High School
Algebra 2
Framework for FORMATIVE/CLASSROOM Instruction and Assessment
Receptive Domains of **Listening and Reading**

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.1.5.9-10.A Initiate and participate effectively in a range of collaborative discussions on grade level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grade level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

Mathematics
CC.2.2.HS.C.1 Use the concept and notation of functions to interpret and apply them in terms of their context.
A2.2.1.1.3, A2.2.1.1.4, A2.2.2.1.1, A2.2.2.1.2, A2.2.2.1.3, A2.2.2.1.4, A2.2.2.2.1

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.

Listening Model Performance Indicator (MPI)							
Classroom Context: Evaluate expressions and models.							
Cognitive Function: Students at all levels of English proficiency will EVALUATE expressions and models.							
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**
Functions	Create and/or analyze functions using multiple representations (graph, table, and equation). Create a function and/or sequence that model a relationship between two quantities. Construct and compare linear, quadratic, exponential, and logarithmic models to solve problems.	Absolute value Domain Equation Exponential function Exponential notation Expression Linear function Logarithmic function Powers Range Systems of equations Variable	Match a math sentence provided orally to the definition of equation or expression and as quadratic, linear, exponential or polynomial, given criteria and verbal cues, following explicit, repeated examples, as modeled and monitored by the teacher.	Recognize patterns given orally by teacher or peers to anticipate a limitation on a domain or range (e.g., Inputs: 4, 2, 1, 1/2, 1/4, 1/8…) with teacher support.	Identify scenarios explained verbally as exponential, quadratic, or polynomial functions with a partner.	Compare professional situations to determine which representation is best suited for the audience with a partner.	Follow verbal instructions in teams to simulate population growth in a grade-level experiment or project.

Reading Model Performance Indicator (MPI)							
Classroom Context: Evaluate expressions and models.							
Cognitive Function: Students at all levels of English proficiency will EVALUATE expressions and models.							
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**
Exponential functions and equations Quadratic functions and equations Polynomial functions and equations	Create and/or analyze functions using multiple representations (graph, table, and equation). Create a function and/or sequence that model a relationship between two quantities. Construct and compare linear, quadratic, exponential, and logarithmic models to solve problems.	Absolute value Domain Equation Exponential function Exponential notation Expression Linear function Logarithmic function Powers Range Systems of equations Variable	Classify graphs as quadratic, linear, exponential, or polynomial based on their shape with visual support, following explicit, repeated examples, as modeled and monitored by the teacher.	Identify the domain and range through observing a table on a graphing calculator with teacher support.	Match a graph, table, equation and contextual situation with a partner or group.	Draw conclusions from an irregular graph that combines function types and work backwards to identify a cause or reason for the changes using models in a small group.	Associate exponential functions with grade-level text and/or scientific experimentation with a team.

Building Receptive 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 Illustrate Recognize Match	Organize Categorize Classify	Make observations Compare Relate Select Order	Summarize Show Assess Identify cause and effect Interpret	Analyze Draw conclusions Explain in terms of concepts Describe connections

			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")				
			Visual support Sensory support Realia Video Graphic organizers Tiered assignments Partner Flexible grouping First language support Re-teaching/Pre-teaching Modeling Conferences with teacher	Visual support Sensory support Realia Video Graphic organizers Tiered assignments Partner Flexible grouping First language support Re-teaching/Pre-teaching Modeling Conferences with teacher Build background knowledge and connections to topic	Visual support Sensory support Realia Video Graphic organizers Tiered assignments Partner Flexible grouping First language support Re-teaching/Pre-teaching Modeling Conferences with teacher Build background Rubrics Checklists Reciprocal	Visual support Realia Video Graphic organizers Tiered assignments Partner Flexible grouping Front load vocabulary Modeling Conferences with teacher Build background knowledge and connections to topic Rubrics Checklists Reciprocal teaching opportunities within groups and the class	Visual support Video Graphic organizers Partner/group work Front load vocabulary Modeling Conferences with teacher Build background knowledge and connections to topic Rubrics Checklists Reciprocal teaching opportunities within groups and the class as a whole

					teaching opportunities	as a whole	