



**NV ELD STANDARDS AND
INSTRUCTIONAL SUPPORTS FOR
DEVELOPING THE LANGUAGE OF
SCIENCE GRADES 3-5**

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SECTION 1: INTRODUCTION TO NV ELD STANDARDS AND INSTRUCTIONAL SUPPORTS FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES 3-5

1A. Purpose and Organization

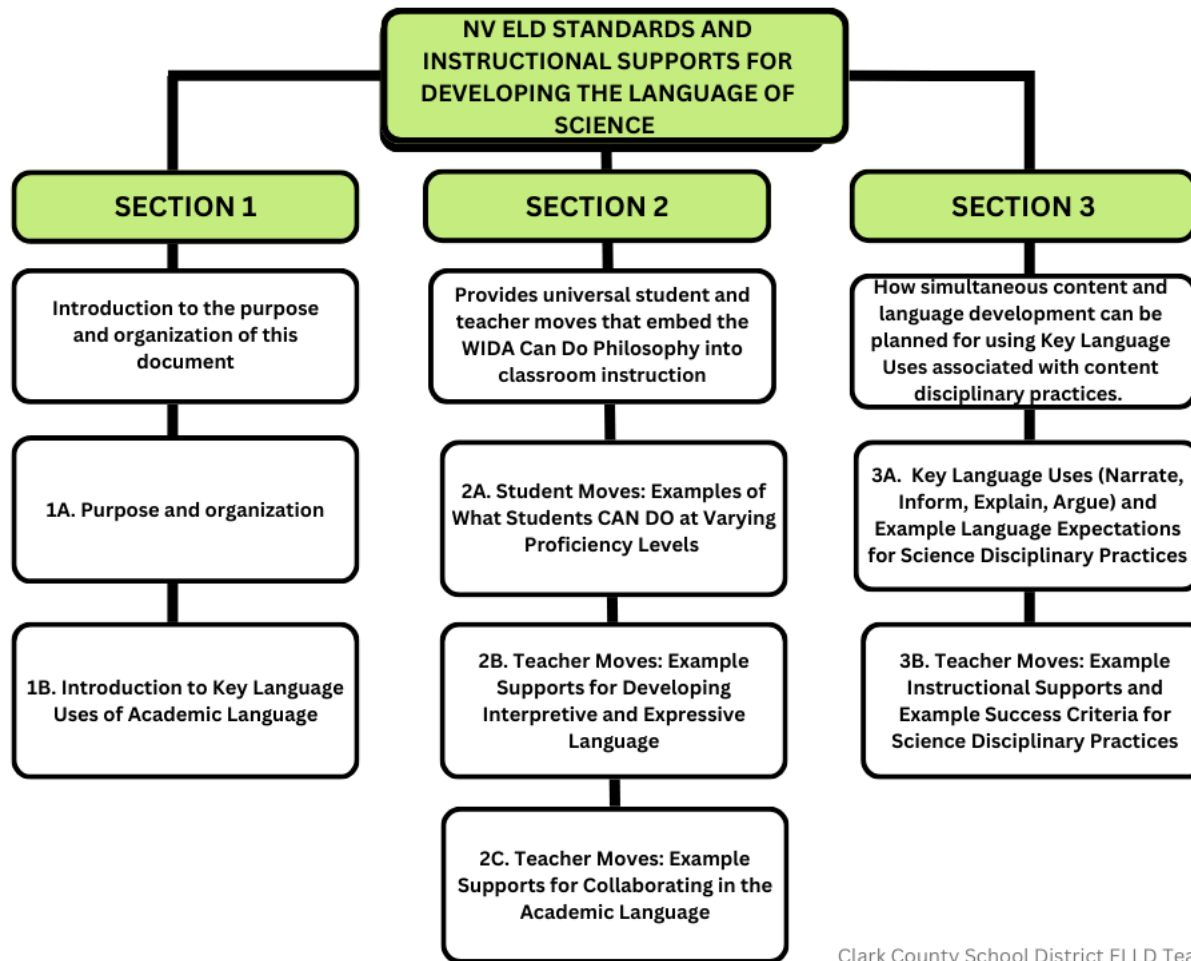
Purpose

The purpose of this document is to provide instructional resources for educators to engage their students in *English Language Development Standard 4: English language learners communicate information, ideas, and concepts necessary for academic success in the content area of science.*

In 2012 the Nevada Department of Education adopted the WIDA ELD Standards now also referred to as the Nevada ELD Standards. **The purpose of the Nevada (NV) English Language Development (ELD) Standards and Instructional Supports documents** is to provide content teachers, EL educators, and school leaders with instructional tools to be used to successfully integrate the Nevada English Language Development (ELD) standards with content area instruction leading to student mastery of the Nevada Academic Content Standards (NVACs) for college/career readiness and academic English proficiency. With the use of these tools, educators will be able to make clear instructional connections between the content standards, content disciplinary practices, and the ELD standards. The science practices identified in this document are based on the Nevada Academic Content Standards for Science and the Next Generation Science Standards. For more information about the overview, purpose, and theoretical foundations for using the Nevada English Language Development (ELD) Standards and Instructional Supports documents see the [Nevada ELD Standards and Instructional Supports Overview](#).

Organization

The NV ELD Standards and Instructional Supports for Developing the Language of Science Grades 3-5 document is organized into 3 sections.



Section 1 is the introduction to the purpose and organization of this document.

Section 1: INTRODUCTION TO NV ELD STANDARDS AND INSTRUCTIONAL SUPPORTS FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES 3-5

- A. Purpose and Organization
- B. Introduction to Key Language Uses of Academic Language

Section 2 provides universal student and teacher moves that embed the WIDA Can Do Philosophy into classroom instruction.

Section 2 of the document provides descriptors illustrating what students “Can Do” with academic language at various English Language Proficiency (ELP) levels: Entering/Emerging (Level 1-2), Developing/Expanding (Level 3-4) and Bridging/Reaching (Level 5-6) specific to the grade-level cluster. The section also provides instructional practices and strategies called “Teacher Moves” which are research-based, actionable steps that all teachers can take to support the simultaneous development of academic language and content for multilingual learners at various proficiency levels of English language development. For more descriptions of the ELD Strategies identified in Sections 2 and 3, view the [GO TO Strategies document](#) from the CAL website.

Section 2: CAN DOs AND EXAMPLE INSTRUCTIONAL SUPPORTS FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES 3-5

- A. Student Moves: Examples of What Students Can Do at Varying Proficiency Levels
- B. Teacher Moves: Example Supports for Developing Interpretive and Expressive Language
- C. Teacher Moves: Example Supports for Collaborating in the Academic Language

Section 3 addresses how simultaneous content and language development can be planned for using Key Language Uses associated with content disciplinary practices.

Section 3 provides a table containing exemplars (taken from WIDA 2020) that model for educators the connection of prominent Key Language Uses and Language Expectations to the 3-5 Content Disciplinary Practices of Science. “Teacher Moves” relevant to the content area disciplinary practice are provided. Also included in the section are exemplars of student “Success Criteria”, examples of how students will be able to demonstrate their learning of language and content at different language proficiency levels.

Section 3: INSTRUCTIONAL GUIDANCE FOR SCIENCE DISCIPLINARY PRACTICES GRADES 3-5

- Snapshot Key Language Uses from the WIDA 2020 ELD Standards Framework

A. Key Language Uses (Inform, Explain, Argue) and Example Language Expectations for Science Disciplinary Practices

- Prominent Key Language Uses for Science Grades 3-5
- Language Expectations for Science Disciplinary Practices

B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science 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

1B. Introduction to Key Language Uses of Academic Language

The [WIDA ELD Standards Framework, 2020 Edition](#) maintains the five original ELD standards of the 2012 document and, importantly, operationalizes the WIDA Big Ideas that language development and content learning are to be integrated into assets-based instruction that takes place in the context of a learning environment responsive to cultural and linguistic diversity. These Big Ideas are referred to as the WIDA Can Do Philosophy. Instruction is facilitated by the inclusion of the following components of language which form a common framework within which multilingual students understand academic language: 1) **Interpretive** (listening, reading, viewing) and **Expressive** (speaking, writing, representing) 2) **Key Language Uses**, prominent language uses across content area disciplines, 3) **Language Expectations**, goals for content-driven language learning, and 4) **Language Features**, a continuum of language development indicators.

Key Language Uses (KLUs) of academic language in the core content areas were identified in WIDA 2020 based on reviews of literature and a language analysis of college and career readiness standards. Throughout this document the KLUs provide a focus for instructional supports. See table below for a description of the KLUs.

KEY LANGUAGE USES	KEY LANGUAGE 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.

SECTION 2: CAN DOs AND EXAMPLE INSTRUCTIONAL SUPPORTS FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES 3-5

Two types of communication modes are incorporated into the WIDA English Language Development Standards Framework: interpretive mode (listening, reading, and viewing) and expressive mode (speaking, writing, and representing). Consistent with the WIDA Can Do Descriptors, the table below provides examples of the academic tasks multilingual learners can successfully carry out in each communication mode. These Student Moves were based on the [WIDA K-12 Can Do Descriptors, Key Uses Edition](#).

2A. Student Moves: Examples of What Students Can Do at Varying Proficiency Levels

With appropriate instructional supports multilingual learners can...

Communication Modes	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 illustrations and oral statements. ● match objects according to chemical or physical properties from illustrations and oral descriptions. ● sort evidence and claims from oral descriptions supported by visuals. ● sort classifications according to descriptions of their attributes using pictures and phrases with graphic organizers. ● identify examples of scientific phenomenon, from oral statements with visual support. ● distinguish among examples of states of matter from oral statements and visual support. ● match labeled visuals representing earth materials with vocabulary (e.g., Which one is a rock?). 	<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). ● interpret information on earth materials from charts, tables, or graphic organizers. ● follow tasks and directions with peer support. ● sequence events in content-related processes from text. 	<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. ● identify related information from multiple sources presented orally. ● recognize the key scientific or technical language used in a mini-lecture. ● identify the overall structure of events, ideas, concepts, or information grade-level in text.

NV ELD STANDARDS AND INSTRUCTIONAL SUPPORTS FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES 3-5

Communication Modes	Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
	<ul style="list-style-type: none"> ● associate descriptive phrases with pictures of earth materials. ● connect the context of informational text with illustrations, diagrams. ● differentiate between claims and evidence 		

2A. Student Moves: Examples of What Students Can Do at Varying Proficiency Levels (continued)

With appropriate instructional supports, multilingual learners can...

Communication Modes	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 scientific phenomena depicted in illustrations or photographs. ● document difference or change by labeling drawings with academic vocabulary selected from word banks. ● identify change according to stages of processes or cycles using drawings, words, or phrases. ● answer questions with single words/short phrases that name basic parts of systems depicted visually and modeled. ● describe classifications of parts of systems depicted visually. ● describe features of scientific phenomena from labeled diagrams. ● use key words and phrases in writing related to the concept. ● share information from visuals in partnerships or small groups 	<ul style="list-style-type: none"> ● forecast weather and provide reasons from pictures, illustrations or graphs. ● compare/contrast weather conditions from pictures, illustrations 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 scientific components from diagrams or graphs (e.g., size, distance from sun). ● discuss relationships between scientific components using diagrams or graphs. ● present detailed information orally in a small group with rehearsal opportunities. ● answer how or why questions e.g., “How does the water cycle work?” ● hypothesize change in states of matter based on oral descriptions and visual support. 	<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 scientific concepts and phenomena. ● use technical and specific vocabulary when sharing content information. ● expand on topics with descriptive details using varied vocabulary. ● summarize discussions on content-related topics. ● explain by analyzing how variables contribute to events or outcomes. ● maintain a formal register in written and spoken communication.

2B. Teacher Moves: Example Supports for Developing Interpretive and Expressive Language

What general supports can teachers provide to students at different language proficiency levels to interpret or express academic language?

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Build background in key language and concepts. ● Give two-step contextualized directions. ● Restate/rephrase and use Patterned Oral Language routines. ● Use Wait Time before and after questions. ● Preview the text content with experiences. ● Provide explicit instruction and practice in key social and instructional vocabulary utilizing plenty of visuals such as pictures, real objects, or gestures to convey meaning. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● 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 starters. ● Label visuals and objects with target vocabulary. ● Introduce cognates to aid comprehension. ● Provide opportunities for translanguageing and multilingual supports during the task. <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Pair students to read one text together. ● Use Shared Reading. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Use K-W-L charts before reading. ● Provide a list of important concepts on a graphic organizer. 	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Confirm prior knowledge in key language and concepts. ● Build background in key language and concepts using contextualized vocabulary, collaborative learning, visual that introduce more complex texts with accompanying audio. ● Check comprehension of all students frequently. ● Use Wait Time. ● Require and scaffold 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. ● Provide opportunities for oral reporting for summarizing group work. ● Thoroughly model all lesson expectations. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● Model orally the academic language and specific vocabulary. ● Provide explicit instruction and practice for students to construct the language using sentence and discourse starters. ● Provide opportunities for translanguageing and multilingual supports during the task. <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Pair students to read one text together. ● Use Jigsaw Reading to scaffold independent reading. 	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Confirm prior knowledge in key language and concepts. ● Build background in key language and concepts focusing on academic vocabulary and idiomatic expressions. Use content specific texts to build subject knowledge. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● Use complex sentence and discourse starters. ● Extend content vocabulary with multiple examples and non-examples. ● Provide opportunities for translanguageing during the task. <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Use Reciprocal Teaching to scaffold independent reading. ● Provide tasks that encourage discourse and then facilitate and support discourse between and among students. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Ask students to analyze text structure and select an appropriate Graphic Organizer for summarizing. ● Provide a graphic organizer system (e.g. Learning Log/Interactive Notebook) for students to regularly record and process key academic vocabulary and content learning throughout an instructional unit.

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<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><i>SENSORY/MEDIA</i></p> <ul style="list-style-type: none"> ● Use physical gestures to accompany oral directives. ● Provide explicit instruction and practice for students to construct the language using visual aids from the text. ● Preview the text content with pictures, demos, charts. ● Provide a content vocabulary Word Bank with non-linguistic representations. ● Preview text with a Picture Walk. 	<p><i>GRAPHIC</i></p> <ul style="list-style-type: none"> ● Use K-W-L charts before reading. ● Provide a list of important concepts on a graphic organizer. ● Provide a graphic organizer system for students to regularly record and process key academic and content-specific vocabulary. <p><i>SENSORY/MEDIA</i></p> <ul style="list-style-type: none"> ● Provide a content vocabulary Word Bank with non- linguistic representations. ● Preview the text content with pictures, demos, charts, or experiences. ● Provide explicit instruction and practice for students to construct the language using visual aids from the text. 	<p><i>SENSORY/MEDIA</i></p> <ul style="list-style-type: none"> ● Use Video Observation Guides.

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

How can teachers provide ongoing opportunities for students to collaborate using academic language? Below are some examples of universal strategies for engaging students in collaborative discourse practices.

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
<p>Prior to reading, writing, and discussion, the 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, the 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, the 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 SCIENCE AND ENGINEERING DISCIPLINARY PRACTICES GRADES 3-5

Snapshot of Key Language Uses from the WIDA 2020 ELD Standards Framework

Key Language Uses—Narrate, Inform, Explain, and Argue—are present across all grade levels and disciplines. Determining Key Language Use is helpful in planning instructional outcomes and supports. The Snapshots table below provides descriptors of some ways students engage in each Key Language Use throughout grades 3-5.

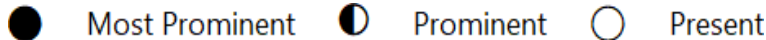
Snapshots of Key Language Uses in Grades 2-3	
Narrate	<ul style="list-style-type: none"> • Develop a sense of narrative structure and the purposes for which people use narratives • Structure narratives to express experiences and ideas about familiar places and people • Add interactions and reactions to characters' actions to develop characters' inner and outer worlds
Inform	<ul style="list-style-type: none"> • Recognize the difference between imaginative stories and nonfiction informational texts • Develop an emerging sense of text structure as they interpret and create multimodal representations of their knowledge on topics of interest • Develop emerging research skills to build knowledge for reports
Explain	<ul style="list-style-type: none"> • Develop a sense of some causal, sequential, and cyclical relationships by observing concrete phenomena • Report observations of phenomena to build understanding of the world around them • Interpret and construct multimodal representations, such as diagrams and drawings, to illustrate how or why things work
Argue	<ul style="list-style-type: none"> • State opinions or construct tentative claims and offer those in class discussions • Recognize the difference between claims with and without support • Offer observations to support opinions and claims • Develop emerging research skills to use in constructing claims • Begin to use data from observations as evidence for their claims

Snapshots of Key Language Uses in Grades 4-5	
Narrate	<ul style="list-style-type: none"> • Add details about characters and settings • Use dialogue to provide insight into characters’ motives and personalities • Create images in the reader’s mind through descriptive language • Interpret and construct narratives in a variety of contexts and purposes, including fictional or historical narratives about significant individuals or events
Inform	<ul style="list-style-type: none"> • Provide objective general descriptions of entities and concepts of observable and unobservable phenomena • Share factual knowledge by moving from concrete and familiar topics to unfamiliar topics • Construct generalizations of concepts beyond experiences (e.g., compare earthquakes and cyclones)
Explain	<ul style="list-style-type: none"> • Identify consequences of actions or events • Give account for the underlying causes of how something works or why something happens • Begin to show underlying causes of more abstract phenomena
Argue	<ul style="list-style-type: none"> • Substantiate claims with evidence and reasoning • Use evidence from texts or data to support claims • Consider and engage with other voices, possibilities, and perspectives • Argue about topics that go beyond students’ immediate contexts to topics outside their realm of personal experience

3A. Key Language Uses (Inform, Explain, Argue) and Example Language Expectations for Science Disciplinary Practices

The Science Key Language Uses in the graphic below are marked with a filled-in circle (●) in the boxes. The half-filled circle and the open circle indicate lesser degrees of prominence of each Key Language Use.

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



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

The table below lists the 8 Science content disciplinary practices from the Nevada Academic Content Standards and provides example Language Expectations for each Prominent and Most Prominent Key Language Use (KLU) of Academic Language associated with WIDA ELD Standard 4 Language for Science. (For a more detailed listing of grade-level Language Expectations to support mastery of content area standards see [WIDA English Language Development Standards Framework, 2020 Edition Kindergarten - Grade 12 \(wisc.edu\)](#) Grade 3 pp. 94-95 & 100-101; Grades 4-5 pp. 122-125.)

Science & Engineering Practices	KEY LANGUAGE USES		
	Inform	Explain	Argue
1. Asking questions and defining problems	Multilingual learners define and classify facts and interpretations; to determine what is known vs. unknown by asking and answering questions to clarify or hypothesize about phenomenon using <i>who, what, when, where, why, how.</i>	Multilingual learners define investigable questions or design problems based on observations, data, and prior knowledge about a phenomenon using abstract nouns to introduce concepts, ideas, and technical terms (<i>cycles, states of matter, condensation</i>).	See Science Practice 7: Engaging in argument from evidence
2. Developing and using models	Multilingual learners develop and use models to describe the parts and wholes of a system by labeling/describing diagrams, graphs and tables to add information about the phenomenon.	Multilingual learners develop and use models to summarize and/or compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution using labeling/describing diagrams, graphs and tables to add information about the phenomenon.	See Science Practice 7: Engaging in argument from evidence

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Science & Engineering Practices	KEY LANGUAGE USES		
	Inform	Explain	Argue
3. Planning and carrying out investigations	Multilingual learners plan and carry out investigations by reporting on explicit and inferred characteristics, patterns, or behavior using abstract nouns to introduce concepts, ideas, and technical terms (<i>cycles, states of matter, condensation</i>).	Multilingual learners plan and carry out investigations by establishing a neutral or objective stance in communicating results using objective language (<i>Evaporation is caused by..., Ice and snow evaporate...</i>) to adjust precision.	See Science Practice 7: Engaging in argument from evidence
4. Analyzing and interpreting data	Multilingual learners analyze and interpret data by sorting, clarifying, and summarizing relationships using a variety of ways to describe phenomena (<i>relative clauses - "The solution that was heated..." "The woman who lives next door..." ; declarative statements</i>).	Multilingual learners analyze and interpret data by describing observations and/or data about a phenomenon using relating verbs to state relationships or attributes (<i>have, be, belong to</i>).	See Science Practice 7: Engaging in argument from evidence
5. Using mathematics and computational thinking	Multilingual learners employ mathematics and computational thinking using mathematical terms and phrases to describe concept, process, or purpose (<i>the angles within a circle can be measured with a protractor in this way</i>).	Multilingual learners employ mathematics and computational thinking by describing data and/or steps to solve problems using visuals (charts, graphs, diagrams, manipulatives, drawings) to support approach and/or solution.	See Science Practice 7: Engaging in argument from evidence
6. Constructing explanations and designing solutions	Multilingual learners construct explanations and design solutions by reporting on explicit and inferred characteristics, patterns, or behavior using timeless present verbs to state on-going facts about the phenomenon (<i>ocean water evaporates</i>).	Multilingual learners construct explanations and design solutions by summarizing and and/or comparing multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution using conditional clauses (if/then) to generalize phenomenon to additional contexts.	See Science Practice 7: Engaging in argument from evidence
7. Engaging in argument from evidence			Multilingual learners signal logical relationships among reasoning, relevant evidence, data, and/or a model when making a claim using

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Science & Engineering Practices	KEY LANGUAGE USES		
	Inform	Explain	Argue
			connectors to signal time (<i>next, at the same time</i>), causality (<i>therefore, consequently, as a result, because</i>), clarification (<i>for example, this shows how</i>).
8. Obtaining, evaluating, and communicating Information	Multilingual learners obtain, evaluate, and communicate information by sorting, clarifying, and summarizing relationships using nominalizations to represent abstract concepts (<i>condense-condensation, evaporate-evaporation; argue - argument</i>);).	Multilingual learners will obtain, evaluate, and communicate information in order to describe valid and reliable evidence from sources about a phenomenon using cohesion to reference ideas and people across text (pronouns, renaming subject, synonyms).	See Science Practice 7: Engaging in argument from evidence

3B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science and Engineering Disciplinary Practices

Practice 1: Asking questions and defining problems

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)
<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Provide mentor questions with L1 support to serve as models for students to pose their own independently testable <i>yes/no</i> and <i>wh-</i> questions that drive investigations and define problems. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● Explicitly model orally the academic language and specific vocabulary required to ask and answer questions about key details specific to this practice. ● Provide an illustrated word bank/ labeled illustrations/anchor chart of key technical vocabulary, as they occur during investigations and explanations. ● Provide language frames with L1 support for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters. <ul style="list-style-type: none"> ❖ Ex. 1: How will the (object or action) affect the (object or outcome)? ❖ Language Frame: How will the (magnet) affect the (paper clip and the wood block)? ❖ Ex. 2: I think the (object or action) will (technical verb) (+ object). ❖ Language Frame: I think the (magnet) 	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Provide mentor questions to serve as models for students to pose their own independently testable <i>yes/no</i> and <i>wh-</i> questions that drive investigations and define problems. ● Incorporate structured speaking and writing activities related to asking questions and defining problems, such as journal entries and group discussions. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● Explicitly model 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. ● Provide an illustrated word bank/ labeled illustrations/anchor chart 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. <ul style="list-style-type: none"> ❖ Ex. 1: What effect will the (object or action) have on the (object)? ❖ Language Frame: What effect will 	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Assign independent research projects that require students to formulate their own questions and define problems. ● Provide access to various resources, such as books, articles, and online databases. ● Engage students in activities that require higher-order thinking, such as designing experiments, analyzing data, and drawing conclusions. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● Provide language frames for students to practice and produce language on topic in small groups or with partners using complex sentences and discourse starters. <ul style="list-style-type: none"> ❖ Ex. 1: Based on evidence, what effect do you claim the (object or action) will have on the (object)? ❖ Language Frame: Based on evidence, what effect do you claim the (magnet) will have on the (paper clip)? ❖ Ex. 2: Based on the evidence that/from (object or action), my claim is that the (object or action) will (technical verb) (+ object). ❖ Language Frame: Based on the evidence that (magnets attract metal

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<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>will (attract) (the paper clip).</p> <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Provide students the opportunity to share with a partner or in a small group their questions/responses using sentence frames to support the rehearsal and production of language. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Provide graphic organizers with L1 (primary language) translation and non- linguistic representation to guide students in their formulation of questions and responses that include the academic vocabulary and concepts. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Label images and objects with key vocabulary words. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. ● Use pictures, diagrams, videos, and physical objects to introduce concepts. ● Conduct hands-on experiments and demonstrations while narrating the process in simple language and encourage students to ask basic questions during these activities. 	<p>the (magnet) have on the (paper clip)?</p> <ul style="list-style-type: none"> ❖ Ex. 2: My claim is that the (object or action) will (technical verb) (+ object) because (_____). ❖ Language Frame: My claim is that the (magnet) will (attract) (the paper clip) because (magnets attract metal). <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Provide time for students to write down their questions/responses and rehearse before a small group. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Provide graphic organizers with non- linguistic representation to guide students in their formulation of questions and responses that include the academic vocabulary and concepts. ● Use graphic organizers like KWL charts (Know, Want to Know, Learned) to help students structure their questions. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Introduce more specific scientific and engineering vocabulary using visuals and real-world examples. ● Engage students in hands-on experiments and engineering challenges with guided inquiry steps. ● Use text with visual support for students to elaborate and ask and answer questions about key details in a text or investigation. 	<p>objects), my claim is that the (magnet) will (attract) (the paper clip).</p> <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Provide learning tasks for students to pose and respond to questions with a partner or small group. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Provide graphic organizers to guide students in their formulation of questions and responses that include the academic vocabulary and concepts in an extended discourse format. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Provide visuals and multimedia to teach content concepts and engage students in higher-order thinking tasks, such as designing experiments, analyzing data, and drawing conclusions.

3B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science and Engineering Disciplinary Practices (continued)

Practice 1: Asking questions and defining problems

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>With prompting and supports, multilingual learners will...</p> <p>Key Language Use - Explain</p> <ul style="list-style-type: none"> define investigable questions or design problems based on observations, data, and prior knowledge about a phenomenon using abstract nouns to introduce concepts, ideas, and technical terms (<i>cycles, states of matter, condensation</i>) and <i>who, what, where, why, how</i> questions, orally and in writing in order to define a simple design problem that can be solved through the development of an object, tool, process, or system with the aid of visuals, anchor charts, question and response frames, and L1 support. 	<p>With appropriate supports, multilingual learners will...</p> <p>Key Language Use - Explain</p> <ul style="list-style-type: none"> define investigable questions or design problems based on observations, data, and prior knowledge about a phenomenon using abstract nouns to introduce concepts, ideas, and technical terms (<i>cycles, states of matter, condensation</i>) and <i>who, what, where, why, how</i> questions, orally and in writing, in order to define a simple design problem that can be solved through the development of an object, tool, process, or system with the aid of visuals, anchor charts, and question and response frames. 	<p>With appropriate supports, multilingual learners will...</p> <p>Key Language Use - Explain</p> <ul style="list-style-type: none"> define investigable questions or design problems based on observations, data, and prior knowledge about a phenomenon using abstract nouns to introduce concepts, ideas, and technical terms (<i>cycles, states of matter, condensation</i>) and <i>who, what, where, why, how</i> questions, orally and in writing, in order to define a simple design problem that can be solved through the development of an object, tool, process, or system with the aid of complex language frames and other supports as needed.

3B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science and Engineering Disciplinary Practices (continued)

Practice 2: Developing and using models

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)
<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Explicitly model and provide guided practice using graphic organizers, tables, graphs, and anchor charts which may include bilingual labels and words. ● Explicitly model with L1 support the process step-by-step, thinking aloud to demonstrate reasoning. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● Explicitly model orally the academic language and specific vocabulary required to develop and use models ● Provide an illustrated word bank/anchor chart with labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide language frames with L1 support for students to practice and produce language on topic in small groups or with partners using simple sentences and discourse starters. ❖ Example: My model shows_____. ❖ Language structure: My model shows light enters the eye, which lets me see the objects. <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Provide students the opportunity to share with a partner or in a small group their 	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Explicitly model and provide guided practice using graphic organizers, tables, graphs, and anchor charts. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● Explicitly model orally the academic language and specific vocabulary required to develop and use models. ● Provide an illustrated word bank/anchor chart with 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 using question starters and complex sentence frames. ❖ Example: My model represents [the real event, phenomenon, or object] _____ just like_____. ❖ Language structure: My model represents the pupil because it has a hole in the black cardboard just like the eyeball has a small 	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Explicitly model and provide guided practice using graphic organizers, tables, graphs, and anchor charts. ● Use case studies and real-world scenarios to apply their modeling skills. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● 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 using starters and complex sentence frames. ❖ Example: My model is same/different than [the real event, phenomenon, or object] ___because_____. The _____ in my model reminds me of _____. ❖ Language structure: 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. <p>INTERACTIVE</p>

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Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
<p>questions/responses regarding their model using sentence frames to support the rehearsal and production of language.</p> <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Provide graphic organizers with L1 (primary language) translation and non- linguistic representation that include the academic vocabulary and concepts to guide students in their development and use of a model. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. ● Provide pre-made models for students to manipulate and explore. ● Use building blocks, clay, or other materials to create simple models. 	<p>hole in the front that lets light into the eye.</p> <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Provide time for students to write down their questions/responses regarding their model and rehearse before small group tasks. ● Facilitate group work where students can discuss and collaborate on model-building projects. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Provide step-by-step instructions and use graphic organizers like flowcharts and Venn diagrams to help students plan and build models. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Incorporate multimedia resources to enhance understanding. ● Use diagrams, labeled pictures, and videos with more detailed explanations. 	<ul style="list-style-type: none"> ● Provide learning tasks for students to pose and respond to questions about their model with a partner or small group. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Provide graphic organizers to guide students in their development and use of a model including the academic vocabulary and concepts in an extended discourse format. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Provide visuals and multimedia to engage students in higher-order thinking tasks, such as evaluating the effectiveness of models, making improvements, and comparing different models.

3B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science and Engineering Disciplinary Practices (continued)

Practice 2: Developing and using models

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>With prompting and supports, multilingual learners will...</p> <p>Key Language Use - Explain</p> <ul style="list-style-type: none"> develop and use models to summarize and/or compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution using labeling/describing diagrams, graphs and tables to add information about the phenomenon with the aid of simple sentence starters, frames, visuals, and L1 supports. 	<p>With appropriate supports, multilingual learners will...</p> <p>Key Language Use - Explain</p> <ul style="list-style-type: none"> develop and use models to summarize and/or compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution using labeling/describing diagrams, graphs and tables to add information about the phenomenon with the aid of compound and complex sentence starters, frames, and visual supports. 	<p>With appropriate supports, multilingual learners will...</p> <p>Key Language Use - Explain</p> <ul style="list-style-type: none"> develop and use models to summarize and/or compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution using labeling/describing diagrams, graphs and tables to add information about the phenomenon with the aid of complex language frames and other supports as needed.

3B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science and Engineering Disciplinary Practices (continued)

Practice 3: Planning and carrying out investigations

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)
<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> Explicitly model and provide exemplars with L1 support for the documentation of planning and carrying out of investigative processes. <p>LANGUAGE</p> <ul style="list-style-type: none"> Explicitly model orally the academic language and specific vocabulary required to ask and answer wh-questions specific to this practice. Provide 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. <ul style="list-style-type: none"> ❖ Ex 1 (describe): 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). ❖ Ex 2 (justify): 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 	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> Explicitly model and provide exemplars for the documentation of planning and carrying out of investigative processes. Incorporate speaking and writing activities related to investigations, such as describing their plans and results, and explaining procedures to peers. <p>LANGUAGE</p> <ul style="list-style-type: none"> Explicitly model orally the academic language and specific vocabulary required to ask and answer wh-questions specific to this practice. Provide 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. <ul style="list-style-type: none"> ❖ Ex 1 (describe): 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. ❖ Ex 2 (justify): This investigation shows 	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> Engage students in higher-order thinking tasks, such as designing experiments, predicting outcomes, and analyzing data. Use real-world problems and case studies to apply their investigation skills. <p>LANGUAGE</p> <ul style="list-style-type: none"> Encourage the use of complex sentences and advanced academic vocabulary in planning and explaining investigations. Provide 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. <ul style="list-style-type: none"> ❖ Ex 1 (describe): 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.

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<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>shows when not shaking the water and cornstarch are a liquid.</p> <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Implement small group cooperative learning structures with L1 support for students to plan and carry out investigations. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Provide annotated (in L1) graphic organizers to aid in planning the structure of an investigation, collecting and organizing data, and interpreting data. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Use pictures, diagrams, videos, and physical objects to explain investigation steps. ● Demonstrate procedures with real objects and visual step-by-step guides. 	<p>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.</p> <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Use cooperative learning strategies like assigned roles to facilitate idea exchange and teamwork. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Provide illustrated graphic organizers to aid in planning the structure of an investigation, collecting and organizing data, and interpreting data. ● Provide step-by-step instructions and use graphic organizers such as flowcharts and procedure charts to help students plan and carry out investigations. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Use detailed diagrams, labeled pictures, and instructional videos to explain investigation processes. ● Incorporate multimedia resources to reinforce understanding. 	<p>❖ Ex 2 (Justify): 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).</p> <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Implement small group cooperative learning structures for students to plan and carry out investigations. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Provide graphic organizers to aid in planning the structure of an investigation, collecting and organizing data, and interpreting data. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Provide visuals and multimedia to teach content concepts and scaffold the comprehension of complex text.

3B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science and Engineering Disciplinary Practices (continued)

Practice 3: Planning and carrying out investigations

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>With prompting and supports, multilingual learners will...</p> <p>Key Language Use - Inform</p> <ul style="list-style-type: none"> plan and carry out investigations by reporting on explicit and inferred characteristics, patterns, or behavior using abstract nouns to introduce concepts, ideas, and technical terms (<i>cycles, states of matter, condensation</i>) with the aid of simple sentence starters, frames, visuals, and L1 supports. 	<p>With appropriate supports, multilingual learners will...</p> <p>Key Language Use - Inform</p> <ul style="list-style-type: none"> plan and carry out investigations by reporting on explicit and inferred characteristics, patterns, or behavior using abstract nouns to introduce concepts, ideas, and technical terms (<i>cycles, states of matter, condensation</i>) with the aid of compound and complex sentence starters, frames, and visual supports. 	<p>With appropriate supports, multilingual learners will...</p> <p>Key Language Use - Inform</p> <ul style="list-style-type: none"> plan and carry out investigations by reporting on explicit and inferred characteristics, patterns, or behavior using abstract nouns to introduce concepts, ideas, and technical terms (<i>cycles, states of matter, condensation</i>) with the aid of complex language frames and other supports as needed.

3B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science and Engineering Disciplinary Practices (continued)

Practice 4: Analyzing and interpreting data

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)
<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> Explicitly model and provide exemplars of data collection and its analysis with L1 support, frequent checks for understanding, and opportunity for students to process new information with peers. <p>LANGUAGE</p> <ul style="list-style-type: none"> Explicitly model orally the academic language and specific vocabulary required to ask and answer simple and wh- questions specific to data collection and analysis. Provide 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. <ul style="list-style-type: none"> ❖ Example: Data set 1 shows _____. Data set 2 shows _____. Language structure: Map 1 shows mountains. Map 2 shows volcanoes. <p>INTERACTIVE</p> <ul style="list-style-type: none"> Provide anchor charts for students to practice and produce academic language on topic in small groups or with partners using simple sentences and discourse starters. 	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> Explicitly model and provide exemplars of data collection and its analysis with frequent checks for understanding and opportunity for students to process new information with peers. Incorporate speaking and writing activities related to data analysis, such as describing trends, making predictions, and explaining findings. <p>LANGUAGE</p> <ul style="list-style-type: none"> Explicitly model orally the academic language and specific vocabulary required to ask and answer wh- questions specific to data collection and analysis. Provide 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. <ul style="list-style-type: none"> ❖ Example: Data set 1 shows _____. Data set 2 shows _____. However, both sets show _____. <p>Language structure: 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.</p>	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> Assign independent projects that require students to collect, analyze, and interpret their own data. Provide access to a variety of resources, including books, articles, and online databases for research. Engage students in higher-order thinking tasks, such as drawing conclusions from data, comparing data sets, and evaluating the reliability and validity of data. <p>LANGUAGE</p> <ul style="list-style-type: none"> Provide language frames for students to develop complex questions, question starters and complex sentence frames for elaboration of content. <ul style="list-style-type: none"> ❖ Example: I noticed something unusual about _____. A pattern we noticed is _____. <p>Language structure: 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.</p>

<p>Entering/Emerging (Levels 1-2)</p>	<p>Developing/Expanding (Levels 3-4)</p>	<p>Bridging/Reaching (Levels 5-6)</p>
<p>GRAPHIC</p> <ul style="list-style-type: none"> ● Use graphic organizers with L1 and visual supports to provide academic language, concepts, and structure that assist students in designing a data collection and analysis approach to an investigable question. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Use pictures, charts, graphs, and physical objects to illustrate data. ● Provide real-life examples that are visually rich to help students connect data to their experiences. ● Use manipulatives like blocks or counters to represent data and make abstract concepts concrete. 	<p>However, both maps show that all continents are surrounded by water.</p> <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Provide anchor charts and language frames using simple and complex sentences and discourse starters for students to practice and produce academic language on topic in small groups or with partners. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Use graphic organizers with visual supports to provide academic language, concepts, and structure that assist students in designing a data collection and analysis approach to an investigable question. ● Provide step-by-step instructions and use graphic organizers such as T-charts, Venn diagrams, and data tables to help students organize and analyze data. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Use detailed charts, graphs, and diagrams to explain data. ● Incorporate multimedia resources such as videos and interactive online tools to reinforce understanding. 	<p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Provide learning tasks for students to share data analysis and respond to questions with a partner or small group. ● Organize debates and Socratic seminars on topics related to data interpretation to develop argumentation and critical thinking skills and encourage students to use evidence and reasoning in their discussions. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Use graphic organizers to provide academic language, concepts, and structure that assist students in designing a data collection and analysis approach to an investigable question. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Use online interactive simulations to complete an investigation to collect and make sense of data.

3B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science and Engineering Disciplinary Practices (continued)

Practice 4: Analyzing and interpreting data

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>With prompting and supports, multilingual learners will...</p> <p>Key Language Use – Explain</p> <ul style="list-style-type: none"> analyze and interpret data by describing observations and/or data about a phenomenon using relating verbs to state relationships or attributes (<i>have, be, belong to</i>) in order to describe relationships and patterns within datasets, compare and contrast data collected by different groups with the aid of simple sentence frames, word banks/anchor charts, visuals, drawings, and L1 support. 	<p>With appropriate supports, multilingual learners will...</p> <p>Key Language Use – Explain</p> <ul style="list-style-type: none"> analyze and interpret data by describing observations and/or data about a phenomenon using relating verbs to state relationships or attributes (<i>have, be, belong to</i>) in order to describe relationships and patterns within datasets, compare and contrast data collected by different groups with the aid of sentence frames, word banks/anchor charts, and visuals. 	<p>With appropriate supports, multilingual learners will...</p> <p>Key Language Use – Explain</p> <ul style="list-style-type: none"> analyze and interpret data by describing observations and/or data about a phenomenon using relating verbs to state relationships or attributes (<i>have, be, belong to</i>) in order to describe relationships and patterns within datasets, compare and contrast data collected by different groups with the aid of complex language frames and other supports as needed.

3B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science and Engineering Disciplinary Practices (continued)

Practice 5: Using mathematics and computational thinking

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)
<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Provide scaffolded tasks for students to draw a picture of their solution and to label it. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● Model orally the academic language structures and specific vocabulary specific to this practice. ● Provide an illustrated word bank/anchor chart with 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. ● Provide language frames for students to ask and answer questions about key details in a text or investigation. <ul style="list-style-type: none"> ❖ Example: The mass of _____ is _____ (units). ❖ Language structure: The mass of the ice cube is 10 grams. <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Provide language frames for students to practice and produce language on topic in small groups or with partners using simple sentences, discourse starters, and L1 support. 	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Explicitly model learning tasks in which students can use charts, diagrams, tables or numbers to explain their understanding. ● Incorporate speaking and writing activities related to math, such as explaining solutions, describing patterns, and justifying answers. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● Model orally the academic language structure and specific vocabulary specific to this practice. ● Provide an illustrated word bank/anchor chart with labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide language frames for students to ask and answer questions about key details in a text or investigation. <ul style="list-style-type: none"> ❖ Example: The mass of _____ was _____ (units) before it melted. After heating, _____. ❖ Language structure: 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. 	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Explicitly model learning tasks in which students can use charts, diagrams, tables or numbers to explain their understanding. ● Engage students in higher-order thinking tasks, such as creating algorithms, analyzing data sets, and solving complex problems. ● Use real-world scenarios and case studies to apply their math skills. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● Introduce and use technical terms and phrases in context. ● Provide access to a variety of resources to be used as mentor texts, including books, articles, and online tools for research. ● Encourage the use of complex sentences and advanced academic vocabulary in math explanations. ● Provide language frames for students to describe key details in a text or investigation. <ul style="list-style-type: none"> ❖ Example: Based on the measurements/ graphs/data _____ I noticed that _____. ❖ Language structure: 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.

<p>Entering/Emerging (Levels 1-2)</p>	<p>Developing/Expanding (Levels 3-4)</p>	<p>Bridging/Reaching (Levels 5-6)</p>
<p>GRAPHIC</p> <ul style="list-style-type: none"> • Use graphic organizers and/or anchor charts to provide visuals associated with academic vocabulary, details pertinent to the topic, and necessary language structures that help students to identify and describe investigations and solutions. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> • Use pictures, diagrams, charts, and physical objects to explain mathematical concepts. • Provide real-life examples and manipulatives like counters, blocks, and visual models to apply mathematical thinking to an investigation. 	<p>INTERACTIVE</p> <ul style="list-style-type: none"> • 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. <p>GRAPHIC</p> <ul style="list-style-type: none"> • Use graphic organizers and/or anchor charts to provide visuals associated with academic vocabulary, details pertinent to the topic, and necessary language structures that help students to identify and describe investigations and solutions. • Provide step-by-step instructions and use graphic organizers like number lines, charts, and problem-solving maps. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> • Use realia and manipulatives to apply mathematical thinking to an investigation. • Incorporate multimedia resources such as videos and interactive online tools. 	<p>INTERACTIVE</p> <ul style="list-style-type: none"> • Identify and elaborate on information from complex text in small groups or with a partner. <p>GRAPHIC</p> <ul style="list-style-type: none"> • Have students use a graphic organizer, such as a flow map to prepare a peer presentation on their problem-solving processes and solutions to the class. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> • Use multimedia to apply mathematical thinking to an investigation process and solution.

3B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science and Engineering Disciplinary Practices (continued)

Practice 5: Using mathematics and computational thinking

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>With prompting and supports, multilingual learners will...</p> <p>Key Language Use – Explain</p> <ul style="list-style-type: none"> ● use mathematics and computational thinking to describe data supported by visuals (charts, graphs, diagrams, manipulatives, drawings) in order to organize, measure, and/ or compare quantitative attributes of different objects and display the data on a simple graph using counting and numbers to describe graphed patterns with the aid of sentence frames, visuals, word banks, and L1 support. 	<p>With prompting and supports, multilingual learners will...</p> <p>Key Language Use -Explain</p> <ul style="list-style-type: none"> ● use mathematics and computational thinking to describe data supported by visuals (charts, graphs, diagrams, manipulatives, drawings) in order to organize, measure, and/ or compare quantitative attributes of different objects and display and explain the data on a simple graph with the aid of compound and complex sentence frames, word banks and visual supports. 	<p>With prompting and supports, multilingual learners will...</p> <p>Key Language Use -Explain</p> <ul style="list-style-type: none"> ● use mathematics and computational thinking to describe data (charts, graphs, diagrams, manipulatives, drawings) in order to organize, measure, and/ or compare quantitative attributes of alternative solutions and display and explain the data on multiple graphs with the aid of complex sentence frames as needed.

3B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science and Engineering Disciplinary Practices (continued)

Practice 6: Constructing explanations and designing solutions

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)
<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Provide scaffolded tasks for students to draw a picture of their solution and to label it. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● Model orally the academic language structure and specific vocabulary. ● Provide an illustrated word bank/ labeled illustrations, anchor charts of key technical vocabulary, as they occur during investigations and explanations. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. ❖ Example: Example: I noticed that _____. The solution is _____. ❖ Language structure: I noticed that the brown moth uses camouflage to survive. The bird cannot see the moth on the dark tree. <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Provide language frames for students to practice and produce language on topic in small groups or with partners using visuals, simple sentences and L1 support. 	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Explicitly model learning tasks in which students can use charts, diagrams, tables or numbers to explain their understanding and solution. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● Model orally the academic language structure and specific vocabulary. ● Provide an illustrated word bank/ labeled illustrations, anchor charts of key technical vocabulary, as they occur during investigations and explanations. ● Use text with picture support for students to elaborate and ask and answer questions about key details in a text or investigation. ❖ Example: I observed that _____ happened so I claim that _____. ❖ Language structure: 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. <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Provide language frames for students to practice and produce language on topic in small groups or with partners using visuals, simple and complex sentences. 	<p>LANGUAGE</p> <ul style="list-style-type: none"> ● Encourage the use of complex sentences and advanced academic vocabulary in explanations and solutions. ● Provide an anchor chart 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. ❖ Example: I observed _____. Therefore, I claim that _____. However, _____. ❖ Language structure: 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. <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Identify and elaborate on information from

NV ELD STANDARDS AND INSTRUCTIONAL SUPPORTS FOR DEVELOPING THE LANGUAGE OF SCIENCE GRADES 3-5

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
<p>GRAPHIC</p> <ul style="list-style-type: none"> • Use graphic organizers to provide visuals associated with academic vocabulary, details pertinent to the topic, and necessary language structures that help students to identify and describe text-based information. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> • Use text with picture and language support for students to elaborate and ask and answer questions about key details in a text or investigation. • Use realia and manipulatives in the design of solutions. 	<p>GRAPHIC</p> <ul style="list-style-type: none"> • Use graphic organizers to provide visuals associated with academic vocabulary, details pertinent to the topic, and necessary language structures that help students to identify and describe text-based information. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> • Use text with picture and language support for students to elaborate and ask and answer questions about key details in a text or investigation. • Use realia, manipulatives, and multimedia in the design of solutions. 	<p>complex text in small groups or with a partner.</p> <ul style="list-style-type: none"> • Use cooperative group structures to engage students in higher-order thinking tasks, such as evaluating evidence, comparing different solutions, and justifying their choices. <p>GRAPHIC</p> <ul style="list-style-type: none"> • Have students use graphic organizers such as flow charts or concept maps that include associated academic vocabulary, topic details, and necessary language structures to plan and present their explanation of process, findings, and solutions to the class. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> • Use realia, manipulatives, and multimedia in the design of solutions.

3B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science and Engineering Disciplinary Practices (continued)

Practice 6: Constructing explanations and designing solutions

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>With prompting and supports, multilingual learners will...</p> <p>Key Language Use – Explain</p> <ul style="list-style-type: none"> construct explanations and design solutions by summarizing evidence and/or comparing multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution using conditional clauses (if/then) to generalize phenomenon to additional contexts in order to construct evidence-based accounts that solve a specific problem with the aid of simple sentence frames, word/phrase banks, and visuals. 	<p>With appropriate supports, multilingual learners will...</p> <p>Key Language Use – Explain</p> <ul style="list-style-type: none"> construct explanations and design solutions by summarizing evidence and/or comparing multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution using conditional clauses (if/then) to generalize phenomenon to additional contexts in order to construct evidence-based accounts that solve a specific problem with the aid of simple sentence frames, word/phrase banks, and visuals. 	<p>With appropriate supports, multilingual learners will...</p> <p>Key Language Use – Explain</p> <ul style="list-style-type: none"> construct explanations and design solutions by summarizing evidence and/or comparing multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution using conditional clauses (if/then) to generalize phenomenon to additional contexts in order to construct evidence-based accounts that solve a specific problem with the aid of discourse frames and visuals as needed.

3B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science and Engineering Disciplinary Practices (continued)

Practice 7: Engaging in argument from evidence

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)
<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> • Use language and visual supports for students to identify different perspectives, stances, or points of view in written or spoken context with L1 support. • Provide real-life examples that are visually rich to help students connect arguments to their experiences. <p>LANGUAGE</p> <ul style="list-style-type: none"> • Explicitly model orally and visually the academic, descriptive language, specific vocabulary and discourse structure required to construct valid arguments from evidence and critique the reasoning of others, using visuals which may include bilingual labels and words. • Provide an illustrated word bank/ labeled illustrations/anchor chart of key technical vocabulary, as they occur during investigations and explanations. • Provide language frames for students to ask and answer questions about claims in a text or investigation using question starters, sentence frames, pictures and gestures. ❖ Example: I claim that_____. ❖ Language structure: I claim that the sun and stars in the sky give off their own light. 	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> • Model/provide exemplars of valid arguments from evidence and appropriate ways to critique the reasoning of others. • Incorporate speaking and writing activities related to argumentation, such as explaining their arguments to peers, writing argumentative essays, and engaging in structured debates. <p>LANGUAGE</p> <ul style="list-style-type: none"> • Explicitly model the academic language, specific vocabulary, phrasal patterns and discourse structure required to construct valid arguments from evidence and critique the reasoning of others, in small groups. • Provide an illustrated word bank/ labeled illustrations/anchor chart of key technical vocabulary, as they occur during investigations and explanations. • Use text with picture and language support for students to elaborate and ask and answer questions about claims in a text or investigation. ❖ Example: I claim that_____because_____. ❖ Language structure: I claim that the sun is many times larger than Earth but appears small because it is very far away. 	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> • Model/provide exemplars of valid arguments from evidence and appropriate ways to critique the reasoning of others. • Engage students in higher-order thinking tasks, such as evaluating the strength of evidence, comparing different arguments, and justifying their conclusions. <p>LANGUAGE</p> <ul style="list-style-type: none"> • Provide an illustrated word bank/ labeled illustrations/anchor chart of key technical vocabulary, as they occur during investigations and explanations. • Use text with picture and language support for students to elaborate and ask and answer questions about claims in a text or investigation. ❖ Example: I argue_____. I know this because_____. ❖ Language structure: 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. <p>INTERACTIVE</p> <ul style="list-style-type: none"> • Identify and elaborate on information from

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Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
<p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Provide language frames for students to practice and produce language on topic in small groups or with partners using simple sentences, discourse starters, and L1 support. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Use graphic organizers to provide visuals associated with academic vocabulary, details pertinent to the topic, and necessary language structures that help students to identify and describe text-based information. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Provide realia for students to use in presenting knowledge to peers. ● Use pictures, diagrams, charts, and physical models to illustrate concepts and evidence. 	<p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Provide language frames for students to practice and produce language on topic in small groups or with partners using simple and complex sentence and discourse starters. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Use graphic organizers like T-charts, evidence charts, and argument maps to provide visuals associated with academic vocabulary, details pertinent to the topic, and necessary language structures that guide students through each part of constructing an argument. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Make available realia and/or multimedia for students to use in presenting knowledge to peers. 	<p>complex text in small groups or with a partner.</p> <ul style="list-style-type: none"> ● Organize debates and Socratic seminars on relevant scientific and engineering topics to develop students' argumentation and critical thinking skills and encourage students to use evidence and logical reasoning in their discussions, providing opportunities for rebuttal and counter-arguments. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Use graphic organizers to provide visuals associated with academic vocabulary, details pertinent to the topic, and necessary language structures that guide students through each part of constructing an argument. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Make available realia and/or multimedia for students to use in presenting knowledge to peers.

3B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science and Engineering Disciplinary Practices (continued)

Practice 7: Engaging in argument from evidence

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>With prompting and supports, multilingual learners will...</p> <p>Key Language Use – Argue</p> <ul style="list-style-type: none"> • signal logical relationships among reasoning, relevant evidence, data, and/or a model when making a claim using connectors to signal time (<i>next, at the same time</i>), causality (<i>therefore, consequently, as a result, because</i>), clarification (<i>for example, this shows how</i>) in order to describe a chain of reasoning that connects the evidence to a claim with the aid of simple sentence frames, anchor charts, and visual supports. 	<p>With appropriate supports, multilingual learners will...</p> <p>Key Language Use- Argue</p> <ul style="list-style-type: none"> • signal logical relationships among reasoning, relevant evidence, data, and/or a model when making a claim using connectors to signal time (<i>next, at the same time</i>), causality (<i>therefore, consequently, as a result, because</i>), clarification (<i>for example, this shows how</i>) in order to describe a chain of reasoning that connects the evidence to a claim with the aid of compound and complex sentence frames and anchor charts. 	<p>With appropriate supports, multilingual learners will...</p> <p>Key Language Use - Argue</p> <ul style="list-style-type: none"> • signal logical relationships among reasoning, relevant evidence, data, and/or a model when making a claim using connectors to signal time (<i>next, at the same time</i>), causality (<i>therefore, consequently, as a result, because</i>), clarification (<i>for example, this shows how</i>) in order to describe a chain of reasoning that connects the evidence to a claim with supports as needed.

3B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science and Engineering Disciplinary Practices (continued)

Practice 8: Obtaining, evaluating, and communicating information

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)
<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Model/provide exemplars of research methods and presentations from the research with L1 support. ● Provide a variety of sources for research including multilingual sources. ● Provide opportunities to practice presentations in a low-risk environment and receive specific feedback. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● Model orally the academic language structures and specific vocabulary. ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● 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. <ul style="list-style-type: none"> ❖ Example: The author stated _____. ❖ Language structure: The author stated that there are three climate zones, polar, temperate and tropical. <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Provide language frames for students to practice and produce language on topic in 	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Model/provide exemplars of research methods and presentations from the research. ● Provide a variety of sources for research including multilingual sources. ● Provide structures for students to research and develop presentations: partners or small groups; technical support; informational texts and resources. ● Incorporate speaking and writing activities related to obtaining, evaluating, and communicating information, such as explaining their findings to peers, writing summaries, and creating presentations. ● Engage students in guided inquiry activities with structured support to practice obtaining and evaluating information. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● Model orally the academic language structure and specific vocabulary ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Provide language frames for students to ask and answer questions about key details in a text or investigation. 	<p>INSTRUCTIONAL</p> <ul style="list-style-type: none"> ● Model/provide exemplars of research methods and presentations from the research. ● Provide a variety of sources for research including multilingual sources. ● Provide structures for students to research and develop presentations: partners or small groups; technical support; informational texts and resources. ● Engage students in higher-order thinking tasks, such as analyzing the credibility of sources, comparing different types of information, and synthesizing data. <p>LANGUAGE</p> <ul style="list-style-type: none"> ● Model orally the academic language structure and specific vocabulary. ● Provide an illustrated word bank/ labeled illustrations of key technical vocabulary, as they occur during investigations and explanations. ● Use text with picture and language support for students to elaborate and ask and answer questions about key details in a text or investigation. <ul style="list-style-type: none"> ❖ Example: The evidence suggests _____. Therefore, _____. ❖ Language structure: The evidence in

<p>Entering/Emerging (Levels 1-2)</p>	<p>Developing/Expanding (Levels 3-4)</p>	<p>Bridging/Reaching (Levels 5-6)</p>
<p>small groups or with partners using simple sentences, discourse starters, and L1 support.</p> <ul style="list-style-type: none"> ● Use role-playing or other interactive methods to practice communicating findings. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Use graphic organizers and/or anchor charts to provide visuals associated with academic vocabulary, details pertinent to the topic, and necessary language structures that help students to practice obtaining and evaluating information. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Use text with visuals for students to elaborate and ask and answer questions about key details in a text or investigation. ● Use pictures, diagrams, videos, and physical objects to present information. ● Provide real-life examples and hands-on materials to help students connect with the content. 	<ul style="list-style-type: none"> ❖ Example: The evidence suggests _____. ❖ Language structure: 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. <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● 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. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Use graphic organizers and/or anchor charts to provide visuals associated with academic vocabulary, details pertinent to the topic, and necessary language structures that help students to obtain, evaluate and communicate information. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Provide visuals and multimedia to teach content concepts and scaffold the comprehension of complex text. ● Use detailed charts, graphs, and visual models to help students understand and evaluate information. ● Incorporate multimedia resources such as videos and interactive online tools. 	<p>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.</p> <p>INTERACTIVE</p> <ul style="list-style-type: none"> ● Identify and elaborate on information from complex text in small groups or with a partner. ● Organize debates and Socratic seminars on relevant scientific and engineering topics to develop students' critical thinking and communication skills and encourage students to use evidence and logical reasoning in their discussions, providing opportunities for rebuttal and counter-arguments. <p>GRAPHIC</p> <ul style="list-style-type: none"> ● Use graphic organizers and/or anchor charts to provide visuals associated with academic vocabulary, details pertinent to the topic, and necessary language structures that help students to obtain, evaluate and communicate information. <p>SENSORY/MEDIA</p> <ul style="list-style-type: none"> ● Provide visuals and multimedia to obtain, evaluate, and communicate real world problems.

3B. Teacher Moves: Example Instructional Supports and Example Success Criteria for Science and Engineering Disciplinary Practices (continued)

Practice 8: Obtaining, evaluating, and communicating information

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>With prompting and supports, multilingual learners will...</p> <p>Key Language Use – Explain</p> <ul style="list-style-type: none"> ● obtain, evaluate, and communicate information by obtaining and combining evidence and information to help explain how or why a phenomenon occurs using cohesion to reference ideas across text (pronouns, renaming subject, synonyms) in order to communicate scientific information obtained from two or more books and other reliable media in oral and/ or written form with the aid of an L1 or L2 peer group, visuals and models, chunked text, and simple sentence frames. 	<p>With appropriate supports, multilingual learners will...</p> <p>Key Language Use - Explain</p> <ul style="list-style-type: none"> ● obtain, evaluate, and communicate information by obtaining and combining evidence and information to help explain how or why a phenomenon occurs using cohesion to reference ideas across text (pronouns, renaming subject, synonyms) in order to communicate scientific information obtained from two or more books and other reliable media in oral and/ or written form with the aid of a peer group, visuals and models, chunked text, and compound and complex sentence frames. 	<p>With appropriate supports, multilingual learners will...</p> <p>Key Language Use - Explain</p> <ul style="list-style-type: none"> ● obtain, evaluate, and communicate information by obtaining and combining evidence and information to help explain how or why a phenomenon occurs using cohesion to reference ideas across text (pronouns, renaming subject, synonyms) in order to communicate scientific information obtained from two or more books and other reliable media in oral and/ or written form with the aid of models and visuals.