriately select affixes in a growing number of ways to manipulate language (e.g., diplomat*ic*, stems are branch*ed* or *un*branched). | a. Use a variety of grade-appropriate general (e.g., *anticipate, transaction*) and domain-specific (e.g., *characterization, photosynthesis, society, quadratic functions*) academic words and phrases, including persuasive language, accurately and appropriately when producing complex written and spoken texts.<br>b. Use knowledge of morphology to appropriately select affixes in a variety of ways to manipulate language (e.g., changing *humiliate* to *humiliation* or *incredible* to *incredibly*). |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 9–10 and 11–12 | | | |
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| CA ELD Standards<br>Part II: Learning About How English Works<br>A. Structuring Cohesive Texts | | | |
| 1. Understanding text structure | | | |
| **Grades** | **Emerging** | **Expanding** | **Bridging** |
| **9–10** | Apply analysis of the organizational structure of different text types (e.g., how arguments are organized by establishing clear relationships among claims, counterclaims, reasons, and evidence) to comprehending texts and to writing brief arguments, informative/explanatory texts and narratives. | Apply analysis of the organizational structure of different text types (e.g., how arguments are organized by establishing clear relationships among claims, counterclaims, reasons, and evidence) to comprehending texts and to writing increasingly clear and cohesive arguments, informative/ explanatory texts and narratives. | Apply analysis of the organizational structure of different text types (e.g., how arguments are organized by establishing clear relationships among claims, counterclaims, reasons, and evidence) to comprehending texts and to writing clear and cohesive arguments, informative/explanatory texts and narratives. |
| **11–12** | Apply analysis of the organizational structure of different text types (e.g., how arguments are organized by establishing clear relationships among claims, counterclaims, reasons, and evidence) to comprehending texts and to writing brief arguments, informative/ explanatory texts, and narratives. | Apply analysis of the organizational structure of different text types (e.g., how arguments are organized by establishing clear relationships among claims, counterclaims, reasons, and evidence) to comprehending texts and to writing increasingly clear and cohesive arguments, informative/ explanatory texts, and narratives. | Apply analysis of the organizational structure of different text types (e.g., how arguments are organized by establishing clear relationships among claims, counterclaims, reasons, and evidence) to comprehending texts and to writing clear and cohesive arguments, informative/explanatory texts, and narratives. |
| **Applying ELD Standards to Science** | Text types in science include simulations, videos, diagrams, charts, tables, informational narratives, graphics, and labeled illustrations depicting processes, structures and relationships, among others. Students increase understanding of text by using it in context with content and investigations, and by having explicit instruction about the organization of the text and its purpose. | | |

| Integrating CA ELD Standards into Science Teaching and Learning<br>Grades 9–10 and 11–12 | | | |
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| CA ELD Standards<br>Part II: Learning About How English Works<br>A. Structuring Cohesive Texts | | | |
| 2. Understanding cohesion | | | |
| **Grades** | **Emerging** | **Expanding** | **Bridging** |
| **9–10** | a. Apply knowledge of familiar language resources for referring to make texts more cohesive (e.g., using pronouns to refer back to nouns in text) to comprehending and writing brief texts.<br><br>b. Apply knowledge of familiar language resources for linking ideas, events, or reasons throughout a text (e.g., using connecting/transition words and phrases, such as *first, second, third*) to comprehending and writing brief texts. | a. Apply knowledge of a growing number of language resources for referring to make texts more cohesive (e.g., using nominalizations to refer back to an action or activity described earlier) to comprehending texts and to writing increasingly cohesive texts for specific purposes and audiences.<br><br>b. Apply knowledge of familiar language resources for linking ideas, events, or reasons throughout a text (e.g., using connecting/transition words and phrases, such as *meanwhile, however, on the other hand*) to comprehending texts and to writing increasingly cohesive texts for specific purposes and audiences. | a. Apply knowledge of a variety of language resources for referring to make texts more cohesive (e.g., using nominalization, paraphrasing, or summaries to reference or recap an idea or explanation provided earlier) to comprehending grade-level texts and to writing clear and cohesive grade-level texts for specific purposes and audiences.<br><br>b. Apply knowledge of familiar language resources for linking ideas, events, or reasons throughout a text (e.g., using connecting/transition words and phrases, such as *on the contrary, in addition, moreover*) to comprehending grade-level texts and to writing cohesive texts for specific purposes and audiences. |

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| **Sample-Specific Science & Engineering Practices** | N/A |

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| **Sample Integration of Science and ELD Standards in the Classroom** | Students have numerous opportunities to engage in hands-on investigations with their peers, to expose the students to everyday examples of Newton's Second Law of Motion and to provide them with multiple opportunities to develop language describing changes in motion, such as how the law applies to falling objects, objects rolling down a ramp, or moving objects being pulled by a constant force. In subsequent discussions, students are expected to begin applying appropriate verb tenses (such as past tense for describing investigations and present tense for describing findings) and science vocabulary. In some of these investigations, students work in groups to record their descriptions along with accompanying data generated by the investigation. The groups then analyze the data to support the claim that the Second Law describes the mathematical relationships among the net force on an object, its mass, and its acceleration (HS-PS2-1), and share their findings, and whether their data provides evidence for a causal relationship or a correlational relationship, with the whole class. |
| **Sample-Specific Science & Engineering Practices** | N/A |

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| **Sample Integration of Science and ELD Standards in the Classroom** | Students have been developing and using a model to illustrate the hierarchical organization of interacting systems that provide specific functions with multicellular organisms (HS-LS1-2). One group of students is constructing and explaining a model that shows how the muscular system interacts with the circulatory system to move blood around the body. In their descriptions, students expand noun phrases by adding adjectives—for example, *smooth involuntary muscles, thick-walled arteries,* and *autonomic neural stimuli*—and by embedding clauses, such as *an organ system that allows blood to circulate*. The teacher makes sure to check in with each student at the Emerging or early Expanding levels of English proficiency to provide verbal support through asking probing questions and helping students use descriptive vocabulary.<br><br>In groups, students work on comparing domain-specific uses of terms with their uses in everyday life. For example, students discuss how *involuntary* is used in other contexts, such as military drafts during wartime, or provide examples of materials that are *smooth* or *thick-walled.* |
| **Sample-Specific Science & Engineering Practices** | N/A |

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| **Sample Integration of Science and ELD Standards in the Classroom** | Following a series of activities relating to investigation of processes that result in continental and ocean-floor features (such as work with computerized simulations, field investigations, or communication with an expert who is investigating Earth processes), students work in groups to develop their own models of a geological feature near their local community (or region that they are interested in). When explaining or providing a rationale for their model, students use modifying words and phrases explaining how the appearance of land features (such as mountains, valleys, and plateaus) and ocean-floor features (such as trenches, ridges, and seamounts) are a result of both constructive forces (such as volcanism, tectonic uplift, or orogeny) and destructive mechanisms (such as weathering, mass wasting, or coastal erosion) as well as interactions between processes and timescales involved. For example, they use adverbials describing length of time (e.g., "this has been an active fault *for centuries*") or adverbials that describe frequency (e.g., "earthquakes *frequently* happen on this fault"). The groups then compare models to develop understanding that processes operate at different spatial and temporal scales to form continental and ocean-floor features (HS-ESS2-1). |
| **Sample-Specific Science & Engineering Practices** | 6. Constructing explanations (for science) and designing solutions (for engineering)<br>8. Obtaining, evaluating, and communicating information |

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| **Science** | connected. |
| **Corresponding Science & Engineering Practices** | 6. Constructing explanations (for science) and designing solutions (for engineering) (HS-ESS3-1) |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students research and collect data on how the availability of natural resources, occurrences of natural hazards, and changes in climate have influenced human activity (HS-ESS3-1). Some areas of Earth are more densely populated than others, and these differences can be explained and related to natural resources, natural hazards, and climate. Using the data that they have collected, students prepare and deliver oral presentations explaining the reasons and rationales for population clusters in specific areas. In their explanations, students combine clauses to explain relationships among the three factors and their impact on human activities (e.g., "Due to its extremely cold temperatures and long winters, Siberia has a population density of only approximately three people per square kilometer."). |
| **Sample-Specific Science & Engineering Practices** | 4. Analyzing data<br>8. Obtaining, evaluating, and communicating information |

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| **Applying ELD Standards to Science** | When explaining their own thinking, or when listening to or reading the explanations or arguments of others, students need to understand how ideas are condensed. |
| **Corresponding Science & Engineering Practices** | 2. Developing and using models (HS-LS2-3) |
| **Sample Integration of Science and ELD Standards in the Classroom** | Students develop a model that describes how matter cycles and energy flows among the living and nonliving parts of an ecosystem (HS-LS2-3). Working with a partner, students research an aspect of an ecosystem and use a flow map to show how details are connected to one another. To support students at the Emerging and early Expanding levels of English proficiency, the teacher strategically partners students so that each student has a language buddy who is fluent in English and the student's home language. Before the students begin constructing their explanations, the teacher leads them through analyzing texts to examine how authors condense ideas. When most students are engaged in independent work, the teacher works specifically with students at the Emerging and early Expanding levels of English proficiency to take complex ideas and condense them, first jointly constructing the text with the students and then asking them to work with increasing independence. Students then return to their partners and use the map they created to construct an explanation to share with the class. The emphasis of the model and explanation is on describing the conservation of matter and the flow of energy into and out of the ecosystem and defining the boundaries of the ecosystem. Students present their models and explanations to the class, condensing ideas in a variety of ways (e.g., using embedded clauses: "Tertiary consumers, which may or may not be apex predators, then consume the secondary consumers."). Following a discussion of the explanations presented based on a co-constructed rubric defining criteria for success, students work with their partner to revise their own explanations and provide justifications for why they made the revisions. |
| **Sample-Specific Science & Engineering Practices** | 4. Analyzing and interpreting data<br>6. Constructing explanations (for science) and designing solutions (for engineering)<br>8. Obtaining, evaluating, and communicating information |

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