

**Grade 4-5**

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)**

Demonstrate awareness of audience using appropriate volume and clarity in formal speaking presentations. 1.6.5.B.

Use models, number facts, properties and relationships to draw conclusions and explain reasons for conclusions. 2.4.5.A.

Develop a plan to analyze a problem, identify the information needed to solve the problem, carry out the plan, check whether an answer makes sense, and explain how the problem was solved in grade appropriate contexts. 2.5.5.A.

Use appropriate mathematical terms, vocabulary, language, symbols, and graphs to explain clearly and logically solutions to problems. 2.5.5.B.

**Speaking**

Concepts	Competencies	Vocabulary	Level 1 Entering	Level 2 Beginning	Level 3 Developing	Level 4 Expanding	Level 5 Bridging	
Division: understanding of strategies, fluency  Fractions and decimals: addition and subtractions  Data displays: line graphs and double-bar graphs	Develop fluency with and an understanding of efficient strategies for division (models, place value, properties of operations, and the relationship between multiplication and division) and use them to solve problems.  Develop an understanding of and fluency with addition and subtraction of fractions and decimals (models, place value, properties of addition and subtraction of decimals) to solve problems in a variety of contexts, including measurement.  Construct and analyze double-bar and line graphs and use ordered pairs on coordinate grids.	Combination Composite number Coordinate system Distributive property Equation Expanded notation Expression Factor Inverse Matrix Mean Median Models Multiple Patterns Prime Probability Range Rate of change	Answer WH-questions about mathematical operations using manipulatives.	Restate mathematical operations with the use of visual supports.	Tell a story that involves a specific mathematical operation working with a partner.	Discuss the steps to solve problems within a small group.	Defend the mathematical operations used to solve a problem from a graphically supported grade level text.	<b>Level 6- Reaching</b>

Writing								
Concepts	Competencies	Vocabulary	Level 1 Entering	Level 2 Beginning	Level 3 Developing	Level 4 Expanding	Level 5 Bridging	
Division: understanding of strategies, fluency  Fractions and decimals: addition and subtractions  Data displays: line graphs and double-bar graphs	Develop fluency with and an understanding of efficient strategies for division (models, place value, properties of operations, and the relationship between multiplication and division) and use them to solve problems.  Develop an understanding of and fluency with addition and subtraction of fractions and decimals (models, place value, properties of addition and subtraction of decimals) to solve problems in a variety of contexts, including measurement.  Construct and analyze double-bar and line graphs and use ordered pairs on coordinate grids.	Combination Composite number Coordinate system Distributive property Equation Expanded notation Expression Factor Inverse Matrix Mean Median Models Multiple Patterns Prime Probability Range Rate of change	Write mathematical sentences based on visual representation.	Write and solve mathematical sentences based on word problems working with a partner.	Write the steps used to solve mathematical problems within a small group.	Create and solve a mathematical problem in a math journal using a guided model.	Explain the process used in solving a specific math problem from a guided model.	<b>Level 6 - Reaching</b>
			<b>Content Stems</b>					
			Problem solving Write math language (e.g. sentence completion) Communicate the math expression	Problem solving Write math language (e.g. sentence completion) Communicate the math expression	Problem solving Write out math solutions Communicate the steps in the math solution	Problem solving Write out math solutions Create and communicate the steps in the math solution	Problem solving Write out math solutions Create and communicate the steps in the math solution	
			<b>Instructional Support</b>					
			Visual aids, real objects	Visual aids, real objects Think/write pair-share Chalk-talk strategy	Visual aids, real objects Think/write pair-share Chalk-talk strategy	Visual supports Graphic organizers Think/write pair-share Chalk-talk strategy	Visual supports Graphic organizers Margin notes for guiding model Small group work Demonstrate	
			<b>Language Use</b>					
Write mathematical sentences based on visual representations using varying modalities	Write mathematical sentences and solutions based on visual representations using various modalities	Write the mathematical steps for the solutions based on visual representations using various modalities	Create and solve mathematical problems through written expression	Create, solve and explain mathematical problems through written expression				