ELD STANDARDS FRAMEWORK FOR DEVELOPING THE LANGUAGE OF MATH GRADES 4-5

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Section 1: Purpose

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

These Nevada ELD Standards documents specify the connection between the WIDA ELD Standards and the content disciplinary practices of mathematics. The practices identified in this document were created within the Common Core State Standards (CCSS) for Mathematics. The ELD Standards Instructional Guidance documents conceptualize the Nevada ELD Standards as intertwined with learning the Nevada Academic Content Standards and College and Career Readiness Standards.

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Section 1: Key Uses of Academic Language

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

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

SECTION 2: ELD STANDARDS FRAMEWORK FOR DEVELOPING THE LANGUAGE OF MATH GRADES 4-5

Section 2A: Student Moves: Language Expectations

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

Language Domains	Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
Interpretive: Listening, Reading, & Viewing	• **Mark** position/location of numbers or illustrated objects from oral commands. • **Identify** comparative quantities of numbers or illustrated objects from oral commands or questions. • **Identify** large whole numbers from pictures or models and phrases or short sentences. • **Match** words or phrases related to estimation to estimate word banks of varying quantities.	• **Match** general and some specific language associated with descriptive statistics to illustrated examples. • **Discriminate** between different meanings of language associated with descriptive statistics from illustrated oral discourse. • **Sort** examples of large whole numbers from pictures or models and text (e.g., those more than or less than one thousand).	• **Distinguish** between language of estimation sentences (e.g., "I have almost one dollar.") and language of precision ("I have one dollar.") in illustrated sentences. • **Apply** technical language related to descriptive statistics to grade-level oral scenarios (e.g., "mean," "mode," "median," "range"). • **Match** situations to the use of large whole numbers from grade-level text.

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

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

Language Domains	Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
Expressive: Speaking, Writing, & Representing	• **State** words found in figures or formulas from illustrated examples. • **Use** general vocabulary in math sentences from illustrated examples. • Correctly name three-dimensional shapes by matching three-dimensional and two-dimensional models. • **Make** lists of real-world examples of three-dimensional shapes from labeled models.	• **Relate** multiple uses of specific vocabulary in illustrated math sentences. • **Paraphrase** illustrated math sentences using specific or technical vocabulary. • **Compare/contrast** attributes of three-dimensional shapes from labeled models or charts (e.g., "A__ is like a__ because __.").	• **Explain** different ways of problem-solving grade-level examples using specific or technical vocabulary. • **Incorporate** descriptions of three-dimensional shapes into real-world situations.

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

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
● **Build** background in key language and concepts. ● **Provide** explicit instruction and practice in key social and instructional vocabulary. ● **Model** orally the academic language and specific vocabulary. ● **Provide** explicit instruction and practice for students to construct the language using sentence and discourse starters and visual aids from the text. ● **Use** physical gestures to accompany oral directives. ● **Label v**isuals and objects with target vocabulary. ● **Introduce** cognates to aid comprehension. ● **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 pictures, demos, charts, or experiences. ● **Use** K-W-L charts before reading. ● **Pair** students to read one text together. ● **Preview** text with a Picture Walk. ● **Provide** a list of important concepts on a graphic organizer. ● **Use** Shared Reading and/or simplify the text. ● **Provide** a content vocabulary Word Bank with non-linguistic representations. ● **Provide** opportunities for translanguaging and multilingual supports during the task.	● **Build** background in key language and concepts. ● **Model** orally the academic language and specific vocabulary. ● **Provide** explicit instruction and practice for students to construct the language using sentence and discourse starters and visual aids from the text. ● **Provide** a system for students to record and process key academic and content- specific vocabulary. ● **Check** Comprehension of all students frequently. ● **Use** Wait Time. ● Ask open-ended questions and require full sentence responses. ● full sentence responses by asking open ended questions. ● **Use** Varied Presentation Formats such as role plays. ● **Scaffold** oral reports with note cards and provide time for prior practice. ● **Require** the use of academic language. ● **Require** oral reporting for summarizing group work. ● **Pair** students to read one text together. ● **Use** K-W-L charts before reading. ● **Provide** a list of important concepts on a graphic organizer. ● **Provide** a content vocabulary Word Bank with non-linguistic representations. ● **Use** Jigsaw Reading to scaffold independent reading. ● **Provide** opportunities for translanguaging and multilingual supports during the task.	● **Build** background in key language and concepts. ● **Use** complex sentence and discourse starters. ● **Model** orally the academic language and specific vocabulary. ● **Use** Video Observation Guides. ● **Confirm** students' prior knowledge of content topics. ● **Ask** students to analyze text structure and select an appropriate Graphic Organizer for summarizing. ● **Use** Reciprocal Teaching to scaffold independent reading. ● **Extend** content vocabulary with multiple examples and non-examples. ● **Provide** opportunities for translanguaging during the task. ● Provide tasks that encourage discourse and then facilitate and support discourse between and among students.

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

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
Prior to reading, writing, and discussion, Teacher prepares collaborative discourse structures for students to… ● **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 a 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.	**Prior to reading, writing, and discussion**, Teacher prepares collaborative discourse structures for students to… ● **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.	**Prior to reading, writing, and discussion**, Teacher prepares collaborative discourse structures for students to… ● **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. ● Model and encourage students to build upon their own ideas and those of others.

SECTION 3: INSTRUCTIONAL GUIDANCE

for English Language Development in the Content Area of Mathematical Practices Grades 4-5

SECTION 3: INSTRUCTIONAL GUIDANCE: MATH PRACTICES GRADES 4-5

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

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

WIDA English Language Development Standards Framework, 2020 Edition Kindergarten - Grade 12 (wisc.edu)

Math Practices	Example Tasks	Inform	Explain	Argue	Discuss
1. **Make** sense of problems and persevere in solving them.	Chairs in Hall	Proficient math students make sense of problems by **describing** and **summarizing** their strategies using mathematical terms and phrases to describe concept, process, or purpose, relating verbs (*be, have, are part of*) to link a generalized noun or concept with its attribute, connectors to recount steps and express causality (*first, next, then, because, so*).	Proficient math students **explain** their mathematical thinking using abstract, generalized noun groups to add precision (*operation, associative property, area formula*), past tense doing verbs and thinking verbs (*calculated, remembered, thought, figured out*) to recount steps, visuals to support approach, and connectors to recount steps and express causality (*first, next, then, because, so*).	See Math Practices 3: Construct viable arguments.	Proficient math students **Inform, elaborate**, and extend the mathematical reasoning of others using abstract and generalized nouns to add precision (*conversion, measurement*), past tense doing verbs to Inform steps, questions (*how, what, why*) to ask for information or clarification, observational (*notice, it appears*) and comparative language (*different from, similar*) to share results, connectors to order steps (*first, next, because, as a result*), and declarative statements to state conclusion with a neutral stance.

Math Practices	Example Tasks	Inform	Explain	Argue	Discuss
2. **Reason** abstractly and quantitatively.	Barnyard	Proficient math students **restate** the mathematical reasoning of others using mathematical terms including technical nouns (*place value, commutative property*), third person and past tense to quote (*said, thought, explained*) and recount steps (*added, divided*) with a neutral stance, relating verbs (*added, divided, found, be, have*) link a generalized noun or concept with its attribute, and connectors to indicate order and express causality (*first, next, then, because, so*).	Proficient math students **explain** their mathematical thinking using abstract, generalized noun groups to add precision (*operation, associative property, area formula*), past tense doing verbs and thinking verbs (*calculated, remembered, thought, figured out*) to recount steps, technical language associated with visuals to support approach, and connectors to recount steps and express causality (*first, next, then, because, so*).	See Math Practices 3: Construct viable arguments.	Proficient math students **elaborate,** and extend the mathematical reasoning of others using abstract and generalized nouns to add precision (*conversion, measurement*), past tense doing verbs to Inform steps, questions (*how, what, why*) to ask for information or clarification, observational (*notice, it appears*) and comparative language (*different from, similar*) to share results, connectors to order steps (*first, next, because, as a result*), and declarative statements to state conclusion with a neutral stance.

Math Practices	Example Tasks	Inform	Explain	Argue	Discuss
3. **Construct** viable arguments and critique the reasoning of others.	Illustrative Mathematics sample tasks grades 4-5 See Joey's Run; Finding Equivalent Fractions; and Filling Boxes	Proficient math students **convey** clear and precise arguments using mathematical terms including technical nouns (*place value, commutative property*), third person and past tense to quote (*said, thought, explained*) and recount steps (*added, divided*) with a neutral stance, relating verbs (*added, divided, found, be, have*) link a generalized noun or concept with its attribute, and connectors to indicate order and express causality (*first, next, then, because, so*).	Proficient math students **explain** their mathematical thinking using abstract, generalized noun groups to add precision (*operation, associative property, area formula*), past tense doing verbs and thinking verbs (*calculated, remembered, thought, figured out*) to recount steps, technical language associated with visuals to support approach, and connectors to recount steps and express causality (*first, next, then, because, so*).	Proficient math students **justify**, **persuade**, and **rationalize** their use of strategies and communicate them to others using evidence using conditional structures (*if, then, when*), technical nouns to add precision, adverbial phrases (for qualities, quantity, frequency), visuals and models to demonstrate thinking. They also **respond** and **evaluate** the mathematical reasoning of others using evidence, relating verbs (*have, be*) to make or refute a claim), questions (*how, what, why*) and requests (*Could you explain…, Would you show…*) to ask for clarification or information, and declarative statements to disagree/debate.	Proficient math students **Inform**, **elaborate**, and **extend** the mathematical reasoning of others using abstract and generalized nouns to add precision (*conversion, measurement*), past tense doing verbs to Inform steps, questions (*how, what, why*) to ask for information or clarification, observational (*notice, it appears*) and comparative language (*different from, similar*) to share results, connectors to order steps (*first, next, because, as a result*), and declarative statements to state conclusion with a neutral stance.

Math Practices	Example Tasks	Inform	Explain	Argue	Discuss
4. **Model** with mathematics.	Tiling Pool	Proficient math students can use visuals, charts, diagrams, manipulatives, technical language, relating verbs (*be, have*) and connectors (*first, second because, so that, when,*) to order steps and show causal relationships in order to construct a mathematical model.	Proficient math students **explain** their mathematical thinking using abstract, generalized noun groups to add precision (*operation, associative property, area formula*), past tense doing verbs and thinking verbs (*calculated, remembered, thought, figured out*) to recount steps, technical language associated with visuals to support approach, and connectors to recount steps and express causality (*first, next, then, because, so*).	See Math Practices 3: Construct viable arguments.	Proficient math students **Inform, elaborate on**, and **extend** the mathematical reasoning of others using abstract and generalized nouns to add precision (*conversion, measurement*), past tense doing verbs to Inform steps, questions (*how, what, why*) to ask for information or clarification, observational (*notice, it appears*) and comparative language (*different from, similar*) to share results, connectors to order steps (*first, next, because, as a result*), and declarative statements to state conclusion with a neutral stance.

Math Practices	Example Tasks	Inform	Explain	Argue	Discuss
5. **Use** appropriate tools strategically.	Nine People in a Room	Proficient math students select and use appropriate tools aligned to the mathematical task and **describe** why they use it using mathematical terms including technical language associated with manipulatives and visuals, past tense verbs to recount steps (*added, divided, found*), relating verbs (*be, have*) to link a generalized noun or concept with its attribute, and connectors to indicate order and express causality (*first, next, then, because, so*).	Proficient math students **explain** their mathematical thinking using abstract, generalized noun groups to add precision (*operation, associative property, area formula*), past tense doing verbs and thinking verbs (*calculated, remembered, thought, figured out*) to recount steps, technical language associated with visuals and manipulatives to support approach, and connectors to recount steps and express causality (*first, next, then, because, so*).	See Math Practices 3: Construct viable arguments.	Proficient math students **Inform**, **elaborate**, and **extend** the mathematical reasoning of others using abstract and generalized nouns to add precision (*conversion, measurement*), past tense doing verbs to Inform steps, questions (*how, what, why*) to ask for information or clarification, observational (*notice, it appears*) and comparative language (*different from, similar*) to share results, connectors to order steps (*first, next, because, as a result*), and declarative statements to state conclusion with a neutral stance.

Math Practices	Example Tasks	Inform	Explain	Argue	Discuss
6. **Attend** to precision.	Illustrative mathematics grade 5 tasks	Proficient math students **use precise mathematical language** to define, classify, describe, or compare-contrast a mathematical concept, reasoning, or process.	Proficient math students **elaborate** by using precise mathematical vocabulary and math specific discourse supported by generalized nouns to identify concepts (fractions, equations, plot graphs), expanded noun groups (*three equal sides*), relating verbs (be, have) to define, describe, or classify, conditional and causal connectors (if/then, because, so) to link ideas, and compare/contrast signals (both, same, different) to differentiate results, approaches, attributes.	See Math Practices 3: Construct viable arguments.	Proficient math students **Inform, elaborate**, and **extend** the mathematical reasoning of others using abstract and generalized nouns to add precision (*conversion, measurement*), past tense doing verbs to Inform steps, questions (*how, what, why*) to ask for information or clarification, observational (*notice, it appears*) and comparative language (*different from, similar*) to share results, connectors to order steps (*first, next, because, as a result*), and declarative statements to state conclusion with a neutral stance.

Math Practices	Example Tasks	Inform	Explain	Argue	Discuss
7. **Look** for and make use of structure.	the baker.pdf (insidemathematics.org) See student work for student-derived structure	Proficient math students **identify** and **describe** mathematical structures using mathematical terms including technical language associated with manipulatives and visuals, relating verbs (*be, have*) to link a generalized noun or concept with its attribute, and connectors to indicate order and express causality (*first, next, if/then, because, so*), and adverbial clauses to add precision of quality, quantity and frequency (*Triangles always have 3 sides.)*	Proficient math students **explain** their mathematical thinking using abstract, generalized noun groups to add precision (*operation, associative property, area formula*), past tense doing verbs and thinking verbs (*calculated, remembered, thought, figured out*) to recount steps, technical language associated with visuals and manipulatives to support approach, and connectors to recount steps and express causality (*first, next, then, because, so*).	See Math Practices 3: Construct viable arguments.	Proficient math students **Inform, elaborate**, and extend the mathematical reasoning of others using abstract and generalized nouns to add precision (*conversion, measurement*), past tense doing verbs to recount steps, questions (*how, what, why*) to ask for information or clarification, observational (*I notice, it appears*) and comparative language (*different from, similar*) to share results, connectors to order steps (*first, next, because, as a result*), and declarative statements to state conclusion with a neutral stance.

Math Practices	Example Tasks	Inform	Explain	Argue	Discuss
8. **Look** for and express regularity in repeated reasoning.	Grade 5 Today's Number Double Plus One	Proficient math students **identify** and **describe** repeated reasoning and **evaluate** the reasonableness of intermediate results using expanded noun groups to add specificity, technical word choices to add precision and detail, conditional clauses (*if, then*) to demonstrate relationships, timeless present (*weighs, goes*) and relating verb forms (*be, have*), and causal connectors (*because, so*) to link ideas and provide reasoning.	Proficient math students **explain** their mathematical thinking using abstract, generalized noun groups to add precision (*operation, associative property, area formula*), timeless present verbs and relating verbs (*be, have*) to express regularity, past tense doing verbs and thinking verbs (*calculated, remembered, thought, figured out*) to recount steps, technical language associated with visuals and manipulatives to support approach, and connectors to recount steps and express causality (*first, next, then, because, so*).	See Math Practices 3: Construct viable arguments.	Proficient math students **Inform**, **elaborate**, and **extend** the mathematical reasoning of others using abstract and generalized nouns to add precision (*conversion, measurement*), past tense doing verbs to Inform steps, questions (*how, what, why*) to ask for information or clarification, observational (*notice, it appears*) and comparative language (*different from, similar*) to share results, connectors to order steps (*first, next, because, as a result*), and declarative statements to state conclusion with a neutral stance.

Distribution of Math Key Language Uses in Grades 4-5				
WIDA ELD STANDARD	Narrate	Inform	Explain	Argue
1. Language for Mathematics	○	◐	●	●

● Most Prominent ◐ Prominent ○ Present

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

Section 3B: Math Disciplinary Practices

Practice 1a: Make Sense of Problems and Persevere in Solving Them – Teacher Moves

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
● **Provide** scaffolded tasks for students to draw a picture of their solution and to label it. ● **Model** the language of mathematical expression examples, and then **provide** the task for students to **label** the mathematical expressions; have students **state** the academic vocabulary associated with the number or illustrated expression with a predetermined learning partner. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** simple sentence frames for students to **emulate/copy** basic content provided with a predetermined learning partner. **For example**: I used _____ to solve the problem. My first step was _____. ● Students **record academic vocabulary** on the Mathematically Speaking Task Template with L1 (primary language) translation or non-linguistic representation. **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**	● **Provide** learning tasks in which students can **use illustrations or numbers** to **explain** their understanding. ● **Model** consistently a predetermined dialogue structure for students to **state** and **clarify** their reasoning to a partner or small group and **listen** to the ideas of others to **agree** or **disagree** with reasons to ensure the participation of all students. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** students with **sentence starters** from a leveled list of scaffolding statements. **For example**: I solved the problem by _____. I first _____. Then I _____. Finally, I _____. (To describe their process.) I think _____ because_____. What do you know? What do you need to find out? **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**	● **Provide** learning tasks in which students can **use illustrations or numbers** to **explain** their understanding. ● **Model** consistently predetermined dialogue structures for students to **state** and **clarifies** their reasoning to a partner or small group and **listens** to the ideas of others to **agree** or **disagree** with reasons to ensure the participation of all students. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** students with **sentence starters** from a leveled list of scaffolding statements. **For example:** In order to solve the problem, I _____. Information that I need is _____ because _____. The best solution is _____ because _____. What would be sensible to try? Why? **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**

Section 3B: Math Disciplinary Practices (continued)

Practice 1b: Make Sense of Problems and Persevere in Solving Them – Success Criteria

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
Success Criteria **With prompting and supports, students will…** ● **Solve problems** and **identify** the associated **academic vocabulary** on Exit Slips and other formal or informal assessments. ● **Describe** steps to solve problems using pictures, symbols, or artifacts. **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**	**Success Criteria** **With appropriate supports, students will…** ● Orally **explain** and **produce** a graphic representation (illustration or numbers) of their strategy for solving problems. ● **State** some **cross-disciplinary and technical academic vocabulary** in their **explanation** and **justification** of one of the preferred student strategies. **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**	**Success Criteria** **With appropriate supports, students will…** ● Orally **explain, justify**, and **defend** their problem-solving strategies. ● **Use cross- disciplinary** and **technical academic vocabulary** in their **explanation, justification,** and **defense** of one of the preferred student strategies. **Assessment Tool** Assessing the 8 Mathematical Practices Rubric **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**

Section 3B: Math Disciplinary Practices (continued)

Practice 2a: Reason Abstractly and Quantitatively – Teacher Moves

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
● **Provide** scaffolded tasks for students to draw a picture of their solution and to label it. ● **Model** the language of mathematical expression examples, and then **provide** the task for students to **label** the mathematical expressions; have students **state** the academic vocabulary associated with the number or illustrated expression with a predetermined learning partner. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** sentence frames or sentence starters for students to use to access group discussion and/or written assignments. **For example**: The numbers I can use to represent this problem are _____. The words I can use represent this problem are _____. My first step was _____. I chose _____ because _____. I did not understand _____. The problem I had was _____. **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**	● **Provide** learning tasks in which students can **use illustrations or numbers** to **explain** their understanding. ● **Model** consistently a predetermined dialogue structure for students to **state** and **clarify** their reasoning to a partner or small group and **listen** to the ideas of others to **agree** or **disagree** with reasons to ensure the participation of all students. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** students with **sentence starters** from a leveled list of scaffolding statements. **For example**: I solved the problem by _____. I first _____. Then I _____. Finally, I _____. (to describe their process) I chose the ____method for solving the problem because it was the most efficient. It was most efficient because _____. I struggled with _____, and I solved it by _____. How do your answers help you solve that problem? **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**	● **Provide** learning tasks in which students can **use illustrations or numbers** to **explain** their understanding. ● **Model** consistently predetermined dialogue structures for students to **state** and **clarifies** their reasoning to a partner or small group and **listens** to the ideas of others to **agree** or **disagree** with reasons to ensure the participation of all students. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** students with **sentence starters** from a leveled list of scaffolding statements. **For example**: In order to solve the problem, I _____. I chose to solve the problem by _____. The solution was the most efficient because _____. Information that I need is _____ because _____. Another way to solve the problem is _____. The problem(s) encountered were _____. I solved them by _____. **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**

Section 3B: Math Disciplinary Practices (continued)

Practice 2b: Reason Abstractly and Quantitatively – Success Criteria

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
Success Criteria **With prompting and supports, students will…** ● **Solve problems** and **identify** the associated **academic vocabulary** on Exit Slips and other formal or informal assessments. ● **Describe** steps to solve problems using pictures, symbols, or artifacts. **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**	**Success Criteria** **With appropriate supports, students will…** ● Orally **explain** and **produce** a graphic representation (illustration or numbers) of their strategy for solving problems. ● **State** some **cross-disciplinary and technical academic vocabulary** in their **explanation** and **justification** of one of the preferred student strategies. **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**	**Success Criteria** **With appropriate supports, students will…** ● Orally **explain, justify**, and **defend** their problem-solving strategies. ● **Use cross-disciplinary** and **technical academic vocabulary** in their **explanation, justification,** and **defense** of one of the preferred student strategies. **Assessment Tool** Assessing the 8 Mathematical Practices Rubric **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**

Section 3B: Math Disciplinary Practices (continued)

Practice 3a: Construct Viable Arguments and Critique the Reasoning of Others – Teacher Moves

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
● **Provide** scaffolded tasks for students to draw a picture of their solution and to label it. ● **Model** the language of mathematical expression examples, and then **provide** the task for students to **label** the mathematical expressions; have students **state** the academic vocabulary associated with the number or illustrated expression with a predetermined learning partner. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** simple sentence frames for students to **emulate/copy** basic content provided with a predetermined learning partner. **For example:** My answer/strategy is _____ because _____. My answer matches/does not match yours. I think you made your error here. (point) Can you please repeat that? **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**	● **Provide** learning tasks in which students can **use illustrations or numbers** to **explain** their understanding. ● **Model** consistently a predetermined dialogue structure for students to **state** and **clarify** their reasoning to a partner or small group and **listen** to the ideas of others to **agree** or **disagree** with reasons to ensure the participation of all students. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** students with **sentence starters** from a leveled list of scaffolding statements. **For example:** My solution is different from yours. I think this is because _____. My solution is the same as yours. I think this because _____. I used the same/different strategy as you. I'd like to add _____, or it's different because_____. Can you tell me more about _____? **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**	● **Provide** learning tasks in which students can **use illustrations or numbers** to **explain** their understanding. ● **Model** consistently predetermined dialogue structures for students to **state** and **clarifies** their reasoning to a partner or small group and **listens** to the ideas of others to **agree** or **disagree** with reasons to ensure the participation of all students. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** students with **sentence starters** from a leveled list of scaffolding statements. **For example:** I was thinking about what _____ said, and I was wondering if _____. I'm not sure I understood you when you said _____. Could you say more about that? My answer is similar to/different from _____ because _____. I can justify the answer by _____. What is your evidence and how can you justify it? **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**

Section 3B: Math Disciplinary Practices (continued)

Practice 3b: Construct Viable Arguments and Critique the Reasoning of Others – Success Criteria

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
Success Criteria **With prompting and supports, students will…** ● **Solve problems** and **identify** the associated **academic vocabulary** on Exit Slips and other formal or informal assessments. ● **Describe** steps to solve problems using pictures, symbols, or artifacts. **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**	**Success Criteria** **With appropriate supports, students will…** ● Orally **explain** and **produce** a graphic representation (illustration or numbers) of their strategy for solving problems. ● **State** some **cross-disciplinary and technical academic vocabulary** in their **explanation** and **justification** of one of the preferred student strategies, e.g. diagram, pictures, math expression. **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**	**Success Criteria** **With appropriate supports, students will…** ● Orally **explain, justify**, and **defend** their problem-solving strategies. ● **Use cross-disciplinary** and **technical academic vocabulary** in their **explanation, justification,** and **defense** of one of the preferred student strategies. **Assessment Tool** Assessing the 8 Mathematical Practices Rubric **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**

Section 3B: Math Disciplinary Practices (continued)

Practice 4a: Model with Mathematics – Teacher Moves

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
● **Provide** scaffolded tasks for students to draw a picture of their solution and to label it. ● **Provide** simple sentence frames for students to **emulate/copy** basic content provided with a predetermined learning partner. ● **Model** the language of mathematical expression examples, and then **provide** the task for students to **label** the mathematical expressions; have students **state** the academic vocabulary or illustrated expression with a learning partner. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** sentence frames or sentence starters for students to use to access group discussion. **For example:** I used the _____ model to solve the problem. Students **record academic vocabulary** on the Mathematically Speaking Task Template with L1 (primary language) translation or non-linguistic representation. **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**	● **Provide** learning tasks in which students can **use illustrations or numbers** to **explain** their understanding. ● **Model** consistently a predetermined dialogue structure for students to **state** and **clarify** their reasoning to a partner or small group and **listen** to the ideas of others to **agree** or **disagree** with reasons to ensure the participation of all students. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** students with **sentence starters** from a leveled list of scaffolding statements. **For example:** I solved the problem by_____. I drew _____ because _____. I can prove my answer was correct using the _____ model because _____. I chose the _____ model for solving the problem because _____. I struggled with _____, and I solved it by_____. What are other ways to model this? **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**	● **Provide** learning tasks in which students can **use illustrations or numbers** to **explain** their understanding. ● **Model** consistently predetermined dialogue structures for students to **state** and **clarifies** their reasoning to a partner or small group and **listens** to the ideas of others to **agree** or **disagree** with reasons to ensure the participation of all students. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** students with **sentence starters** from a leveled list of scaffolding statements. **For example:** In order to solve the problem, I ____. I chose to solve the problem by ____. My solution was _____because _____. I have seen this before when _____. The problem(s) I encountered using this model were_____. I solved them by _____. What are the additional models that can be used? **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**

Section 3B: Math Disciplinary Practices (continued)

Practice 4b: Model with Mathematics – Success Criteria

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
Success Criteria **With prompting and supports, students will…** ● **Solve problems** and **identify** the associated **academic vocabulary** on Exit Slips and other formal or informal assessments. ● **Describe** steps to solve problems using pictures, symbols, or artifacts. **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**	**Success Criteria** **With appropriate supports, students will…** ● Orally **explain** and **produce** a graphic representation (illustration or numbers) of their strategy for solving problems. ● **State** some **cross-disciplinary and technical academic vocabulary** in their **explanation** and **justification** of one of the preferred student strategies. **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**	**Success Criteria** **With appropriate supports, students will…** ● Orally **explain, justify**, and **defend** their problem-solving strategies. ● **Use cross-disciplinary** and **technical academic vocabulary** in their **explanation, justification,** and **defense** of one of the preferred student strategies. **Assessment Tool** Assessing the 8 Mathematical Practices Rubric **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**

Section 3B: Math Disciplinary Practices (continued)

Practice 5a: Use Appropriate Tools Strategically – Teacher Moves

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
● **Provide** scaffolded tasks for students to draw a picture of their solution and to label it. ● **Model** the language of mathematical expression examples, and then **provide** the task for students to **label** the mathematical expressions; have students **state** the academic vocabulary associated with the number or illustrated expression with a predetermined learning partner. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** simple sentence frames for students to **emulate/copy** basic content provided with a predetermined learning partner. **For example:** The best tool to use is _____. The tool that I drew was _____. The best tool is _____ because _____. Can you please repeat that? ● Students **record academic vocabulary** on the Mathematically Speaking Task Template with L1 (primary language) translation or non-linguistic representation. **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**	● **Provide** learning tasks in which students can **use illustrations or numbers** to **explain** their understanding. ● **Model** consistently a predetermined dialogue structure for students to **state** and **clarify** their reasoning to a partner or small group and **listen** to the ideas of others to **agree** or **disagree** with reasons to ensure the participation of all students. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** students with **sentence starters** from a leveled list of scaffolding statements. **For example:** I'm using a tool different than you because _____. I used_____ tool to solve the problem by _____. I used the same/different tool as you. My reason is _____. Can you tell me more about _____? Using a _____ shows us _____. Using a _____ can't show us _____. **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**	● **Provide** learning tasks in which students can **use illustrations or numbers** to **explain** their understanding. ● **Model** consistently predetermined dialogue structures for students to **state** and **clarify** their reasoning to a partner or small group and **listens** to the ideas of others to **agree** or **disagree** with reasons to ensure the participation of all students. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** students with **sentence starters** from a leveled list of scaffolding statements. **For example:** I was thinking about what _____ said, and I was wondering if _____would be a better tool for this problem/process. I'm not sure I understood why/how you used the _____ tool. Could you say more about that? I agree / disagree with _____'s choice of _____ tool, but I chose _____ also/instead because of _____. **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**

Section 3B: Math Disciplinary Practices (continued)

Practice 5b: Use Appropriate Tools Strategically – Success Criteria

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
Success Criteria **With prompting and supports, students will…** ● **Solve problems** and **identify** the associated **academic vocabulary** on Exit Slips and other formal or informal assessments. ● **Describe** steps to solve problems using pictures, symbols, or artifacts. **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**	**Success Criteria** **With appropriate supports, students will…** ● Orally **explain** and **produce** a graphic representation (illustration or numbers) of their strategy for solving problems. ● **State** some **cross-disciplinary and technical academic vocabulary** in their **explanation** and **justification** of one of the preferred student strategies. **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**	**Success Criteria** **With appropriate supports, students will…** ● Orally **explain, justify**, and **defend** their problem-solving strategies. ● **Use cross-disciplinary** and **technical academic vocabulary** in their **explanation, justification,** and **defense** of one of the preferred student strategies. **Assessment Tool** Assessing the 8 Mathematical Practices Rubric **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**

Section 3B: Math Disciplinary Practices (continued)

Practice 6a: Attend to Precision – Teacher Moves

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
● **Provide** scaffolded tasks for students to draw a picture of their solution and to label it. ● **Provide** simple sentence frames for students to **emulate/copy** basic content provided with a predetermined learning partner. ● **Model** the language of mathematical expression examples, and then **provide** the task for students to **label** the mathematical expressions; have students **state** the academic vocabulary associated with the number or illustrated expression with a predetermined learning partner. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** sentence frames or sentence starters for students to use to access group discussion. **For example:** This picture shows _____ (math term). _____ (math term) means_____ (from word bank). _____ (math term) is used in this problem. I labeled it _____. I need to label it _____. **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**	● **Provide** learning tasks in which students can **use illustrations or numbers** to **explain** their understanding. ● **Model** consistently a predetermined dialogue structure for students to **state** and **clarify** their reasoning to a partner or small group and **listen** to the ideas of others to **agree** or **disagree** with reasons to ensure the participation of all students. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** students with **sentence starters** from a leveled list of scaffolding statements. **For example:** _____ (math term) means _____. I know my answer is accurate because_____. I used the label _____ because _____. **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**	● **Provide** learning tasks in which students can **use illustrations or numbers** to **explain** their understanding. ● **Model** consistently predetermined dialogue structures for students to **state** and **clarifies** their reasoning to a partner or small group and **listens** to the ideas of others to **agree** or **disagree** with reasons to ensure the participation of all students. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** students with **sentence starters** from a leveled list of scaffolding statements. **For example:** I used the mathematical term _____ to explain _____. My answer is _____rather than _____ because _____. **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**

Section 3B: Math Disciplinary Practices (continued)

Practice 6b: Attend to Precision – Success Criteria

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
Success Criteria **With prompting and supports, students will…** ● **Solve problems** and **identify** the associated **academic vocabulary** on Exit Slips and other formal or informal assessments. ● **Describe** steps to solve problems using pictures, symbols, or artifacts. **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**	**Success Criteria** **With appropriate supports, students will…** ● Orally **explain** and **produce** a graphic representation (illustration or numbers) of their strategy for solving problems. ● **State** some **cross-disciplinary and technical academic vocabulary** in their **explanation** and **justification** of one of the preferred student strategies. **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**	**Success Criteria** **With appropriate supports, students will…** ● Orally **explain, justify**, and **defend** their problem-solving strategies. ● **Use cross-disciplinary** and **technical academic vocabulary** in their **explanation, justification,** and **defense** of one of the preferred student strategies. **Assessment Tool** Assessing the 8 Mathematical Practices Rubric **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**

Section 3B: Math Disciplinary Practices (continued)

Practice 7a: Look For and Make Use of Structure – Teacher Moves

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
● **Provide** scaffolded tasks for students to draw a picture of their solution and to label it. ● **Provide** simple sentence frames for students to **emulate/copy** basic content provided with a predetermined learning partner. ● **Model** the language of mathematical expression examples, and then **provide** the task for students to **label** the mathematical expressions; have students **state** the academic vocabulary associated with the number or illustrated expression with a predetermined learning partner. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** sentence frames or sentence starters for students to use to access group discussion. **For example:** My conclusion is _____. I noticed _____. These are similar/different because they _____. The pattern/rule is _____. **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**	● **Provide** learning tasks in which students can **use illustrations or numbers** to **explain** their understanding. ● **Model** consistently a predetermined dialogue structure for students to **state** and **clarify** their reasoning to a partner or small group and **listen** to the ideas of others to **agree** or **disagree** with reasons to ensure the participation of all students. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** students with **sentence starters** from a leveled list of scaffolding statements. **For example:** Based on the information_____ I can conclude that _____. _____ and _____ are both similar/different because they both_____, _____, and _____. The pattern/rule is _____. I know this because _____. How did you get that? **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**	● **Provide** learning tasks in which students can **use illustrations or numbers** to **explain** their understanding. ● **Model** consistently predetermined dialogue structures for students to **state** and **clarifies** their reasoning to a partner or small group and **listens** to the ideas of others to **agree** or **disagree** with reasons to ensure the participation of all students. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** students with **sentence starters** from a leveled list of scaffolding statements. **For Example:** If _____ then _____. The trend of the data is _____ because _____. There are several major differences between the patterns/data sets. The most notable is _____ because _____. I can generalize that _____. Explain your thinking about _____. **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**

Section 3B: Math Disciplinary Practices (continued)

Practice 7b: Look For and Make Use of Structure – Success Criteria

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
Success Criteria **With prompting and supports, students will…** ● **Solve problems** and **identify** the associated **academic vocabulary** on Exit Slips and other formal or informal assessments. ● **Describe** steps to solve problems using pictures, symbols, or artifacts. **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**	**Success Criteria** **With appropriate supports, students will…** ● Orally **explain** and **produce** a graphic representation (illustration or numbers) of their strategy for solving problems. ● **State** some **cross-disciplinary and technical academic vocabulary** in their **explanation** and **justification** of one of the preferred student strategies. **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**	**Success Criteria** **With appropriate supports, students will…** ● Orally **explain, justify**, and **defend** their problem-solving strategies. ● **Use cross-disciplinary** and **technical academic vocabulary** in their **explanation, justification,** and **defense** of one of the preferred student strategies. **Assessment Tool** Assessing the 8 Mathematical Practices Rubric **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**

Section 3B: Math Disciplinary Practices (continued)

Practice 8a: Look For and Express Regularity in Repeated Reasoning – Teacher Moves

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
● **Provide** scaffolded tasks for students to draw a picture of their solution and to label it. ● **Provide** simple sentence frames for students to **emulate/copy** basic content provided with a predetermined learning partner. ● **Model** the language of mathematical expression examples, and then **provide** the task for students to **label** the mathematical expressions; have students **state** the academic vocabulary associated with the number or illustrated expression with a predetermined learning partner. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** sentence frames or sentence starters for students to use to access group discussion. **For example**: I see a pattern. (Point) The pattern is _____. My answer makes sense/does not make sense. ● **Record academic vocabulary** on the Mathematically Speaking Task Template with L1 (primary language) translation or non-linguistic representation. **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**	● **Provide** learning tasks in which students can **use illustrations or numbers** to **explain** their understanding. ● **Model** consistently a predetermined dialogue structure for students to **state** and **clarify** their reasoning to a partner or small group and **listen** to the ideas of others to **agree** or **disagree** with reasons to ensure the participation of all students. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** students with **sentence starters** from a leveled list of scaffolding statements. **For example**: I was able to identify the pattern _____. My answer makes sense/does not make sense because _____. As a result, I will _____. I know my answer makes sense because _____. The repeated patterns I found are _____. **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**	● **Provide** learning tasks in which students can **use illustrations or numbers** to **explain** their understanding. ● **Model** consistently predetermined dialogue structures for students to **state** and **clarifies** their reasoning to a partner or small group and **listens** to the ideas of others to **agree** or **disagree** with reasons to ensure the participation of all students. ● **Provide** adequate time for students to practice the language and content with opportunity to receive specific feedback. ● **Extend** student language by modeling at an appropriately scaffolded level the use of language with content. ● **Provide** students with **sentence starters** from a leveled list of scaffolding statements. **For example**: My answer makes sense/doesn't make sense because _____. Consequently, I need to _____. Through my work I was able to identify _____ (repeated patterns, etc.). **(NEPF – IP.1.2; 2.1; 2.2; 3.1; 3.2; 5.3)**

Section 3B: Math Disciplinary Practices (continued)

Practice 8b: Look For and Express Regularity in Repeated Reasoning – Success Criteria

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

Entering/Emerging (Levels 1-2)	Developing/Expanding (Levels 3-4)	Bridging/Reaching (Levels 5-6)
Success Criteria **With prompting and supports, students will…** ● **Solve problems** and **identify** the associated **academic vocabulary** on Exit Slips and other formal or informal assessments. ● **Describe** steps to solve problems using pictures, symbols, or artifacts. **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**	**Success Criteria** **With appropriate supports, students will…** ● Orally **explain** and **produce** a graphic representation (illustration or numbers) of their strategy for solving problems. ● **State** some **cross-disciplinary and technical academic vocabulary** in their **explanation** and **justification** of one of the preferred student strategies. **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**	**Success Criteria** **With appropriate supports, students will…** ● Orally **explain, justify**, and **defend** their problem-solving strategies. ● **Use cross-disciplinary** and **technical academic vocabulary** in their **explanation, justification,** and **defense** of one of the preferred student strategies. **Assessment Tool** Assessing the 8 Mathematical Practices Rubric **(NEPF – IP.1.3; 2.2; 3.4; 5.3)**