



ELD STANDARDS FRAMEWORK FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES K-2

Table of Contents

SECTION 1: ELD FRAMEWORK FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES K-2 - OVERVIEW	3
Section 1: Purpose	3
Section 1: Key Uses of Academic Language	4
SECTION 2: ELD FRAMEWORK FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES K-2	5
Section 2A: Student Moves: Language Expectations.....	5
Section 2B: Teacher Moves: Supports for Developing Interpretive and Expressive Language	7
Section 2C: Teacher Moves: Supports for Collaborating in the Academic Language.....	8
SECTION 3: INSTRUCTIONAL GUIDANCE: SCIENCE AND ENGINEERING PRACTICES GRADES K-2	10
Section 3A: Summary: Content Disciplinary Practices and Example Tasks	10
Section 3B: Science and Engineering Disciplinary Practices	16
Practice 1a: Asking Questions and Defining Problems – Teacher Moves	16
Practice 1b: Asking Questions and Defining Problems – Success Criteria.....	17
Practice 2a: Developing and Using Models – Teacher Moves.....	18
Practice 2b: Developing and Using Models – Success Criteria	19
Practice 3a: Planning and Carrying out Investigations – Teacher Moves.....	20
Practice 3b: Planning and Carrying out Investigations – Success Criteria	21
Practice 4a: Analyzing and Interpreting Data – Teacher Moves.....	22
Practice 4b: Analyzing and Interpreting Data – Success Criteria.....	23
Practice 5a: Using Mathematics and Computational Thinking – Teacher Moves	24
Practice 5b: Using Mathematics and Computational Thinking – Success Criteria	25
Practice 6a: Constructing Explanations and Designing Solutions – Teacher Moves	26
Practice 6b: Constructing Explanations and Designing Solutions – Success Criteria.....	27
Practice 7a: Engaging in Argument from Evidence – Teacher Moves	28
Practice 7b: Engaging in Argument from Evidence – Success Criteria	29
Practice 8a: Obtaining, Evaluating, and Communicating Information – Teacher Moves.....	30
Practice 8b: Obtaining, Evaluating, and Communicating Information – Success Criteria	31

SECTION 1: ELD FRAMEWORK FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES K-2 - OVERVIEW

Section 1: 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 1: 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
NARRATE	Highlights language to convey real or imaginary experiences through stories and histories. Example tasks for the Key Use of Narrate include telling or summarizing stories, sharing past experiences, recounting an incident, or to chronicle a report.
INFORM	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 Inform include defining, describing, comparing, contrasting, categorizing, or classifying concepts, ideas, or phenomena.
EXPLAIN	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 Explain include interpreting, elaborating, illustrating, simplifying ideas, actions, or phenomena.
ARGUE	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 Argue include advancing or defending an idea or solution, changing the audience’s point of view, or evaluating an issue.
DISCUSS	Highlights language to interact with others to build meaning and to share knowledge. Example tasks for the Key Use of Discuss include participating in small or large group activities and projects. Discuss 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 K-2

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)
Interpretive: Listening, Reading, & Viewing	<ul style="list-style-type: none"> ● Identify objects according to chemical or physical properties from pictures and oral statements. ● Match objects according to chemical or physical properties from pictures and oral descriptions. ● Identify living organisms from labeled diagrams, pictures in graphs or charts. ● Sort living organisms according to descriptions of their attributes using pictures and phrases with graphic organizers (e.g., T-Charts). ● Identify examples of states of matter, from oral statements with visual support. ● Distinguish among examples of states of matter from oral statements and visual support. ● Match labeled pictures representing earth materials with vocabulary (e.g., Which one is a rock?). ● Associate descriptive phrases with pictures of earth materials. 	<ul style="list-style-type: none"> ● Group objects according to chemical or physical properties from pictures and oral statements. ● Rank or compare objects according to chemical or physical properties from pictures and oral descriptions. ● Transfer information on living organisms and their attributes using pictures and sentences to complete graphs or charts. ● Compare living organisms according to their attributes using illustrated graphs or charts and text. ● Identify series of changes in states of matter based on oral descriptions and visual support (e.g., from liquid to steam, back to liquid). ● Hypothesize 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?”). ● Interpret information on earth materials from charts, tables, or graphic organizers. 	<ul style="list-style-type: none"> ● Identify chemical or physical change in properties of objects based on oral scenarios. ● Interpret graphs or charts related to living organisms and their attributes using explicit grade-level text. ● Determine relationships between states of matter from oral discourse ● Apply information on earth materials to new contexts using grade level text.

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

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?

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

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

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

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

SECTION 3: INSTRUCTIONAL GUIDANCE

for English Language Development in the Content Area of Science and Engineering Practices Grades K-2

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 K-2

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
1. Asking Questions and Defining Problems K-ESS3-2 Earth and Human Activity	<ul style="list-style-type: none"> • Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather. 	<ul style="list-style-type: none"> • Proficient students can use pictures, diagrams, technical language, and relating verbs (does/do, have, be) in order to ask questions based on observations they obtained about the purpose of weather forecasting to prepare for, and respond to, severe weather. 	<ul style="list-style-type: none"> • Proficient students can describe information from observations using technical vocabulary, relating verbs (have/be) and pictures/diagrams in order to describe how weather patterns (e.g., some events are more likely in certain regions) help scientists predict severe weather before it happens. 	<ul style="list-style-type: none"> • Proficient students can use technical nouns, simple sentences, cohesive vocabulary and connectors to relate how a series of events causes something to happen in order to clarify how weather forecasting can help people avoid the most serious impacts of severe weather events. 	<ul style="list-style-type: none"> • Proficient students can participate in collaborative conversations about how weather forecasting can help people plan for and respond to specific types of local weather (e.g., stay indoors during severe weather, go to cooling centers during heat waves; evacuate coastal areas before a hurricane, cover windows before storms) utilizing everyday, cross disciplinary, and technical language.

ELD STANDARDS FRAMEWORK FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES K-2

Science & Engineering Practices	Example Tasks	Inform / Narrate	Explain	Argue	Discuss
<p>2. Developing and Using Models</p> <p>2-LS2-2 Ecosystems: Interactions, Energy, and Dynamics</p>	<ul style="list-style-type: none"> • Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants. 	<ul style="list-style-type: none"> • Proficient students can use pictures, diagrams, technical language, and connectors (because, so that, when, first, second) to sequence and connect events in order to identify the relevant components of the model, including those that mimic the natural structure of an animal that helps it disperse seeds or that mimic the natural structure of an animal that helps it pollinate plants. 	<ul style="list-style-type: none"> • Proficient students can compare solutions that meet given criteria using technical language, prepositional phrases to provide details, clauses to express sequences, and comparatives to show similarities and differences in order to explain the relationships between components that allow for movement of pollen or seeds. 	<ul style="list-style-type: none"> • Proficient students can establish a neutral tone through declarative statements to state a claim, observations, or conclusion and using technical nouns to add precision and details in order to defend an explanation of how their model mimics the natural structure of an animal that helps it disperse seeds. 	<ul style="list-style-type: none"> • Proficient students can discuss the relationships between the parts of the model they are developing and the parts of the animal they are mimicking utilizing everyday, cross disciplinary, and technical language.

ELD STANDARDS FRAMEWORK FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES K-2

Science & Engineering Practices	Example Tasks	Inform/Narrate	Explain	Argue	Discuss
<p>3. Planning and Carrying out Investigations</p> <p>K-PS2-1 Motion and Stability: Forces and Interactions</p>	<ul style="list-style-type: none"> • Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. 	<ul style="list-style-type: none"> • Proficient students can orally recount details about a topic using pictures, prepositional phrases, action verbs, and adjectives in order to state key ideas about an investigation conducted to compare the effects of different strengths or directions of pushes and pulls on the motion of an object. 	<ul style="list-style-type: none"> • Proficient students can describe information from observations and/or data to explain a phenomenon using technical language, pictures, labeled diagrams, and words that compare information in order to describe and compare the effects of strengths or directions of pushes and pulls on the motion of an object. 	<ul style="list-style-type: none"> • Proficient students can offer ideas and suggestions and support and revise their own opinions with reasons in order to agree or disagree on how to plan and compare the effects of different strengths or directions of pushes and pulls on the motion of an object. 	<ul style="list-style-type: none"> • With guidance, proficient students can collaboratively develop an investigation plan to explore the relationship between the strength and direction of pushes and pulls and the motion of an object (e.g., direction; e.g., harder, softer, descriptions) utilizing everyday, cross disciplinary, and technical language.
<p>4. Analyzing and Interpreting Data</p> <p>1-ESS1-1 Earth's Place in the Universe</p>	<ul style="list-style-type: none"> • Use observations of the sun, moon, and stars to describe patterns that can be predicted. 	<ul style="list-style-type: none"> • Proficient students can provide details about an entity or phenomenon using prepositional phrases and action verbs in order to identify patterns of the position and motion of objects (i.e., the sun, moon, stars) in the sky. 	<ul style="list-style-type: none"> • Proficient students can provide details about an entity or phenomenon using prepositional phrases, action verbs, and technical language in order to describe the position of the moon, sun, and stars in the sky at various times during the day or night. 	<ul style="list-style-type: none"> • Proficient students can construct explanations that describe information from observations using technical language, simple sentences, and connectors to link concepts in order to use data to provide evidence that future appearances of objects (i.e., the sun, moon, stars) can be predicted. 	<ul style="list-style-type: none"> • Proficient students can discuss patterns of objects (i.e., the sun, moon, stars) in the sky utilizing everyday, cross disciplinary, and technical language.

ELD STANDARDS FRAMEWORK FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES K-2

Science & Engineering Practices	Example Tasks	Inform/Narrate	Explain	Argue	Discuss
<p>5. Using Mathematics and Computational Thinking</p> <p>2-LS2-1 Ecosystems: Interactions, Energy, and Dynamics</p>	<ul style="list-style-type: none"> ● Plan and conduct an investigation to determine if plants need sunlight and water to grow. 	<ul style="list-style-type: none"> ● Proficient students can describe observations using technical language, declarative statements, cohesion by means of reference nouns across text (e.g. pronouns, renaming, demonstratives, and relating verbs) in order to describe the length of plants. 	<ul style="list-style-type: none"> ● Proficient students can 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 compare plant growth based on the amount of sunlight and water that the plant received. 	<ul style="list-style-type: none"> ● Proficient students can 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 compare two or more quantitative data sets to support a claim that plants need sunlight and water to grow. 	<ul style="list-style-type: none"> ● Proficient students can make a claim supported by relevant evidence using graphs and pictographs, technical nouns to add precision and details, and a variety of clause structures (If/then, because, when) to connect and combine ideas in order to elaborate on the conclusion that plants need sunlight and water to grow.

ELD STANDARDS FRAMEWORK FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES K-2

Science & Engineering Practices	Example Tasks	Inform/Narrate	Explain	Argue	Discuss
<p>6. Constructing Explanations and Designing Solutions 2-ESS2-1 Earth's Systems</p>	<ul style="list-style-type: none"> • Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land. 	<ul style="list-style-type: none"> • Proficient students can define investigable questions or simple design problems using declarative statements to present facts and technical nouns to create precise meaning in order to identify the given problem, which includes the idea that wind or water can change the shape of the land by washing away soil or sand. 	<ul style="list-style-type: none"> • Proficient students can describe observations about a phenomenon using technical nouns, declarative statements, cohesion with pronouns, renaming subject, demonstratives (this, that) in order to explain at least two given solutions in terms of how they slow or prevent wind or water from changing the shape of the land. 	<ul style="list-style-type: none"> • Proficient students can compare multiple solutions to a problem using technical language to add precision, comparatives to show similarities and differences, and connectors to sequence and link events in order to evaluate at least two given solutions in terms of how they slow or prevent wind or water from changing the shape of the land. 	<ul style="list-style-type: none"> • Proficient students can discuss and compare multiple solutions designed to slow or prevent the wind or water to change the shape of the land utilizing everyday, cross disciplinary, and technical language.
<p>7. Engaging in Argument from Evidence 2-PS1-4 Matter and Its Interactions</p>	<ul style="list-style-type: none"> • Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot. 	<ul style="list-style-type: none"> • Proficient students describe observations about a phenomenon using technical language, cohesive devices (pronouns, renaming subject, synonyms), and relating verbs (have, be, become) in order to restate the change in the material after heating (e.g., ice becomes water, solid chocolate becomes liquid). 	<ul style="list-style-type: none"> • Proficient students can describe observations about a phenomenon using technical language, cohesive devices, and relating verbs (have, be, become) in order to compare the characteristics of the material before and after heating or cooling. 	<ul style="list-style-type: none"> • Proficient students can develop a logical sequence between evidence and claim using comparatives, connectors (because, so that, when), and relating verbs (is, was, has) in order to support their claim that some heating or cooling can be reversed and some cannot. 	<ul style="list-style-type: none"> • Proficient students can express relationships between reasoning and evidence using technical language, referents (pronouns, synonyms, renaming subject), causal connectors (because, when, so) in order to build on remarks of others to link evidence to the argument that some heating or cooling can be reversed and some cannot.

ELD STANDARDS FRAMEWORK FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES K-2

Science & Engineering Practices	Example Tasks	Inform/Narrate	Explain	Argue	Discuss
<p>8. Obtaining, Evaluating, and Communicating Information</p> <p>1-LS1-2 From Molecules to Organisms: Structures and Processes</p>	<ul style="list-style-type: none"> ● Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive. 	<ul style="list-style-type: none"> ● Using grade-appropriate books and other reliable media, proficient students can summarize information that both plants and animals can have offspring using technical language and declarative statements to present conclusions. 	<ul style="list-style-type: none"> ● Using grade-appropriate books and other reliable media, proficient students can synthesize information about behaviors of animal parents that help offspring survive (e.g., keeping offspring safe from predators by circling the young, feeding offspring) by using technical language, declarative statements, and qualifiers (some, all, many) to describe observation or fact. 	<ul style="list-style-type: none"> ● Using grade-appropriate books and other reliable media, proficient students can support an argument that behaviors of animal offspring help the offspring survive (e.g., crying, chirping, and nuzzling for food by using technical language, timeless present verbs (cries, helps, saves), and gerund verb form (-ing). 	<ul style="list-style-type: none"> ● Using grade-appropriate books and other reliable media, proficient students can elaborate on ideas of peers that describe the patterns of what animal parents and offspring do to help offspring survive (e.g., when a baby cries the mother feeds it; when danger is present, parents protect offspring; some young animals become silent to avoid predators) utilizing everyday, cross disciplinary, and technical language.

Distribution of Science Key Language Uses in Kindergarten and Grades 1-2				
WIDA ELD STANDARD	Narrate	Inform	Explain	Argue
1. Language for Science (K-1)	○	●	●	◐
2. Language for Science Grade 2	○	◐	●	●

● 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"> ● Model orally the academic language and specific vocabulary required to ask and answer simple and wh- questions. ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide language frames for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. <p>❖ Example: I think_____.</p> <p>❖ Illustrative Task Example: I think rain comes from clouds.</p> <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>	<ul style="list-style-type: none"> ● Model orally the academic language and specific vocabulary required to ask and answer simple questions about key details in the investigation and observations. ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide 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. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. <p>❖ Example: I think_____because_____.</p> <p>❖ Illustrative Task Example: I think rain comes from clouds because water droplets form clouds.</p> <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>	<ul style="list-style-type: none"> ● Provide mentor questions for students to pose independently testable yes/no and wh- (information) questions for driving investigations and defining problems. ● Provide language frames to develop complex questions, paragraph responses, and elaboration of content. ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide language frames for students to practice and produce language on topic in small groups or with partners using complex sentences and discourse starters. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. <p>❖ Example: I used to think_____, but now I think_____. Now, I wonder_____.</p> <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>

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>Entering/Emerging (Levels 1-2)</p>	<p>Developing/Expanding (Levels 3-4)</p>	<p>Bridging/Reaching (Levels 5-6)</p>
<p>Success Criteria With prompting and support, students will...</p> <ul style="list-style-type: none"> ● Ask simplified questions based on observations to find more information about the natural and/or designed world(s) based on visual supports using simple sentences. ● Ask and/or identify simple questions that can be answered by an investigation based on visual supports using simple sentences. ● Define a simple problem that can be solved through the development of a new or improved object or tool based on visual supports using simple language frames. <p>Additional Success Criteria With prompting and support, students will be able to use words or phrases from pictures and/or photographs to restate, ask, and answer questions orally and in writing.</p> <p>NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p>Success Criteria With appropriate supports, students will...</p> <ul style="list-style-type: none"> ● Ask questions based on observations to find more information about the natural and/or designed world(s) based on visual supports using simple and complex sentences. ● Ask and/or identify questions that can be answered by an investigation based on visual supports using simple and complex sentences. ● Define a simple problem that can be solved through the development of a new or improved object or tool based on visual supports using simple and complex sentences. <p>Additional Success Criteria With support, students will be able to use who, what, where, why, what, how questions from pictures and/or photographs to restate, ask, and answer questions orally and in writing.</p> <p>NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p>Success Criteria With appropriate supports, students will...</p> <ul style="list-style-type: none"> ● Independently ask questions based on observations to find more information about the natural and/or designed world(s) with supports as needed. ● Independently ask and/or identify questions that can be answered by an investigation. ● Independently define a simple problem that can be solved through the development of a new or improved object or tool. <p>Additional Success Criteria With support, students will be able to make predictions and answer from pictures and/or photographs to restate, ask, and answer questions orally and in writing.</p> <p>NEPF – IP.1.3; 2.2; 3.4; 5.3)</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:

<p>Entering/Emerging (Levels 1-2)</p>	<p>Developing/Expanding (Levels 3-4)</p>	<p>Bridging/Reaching (Levels 5-6)</p>
<ul style="list-style-type: none"> ● Model orally the academic language and specific vocabulary required to ask and answer simple and wh- questions. ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide language frames for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters. ● Use text with picture support for students to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. ❖ Example: My model shows_____. ❖ Illustrative Task Example: My model shows how burrs stick to fur. <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>	<ul style="list-style-type: none"> ● Model orally the academic language and specific vocabulary required to ask and answer simple questions about key details in the investigation and observations. ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide 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. ● Use text with picture support to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. ❖ Example: My model is the same as _____ because_____. This reminds me of_____. ❖ Illustrative Task Example: My model is the same as a bear because the burrs stick in the fur. It reminds me of fur on a big bear. <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>	<ul style="list-style-type: none"> ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide 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. ● Use text with picture support to elaborate on newly acquired knowledge. ❖ Example: My model is different than _____because_____. My model reminds me of_____. ❖ Illustrative Task Example: My model is different than animal’s fur because my model has fake fur that is not as thick so the burrs don’t stick as well. My model reminds me of the fur on a bear. When the bear runs through bushes, seeds stick to the fur. <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</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 style="text-align: center;">Entering/Emerging (Levels 1-2)</p>	<p style="text-align: center;">Developing/Expanding (Levels 3-4)</p>	<p style="text-align: center;">Bridging/Reaching (Levels 5-6)</p>
<p style="text-align: center;">Success Criteria</p> <p>With prompting and support, students will...</p> <ul style="list-style-type: none"> ● Distinguish between a model and the actual object, process, and/or events the model represents, using simplified sentences. ● Compare models to identify common features and differences using simplified sentences. ● Develop and/or use a model to represent amounts, relationships, relative scales (bigger, smaller), and/or patterns in the natural and designed world(s), using simplified sentences. ● Develop a simple model based on evidence to represent a proposed object or tool using simplified sentences. <p>Additional Success Criteria Students will be able to use words and phrases when developing a simple model based on evidence to represent a proposed object or tool, using visuals or drawings. NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p style="text-align: center;">Success Criteria</p> <p>With support, students will...</p> <ul style="list-style-type: none"> ● Distinguish between a model and the actual object, process, and/or events the model represents, using simple and complex sentences. ● Compare models to identify common features and differences using simple and complex sentences. ● Develop and/or use a model to represent amounts, relationships, relative scales (bigger, smaller), and/or patterns in the natural and designed world(s). ● Develop a simple model based on evidence to represent a proposed object or tool using simple and complex sentences. <p>Additional Success Criteria Students will be able to use simple sentences when developing a simple model based on evidence to represent a proposed object or tool, using visuals or drawings. NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p style="text-align: center;">Success Criteria</p> <p>With support, students will...</p> <ul style="list-style-type: none"> ● Independently distinguish between a model and the actual object, process, and/or events the model represents with supports as needed. ● Compare models to identify common features and differences with supports as needed. ● Develop and/or use a model to represent amounts, relationships, relative scales (bigger, smaller), and/or patterns in the natural and designed world(s) with supports as needed. ● Develop a simple model based on evidence to represent a proposed object or tool with supports as needed. <p>Additional Success Criteria Students will be able to use multiple and complex sentences when developing a simple model based on evidence to represent a proposed object or tool. 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:

<p>Entering/Emerging (Levels 1-2)</p>	<p>Developing/Expanding (Levels 3-4)</p>	<p>Bridging/Reaching (Levels 5-6)</p>
<ul style="list-style-type: none"> ● Model orally the academic language and specific vocabulary required to ask and answer simple and wh- questions. ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide language frames for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters. ● Use text with picture support for students to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. <p>❖ Example: First, I _____. Next, I _____. Last, I _____.</p> <p>❖ Illustrative Task Example: First, I pushed the ball hard and it went fast. Next, I pushed the ball softly and it rolled slowly. Last, we blew on the ball and it didn't move very much.</p> <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>	<ul style="list-style-type: none"> ● Model orally the academic language and specific vocabulary required to ask and answer simple questions about key details in the investigation and observations. ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide 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. ● Use text with picture support to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. <p>❖ Example: The first thing I/we did was _____. Then, I/we _____. After that, I/we _____.</p> <p>❖ Illustrative Task Example: The first thing we did was we pushed one ball really hard and one ball really softly. Then, we noticed that the ball that we pushed hard moved fast but the ball we pushed softly rolled slowly. After that we used a straw to blow on the ball and it hardly moved.</p> <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>	<ul style="list-style-type: none"> ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide 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. ● Use text with picture support to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. <p>❖ Example: In the beginning, I/we _____. Next my partner and I _____. Finally, at the end, I/we _____.</p> <p>❖ Illustrative Task Example: In the beginning of the investigation, we pushed one ball really hard. The harder we pushed the ball the faster it went because it took less time to cross the finish line. Next, my partner and I pushed the ball softly so it moved slowly to the finish line. Finally, at the end of the investigation, we used a straw to blow on the ball and the ball hardly moved. So, we think that the harder you push the ball, the faster the ball moves.</p> <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>

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:

<p>Entering/Emerging (Levels 1-2)</p>	<p>Developing/Expanding (Levels 3-4)</p>	<p>Bridging/Reaching (Levels 5-6)</p>
<p>Success Criteria</p> <p>Students will use simple sentence starters or frames...</p> <ul style="list-style-type: none"> ● Explain how the student planned and conducted an investigation in collaboration with peers (for K). ● Explain how the student planned and conducted an investigation to produce data to serve as the basis for evidence to answer a question. ● Evaluate different ways of observing and/or measuring a phenomenon to determine which way can answer a question. ● Make observations (firsthand or from media) and/or measurements to collect data that can be used to make comparisons. ● Make observations (firsthand or from media) and/or measurements of a proposed object or tool or solution to determine if it solves a problem or meets a goal. ● Make predictions based on prior experiences. <p>Additional Success Criteria</p> <p>Students will be able to draw and then dictate the steps of planning and carrying out an investigation NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p>Success Criteria</p> <p>Students will use simple, compound and complex sentence starters or frames...</p> <ul style="list-style-type: none"> ● Explain how the student planned and conducted an investigation in collaboration with peers (for K). ● Explain how the student planned and conducted an investigation to produce data to serve as the basis for evidence to answer a question. ● Evaluate different ways of observing and/or measuring a phenomenon to determine which way can answer a question. ● Make observations (firsthand or from media) and/or measurements to collect data that can be used to make comparisons. ● Make observations (firsthand or from media) and/or measurements of a proposed object or tool or solution to determine if it solves a problem or meets a goal. ● Make predictions based on prior experiences. <p>Additional Success Criteria</p> <p>With strategic partners and/or sentence frames, students will be able to explain the steps of planning and carrying out an investigation orally and in writing. NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p>Success Criteria</p> <p>With appropriate support, students will</p> <ul style="list-style-type: none"> ● Plan and conduct an investigation in collaboration with peers (for K). ● Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. ● Evaluate different ways of observing and/or measuring a phenomenon to determine which way can answer a question. ● Make observations (firsthand or from media) and/or measurements to collect data that can be used to make comparisons. ● Make observations (firsthand or from media) and/or measurements of a proposed object or tool or solution to determine if it solves a problem or meets a goal. ● Make predictions based on prior experiences. <p>Additional Success Criteria</p> <p>With a strategic partner and/or sentence frames/graphic organizer, students will be able to explain the steps of planning and carrying out an investigation orally and in writing. NEPF – IP.1.3; 2.2; 3.4; 5.3)</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:

<p>Entering/Emerging (Levels 1-2)</p>	<p>Developing/Expanding (Levels 3-4)</p>	<p>Bridging/Reaching (Levels 5-6)</p>
<ul style="list-style-type: none"> ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Model orally the academic language and specific vocabulary required to ask and answer simple and wh- questions. ● Provide language frames for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters. ● Use text with picture support for students to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. ❖ Example: My/Our picture shows _____. ❖ Illustrative Task Example: My/our picture shows a new moon. It is dark. <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>	<ul style="list-style-type: none"> ● Model orally the academic language and specific vocabulary required to ask and answer simple questions about key details in the investigation and observations. ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide 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. ● Use text with picture support to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. ❖ Example: My/our illustration shows _____. We found out that _____. ❖ Illustrative Task Example: My/our illustration shows that the moon is dark because during the new moon the lit-up half is facing away from us. <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>	<ul style="list-style-type: none"> ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide 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. ● Use text with picture support to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. ❖ Example: I noticed something unusual about _____. The diagram showed _____, and we found out that _____. ❖ Illustrative Task Example: I noticed something unusual about the moon. The diagram showed that three weeks after the new moon, the entire moon is lit up. This is because the moon has become full again. <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</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:

<p style="text-align: center;">Entering/Emerging (Levels 1-2)</p>	<p style="text-align: center;">Developing/Expanding (Levels 3-4)</p>	<p style="text-align: center;">Bridging/Reaching (Levels 5-6)</p>
<p style="text-align: center;">Success Criteria</p> <p>Students will use simple sentence starters, frames graphic presentation, or state orally to ...</p> <ul style="list-style-type: none"> ● Record information (observations, thoughts, and ideas) ● Use and share pictures, drawings, and/or writings of observations, ● Use observations (firsthand or from media) to describe patterns and/or relationships in the natural and designed world(s) in order to answer scientific questions and solve problems. ● Compare predictions (based on prior experiences) to what occurred (observable events). ● Analyze data from tests of an object or tool to determine if it works as intended. <p>Additional Success Criteria</p> <p>Students will be able to record information (observations, thoughts, and ideas) using pictures, drawings, and phrases.</p> <p>NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p style="text-align: center;">Success Criteria</p> <p>Students will state orally simple, extended sentences using prepositional phrases, complex sentences or frames to...</p> <ul style="list-style-type: none"> ● Record information (observations, thoughts, and ideas) using supports as needed. ● Use and share pictures, drawings, and/or writings of observations using supports as needed. ● Use observations (firsthand or from media) to describe patterns and/or relationships in the natural and designed world(s) in order to answer scientific questions and solve problems. ● Compare predictions (based on prior experiences) to what occurred (observable events). ● Analyze data from tests of an object or tool to determine if it works as intended, using supports as needed. <p>Additional Success Criteria</p> <p>Students will be able to record information (observations, thoughts, and ideas) to describe patterns and/or relationships using pictures, drawings, and simple and complex sentences.</p> <p>NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p style="text-align: center;">Success Criteria</p> <p>With appropriate support, students will</p> <ul style="list-style-type: none"> ● Record information (observations, thoughts, and ideas). ● Use and share pictures, drawings, and/or writings of observations. ● Use observations (firsthand or from media) to describe patterns and/or relationships in the natural and designed world(s) in order to answer scientific questions and solve problems. ● Compare predictions (based on prior experiences) to what occurred (observable events). ● Analyze data from tests of an object or tool to determine if it works as intended. <p>Additional Success Criteria</p> <p>Students will be able to record information (observations, thoughts, and ideas) to describe patterns and/or relationships using pictures, drawings, and complex sentences and paragraphs.</p> <p>NEPF – IP.1.3; 2.2; 3.4; 5.3)</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:

<p>Entering/Emerging (Levels 1-2)</p>	<p>Developing/Expanding (Levels 3-4)</p>	<p>Bridging/Reaching (Levels 5-6)</p>
<ul style="list-style-type: none"> ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Model orally the academic language structures and specific vocabulary. ● Provide language frames for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters. ● Use text with picture support for students to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. ❖ Example: I noticed that_____. ❖ Illustrative Task Example: I noticed that plant A is taller than plant B. <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>	<ul style="list-style-type: none"> ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Model orally the academic language structure and specific vocabulary. ● Provide 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. ● Use text with picture support to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate on newly acquired knowledge ● Provide language frames for students to ask and answer questions about key details in a text or investigation. ❖ Example: When I compared_____I noticed that_____. ❖ Illustrative Task Example: When I compared plant A to plant B, I noticed that plant A had grown two more inches than plant B. <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>	<ul style="list-style-type: none"> ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide 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. ● Use text with picture support to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. ❖ Example: When I compared _____I noticed that_____. I think this because_____. In addition,_____. ❖ Illustrative Task Example: When I compared plant A to plant B, I noticed that plant A had grown two more inches than plant B. I think this is because plant A was given more water. In addition, it had grown 2 more leaves than plant B. <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</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:

<p style="text-align: center;">Entering/Emerging (Levels 1-2)</p>	<p style="text-align: center;">Developing/Expanding (Levels 3-4)</p>	<p style="text-align: center;">Bridging/Reaching (Levels 5-6)</p>
<p style="text-align: center;">Success Criteria</p> <p>Students will use simple sentence starters, frames, graphic representations to ...</p> <ul style="list-style-type: none"> ● Use counting and numbers to identify and describe patterns in the natural and designed world(s). ● Describe, measure, and/or compare quantitative attributes of different objects and display the data using simple graphs. ● Use quantitative data to compare two alternative solutions to a problem. <p>Additional Success Criteria Students will be able to display data using simple graphs and use counting and numbers to describe patterns on the graphs.</p> <p>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p style="text-align: center;">Success Criteria</p> <p>Students will orally state using compound and complex sentence frames to...</p> <ul style="list-style-type: none"> ● Use counting and numbers to identify and describe patterns in the natural and designed world(s). ● Describe, measure, and/or compare quantitative attributes of different objects and display the data using simple graphs. ● Use quantitative data to compare two alternative solutions to a problem. <p>Additional Success Criteria Students will be able to describe, measure, and/or compare quantitative attributes of different objects and display the data using more complex graphs.</p> <p>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p style="text-align: center;">Success Criteria</p> <p>With appropriate support, students will...</p> <ul style="list-style-type: none"> ● Use counting and numbers to identify and describe patterns in the natural and designed world(s). ● Describe, measure, and/or compare quantitative attributes of different objects and display the data using simple graphs. ● Use quantitative data to compare two alternative solutions to a problem. <p>Additional Success Criteria Students will be able to describe, measure, an/or compare quantitative attributes of different objects and display the data using simple graphs to compare two alternative solutions to a problem.</p> <p>(NEPF – IP.1.3; 2.2; 3.4; 5.3)</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>Entering/Emerging (Levels 1-2)</p>	<p>Developing/Expanding (Levels 3-4)</p>	<p>Bridging/Reaching (Levels 5-6)</p>
<ul style="list-style-type: none"> ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Model orally the academic language structures and specific vocabulary. ● Provide language frames for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters. ● Use text with picture support for students to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. <p>❖ Example: I predict that _____.</p> <p>❖ Illustrative Task Example: I predict that soil erosion is a slow process. (NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>	<ul style="list-style-type: none"> ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Model orally the academic language structure and specific vocabulary. ● Provide 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. ● Use text with picture support to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate on newly acquired knowledge ● Provide language frames for students to ask and answer questions about key details in a text or investigation. <p>❖ Example: I predict that _____ because _____.</p> <p>❖ Illustrative Task Example: I predict that soil erosion in Nevada is a slow process because it does not rain often. (NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>	<ul style="list-style-type: none"> ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide 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. ● Use text with picture support to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. <p>❖ Example: I predict that _____ because _____ . However, _____.</p> <p>❖ Illustrative Task Example: I predict that soil erosion in Nevada is a slow process because it does not rain often. However, when Nevada does get a lot of rain the soil erosion happens quickly. (NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>

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:

<p>Entering/Emerging (Levels 1-2)</p>	<p>Developing/Expanding (Levels 3-4)</p>	<p>Bridging/Reaching (Levels 5-6)</p>
<p>Success Criteria Students will use simple sentence starters, frames, and visual supports to...</p> <ul style="list-style-type: none"> ● Use information from observations (firsthand and from media) to construct an evidence-based account for natural phenomena. ● Use tools and/or materials to design and/or build a device that solves a specific problem or a solution to a specific problem. ● Generate and/or compare multiple solutions to a problem. <p>Additional Success Criteria Students will be able to construct evidence-based accounts that solve a specific problem using simple sentence frames, word banks, and visual supports. (NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p>Success Criteria Students will use compound and complex sentence frames to...</p> <ul style="list-style-type: none"> ● Use information from observations (first-hand and from media) to construct an evidence-based account for natural phenomena. ● Use tools and/or materials to design and/or build a device that solves a specific problem or a solution to a specific problem. ● Generate and/or compare multiple solutions to a problem. <p>Additional Success Criteria Students will be able to construct evidence-based accounts that solve a specific problem using compound and complex sentence frames, word banks, and visuals. (NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p>Success Criteria With appropriate support, students will</p> <ul style="list-style-type: none"> ● Use information from observations (firsthand and from media) to construct an evidence-based account for natural phenomena. ● Use tools and/or materials to design and/or build a device that solves a specific problem or a solution to a specific problem. ● Generate and/or compare multiple solutions to a problem. <p>Additional Success Criteria Students will be able to construct evidence-based accounts that solve a specific problem using multiple, complex sentence frames, word banks, and visuals. (NEPF – IP.1.3; 2.2; 3.4; 5.3)</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:

<p>Entering/Emerging (Levels 1-2)</p>	<p>Developing/Expanding (Levels 3-4)</p>	<p>Bridging/Reaching (Levels 5-6)</p>
<ul style="list-style-type: none"> ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Model orally the academic language structures and specific vocabulary. ● Provide language frames for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters. ● Use text with picture support for students to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. ● Use text with picture support to elaborate on newly acquired knowledge. ● Provide 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. ❖ Example: I claim that_____. ❖ Illustrative Task Example: I claim that when ice is heated it will melt. <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>	<ul style="list-style-type: none"> ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Model orally the academic language structure and specific vocabulary. ● Provide 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. ● Use text with picture support to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate on newly acquired knowledge ● Provide language frames for students to ask and answer questions about key details in a text or investigation. ❖ Example: I claim that_____because_____. ❖ Illustrative Task Example: I claim that when ice is heated it will melt, because ice changes from a solid to liquid. <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>	<ul style="list-style-type: none"> ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide 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. ● Use text with picture support to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. ❖ Example: Since,_____. I claim that_____. Therefore,_____. ❖ Illustrative Task Example: Since freezing can be reversed, I claim that when ice is heated it will melt and turn into water. Therefore, if water is cooled it can turn back into ice. <p>(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)</p>

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:

<p style="text-align: center;">Entering/Emerging (Levels 1-2)</p>	<p style="text-align: center;">Developing/Expanding (Levels 3-4)</p>	<p style="text-align: center;">Bridging/Reaching (Levels 5-6)</p>
<p style="text-align: center;">Success Criteria</p> <p>Students will use simple sentence starters, frames, and visual supports to...</p> <ul style="list-style-type: none"> ● Identify arguments that are supported by evidence. ● Distinguish between explanations that account for all gathered evidence and those that do not. ● Analyze why some evidence is relevant to a scientific question and some is not. ● Distinguish between opinions and evidence in one’s own explanations. ● Listen actively to arguments to indicate agreement or disagreement based on evidence, and/or to retell the main points of the argument. ● Construct an argument with evidence to support a claim. ● Make a claim about the effectiveness of an object, tool, or solution that is supported by relevant evidence. <p>Additional Success Criteria</p> <p>Students will be able to describe a chain of reasoning that connects the evidence to a claim using simple sentence frames and visual supports. NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p style="text-align: center;">Success Criteria</p> <p>Students will use simple sentence and complex sentence frames...</p> <ul style="list-style-type: none"> ● Identify arguments that are supported by evidence. ● Distinguish between explanations that account for all gathered evidence and those that do not. ● Analyze why some evidence is relevant to a scientific question and some is not. ● Distinguish between opinions and evidence in one’s own explanations. ● Listen actively to arguments to indicate agreement or disagreement based on evidence, and/or to retell the main points of the argument. ● Construct an argument with evidence to support a claim. ● Make a claim about the effectiveness of an object, tool, or solution that is supported by relevant evidence. <p>Additional Success Criteria</p> <p>Students will be able to describe a chain of reasoning that connects the evidence to a claim using compound and complex sentence frames. NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p style="text-align: center;">Success Criteria</p> <p>With appropriate support, students will...</p> <ul style="list-style-type: none"> ● Identify arguments that are supported by evidence. ● Distinguish between explanations that account for all gathered evidence and those that do not. ● Analyze why some evidence is relevant to a scientific question and some is not. ● Distinguish between opinions and evidence in one’s own explanations. ● Listen actively to arguments to indicate agreement or disagreement based on evidence, and/or to retell the main points of the argument. ● Construct an argument with evidence to support a claim. ● Make a claim about the effectiveness of an object, tool, or solution that is supported by relevant evidence. <p>Additional Success Criteria</p> <p>Students will be able to describe a chain of reasoning that connects the evidence to a claim. NEPF – IP.1.3; 2.2; 3.4; 5.3)</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:

<p>Entering/Emerging (Levels 1-2)</p>	<p>Developing/Expanding (Levels 3-4)</p>	<p>Bridging/Reaching (Levels 5-6)</p>
<ul style="list-style-type: none"> ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Model orally the academic language structures and specific vocabulary. ● Provide language frames for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters. ● Use text with picture support for students to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. ● Use text with picture support to elaborate on newly acquired knowledge ● Provide 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. ❖ Example: I think_____. ❖ Illustrative Task Example: I think mother birds help baby birds survive by feeding them. (NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3) 	<ul style="list-style-type: none"> ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Model orally the academic language structure and specific vocabulary. ● Provide 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. ● Use text with picture support to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate on newly acquired knowledge ● Provide language frames for students to ask and answer questions about key details in a text or investigation. ❖ Example: I know _____because in the video/book,_____. ❖ Illustrative Task Example: I know that mother birds help their baby birds survive because in the video/ book mother birds fed their babies and kept them safe from predators. (NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3) 	<ul style="list-style-type: none"> ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide 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. ● Use text with picture support to elaborate on newly acquired knowledge. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. ❖ Example: I used to think _____, but now I know _____. ❖ Illustrative Task Example: I used to think that only human mothers fed and protected their babies, but now I know that mother birds also feed and protect their babies to help them survive. (NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)

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

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;">Entering/Emerging (Levels 1-2)</p>	<p style="text-align: center;">Developing/Expanding (Levels 3-4)</p>	<p style="text-align: center;">Bridging/Reaching (Levels 5-6)</p>
<p style="text-align: center;">Success Criteria</p> <p>With prompting and supports, students will use chunked text, simple sentence starters, frames, and visual supports to...</p> <ul style="list-style-type: none"> ● Read grade-appropriate texts and/or use media to obtain scientific and/or technical information to determine patterns in and/or evidence about the natural and designed world(s). ● Describe how specific images (e.g., a diagram showing how a machine works) support a scientific or engineering idea. ● Obtain information using various texts, text features (e.g., headings, tables of contents, glossaries, electronic menus, icons), and other media that will be useful in answering a scientific question and/or supporting a scientific claim. <p>Additional Success Criteria Students will be able to communicate scientific information obtained from books and other reliable media with others in oral and/or written form (which include using models and/or drawings) using simple sentence frames and visual supports. (NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p style="text-align: center;">Success Criteria</p> <p>With prompting and supports, students will use chunked text, and compound and complex sentence frames to...</p> <ul style="list-style-type: none"> ● Read grade-appropriate texts and/or use media to obtain scientific and/or technical information to determine patterns in and/or evidence about the natural and designed world(s). ● Describe how specific images (e.g., a diagram showing how a machine works) support a scientific or engineering idea. ● Obtain information using various texts, text features (e.g., headings, tables of contents, glossaries, electronic menus, icons), and other media that will be useful in answering a scientific question and/or supporting a scientific claim. <p>Additional Success Criteria Students will be able to communicate scientific information obtained from books and other reliable media with others in oral and/or written form (which include using models and/or drawings) using simple and complex sentence frames. (NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>	<p style="text-align: center;">Success Criteria</p> <p>With appropriate support, students will...</p> <ul style="list-style-type: none"> ● Read grade-appropriate texts and/or use media to obtain scientific and/or technical information to determine patterns in and/or evidence about the natural and designed world(s). ● Describe how specific images (e.g., a diagram showing how a machine works) support a scientific or engineering idea. ● Obtain information using various texts, text features (e.g., headings, tables of contents, glossaries, electronic menus, icons), and other media that will be useful in answering a scientific question and/or supporting a scientific claim. <p>Additional Success Criteria Students will be able to communicate scientific information obtained from books and other reliable media with others in oral and/or written form (which include using models and/or drawings) (NEPF – IP.1.3; 2.2; 3.4; 5.3)</p>