

**NEW**

<p style="text-align: center;"><b>Algebra I</b>                      Framework for <b>FORMATIVE/CLASSROOM</b> Instruction and Assessment                      English language learners communicate information, ideas, and concepts necessary for academic success in the content area of  <b>MATHEMATICS.</b></p>								
<p><b>PA Academic Standard(s)</b>                      Develop content appropriate for the topic. 1.5.11.B.</p> <ul style="list-style-type: none"> <li>Gather, organize and determine validity and reliability of information.</li> <li>Employ the most effective format for purpose and audience.</li> <li>Write fully developed paragraphs that have details and information specific to the topic and relevant to the focus.</li> </ul> <p>Demonstrate the capability of justifying any step in an equation solving process by citing an algebraic property. 2.4.A1.A.                      Evaluate and simplify not understood algebraic expressions and solve and graph linear equations and inequalities. 2.8.A1.B.                      Identify and represent patterns algebraically and/or graphically. 2.8.A1.C.                      Demonstrate an understanding and apply properties of functions (domain, range) and characteristics of linear functions. 2.8.A1.D.                      Use combinations of symbols and numbers to create expressions, equations, and inequalities in two or more variables, systems of equations, and inequalities, and functional relationships that model problem situations. 2.8.A1.E.                      Interpret the results of solving equations, inequalities, systems of equations, and systems of inequalities in the context of the situation that motivated the model. 2.8.A1.F.</p>								
<b>Speaking</b>								
Concepts	Competencies	Vocabulary	Level 1 Entering	Level 2 Beginning	Level 3 Developing	Level 4 Expanding	Level 5 Bridging	
Slope  Algebraic properties and processes  Functions and multiple representations  Linear relationships: equation and inequalities in one and two variables  Linear system of equations and inequalities	Use algebraic properties and processes in mathematical situations and apply them to solve real world problems.  Represent functions (linear and non-linear) in multiple ways, including tables, algebraic rules, graphs and contextual situations, and make connections among these representations.  Choose the appropriate functional representation to model a real world situation and solve	Absolute value Central tendency Combination Domain Equation Equivalent Expression Forms Inequality Irrational number Line of best fit Linear function Maximum Patterns Perpendicular lines	Identify the order of operations using visual support.	Sequence steps in the order of operations in problem solving relying on mental math or think-aloud within a small group.	Discuss the solution to a problem involving the order of operations within a small group.	Re-tell a partner's solution to an order of operations problem with technical language.	Parallel the order of operations to a scenario in order to justify why an order exists.	<b>Level 6- Reaching</b>

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<p>Analysis of one and two variable (univariate and bivariate) data</p>	<p>problems relating to that situation.</p> <p>Write, solve, graph, and interpret linear equations and inequalities to model relationships between quantities.</p> <p>Write, solve and interpret systems of two linear equations and inequalities using graphing and algebraic techniques.</p> <p>Display, analyze, and make predictions using univariate and bivariate data.</p>	<p>Prime range (1) Range (2) Rational numbers Reciprocal</p>						
<b>Writing</b>								
			<b>Level 1 Entering</b>	<b>Level 2 Beginning</b>	<b>Level 3 Developing</b>	<b>Level 4 Expanding</b>	<b>Level 5 Bridging</b>	
			<p>Copy the process used to solve an algebraic equation, inequality or expression.</p>	<p>Write and solve a simple algebraic equation, inequality or expression using a guided model.</p>	<p>Write an expression or equation that represents a real-world scenario.</p>	<p>Write a justification to the solution of an algebraic equation, inequality or expression.</p>	<p>Expand an original equation that used the order of operations backwards into a word problem.</p>	<b>Level 6 - Reaching</b>
<b>Content Stems</b>								
			<p>Algebraic properties Order of operations Write math language Communicate mathematically</p>	<p>Write math language Communicate mathematically Problem solving</p>	<p>Represent scenarios mathematically Recognize real-world applications Engage in mathematical discourse Find and correct errors in</p>	<p>Find and correct errors in mathematical thinking PSSA preparation</p>	<p>Write mathematical scenarios Work backwards from representation to text</p>	

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					mathematical thinking		
<b>Instructional Support</b>							
		<p>Manipulatives Algebra tiles Mnemonic devices Rhythmic/kinesthetic memory Guided text (teacher made) Word walls Personal dictionary Learning logs Concept sort Peer explanation</p>	<p>Manipulatives Algebra tiles Explain their thinking Peer critique Infuse graphics with text Model back solving Learning logs Sentence strips Rhythmic/kinesthetic memory</p>	<p>Model situations with hand-drawn pictures Algebra tiles Write-think-pair-share Explain peer's work Model talking to text Rhythmic/kinesthetic learning</p>	<p>Explain incorrect answers Support answer with technology</p>	<p>Solve problems multiple ways Find errors in mathematical thinking Use technology to research/make connections Debate solutions</p>	
<b>Language Use</b>							
		<p><b>Speaking</b> Peer collaboration Making songs Using/sharing manipulatives</p>	<p><b>Speaking</b> Read written directions to a partner/group to perform a task Answer questions posed orally</p>	<p><b>Speaking</b> Explain peer's work Share findings to the class or a small group</p>	<p><b>Speaking</b> Make oral comparisons Reason logically while engaging in mathematical discourse</p>	<p><b>Speaking</b> Debate with peers Presentations Peer discussion Dispute claims</p>	
		<p><b>Writing</b> Learning logs Personal dictionaries Write phrases or words that demonstrate partial understanding of mathematical concepts</p>	<p><b>Writing</b> Write sentences that demonstrate basic understanding of mathematical concepts</p>	<p><b>Writing</b> Quick write to brainstorm Write paragraphs that demonstrate proficient understanding of mathematical concepts</p>	<p><b>Writing</b> Informative writing that follows logically steps and utilizes vocabulary</p>	<p><b>Writing</b> Grade-level open-ended items Write papers Compile data into keynote/PowerPoint presentations Create professional documents to</p>	

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							demonstrate superior understanding of mathematical concepts	
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