

Grades 1-2 Mathematics

Framework for FORMATIVE/CLASSROOM Instruction and Assessment Productive Domains of **Speaking and Writing**

Pennsylvania English Language Proficiency Standard 3

English language learners communicate information, ideas, and concepts necessary for academic success in the content area of Mathematics.

Pennsylvania Core Standards

Speaking and Listening

CC.1.5.1.A Participate in collaborative conversations with peers and adults in small and larger groups.

CC.1.5.2.A Participate in collaborative conversations with peers and adults in small and larger groups.

Mathematics

CC.2.2.1.A.1 Represent and solve problems involving addition and subtraction within 20.

CC.2.2.2.A.1 Represent and solve problems involving addition and subtraction within 100.

The PA ELL Overlays for English Language Arts and Mathematics assist educators in developing instructional units, lessons, or activities that are meaningful and comprehensible for English language learners. They illustrate the dynamic process of adapting instruction and assessment based on the English language proficiency of students. The PA ELL Overlays for English Language Arts and Mathematics are models that exemplify adaptations for a select instructional context and provide resources to extend this process to other instructional units.

Speaking Model Performance Indicator (MPI)

Classroom Context: Explain problem-solving procedures.

Cognitive Function: Students at all levels of English proficiency will EXPLAIN problem-solving procedures.

Concepts	Competencies	Vocabulary and Topic Related Language	Proficiency Level 1 Entering	Proficiency Level 2 Emerging	Proficiency Level 3 Developing	Proficiency Level 4 Expanding	Proficiency Level 5 Bridging
Addition and subtraction	Use addition and subtraction within 20 to solve word problems by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	Addend Addition Counting on Equal to Greater than Less than Making ten Ones Place value Subtraction Sum Tens Plus Minus In all Total First, Second, Next, Last . . .	Recite words about the operation to be used to solve a math story problem using a chart with a partner following explicit, repeated examples, as modeled and monitored by the teacher.	Restate the steps of an operation to solve a math story problem using graphic support within a small group.	Describe the steps used in an operation to solve a math story problem using graphic support to a partner.	Compare possible operations necessary to solve a math story problem using graphic support within a small group.	Explain the operation used to solve a math story problem using a graphic organizer.

Writing Model Performance Indicator (MPI)

Classroom Context: Explain problem-solving procedures.

Cognitive Function: Students at all levels of English proficiency will EXPLAIN problem-solving procedures.

Example Concepts	Example Competencies	Example Vocabulary	Proficiency Level 1 Entering	Proficiency Level 2 Emerging	Proficiency Level 3 Developing	Proficiency Level 4 Expanding	Proficiency Level 5 Bridging
Addition and subtraction	<p>Use addition and subtraction within 20 to solve word problems by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>Apply properties of operations as strategies to add and subtract.</p>	<p>Addend</p> <p>Addition</p> <p>Counting on</p> <p>Equal to</p> <p>Greater than</p> <p>Less than</p> <p>Making ten</p> <p>Ones</p> <p>Place value</p> <p>Subtraction</p> <p>Sum</p> <p>Tens</p> <p>Plus</p> <p>Minus</p> <p>In all</p> <p>Total</p> <p>First, Second, Next, Last . . .</p>	<p>Supply words for addition and subtraction problems using manipulative materials and a sentence frame with a partner following explicit, repeated examples, as modeled and monitored by the teacher.</p>	<p>Compose phrases or simple sentences about a visually supported addition/subtraction problem using a word bank or a sentence frame.</p>	<p>Write the steps to solve an addition or subtraction problem using a word bank or sentence frames within a small group.</p>	<p>Create and solve an addition or subtraction problem from a guided model with a partner.</p>	<p>Create and solve an addition or subtraction problem from a guided model.</p>

Building Productive Model Performance Indicators (MPI) to differentiate and scaffold instruction per English language proficiency level by adjusting the *language function* and *support*.

Classroom Context:

Cognitive Function: Students at all levels of English proficiency will

Concepts	Competencies	Vocabulary and Topic Related Language	Proficiency Level 1 Entering	Proficiency Level 2 Emerging	Proficiency Level 3 Developing	Proficiency Level 4 Expanding	Proficiency Level 5 Bridging
			Language Function (differentiated measurable expectations of student language use increasing in complexity and amount from English language proficiency level 1 to level 5)				
			Identify Copy or adapt single words, set phrases Label	Answer either/or questions Identify Collect and display	Sequence steps Compare Interpret	Develop Predict Summarize	Revise Draw conclusions Create
			Content Stem (selected focus of grade-level curriculum for all students remains constant across all English language proficiency levels)				
			Instructional Support (scaffolds to accompany explicit instruction with multiple opportunities for student response and feedback decreasing in degree from English language proficiency level 1 to level 5. "I do, We do, You do")				
			Manipulative materials Visual support Realia Modeling	Manipulative materials Visual support Realia Modeling	Manipulative materials Visual support Realia Modeling	Guided model Manipulative materials Modeling Graphic organizers	Guided model Modeling Graphic organizers Word bank

			<p>Sentence frames</p> <p>Graphic organizers</p> <p>Partner</p> <p>Flexible grouping</p> <p>First language support</p> <p>Re-teaching and/or pre-teaching</p>	<p>Sentence frame</p> <p>Graphic organizers</p> <p>Word bank</p> <p>Rubrics</p> <p>Checklists</p> <p>Partner</p> <p>Flexible grouping</p> <p>First language support</p> <p>Re-teaching and/or pre-teaching</p>	<p>Sentence frame</p> <p>Graphic organizers</p> <p>Word bank</p> <p>Rubrics</p> <p>Checklists</p> <p>Partner</p> <p>Flexible grouping</p> <p>First language support</p> <p>Re-teaching and/or pre-teaching</p>	<p>Visual support</p> <p>Word bank</p> <p>Sentence frame</p> <p>Rubrics</p> <p>Checklists</p> <p>Partner</p> <p>Flexible grouping</p> <p>Re-teaching and/or pre-teaching</p>	<p>Sentence frame</p> <p>Rubrics</p> <p>Checklists</p> <p>Partner</p> <p>Re-teaching and/or pre-teaching</p>
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