



# ELD STANDARDS FRAMEWORK FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES 3-5

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## SECTION 1: ELD FRAMEWORK FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES 3-5 - OVERVIEW

### Section 1A: Purpose

The purpose of the English Language Development (ELD) Standards Framework and Instructional Guidance documents is to provide clarity in the implementation and integration of the Nevada ELD Standards with Nevada Academic Content Standards and instruction. In addition, they support the application of the Nevada Educator Performance Framework (NEPF) Standards of best practices for multilingual learners and other diverse student populations.

These Nevada ELD Standards documents specify the connection between the WIDA ELD Standards and the content disciplinary practices of English Language Arts (ELA), Mathematics (MA), Next Generation Science Standards (NGSS) and Social Studies (SS) Practices. The practices identified in this document were created within the **Next Generation Science Standards (NGSS) and National Science Teachers Association (NSTA)**. The ELD Standards Instructional Guidance documents conceptualize the Nevada ELD Standards as intertwined with learning the Nevada Academic Content Standards and College and Career Readiness Standards.

#### Section 1: [Overview Document](#)

#### Section 2: **Framework for Developing the Language of Science**

- A. Student Moves: Language Expectations
- B. Teacher Moves: Supports for Interpreting and Expressing in the Language of the Content
- C. Teacher Moves: Supports for Collaborating in the Academic Language

#### Section 3: **Instructional Guidance: Science and Engineering Practices**

- A. Summary: Content Disciplinary Practices and Example Tasks
- B. Science and Engineering Disciplinary Practices
  - Practice 1: Asking questions and defining problems
  - Practice 2: Developing and using models
  - Practice 3: Planning and carrying out investigations
  - Practice 4: Analyzing and interpreting data
  - Practice 5: Using mathematics and computational thinking
  - Practice 6: Constructing explanations and designing solutions
  - Practice 7: Engaging in Argument from Evidence
  - Practice 8: Obtaining, Evaluating, and Communicating Information

## Section 1B: Key Uses of Academic Language

These purposes, referred to as **Key Uses**, were identified based on reviews of literature and a language analysis of college and career readiness standards:

KEY USES	KEY USES DESCRIPTION
<b>NARRATE</b>	Highlights language to convey real or imaginary experiences through stories and histories. Example tasks for the Key Use of <b>Narrate</b> include telling or summarizing stories, sharing past experiences, Inform/Narrating an incident, or to chronicle a report.
<b>INFORM</b>	Highlights language to provide factual information, to tell, give knowledge, apprise, notify, to make aware of ideas, actions, or phenomena. Example tasks for the Key Use of <b>Inform</b> include defining, describing, comparing, contrasting, categorizing, or classifying concepts, ideas, or phenomena.
<b>EXPLAIN</b>	Highlights language to give an account for how things work or why things happen to clarify ideas, actions, or phenomena. Example tasks for the Key Use of <b>Explain</b> include interpreting, elaborating, illustrating, simplifying ideas, actions, or phenomena.
<b>ARGUE</b>	Highlights language to justify claims using evidence and reasoning, constructing arguments with evidence, or stating preferences or opinions. Example tasks for the Key Use of <b>Argue</b> include advancing or defending an idea or solution, changing the audience’s point of view, or evaluating an issue.
<b>DISCUSS</b>	Highlights language to interact with others to build meaning and to share knowledge. Example tasks for the Key Use of <b>Discuss</b> include participating in small or large group activities and projects. <b>Discuss</b> can be found in Standard 1: Language of Social and Instructional Purposes of the WIDA 2002 Standards Framework.

## SECTION 2: ELD FRAMEWORK FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES 3-5

### Section 2A: Student Moves: Language Expectations

With appropriate instructional support (visual, graphic, and interactive), multilingual learners can...

Language Domains	Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
<p><b>Interpretive: Listening, Reading, &amp; Viewing</b></p>	<ul style="list-style-type: none"> <li>● <b>Identify</b> objects according to chemical or physical properties from pictures and oral statements.</li> <li>● <b>Match</b> objects according to chemical or physical properties from pictures and oral descriptions.</li> <li>● <b>Identify</b> living organisms from labeled diagrams, pictures in graphs or charts.</li> <li>● <b>Sort</b> living organisms according to descriptions of their attributes using pictures and phrases with graphic organizers (e.g., T-Charts).</li> <li>● <b>Identify</b> examples of states of matter, from oral statements with visual support.</li> <li>● <b>Distinguish</b> among examples of states of matter from oral statements and visual support.</li> <li>● <b>Match</b> labeled pictures representing earth materials with vocabulary (e.g., Which one is a rock?).</li> <li>● <b>Associate</b> descriptive phrases with pictures of earth materials.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Group</b> objects according to chemical or physical properties from pictures and oral statements.</li> <li>● <b>Rank</b> or <b>compare</b> objects according to chemical or physical properties from pictures and oral descriptions.</li> <li>● <b>Transfer</b> information on living organisms and their attributes using pictures and sentences to complete graphs or charts.</li> <li>● <b>Compare</b> living organisms according to their attributes using illustrated graphs or charts and text.</li> <li>● <b>Identify</b> series of changes in states of matter based on oral descriptions and visual support (e.g., from liquid to steam, back to liquid).</li> <li>● <b>Hypothesize</b> change in states of matter based on oral descriptions and visual support (e.g., “I take ice cubes out of the freezer. I put them in the sun. What will happen?”).</li> <li>● <b>Interpret</b> information on earth materials from charts, tables, or graphic organizers.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Identify</b> chemical or physical change in properties of objects based on oral scenarios.</li> <li>● <b>Interpret</b> graphs or charts related to living organisms and their attributes using explicit grade-level text.</li> <li>● <b>Determine</b> relationships between states of matter from oral discourse</li> <li>● <b>Apply</b> information on earth materials to new contexts using grade level text.</li> </ul>

Section 2A: Student Moves: Language Expectations (continued)

With appropriate instructional support (visual, graphic, and interactive), multilingual learners can...

Language Domains	Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
Expressive: Speaking, Writing, & Representing	<ul style="list-style-type: none"> <li>● <b>Use</b> words or phrases related to weather from pictures or photographs (e.g., “clouds in sky”).</li> <li>● <b>Make</b> statements about weather from pictures or photographs (e.g., “It’s raining.”).</li> <li>● <b>Note</b> difference or change by labeling drawings or copying words from word banks.</li> <li>● <b>Identify</b> change according to stages of processes or cycles (e.g. from caterpillars to butterflies) using drawings, words, or phrases.</li> <li>● <b>Answer</b> questions that name basic parts of systems depicted visually and modeled (e.g., “Your arm is a bone. What is another bone?”).</li> <li>● <b>Classify</b> or <b>give</b> examples of parts of systems depicted visually.</li> <li>● <b>Copy</b> names of astronomical objects from labeled diagrams (e.g., planets, stars).</li> <li>● <b>Describe</b> features of astronomical objects from labeled diagrams.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Forecast</b> weather and provide reasons from pictures, photographs or graphs.</li> <li>● <b>Compare/contrast</b> weather conditions from pictures, photographs or graphs.</li> <li>● <b>Describe</b> change in processes or cycles depicted in visuals using phrases and short sentences.</li> <li>● <b>Compare/contrast</b> change depicted in visuals using a series of sentences.</li> <li>● <b>Classify</b> or give examples of parts of systems depicted visually (e.g., “Heart and blood go together.”).</li> <li>● <b>Describe</b> functions of systems or their parts using visual support.</li> <li>● <b>Compare/contrast</b> astronomical objects from diagrams or graphs (e.g., size, distance from sun).</li> <li>● <b>Discuss</b> relationships between astronomical objects from diagrams or graphs.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Validate</b> weather forecasts against pictures, photograms or graphs.</li> <li>● <b>Explain</b> the process of change in visuals using connected sentences.</li> <li>● <b>Imagine</b> how change affects systems or their parts (e.g., “How might breaking an arm change your daily life?”).</li> <li>● <b>Evaluate</b> potential usefulness of astronomical objects (e.g., life on the moon, solar</li> </ul>

**Section 2B: Teacher Moves: Supports for Developing Interpretive and Expressive Language**

What general supports can teachers provide to students at different language proficiency levels to interpret and express academic language in all language domains?

<p><b>Entering/Emerging (Levels 1-2)</b></p>	<p><b>Developing/Expanding (Levels 3-4)</b></p>	<p><b>Bridging/Reaching (Levels 5-6)</b></p>
<ul style="list-style-type: none"> <li>● <b>Build</b> background in key language and concepts.</li> <li>● <b>Provide</b> explicit instruction and practice in key social and instructional vocabulary.</li> <li>● <b>Model</b> orally the academic language and specific vocabulary.</li> <li>● <b>Provide</b> explicit instruction and practice for students to construct the language using sentence and discourse starters and visual aids from the text.</li> <li>● <b>Use</b> physical gestures to accompany oral directives.</li> <li>● <b>Label</b> visuals and objects with target vocabulary.</li> <li>● <b>Introduce</b> cognates to aid comprehension.</li> <li>● <b>Give</b> two step Contextualized directions.</li> <li>● <b>Restate/rephrase</b> and <b>use</b> Patterned Oral Language routines.</li> <li>● <b>Preview</b> the text content with pictures, demos, charts, or experiences.</li> <li>● <b>Use</b> K-W-L charts before reading.</li> <li>● <b>Pair</b> students to read one text together.</li> <li>● <b>Preview</b> text with a Picture Walk.</li> <li>● <b>Provide</b> a list of important concepts on a graphic organizer.</li> <li>● <b>Use</b> Shared Reading and/or simplify the text.</li> <li>● <b>Provide</b> a content vocabulary Word Bank with non-linguistic representations.</li> <li>● <b>Provide</b> opportunities for translanguaging during the task.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Build</b> background in key language and concepts.</li> <li>● <b>Model</b> orally the academic language and specific vocabulary.</li> <li>● <b>Provide</b> explicit instruction and practice for students to construct the language using sentence and discourse starters and visual aids from the text.</li> <li>● <b>Provide</b> a system for students to record and process key academic and content- specific vocabulary.</li> <li>● <b>Check</b> Comprehension of all students frequently. <b>Use</b> Wait Time.</li> <li>● <b>Require</b> full sentence responses by asking open ended questions.</li> <li>● <b>Use</b> Varied Presentation Formats such as role plays.</li> <li>● <b>Scaffold</b> oral reports with note cards and provide time for prior practice.</li> <li>● <b>Require</b> the use of academic language.</li> <li>● <b>Require</b> oral reporting for summarizing group work.</li> <li>● <b>Pair</b> students to read one text together.</li> <li>● <b>Use</b> K-W-L charts before reading.</li> <li>● <b>Provide</b> a list of important concepts on a graphic organizer.</li> <li>● <b>Provide</b> a content vocabulary Word Bank with non-linguistic representations.</li> <li>● <b>Use</b> Jigsaw Reading to scaffold independent reading.</li> <li>● <b>Provide</b> opportunities for translanguaging during the task.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Build</b> background in key language and concepts.</li> <li>● <b>Use</b> complex sentence and discourse starters.</li> <li>● <b>Model</b> orally the academic language and specific vocabulary.</li> <li>● <b>Use</b> Video Observation Guides.</li> <li>● <b>Confirm</b> students’ prior knowledge of content topics.</li> <li>● <b>Ask</b> students to analyze text structure and select an appropriate Graphic Organizer for summarizing.</li> <li>● <b>Use</b> Reciprocal Teaching to scaffold independent reading.</li> <li>● <b>Extend</b> content vocabulary with multiple examples and non-examples.</li> <li>● <b>Provide</b> opportunities for translanguaging during the task.</li> </ul>

**Section 2C: Teacher Moves: Supports for Collaborating in the Academic Language**

How can teachers provide ongoing opportunities for students to collaborate using academic language?

<p style="text-align: center;"><b>Entering/Emerging</b> <b>(Levels 1-2)</b></p>	<p style="text-align: center;"><b>Developing/Expanding</b> <b>(Levels 3-4)</b></p>	<p style="text-align: center;"><b>Bridging/Reaching</b> <b>(Levels 5-6)</b></p>
<p><b>Prior to reading, writing, and discussion,</b> Teacher prepares collaborative discourse structures for students to...</p> <ul style="list-style-type: none"> <li>● <b>Engage in pair work (in L1 if possible)</b> to prepare questions for discussion using graphic, interactive, and/or language supports.</li> <li>● <b>Participate in pair/triad/small group discussions</b> using graphic, interactive, and/or language supports (including L1 as appropriate).</li> <li>● <b>Use</b> Clock Buddies.</li> <li>● <b>Use</b> Numbered Heads Together.</li> <li>● <b>Use</b> Think-Pair-Share Squared.</li> <li>● <b>Use</b> key sentence frames for pair interactions.</li> <li>● <b>Participate with Strategic Partners</b> at a higher English proficiency level and/or with same primary language peer(s).</li> <li>● <b>Use</b> a Roving Chart in small group work.</li> <li>● <b>Use</b> Interactive Journals.</li> <li>● <b>Use</b> Think-Write-Pair Share.</li> <li>● <b>Use</b> Cloze sentences with a Word Bank.</li> <li>● <b>Use dialogue structures</b> (e.g.): My turn/your turn; Partner A/Partner B; Collaborative groups.</li> </ul>	<p><b>Prior to reading, writing, and discussion,</b> Teacher prepares collaborative discourse structures for students to...</p> <ul style="list-style-type: none"> <li>● <b>Engage pair work</b> to prepare questions for discussion using graphic, interactive, and/or language supports as needed.</li> <li>● <b>Contribute to pair/triad/small group discussions</b> by supporting with examples, asking clarifying questions, and using graphic, interactive, and/or language supports as needed.</li> <li>● <b>Engage with whole/large group discussions</b> by connecting ideas with supporting details, generating original questions, and using graphic, interactive, and/or language supports as needed.</li> <li>● <b>Use</b> Graphic Organizers or notes to scaffold oral retelling.</li> <li>● <b>Use</b> Think-Pair-Share.</li> <li>● <b>Repeat and expand</b> their responses and other students' responses in a Collaborative Dialogue.</li> <li>● <b>Use dialogue structures</b> (e.g.): My turn/your turn; Partner A/Partner B; Collaborative groups.</li> </ul>	<p><b>Prior to reading, writing, and discussion,</b> Teacher prepares collaborative discourse structures for students to...</p> <ul style="list-style-type: none"> <li>● <b>Engage in structured pair work</b> to process.</li> <li>● <b>Inform and formulate</b> thinking, then prepare questions for discussion.</li> <li>● <b>Contribute to pair/triad/small group discussions</b> to share individual ideas and compare with other ideas in the group, using graphic, interactive, and/or language supports as needed.</li> <li>● <b>Engage with whole/large group discussions</b> by generating original questions and/or building on the ideas of others using graphic, interactive, and/or language supports as needed.</li> <li>● <b>Use</b> oral reporting for summarizing group work.</li> <li>● <b>Use dialogue structures</b> (e.g.): My turn/your turn; Partner A/Partner B; Collaborative groups.</li> </ul>



## **SECTION 3: INSTRUCTIONAL GUIDANCE**

### **for English Language Development in the Content Area of Science and Engineering Practices Grades 3-5**

Based on the **Science & Engineering Practices** (SEPs) developed by the National Science Teachers Association (NSTA)  
[Science and Engineering Practices](#)

## SECTION 3: INSTRUCTIONAL GUIDANCE: SCIENCE AND ENGINEERING PRACTICES GRADES 3-5

### Section 3A: Summary: Content Disciplinary Practices and Example Tasks

Table of example tasks for each practice, with sample proficiency descriptors for each **Key Use of Academic Language**: (For a complete continuum of grade-level Proficiency Level Descriptors to support mastery of content area standards see WIDA ELD Standards 2020)

[WIDA English Language Development Standards Framework, 2020 Edition Kindergarten - Grade 12 \(wisc.edu\)](https://www.wisc.edu/wida/standards-framework/2020-edition-kindergarten-grade-12/)

Science & Engineering Practices	Example Tasks	Inform/Narrate	Explain	Argue	Discuss
<p>1. <b>Asking</b> Questions and <b>Defining</b> Problems</p> <p><a href="#">3-PS2-3 Motion and Stability: Forces and Interactions</a></p>	<ul style="list-style-type: none"> <li>• <b>Ask questions</b> to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students can <b>use pictures, diagrams, technical language, and relating verbs (does/do, have, be) in order to describe</b> the presence of a magnet and the force the magnet exerts on other objects.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can describe information from observations using technical vocabulary, relating verbs (have/be) and pictures/diagrams in order to explain</b> the relative orientation of two magnets and whether the force between the magnets is attractive or repulsive.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can use technical nouns, simple sentences, cohesive vocabulary and connectors to relate how a series of events causes something to happen in order to support</b> claims to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can expand</b> on peers' ideas about cause-and-effect relationships of electric or magnetic interactions between two objects not in contact with each other <b>utilizing everyday, cross disciplinary, and technical language.</b></li> </ul>

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Science & Engineering Practices	Example Tasks	Inform/Narrate	Explain	Argue	Discuss
<p>2. <b>Developing</b> and <b>Using</b> Models</p> <p><a href="#">4-PS4-2 Waves and Their Applications in Technologies for Information Transfer</a></p>	<ul style="list-style-type: none"> <li>• <b>Develop a model</b> to describe that light reflecting from objects and entering the eye allows objects to be seen.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can</b> use pictures, diagrams, technical language, and connectors (because, so that, when, first, second) to sequence and connect events in order to <b>label</b> a model showing the relationship between light reflection and visibility of objects.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can</b> develop a logical sequence between data and claim using causal connectors to link events (because, so that, when) and comparatives to show similarities and differences in order to <b>explain</b> a model of the causal relationships of how light reflect off objects, and then can travel and enter the eye.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can</b> establish a neutral tone through declarative statements to state a claim, observations, or conclusion and utilize technical nouns to add precision and details in order to <b>critique</b> with a different point of view the limitations of the model to describe that light reflecting from objects and entering the eye allows objects to be seen.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can solicit</b> information on how to develop a diagram/model to describe that light reflecting from objects and entering the eye allows objects to be seen utilizing everyday, cross disciplinary, and technical language.</li> </ul>
<p>3. <b>Planning</b> and <b>Carrying out</b> Investigations</p> <p><a href="#">5-PS1-4 Matter and Its Interactions</a></p>	<ul style="list-style-type: none"> <li>• <b>Conduct an investigation</b> to determine whether the mixing of two or more substances results in new substances.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can</b> orally recount details about a topic using pictures, prepositional phrases, action verb, and adjectives in order to <b>restate</b> the controlled variables and the number of trials considered when mixing two or more substances.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can</b> use information from observations and/or data to explain a phenomenon using technical language, pictures, labeled diagrams, and relating verbs (be, have) to <b>describe</b> the quantitative (e.g., weight) and qualitative (e.g., state of matter, color, texture, odor) properties of the substances to be mixed.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can</b> establish a neutral tone, utilizing everyday, cross disciplinary and technical language to offer opinions on how to collaboratively collect and record data to determine whether the mixing of two or more substances results in new substances.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can extend</b> conversations on how variables will be controlled to ensure a fair test. (e.g., the temperature at which the substances are mixed, the number of substances mixed together in each trial) utilizing everyday, cross disciplinary, and technical language.</li> </ul>

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Science & Engineering Practices	Example Tasks	Inform/Narrate	Explain	Argue	Discuss
<p>4. <b>Analyzing and Interpreting</b> Data  <a href="#">4-ESS2-2 Earth's Systems</a></p>	<ul style="list-style-type: none"> <li>• <b>Analyze and interpret data</b> from maps to describe patterns of Earth's features.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can</b> develop coherence and cohesion throughout text using technical nouns to represent concepts and organizational features, such as headings, to organize data from maps of earth's features. (e.g., locations of mountains, volcanoes, earthquakes).</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can</b> describe evidence about a phenomenon using abstract nouns to introduce technical terms and relating verbs to state relationships or attributes (have, be, belong to) in order to <b>interpret</b> data from maps to describe patterns of Earth's features.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can</b> use connectors to link clauses and combine ideas (so, because, and then) or express causality (when, although, in order to) to convey logical reasoning based on the organized data to make sense of and describe that Earth features occur in patterns that reflect information about how they are formed or occur (e.g., the Pacific Ocean is surrounded by a ring of volcanoes).</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can present</b> points of views on how to interpret data from maps to describe patterns of Earth's features utilizing everyday, cross disciplinary, and technical language.</li> </ul>

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Science & Engineering Practices	Example Tasks	Inform/Narrate	Explain	Argue	Discuss
<p>5. <b>Using</b> Mathematics and Computational Thinking</p> <p><a href="#">5-PS1-2 Matter and Its Interactions</a></p>	<ul style="list-style-type: none"> <li>• <b>Measure and graph</b> quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students can describe and organize data using technical language and adverbial phrases (before/after) in order to <b>produce</b> a bar graph depicting the difference between the total weight of the substances (using standard units) before and after they are heated, cooled, and/or mixed.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students can describe observations about a phenomenon using abstract nouns to introduce concepts (heating, cooling), technical terms, and cohesion to reference ideas (pronouns, renaming subject, synonym), in order to <b>describe</b> the changes in properties they observe during and/or after heating, cooling, or mixing substances</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students summarize or compare multiple solutions based on how well they meet the criteria of the design solution by labeling/describing diagrams, using conditional clauses (if, then) and technical language in order to <b>summarize</b> ideas from two sides using quantitative data that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can elaborate</b> or clarify ideas about a visual graph that depicts that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved utilizing everyday, cross disciplinary, and technical language.</li> </ul>

NEVADA ELD STANDARDS FRAMEWORK FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES 3-5

Science & Engineering Practices	Example Tasks	Inform/Narrate	Explain	Argue	Discuss
<p>6. <b>Constructing Explanations and Designing Solutions</b></p> <p><a href="#">3-LS4-2 Biological Evolution: Unity and Diversity</a></p>	<ul style="list-style-type: none"> <li>• <b>Use evidence</b> to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can describe</b> observations about a phenomenon using technical language, cohesive devices (pronouns, renaming subject, synonyms), and relating verbs (have, be, become) in order to <b>describe</b> the given characteristic of a species (e.g., thorns on a plant, camouflage of an animal, the coloration of moths).</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students <b>can describe</b> observations about a phenomenon using technical language, cohesive devices, relating verbs and comparatives in order to <b>explain</b> patterns of variation of a given characteristic among individuals in a species that provide advantage in surviving, finding mates and reproducing. (e.g., longer or shorter thorns on individual plants, dark or light coloration of animals).</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students can <b>develop a logical sequence between evidence and claim using comparatives, connectors (because, so that, when), and relating verb, and timeless verbs to state on-going facts in order to support</b> a claim that potential benefits of a given variation of the characteristic that provide advantage in surviving, finding mates and reproducing. (e.g., the light coloration of some moths makes them difficult to see on the bark of a tree).</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students collaboratively <b>ask</b> and <b>answer</b> questions about <b>how</b> the characteristics that make it easier for some organisms to survive, find mates, and reproduce <b>also</b> give those organisms an advantage over other organisms of the same species that don't have those traits <b>utilizing everyday, cross disciplinary, and technical language.</b></li> </ul>

NEVADA ELD STANDARDS FRAMEWORK FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES 3-5

Science & Engineering Practices	Example Tasks	Inform/Narrate	Explain	Argue	Discuss
<p>7. <b>Engaging</b> in Argument from Evidence</p> <p><a href="#">5-ESS1-1 Earth's Place in the Universe</a></p>	<ul style="list-style-type: none"> <li>• <b>Support an argument</b> that the apparent brightness of the sun and stars is due to their relative distances from the Earth.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students can establish an objective stance by integrating sourced information into saying verbs (said, reported, claims), and using direct and indirect quotes of relevant sources when presenting a scientific claim that includes the idea that the apparent brightness of the sun and stars is due to their relative distances from Earth.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students can develop reasoning to show relationships between evidence and claims by using abstract nouns to represent concepts (sunlight), connectors to link clauses and combine ideas into logical relationships (so, because, and then, when) in order to describe the evidence, data, and/or models that support the claim. Including, e. g., The sun and other stars are natural bodies in the sky that give off their own light.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students can express relationships among relevant evidence and data using technical language and connectors to link ideas (as a result, therefore, over time) in order to evaluate the evidence to determine whether it is relevant to supporting the claim, and sufficient to describe the relationship between apparent size and apparent brightness and their relative distances from Earth.</li> </ul>	<ul style="list-style-type: none"> <li>• Proficient students can construct scientific arguments to make a claim based on evidence by using connectors to link ideas, and technical language to add precision and detail maps, diagrams, graphics to support evidence, in order to present an argument to peers describing a claim of reasoning that includes stars that are immensely large compared to Earth and why they appear small and dim in the sky.</li> </ul>

NEVADA ELD STANDARDS FRAMEWORK FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES 3-5

Science & Engineering Practices	Example Tasks	Inform/Narrate	Explain	Argue	Discuss
<p>8. <b>Obtaining, Evaluating, and Communicating</b> Information</p> <p><a href="#">3-ESS2-2 Earth's Systems</a></p>	<ul style="list-style-type: none"> <li>● <b>Obtain and combine information</b> to describe climates in different regions of the world.</li> </ul>	<ul style="list-style-type: none"> <li>● Proficient students can describe a topic and its components using adverbial and prepositional phrases to specify times and location (every year, throughout Australia) and technical language in order to <b>paraphrase</b> information from books/other reliable media to explain variations in climates within different regions of the world.</li> </ul>	<ul style="list-style-type: none"> <li>● Proficient students can describe a topic and its components using adverbial and prepositional phrases to specify times and location (every year, throughout Australia), comparing/contrasting connectors (unlike/like, fewer/more than), and technical language in order to <b>compare</b> and <b>contrast</b> climates in different regions of the world (e.g., equatorial, polar, coastal, mid-continental).</li> </ul>	<ul style="list-style-type: none"> <li>● Proficient students can establish an objective stance using technical language and declarative statements to provide objective, factual, sourced information <b>in order to provide</b> evidence from literary or informational text to support a claim that gives examples of how patterns in climate could be used to predict typical weather conditions.</li> </ul>	<ul style="list-style-type: none"> <li>● Proficient students <b>can collaborate</b> with peers to synthesize information they obtained and combined from multiple sources to support that climate can vary over years in different regions of the world <b>utilizing everyday, cross disciplinary, and technical language.</b></li> </ul>

Distribution of Science Key Language Uses in Grades 3-5				
WIDA ELD STANDARD	Narrate	Inform	Explain	Argue
1. Language for Science	○	◐	●	●

● Most Prominent   ◐ Prominent   ○ Present

Adapted from the WIDA 2020 Standards Framework p. 290-292



**Section 3B: Science and Engineering Disciplinary Practices**

**Practice 1a: Asking Questions and Defining Problems – Teacher Moves**

**Teacher Moves:** What supports can teachers provide students at different proficiency levels to use language to interpret or make meaning of the content? Examples:

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
<ul style="list-style-type: none"> <li>● <b>Model</b> orally the academic language and specific vocabulary required to ask and answer simple and <i>wh-</i> questions specific to this practice.</li> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation.</li> <li>❖ <b>Ex. 1:</b> How will the (object or action) affect the (object or outcome)?</li> <li>❖ <b>Language Frame:</b> How will the (magnet) affect the (paper clip and the wood block)?</li> <li>❖ <b>Ex. 2:</b> I think the (object or action) will (technical verb) (+ object).</li> <li>❖ <b>Language Frame:</b> I think the (magnet) will (attract) (the paper clip).</li> <li>❖ <b>Language Frame:</b> Example: I think_____.</li> </ul> <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>	<ul style="list-style-type: none"> <li>● <b>Model</b> orally the academic language and specific vocabulary required to ask and answer simple questions about key details in the investigation and observations specific to this practice.</li> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple and complex sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation.</li> <li>❖ <b>Ex. 1:</b> What effect will the (object or action) have on the (object)?</li> <li>❖ <b>Language Frame:</b> What effect will the (magnet) have on the (paper clip)?</li> <li>❖ <b>Ex. 2:</b> My claim is that the (object or action) will (technical verb) (+ object) because (_____).</li> <li>❖ <b>Language Frame:</b> My claim is that the (magnet) will (attract) (the paper clip) because (magnets attract metal).</li> </ul> <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>	<ul style="list-style-type: none"> <li>● <b>Provide</b> mentor questions for students to pose independently testable <i>yes/no</i> and <i>wh-</i> (information) questions for driving investigations and defining problems.</li> <li>● <b>Provide</b> language frames for students to develop complex questions, paragraph responses, and elaboration of content.</li> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using complex sentences and discourse starters.</li> <li>❖ <b>Ex. 1:</b> Based on evidence, what effect do you claim the (object or action) will have on the (object)?</li> <li>❖ <b>Language Frame:</b> Based on evidence, what effect do you claim the (magnet) will have on the (paper clip)?</li> <li>❖ <b>Ex. 2:</b> Based on the evidence that/from ( ), my claim is that the (object or action) will (technical verb) (+ object).</li> <li>❖ <b>Language Frame:</b> Based on the evidence that (magnets attract metal objects), my claim is that the (magnet) will (attract) (the paper clip). (NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</li> </ul>

**Section 3B: Science and Engineering Disciplinary Practices (continued)**

**Practice 1b: Asking Questions and Defining Problems – Success Criteria**

**Success Criteria:** How will students be able to **communicate or demonstrate** their learning of language and content at **different language proficiency levels**? Examples:

<p><b>Entering/Emerging (Levels 1-2)</b></p>	<p><b>Developing/Expanding (Levels 3-4)</b></p>	<p><b>Bridging/Reaching (Levels 5-6)</b></p>
<p><b>Success Criteria</b></p> <p><b>Students will</b> use simple sentence starters, frames and visuals, and L1 supports to...</p> <ul style="list-style-type: none"> <li>● <b>Ask</b> questions about what would happen if a variable is changed.</li> <li>● <b>Identify</b> scientific (testable) and non-scientific (non-testable) questions.</li> <li>● <b>Ask</b> questions that can be investigated and predict reasonable outcomes based on patterns such as cause and effect relationships.</li> <li>● <b>Use</b> prior knowledge to describe problems that can be solved.</li> <li>● <b>Define</b> a simple design problem that can be solved through the development of an object, tool, process, or system and includes several criteria for success and constraints on materials, time, or cost.</li> </ul> <p><b>Additional Success Criteria</b></p> <p>Students will use words or phrases with prompting and support from pictures and/or photographs to restate, ask, and answer questions orally and in writing.</p> <p><b>NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>	<p><b>Success Criteria</b></p> <p><b>Students will</b> use compound and complex sentence starters, frames and visual supports to...</p> <ul style="list-style-type: none"> <li>● <b>Ask</b> questions about what would happen if a variable is changed.</li> <li>● <b>Identify</b> scientific (testable) and non-scientific (non-testable) questions.</li> <li>● <b>Ask</b> questions that can be investigated and predict reasonable outcomes based on patterns such as cause and effect relationships.</li> <li>● <b>Use</b> prior knowledge to describe problems that can be solved.</li> <li>● <b>Define</b> a simple design problem that can be solved through the development of an object, tool, process, or system and includes several criteria for success and constraints on materials, time, or cost.</li> </ul> <p><b>Additional Success Criteria</b></p> <p>Students will use who, what, where, why, what, how questions with support from pictures and/or photographs to restate, ask, and answer questions orally and in writing.</p> <p><b>NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>	<p><b>Success Criteria</b></p> <p><b>Students will</b> use complex language frames and other supports as needed to...</p> <ul style="list-style-type: none"> <li>● <b>Ask</b> questions about what would happen if a variable is changed.</li> <li>● <b>Identify</b> scientific (testable) and non-scientific (non-testable) questions.</li> <li>● <b>Ask</b> questions that can be investigated and predict reasonable outcomes based on patterns such as cause and effect relationships.</li> <li>● <b>Use</b> prior knowledge to describe problems that can be solved.</li> <li>● <b>Define</b> a simple design problem that can be solved through the development of an object, tool, process, or system and includes several criteria for success and constraints on materials, time, or cost.</li> </ul> <p><b>Additional Success Criteria</b></p> <p>Students will make predictions and answer with support from pictures and/or photographs to restate, ask, and answer questions orally and in writing.</p> <p><b>NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>

### Section 3B: Science and Engineering Disciplinary Practices (continued)

#### Practice 2a: Developing and Using Models – Teacher Moves

**Teacher Moves:** What supports can teachers provide students at different proficiency levels to use language to interpret or make meaning of the content? Examples:

<b>Entering/Emerging (Levels 1-2)</b>	<b>Developing/Expanding (Levels 3-4)</b>	<b>Bridging/Reaching (Levels 5-6)</b>
<ul style="list-style-type: none"> <li>● <b>Model</b> orally the academic language and specific vocabulary required to ask and answer simple and wh- questions specific to this practice.</li> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support for students to elaborate on newly acquired knowledge.</li> <li>● <b>Use</b> text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation using question starters, sentence frames, pictures and gestures.</li> <li>❖ <b>Example:</b> My model shows_____.</li> <li>❖ <b>Language structure:</b> My model shows light enters the eye, which lets me see the objects.</li> </ul> <p><b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></p>	<ul style="list-style-type: none"> <li>● <b>Model</b> orally the academic language and specific vocabulary required to ask and answer simple questions about key details in the investigation and observations specific to this practice.</li> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple and complex sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support to elaborate on newly acquired knowledge.</li> <li>● <b>Use</b> text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation using question starters and complex sentence frames.</li> <li>❖ <b>Example:</b> My model represents [the real event, phenomenon, or object]_____just like_____.</li> <li>❖ <b>Language structure:</b> My model represents the pupil because it has a hole in the black cardboard just like the eyeball has a small hole in the front that lets light into the eye.</li> </ul> <p><b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></p>	<ul style="list-style-type: none"> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple and complex sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support for students to elaborate on newly acquired knowledge.</li> <li>● <b>Use</b> text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation using starters and complex sentence frames.</li> <li>❖ <b>Example:</b> My model is same/different than [the real event, phenomenon, or object] _____because_____. The _____in my model reminds me of _____.</li> <li>❖ <b>Language structure:</b> My model proves that objects can be seen only if light follows a path between a light source, the object, and the eye. Therefore, to see objects that do not produce their own light, light must reflect off the object and into the eye.</li> </ul> <p><b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></p>

**Section 3B: Science and Engineering Disciplinary Practices (continued)**

**Practice 2b: Developing and Using Models – Success Criteria**

**Success Criteria:** How will students be able to **communicate or demonstrate their learning** of language and content at **different language proficiency levels?** Examples:

<p><b>Entering/Emerging (Levels 1-2)</b></p>	<p><b>Developing/Expanding (Levels 3-4)</b></p>	<p><b>Bridging/Reaching (Levels 5-6)</b></p>
<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use simple sentence starters, frames, visuals, and L1 supports to...</p> <ul style="list-style-type: none"> <li>● <b>Identify</b> limitations of models.</li> <li>● Collaboratively <b>develop</b> and/or <b>revise</b> a model based on evidence that shows the relationships among variables for frequent and regular occurring events.</li> <li>● <b>Develop</b> a model example or abstract representation to describe a scientific principle or design solution.</li> <li>● <b>Develop</b> and/or <b>use</b> models to describe and/or predict phenomena.</li> <li>● <b>Develop</b> a diagram or simple physical prototype to convey a proposed object, tool, or process.</li> <li>● <b>Use</b> a model to test cause and effect relationships or interactions concerning the functioning of a natural or designed system.</li> </ul> <p><b>Additional Success Criteria</b> Students will use words or phrases supported by pictures and word banks to describe a model of an object, phenomena, process, and or events. (NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use compound and complex sentence starters, frames, and visual supports to...</p> <ul style="list-style-type: none"> <li>● <b>Identify</b> limitations of models.</li> <li>● Collaboratively <b>develop</b> and/or <b>revise</b> a model based on evidence that shows the relationships among variables for frequent and regular occurring events.</li> <li>● <b>Develop</b> a model example or abstract representation to describe a scientific principle or design solution.</li> <li>● <b>Develop</b> and/or <b>use</b> models to describe and/or predict phenomena.</li> <li>● <b>Develop</b> a diagram or simple physical prototype to convey a proposed object, tool, or process.</li> <li>● <b>Use</b> a model to test cause and effect relationships or interactions concerning the functioning of a natural or designed system.</li> </ul> <p><b>Additional Success Criteria</b> Students will use sentences to describe a model of an object, phenomena, process, and or events. NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use complex language frames and other supports as needed to...</p> <ul style="list-style-type: none"> <li>● <b>Identify</b> limitations of models.</li> <li>● Collaboratively <b>develop</b> and/or <b>revise</b> a model based on evidence that shows the relationships among variables for frequent and regular occurring events.</li> <li>● <b>Develop</b> a model example or abstract representation to describe a scientific principle or design solution.</li> <li>● <b>Develop</b> and/or <b>use</b> models to describe and/or predict phenomena.</li> <li>● <b>Develop</b> a diagram or simple physical prototype to convey a proposed object, tool, or process.</li> <li>● <b>Use</b> a model to test cause and effect relationships or interactions concerning the functioning of a natural or designed system.</li> </ul> <p><b>Additional Success Criteria</b> Students will use multiple and complex sentences to distinguish between the model and the object, phenomena, process, and or events. NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>

## Section 3B: Science and Engineering Disciplinary Practices (continued)

### Practice 3a: Planning and Carrying out Investigations – Teacher Moves

**Teacher Moves:** What supports can teachers provide students at different proficiency levels to use language to interpret or make meaning of the content? Examples:

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
<ul style="list-style-type: none"> <li>● <b>Model</b> orally the academic language and specific vocabulary required to ask and answer simple and wh- questions specific to this practice.</li> <li>● <b>Provide</b> illustrated, kinesthetic (sorts), and/or annotated (in L1) graphic organizers to aid in: planning the structure of an investigation; collecting and organizing data, and interpreting data.</li> <li>● <b>Provide</b> language frames using key vocabulary, simple questions, phrases, or sentences to support students’ planning and carrying out of investigations to: describe the investigation; identify, explain, and elaborate on the components of the investigation; justify answers to scientific questions based on data and evidence collected through investigations.</li> <li>❖ <b>Ex 1 (describe):</b> This investigation will use (materials) to show the effects of (list of variables) on (variable 1): This investigation will use (a balloon, cornstarch, water, and other substances) to show the effect of (motion) on (a fluid).</li> <li>❖ <b>Ex 2 (justify):</b> This investigation shows that (conclusion) because the evidence shows: (list of evidence/data): This investigation shows that (cornstarch with water changes form with shaking) because the evidence shows when not shaking the water and cornstarch are a liquid. <b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></li> </ul>	<ul style="list-style-type: none"> <li>● <b>Model</b> orally the academic language and specific vocabulary required to ask and answer simple and wh- questions specific to this practice.</li> <li>● <b>Provide</b> illustrated, kinesthetic graphic organizers to aid in: planning the structure of an investigation; collecting and organizing data, and interpreting data.</li> <li>● <b>Provide</b> language frames using key vocabulary, simple questions, phrases, or sentences to support students’ planning and carrying out of investigations to: describe the investigation; identify, explain, and elaborate on the components of the investigation; justify answers to scientific questions based on data and evidence collected through investigations.</li> <li>❖ <b>Ex 1 (describe):</b> This investigation will explain with evidence how (variable 2) affect(s) (variable 1): e.g. This investigation will explain with evidence how the chemical properties of water affect the composition of Earth materials.</li> <li>❖ <b>Ex 2 (justify):</b> This investigation shows that (conclusion) because in the data/evidence we observed that: (list of evidence connected to conclusion): This investigation shows that (cornstarch with water changes form with shaking) because in the data/evidence we observed that when we stirred the water with cornstarch, it stayed liquid. <b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></li> </ul>	<ul style="list-style-type: none"> <li>● <b>Model</b> orally the academic language and specific vocabulary required to ask and answer simple and wh- questions specific to this practice.</li> <li>● <b>Provide</b> language frames using key vocabulary, simple questions, phrases, or sentences to support students’ planning and carrying out of investigations to: describe the investigation; identify, explain, and elaborate on the components of the investigation; justify answers to scientific questions based on data and evidence collected through investigations.</li> <li>❖ <b>Ex 1 (describe):</b> This investigation will provide evidence to explain how the change in (variable 1) is affected by (variable 2): e.g. This investigation will provide evidence to explain how the change in the composition of Earth materials is affected by the chemical properties of water.</li> <li>❖ <b>Ex 2 (Justify):</b> This investigation indicates/proves that (conclusion) because the data/evidence shows that/how (connect evidence/data to conclusion): This investigation proves that (shaking cornstarch with water makes a new substance) because the evidence shows that (when we stirred the mixture with a spoon it stayed liquid, but when we shook it in a balloon it became solid). <b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></li> </ul>

### Section 3B: Science and Engineering Disciplinary Practices (continued)

#### Practice 3b: Planning and Carrying out Investigations – Success Criteria

**Success Criteria:** How will students be able to **communicate or demonstrate their learning** of language and content at **different language proficiency levels**? Examples:

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use simple sentence starters, frames, visuals, and L1 supports to...</p> <ul style="list-style-type: none"> <li>● <b>Plan</b> and <b>conduct</b> an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered.</li> <li>● <b>Evaluate</b> appropriate methods and/or tools for collecting data.</li> <li>● <b>Make</b> observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution.</li> <li>● <b>Make</b> predictions about what would happen if a variable changes.</li> <li>● <b>Test</b> two different models of the same proposed object, tool, or process to determine which better meets criteria for success.</li> <li>● <b>Using</b> a word/phrase bank and as needed, students draw (or sort) pictures and then dictate the steps of planning and carrying out an investigation.</li> </ul> <p><b>NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>	<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use compound and complex sentence starters, frames, and visual supports to...</p> <ul style="list-style-type: none"> <li>● <b>Plan</b> and <b>conduct</b> an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered.</li> <li>● <b>Evaluate</b> appropriate methods and/or tools for collecting data.</li> <li>● <b>Make</b> observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution.</li> <li>● <b>Make</b> predictions about what would happen if a variable changes.</li> <li>● <b>Test</b> two different models of the same proposed object, tool, or process to determine which better meets criteria for success.</li> <li>● <b>Using</b> language frames/graphic organizers as needed, students explain orally and in writing the steps of planning and carrying out an investigation.</li> </ul> <p><b>NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>	<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use complex language frames and other supports as needed to...</p> <ul style="list-style-type: none"> <li>● <b>Plan</b> and <b>conduct</b> an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered.</li> <li>● <b>Evaluate</b> appropriate methods and/or tools for collecting data.</li> <li>● <b>Make</b> observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution.</li> <li>● <b>Make</b> predictions about what would happen if a variable changes.</li> <li>● <b>Test</b> two different models of the same proposed object, tool, or process to determine which better meets criteria for success.</li> <li>● <b>Using</b> targeted support as needed, students will explain orally and in writing the steps of planning and carrying out an investigation.</li> </ul> <p><b>NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>

### Section 3B: Science and Engineering Disciplinary Practices (continued)

#### Practice 4a: Analyzing and Interpreting Data – Teacher Moves

**Teacher Moves:** What supports can teachers provide students at different proficiency levels to use language to interpret or make meaning of the content? Examples:

<b>Entering/Emerging</b> <b>(Levels 1-2)</b>	<b>Developing/Expanding</b> <b>(Levels 3-4)</b>	<b>Bridging/Reaching</b> <b>(Levels 5-6)</b>
<ul style="list-style-type: none"> <li>● <b>Model</b> orally the academic language and specific vocabulary required to ask and answer simple and wh- questions specific to this practice.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters.</li> <li>● <b>Provide</b> language frames using key vocabulary, simple questions, phrases, (L1) graphic organizers or visual supports for students to ask and answer questions about key details in a text or investigation.</li> </ul> <p>❖ <b>Example:</b> Data set 1 shows _____ but data set 2 shows _____.</p> <p>❖ <b>Language structure:</b> Map 1 shows mountains but Map 2 shows volcanoes.  <b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></p>	<ul style="list-style-type: none"> <li>● <b>Model</b> orally the academic language and specific vocabulary required to ask and answer simple and wh- questions specific to this practice.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple and complex sentences and discourse starters.</li> <li>● <b>Provide</b> language frames using key vocabulary, simple questions, phrases, graphic organizers or visual supports for students to ask and answer questions about key details in a text or investigation.</li> </ul> <p>❖ <b>Example:</b> Data set 1 shows _____. Data set 2 shows _____. Both sets show _____.</p> <p>❖ <b>Language structure:</b> Map 1 shows that mountain ranges tend to occur on the edges of continents. Map 2 shows the Pacific of Fire is surrounded by a ring of volcanoes. However, both maps show that all continents are surrounded by water.  <b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></p>	<ul style="list-style-type: none"> <li>● <b>Model</b> orally the academic language and specific vocabulary required to ask and answer simple and wh- questions specific to this practice.</li> <li>● <b>Provide</b> language frames for students to develop complex questions, question starters and complex sentence frames for elaboration of content.</li> </ul> <p>❖ <b>Example:</b> I noticed something unusual about _____. A pattern we noticed is _____.</p> <p>❖ <b>Language structure:</b> I noticed something unusual about the mountain map. Major mountain chains form inside the continents or near their edges. A pattern we noticed is that volcanoes occur in bands that are often along the boundaries between the continents and the oceans.  <b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></p>

## Section 3B: Science and Engineering Disciplinary Practices (continued)

### Practice 4b: Analyzing and Interpreting Data – Success Criteria

**Success Criteria:** How will students be able to **communicate or demonstrate their learning** of language and content at **different language proficiency levels?** Examples:

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use simple sentence starters, frames, visuals, and L1 supports to...</p> <ul style="list-style-type: none"> <li>● <b>Represent data</b> in tables and/or various graphical displays (bar graphs, pictographs, and/or pie charts) to reveal patterns that indicate.</li> <li>● <b>Analyze and interpret</b> data to make sense of phenomena, using logical reasoning, mathematics, and/or computation.</li> <li>● <b>Compare and contrast</b> data collected by different groups in order to discuss similarities and differences in their findings.</li> <li>● <b>Analyze</b> data to refine a problem statement or the design of a proposed object, tool, or process.</li> <li>● <b>Use</b> data to evaluate and refine design solutions.</li> </ul> <p><b>Additional Success Criteria</b> Students will be able to describe relationships within the datasets (observations, thoughts, and ideas) using pictures, drawings, and phrases. <b>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>	<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use compound and complex sentence starters, frames, and visual supports to...</p> <ul style="list-style-type: none"> <li>● <b>Represent data</b> in tables and/or various graphical displays (bar graphs, pictographs, and/or pie charts) to reveal patterns that indicate.</li> <li>● <b>Analyze and interpret</b> data to make sense of phenomena, using logical reasoning, mathematics, and/or computation.</li> <li>● <b>Compare and contrast</b> data collected by different groups in order to discuss similarities and differences in their findings.</li> <li>● <b>Analyze</b> data to refine a problem statement or the design of a proposed object, tool, or process.</li> <li>● <b>Use</b> data to evaluate and refine design solutions.</li> </ul> <p><b>Additional Success Criteria</b> Students will be able to describe relationships within the datasets (observations, thoughts, and ideas) to describe patterns and/or relationships using pictures, drawings, and compound or complex sentences. <b>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>	<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use complex language frames and other supports as needed to...</p> <ul style="list-style-type: none"> <li>● <b>Represent data</b> in tables and/or various graphical displays (bar graphs, pictographs, and/or pie charts) to reveal patterns that indicate.</li> <li>● <b>Analyze and interpret</b> data to make sense of phenomena, using logical reasoning, mathematics, and/or computation.</li> <li>● <b>Compare and contrast</b> data collected by different groups in order to discuss similarities and differences in their findings.</li> <li>● <b>Analyze</b> data to refine a problem statement or the design of a proposed object, tool, or process.</li> <li>● <b>Use</b> data to evaluate and refine design solutions.</li> </ul> <p><b>Additional Success Criteria</b> Students will be able to describe relationships within the datasets (observations, thoughts, and ideas) with supports as needed <b>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>



### Section 3B: Science and Engineering Disciplinary Practices (continued)

#### Practice 5a: Using Mathematics and Computational Thinking – Teacher Moves

**Teacher Moves:** What supports can teachers provide students at different proficiency levels to use language to interpret or make meaning of the content? Examples:

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
<ul style="list-style-type: none"> <li>● <b>Model</b> orally the academic language structures and specific vocabulary specific to this practice.</li> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support for students to ask and answer questions about key details in a text or investigation.</li> <li>● <b>Provide</b> language frames for students to ask and answer questions about key details in a text or investigation.</li> <li>❖ <b>Example:</b> The mass of _____ was _____ units.</li> <li>❖ <b>Language structure:</b> The mass of the ice cube is 10 grams.</li> </ul> <p><b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></p>	<ul style="list-style-type: none"> <li>● <b>Model</b> orally the academic language structure and specific vocabulary specific to this practice.</li> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple and complex sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support for students to elaborate on newly acquired knowledge</li> <li>● <b>Provide</b> language frames for students to ask and answer questions about key details in a text or investigation.</li> <li>❖ <b>Example:</b> The mass of _____ was _____ units before it melted. After heating, _____.</li> <li>❖ <b>Language structure:</b> The mass of the ice cube was 10 grams before it melted. After heating the ice cube, the mass of the water was 10 grams.</li> </ul> <p><b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></p>	<ul style="list-style-type: none"> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple and complex sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support to elaborate on newly acquired knowledge.</li> <li>● <b>Use</b> text support for students to elaborate and ask and answer questions about key details in a text or investigation.</li> <li>❖ <b>Example:</b> Based on the measurements/ graphs/data _____ I noticed that _____.</li> <li>❖ <b>Language structure:</b> Based on the measurements, we noticed that the total weight of the substances did not change regardless of the reaction or changes that we observed.</li> </ul> <p><b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></p>

### Section 3B: Science and Engineering Disciplinary Practices (continued)

#### Practice 5b: Using Mathematics and Computational Thinking – Success Criteria

**Success Criteria:** How will students be able to **communicate or demonstrate their learning** of language and content at **different language proficiency levels**? Examples:

<b>Entering/Emerging</b> <b>(Levels 1-2)</b>	<b>Developing/Expanding</b> <b>(Levels 3-4)</b>	<b>Bridging/Reaching</b> <b>(Levels 5-6)</b>
<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use simple sentence starters, frames, visuals, and L1 supports to...</p> <ul style="list-style-type: none"> <li>● <b>Organize</b> simple data sets to reveal patterns that suggest relationships.</li> <li>● <b>Describe, measure, estimate,</b> and/or <b>graph</b> quantities such as area, volume, weight, and time to address scientific and engineering questions and problems.</li> <li>● <b>Create</b> and/or <b>use</b> graphs and/or charts generated from simple algorithms to compare alternative solutions to an engineering problem.</li> </ul> <p><b>Additional Success Criteria</b>                      With prompting and support, students will be able to display data using simple graphs and use counting and numbers to describe patterns on the graph.  <b>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>	<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use compound and complex sentence starters, frames, and visual supports to...</p> <ul style="list-style-type: none"> <li>● <b>Organize</b> simple data sets to reveal patterns that suggest relationships.</li> <li>● <b>Describe, measure, estimate,</b> and/or <b>graph</b> quantities such as area, volume, weight, and time to address scientific and engineering questions and problems.</li> <li>● <b>Create</b> and/or <b>use</b> graphs and/or charts generated from simple algorithms to compare alternative solutions to an engineering problem.</li> </ul> <p><b>Additional Success Criteria</b>                      Students will be able to describe, measure, and/ or compare quantitative attributes of different objects and display the data using simple graphs.  <b>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>	<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use complex language frames and other supports as needed to...</p> <ul style="list-style-type: none"> <li>● <b>Organize</b> simple data sets to reveal patterns that suggest relationships.</li> <li>● <b>Describe, measure, estimate,</b> and/or <b>graph</b> quantities such as area, volume, weight, and time to address scientific and engineering questions and problems.</li> <li>● <b>Create</b> and/or <b>use</b> graphs and/or charts generated from simple algorithms to compare alternative solutions to an engineering problem.</li> </ul> <p><b>Additional Success Criteria</b>                      With appropriate support, students will be able to describe, measure, and/ or compare quantitative attributes of different objects and display the data using graphs to compare two alternative solutions to a problem.  <b>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>

**Section 3B: Science and Engineering Disciplinary Practices (continued)**

**Practice 6a: Constructing Explanations and Designing Solutions – Teacher Moves**

**Teacher Moves:** What supports can teachers provide students at different proficiency levels to use language to interpret or make meaning of the content? Examples:

<p><b>Entering/Emerging (Levels 1-2)</b></p>	<p><b>Developing/Expanding (Levels 3-4)</b></p>	<p><b>Bridging/Reaching (Levels 5-6)</b></p>
<ul style="list-style-type: none"> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Model</b> orally the academic language structures and specific vocabulary.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support for students to elaborate on newly acquired knowledge.</li> <li>● <b>Use</b> text with picture support for students to elaborate and ask and answer questions <b>about</b> key details in a text or investigation.</li> <li>❖ <b>Example:</b> Example: I noticed that _____. The solution is _____.</li> <li>❖ <b>Language structure:</b> I noticed that the brown moth uses camouflage to survive. The bird cannot see the moth on the dark tree. <b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></li> </ul>	<ul style="list-style-type: none"> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Model</b> orally the academic language structure and specific vocabulary.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple and complex sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support to elaborate on newly acquired knowledge.</li> <li>● <b>Use</b> text with picture support for students to elaborate on newly acquired knowledge</li> <li>● <b>Provide</b> language frames for students to ask and answer questions about key details in a text or investigation.</li> <li>❖ <b>Example:</b> I observed that _____ happened so I claim that _____.</li> <li>❖ <b>Language structure:</b> I observed that darker moths are less likely to be seen and eaten on dark trees. Therefore, it is more likely to survive and reproduce. <b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></li> </ul>	<ul style="list-style-type: none"> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple and complex sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support to elaborate on newly acquired knowledge.</li> <li>● <b>Use</b> text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation.</li> <li>❖ <b>Example:</b> Example: I observed _____. Therefore, I claim that _____. However, _____.</li> <li>❖ <b>Language structure:</b> The green moth in the picture is more likely to be eaten by predators because you can see it on the bark of the tree. However, if the green moth were to land on a green leaf instead of the bark, it would be more likely that it will live long enough to be able to mate and reproduce. <b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></li> </ul>

### Section 3B: Science and Engineering Disciplinary Practices (continued)

#### Practice 6b: Constructing Explanations and Designing Solutions – Success Criteria

**Success Criteria:** How will students be able to **communicate or demonstrate their learning** of language and content at **different language proficiency levels**? Examples:

<b>Entering/Emerging (Levels 1-2)</b>	<b>Developing/Expanding (Levels 3-4)</b>	<b>Bridging/Reaching (Levels 5-6)</b>
<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use simple sentence starters, frames, visuals, and L1 supports to...</p> <ul style="list-style-type: none"> <li>● <b>Construct</b> an explanation of observed relationships (e.g., the distribution of plants in the backyard).</li> <li>● <b>Use</b> evidence (e.g., measurements, observations, patterns) to construct or support an explanation or design a solution to a problem.</li> <li>● <b>Identify</b> the evidence that supports particular points in an explanation.</li> <li>● <b>Apply</b> scientific ideas to solve design problems.</li> <li>● <b>Generate</b> and <b>compare</b> multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution.</li> </ul> <p><b>Additional Success Criteria</b> With prompting, students will be able to construct evidence- based accounts that solve a specific problem using simple sentence frames, word/phrase banks, and visuals. <b>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>	<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use compound and complex sentence starters, frames, and visual supports to...</p> <ul style="list-style-type: none"> <li>● <b>Construct</b> an explanation of observed relationships (e.g., the distribution of plants in the backyard).</li> <li>● <b>Use</b> evidence (e.g., measurements, observations, patterns) to construct or support an explanation or design a solution to a problem.</li> <li>● <b>Identify</b> the evidence that supports particular points in an explanation.</li> <li>● <b>Apply</b> scientific ideas to solve design problems.</li> <li>● <b>Generate</b> and <b>compare</b> multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution.</li> </ul> <p><b>Additional Success Criteria</b> Students will be able to construct evidence-based accounts that solve a specific problem using compound and complex sentence frames, word/phrase banks, and visuals. <b>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>	<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use complex language frames and other supports as needed to...</p> <ul style="list-style-type: none"> <li>● <b>Construct</b> an explanation of observed relationships (e.g., the distribution of plants in the backyard).</li> <li>● <b>Use</b> evidence (e.g., measurements, observations, patterns) to construct or support an explanation or design a solution to a problem.</li> <li>● <b>Identify</b> the evidence that supports particular points in an explanation.</li> <li>● <b>Apply</b> scientific ideas to solve design problems.</li> <li>● <b>Generate</b> and <b>compare</b> multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution.</li> </ul> <p><b>Additional Success Criteria</b> Students will be able to construct evidence-based accounts that solve a specific problem using simple sentence frames and visual supports. <b>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>

### Section 3B: Science and Engineering Disciplinary Practices (continued)

#### Practice 7a: Engaging in Argument from Evidence – Teacher Moves

**Teacher Moves:** What supports can teachers provide students at different proficiency levels to use language to interpret or make meaning of the content? Examples:

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
<ul style="list-style-type: none"> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Model</b> orally the academic language structures and specific vocabulary.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support for students to elaborate on newly acquired knowledge.</li> <li>● <b>Use</b> text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation.</li> <li>● <b>Use</b> text with picture support to elaborate on newly acquired knowledge.</li> <li>● <b>Provide</b> language frames for students to ask and answer questions about key details in a text or investigation using question starters, sentence frames and pictures and gestures.</li> <li>❖ <b>Example:</b> I claim that_____.</li> <li>❖ <b>Language structure:</b> I claim that the sun and stars in the sky give off their own light. (NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Model</b> orally the academic language structure and specific vocabulary.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple and complex sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support to elaborate on newly acquired knowledge.</li> <li>● <b>Use</b> text with picture support for students to elaborate on newly acquired knowledge.</li> <li>● <b>Provide</b> language frames for students to ask and answer questions about key details in a text or investigation.</li> <li>❖ <b>Example:</b> I claim that_____because_____.</li> <li>❖ <b>Language structure:</b> I claim that the sun is many times larger than Earth but appears small because it is very far away. (NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple and complex sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support to elaborate on newly acquired knowledge.</li> <li>● <b>Use</b> text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation.</li> <li>❖ <b>Example:</b> I argue_____. I know this because_____.</li> <li>❖ <b>Language structure:</b> I argue that the sun is many times larger than Earth but appears small because it is very far away. I know this because objects appear smaller and dimmer the farther they are from the viewer. (NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</li> </ul>

### Section 3B: Science and Engineering Disciplinary Practices (continued)

#### Practice 7b: Engaging in Argument from Evidence – Success Criteria

**Success Criteria:** How will students be able to **communicate or demonstrate their learning** of language and content at **different language proficiency levels**? Examples:

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use simple sentence starters, frames, and visual supports to...</p> <ul style="list-style-type: none"> <li>● <b>Compare</b> and <b>refine</b> arguments based on an evaluation of the evidence presented.</li> <li>● <b>Distinguish</b> among facts, reasoned judgment based on research findings, and speculation in an explanation.</li> <li>● Respectfully <b>provide</b> and <b>receive</b> critiques from peers about a proposed procedure, explanation or model by citing relevant evidence and posing specific questions.</li> <li>● <b>Construct</b> and/or <b>support</b> an argument with evidence, data, and/or a model.</li> <li>● <b>Use</b> data to evaluate claims about cause and effect.</li> <li>● <b>Make</b> a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem.</li> </ul> <p><b>Additional Success Criteria</b> Students will be able to describe a chain of reasoning that connects the evidence to a claim using simple sentence frames and visual supports. <b>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>	<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use compound and complex sentence frames to...</p> <ul style="list-style-type: none"> <li>● <b>Compare</b> and <b>refine</b> arguments based on an evaluation of the evidence presented.</li> <li>● <b>Distinguish</b> among facts, reasoned judgment based on research findings, and speculation in an explanation.</li> <li>● Respectfully <b>provide</b> and <b>receive</b> critiques from peers about a proposed procedure, explanation or model by citing relevant evidence and posing specific questions.</li> <li>● <b>Construct</b> and/or <b>support</b> an argument with evidence, data, and/or a model.</li> <li>● <b>Use</b> data to evaluate claims about cause and effect.</li> <li>● <b>Make</b> a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem.</li> </ul> <p><b>Additional Success Criteria</b> Students will be able to describe a chain of reasoning that connects the evidence to a claim using compound and complex sentence frames. <b>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>	<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use complex language frames and other supports as needed to...</p> <ul style="list-style-type: none"> <li>● <b>Compare</b> and <b>refine</b> arguments based on an evaluation of the evidence presented.</li> <li>● <b>Distinguish</b> among facts, reasoned judgment based on research findings, and speculation in an explanation.</li> <li>● Respectfully <b>provide</b> and <b>receive</b> critiques from peers about a proposed procedure, explanation or model by citing relevant evidence and posing specific questions.</li> <li>● <b>Construct</b> and/or <b>support</b> an argument with evidence, data, and/or a model.</li> <li>● <b>Use</b> data to evaluate claims about cause and effect.</li> <li>● <b>Make</b> a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem.</li> </ul> <p><b>Additional Success Criteria</b> Students will be able to describe a chain of reasoning that connects the evidence to a claim. <b>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>

### Section 3B: Science and Engineering Disciplinary Practices (continued)

#### Practice 8a: Obtaining, Evaluating, and Communicating Information – Teacher Moves

**Teacher Moves:** What supports can teachers provide students at different proficiency levels to use language to interpret or make meaning of the content? Examples:

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
<ul style="list-style-type: none"> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Model</b> orally the academic language structures and specific vocabulary.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support for students to elaborate on newly acquired knowledge.</li> <li>● <b>Use</b> text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation.</li> <li>● <b>Use</b> text with picture support to elaborate on newly acquired knowledge.</li> <li>● <b>Provide</b> language frames for students to ask and answer questions about key details in a text or investigation using question starters, sentence frames and pictures and gestures.</li> <li>❖ <b>Example:</b> The author stated_____.</li> <li>❖ <b>Language structure:</b> The author stated that there are three climate zones, polar, temperate and tropical.</li> </ul> <p><b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></p>	<ul style="list-style-type: none"> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Model</b> orally the academic language structure and specific vocabulary.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple and complex sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support to elaborate on newly acquired knowledge.</li> <li>● <b>Use</b> text with picture support for students to elaborate on newly acquired knowledge.</li> <li>● <b>Provide</b> language frames for students to ask and answer questions about key details in a text or investigation.</li> <li>❖ <b>Example:</b> The evidence suggests _____.</li> <li>❖ <b>Language structure:</b> The evidence in the book suggests that the polar region is very cold and dry all year round. The temperate region has cold regions and mild summers. Whereas, the tropical region is hot and wet all year long.</li> </ul> <p><b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></p>	<ul style="list-style-type: none"> <li>● <b>Provide</b> an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations.</li> <li>● <b>Provide</b> language frames for students to practice and produce language on topic in small groups or with partners using simple and complex sentences and discourse starters.</li> <li>● <b>Use</b> text with picture support to elaborate on newly acquired knowledge.</li> <li>● <b>Use</b> text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation.</li> <li>❖ <b>Example:</b> The evidence suggest_____. Therefore,_____.</li> <li>❖ <b>Language structure:</b> The evidence in the book states that there are variations in climates within different regions of the world such as polar, temperate and tropical. Although the weather changes from day to day, the climate stays about the same from year to year.</li> </ul> <p><b>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</b></p>

**Practice 8b: Obtaining, Evaluating, and Communicating Information – Success Criteria**

**Success Criteria:** How will students be able to **communicate or demonstrate their learning** of language and content at **different language proficiency levels**? Examples:

<p style="text-align: center;"><b>Entering/Emerging (Levels 1-2)</b></p>	<p style="text-align: center;"><b>Developing/Expanding (Levels 3-4)</b></p>	<p style="text-align: center;"><b>Bridging/Reaching (Levels 5-6)</b></p>
<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use chunked text, simple sentence starters, frames, and visual supports to...</p> <ul style="list-style-type: none"> <li>● <b>Read</b> and <b>comprehend</b> grade-appropriate complex texts and/or other reliable media to summarize and obtain scientific and technical ideas and <b>describe</b> how they are supported by evidence.</li> <li>● <b>Combine</b> information in written text with that contained in corresponding tables, diagrams, and/or charts to support the engagement in other scientific and/or engineering practices.</li> <li>● <b>Obtain</b> and <b>combine</b> information from books and/or other reliable media to explain phenomena or solutions to a design problem.</li> <li>● <b>Communicate</b> scientific and/or technical information orally and/or in written formats, including various forms of media and may include tables, diagrams, and charts.</li> </ul> <p><b>Additional Success Criteria</b> Students will be able to communicate scientific information obtained from two or more books and other reliable media with others in oral and/or written form (which include using models and/or drawings) using simple sentence frames. <b>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>	<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>Students will</b> use chunked text and complex sentence frames to...</p> <ul style="list-style-type: none"> <li>● <b>Read</b> and <b>comprehend</b> grade-appropriate complex texts and/or other reliable media to summarize and obtain scientific and technical ideas and <b>describe</b> how they are supported by evidence.</li> <li>● <b>Combine</b> information in written text with that contained in corresponding tables, diagrams, and/or charts to support the engagement in other scientific and/or engineering practices.</li> <li>● <b>Obtain</b> and <b>combine</b> information from books and/or other reliable media to explain phenomena or solutions to a design problem.</li> <li>● <b>Communicate</b> scientific and/or technical information orally and/or in written formats, including various forms of media and may include tables, diagrams, and charts.</li> </ul> <p><b>Additional Success Criteria</b> Students will be able to communicate scientific information obtained from two or more books and other reliable media with others in oral and/or written form (which include using models and/or drawings) using compound and complex sentence frames. <b>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>	<p style="text-align: center;"><b>Success Criteria</b></p> <p><b>With appropriate support, students will...</b></p> <ul style="list-style-type: none"> <li>● <b>Read</b> and <b>comprehend</b> grade-appropriate complex texts and/or other reliable media to summarize and obtain scientific and technical ideas and <b>describe</b> how they are supported by evidence.</li> <li>● <b>Combine</b> information in written text with that contained in corresponding tables, diagrams, and/or charts to support the engagement in other scientific and/or engineering practices.</li> <li>● <b>Obtain</b> and <b>combine</b> information from books and/or other reliable media to explain phenomena or solutions to a design problem.</li> <li>● <b>Communicate</b> scientific and/or technical information orally and/or in written formats, including various forms of media and may include tables, diagrams, and charts.</li> </ul> <p><b>Additional Success Criteria</b> Students will be able to communicate scientific information obtained from two or more books and other reliable media with others in oral and/or written form (which include using models and/or drawings). <b>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</b></p>