Grade 6

Framework for **FORMATIVE/CLASSROOM** Instruction and Assessment

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

PA Academic Standard(s)

Develop content appropriate for the topic. 1.5.8.B.

- Gather, organize, and determine validity and reliability of information.
- Employ the most effective format for purpose and audience.
- Write paragraphs that have details and information specific to the topic and relevant to the focus.

Demonstrate awareness of audience using appropriate volume and clarity in formal speaking presentations. 1.6.8.B.

Draw inductive and deductive conclusions within mathematical contexts. 2.4.8A.

Develop a plan to analyze a problem, identify the information needed to solve the problem, carry out the plan, apply estimation skills as appropriate, check whether the plan makes sense, and explain how the problem was solved in grade appropriate contexts. 2.5.8.A.

Use precise mathematical language, notation and representations, including numerical tables and equations, simple algebraic equations and formulas, charts, graphs, and diagrams to explain and interpret results. 2.5.8.B.

Speaking

Concepts	Competencies	Vocabulary	Level 1 Entering	Level 2 Beginning	Level 3 Developing	Level 4 Expanding	Level 5 Bridging	
Variables, Expressions, Equations	Write mathematical expressions and equations that correspond to given situations, evaluate expressions and use expressions and formulas to solve problems.	Associative property Central tendency Commutative property Coordinate system Customary system (English measurements) Distributive property Equation Equivalent Forms Expression Histogram Independent events Inequality Mean Median Metric system Mode	Recite an equation or expression from left to right after modeling.	Verbally identify the relevant information or keywords in a word problem to create an equation with a partner.	Orally direct a classmate through the steps of solving an equation, or orally present a solution to the class with justification.	Refute or dispute the steps of a peers answer.	Explain formally the application of formulating and solving equations in a business setting.	**Level 6- Reaching**

		Models Patterns Probability Range (1) Range (2) Rate of change Reasonableness Reflection Rotation Sequence Transition Variable						
Writing								
Concepts	**Competencies**	**Vocabulary**	**Level 1 Entering**	**Level 2 Beginning**	**Level 3 Developing**	**Level 4 Expanding**	**Level 5 Bridging**	
			Match simple equations with the value of the variable by substituting or testing.	Write one or two sentences explaining how to develop an equation Graph a linear function from a rule or table.	Compare and contrast answer with another student's or a provided incorrect answer in a paragraph.	Answer a grade-level open-ended pertaining to modeling situations with justification.	In a group, create spreadsheets for your mock business that models employee payment, item cost, and gross income.	**Level 6- Reaching**
			Content Stems					
			Expression equation Tendency Problem solving Write math language Communicate mathematically Solve simple problems Use technology	Represent scenarios Mathematically recognizing real-world scenarios as content Ratios Distributive property	Make predictions Test theories	Engage in mathematical discourse Find and correct errors in mathematical thinking	Find the best solution Write mathematical documents Make recommendations Mathematical reasoning Multiple solutions Integrate media	
			Instructional Support					
			Manipulatives Peer explanation Infuse graphics	Manipulatives Explain their thinking Peer	Model situations with pictures	Explain incorrect answers Solve problem	Solve problems multiple ways Predict outcomes without	

			with text Supplemental text/peer-made text/teacher-made text Read aloud Teacher models talking to the text Thumbs up/thumbs down or traffic lighting Use calculator to find answer	explanation Infuse graphics with text Explain answer using calculator	Write-think-pair-share Explain peer's work Critique peer work Sequence events/ steps/ instructions Explain answer with calculator and written work	two ways Support answer with calculator or technology	calculating Debate solutions Use technology to enhance problem solving	
			Language Use					
			Writing Write mathematical sentences based on word problems	**Writing** Group words by meaning Group synonyms	**Writing** Outline details in word problems Complete several sentences explaining work	**Writing** Complete paragraph explaining work	**Writing** Complete paragraph critiquing peer work Create professional documents	
			Speaking Answer yes/no Repeat words, short phrases Respond to visuals	**Speaking** Peer work to solve problems	**Speaking** Talk to text Compare work	**Speaking** Present projects to class	**Speaking** Predict outcomes and debate Peer perspectives	