

**PA Core Standards For Mathematics  
Curriculum Framework  
Grade Level 2**

Grade	Big Idea	Essential Questions	Concepts	Competencies	Standard	Eligible Content	Vocabulary
2	<p>Mathematical relationships among numbers can be represented, compared, and communicated.</p> <p>Mathematical relationships can be represented as expressions, equations and inequalities in mathematical situations.</p> <p>Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.</p> <p>Patterns exhibit relationships that can be extended, described, and generalized.</p>	<p>How is mathematics used to quantify, compare, represent, and model numbers?</p> <p>How can mathematics support effective communication?</p> <p>How are relationships represented mathematically?</p> <p>What does it mean to estimate or analyze numerical quantities?</p> <p>What makes a tool and/or strategy appropriate for a given task?</p> <p>How can recognizing repetition or regularity assist in solving problems more efficiently?</p>	Place Value	<p>Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones.</p> <p>Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p> <p>Count within 1000; skip-count by 5s, 10s, and 100s.</p> <p>Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.</p>	CC.2.1.2.B.1 CC.2.1.2.B.2		<p>A.M.</p> <p>Addend</p> <p>Analog/digital</p> <p>Angles</p> <p>Bar graph</p> <p>Centimeter</p> <p>Compose</p> <p>Decompose</p> <p>Dime</p> <p>Dollar</p> <p>Equation</p> <p>Equivalent</p> <p>Estimate</p> <p>Even</p> <p>Expanded form</p> <p>Faces</p> <p>Feet</p> <p>Fractions – Thirds</p> <p>Hexagon</p> <p>Hundreds</p> <p>Inch</p> <p>Line plot</p> <p>Meter</p> <p>Money</p> <p>Nickel</p> <p>Odd</p> <p>P.M.</p> <p>Penny</p> <p>Pentagon</p> <p>Picture graph</p> <p>Place value</p> <p>Quadrilateral</p> <p>Quarter</p> <p>Sum</p>
2	<p>Mathematical relationships among numbers can be represented, compared, and communicated.</p>	<p>How is mathematics used to quantify, compare, represent, and model numbers?</p>	Addition and Subtraction	<p>Add up to four two-digit numbers using strategies based on place value and properties of operations.</p>	CC.2.1.2.B.3		

**PA Core Standards For Mathematics  
Curriculum Framework  
Grade Level 2**

Grade	Big Idea	Essential Questions	Concepts	Competencies	Standard	Eligible Content	Vocabulary
	<p>Mathematical relationships can be represented as expressions, equations and inequalities in mathematical situations.</p> <p>Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.</p>	<p>How can mathematics support effective communication?</p> <p>How are relationships represented mathematically?</p> <p>What does it mean to estimate or analyze numerical quantities?</p> <p>What makes a tool and/or strategy appropriate for a given task?</p>		<p>Add and subtract within 1000.</p> <p>Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.</p> <p>Explain why addition and subtraction strategies work, using place value and the properties of operations.</p>			
2	<p>Mathematical relationships among numbers can be represented, compared, and communicated.</p> <p>Mathematical relationships can be represented as expressions, equations and inequalities in mathematical situations.</p> <p>Patterns exhibit relationships that can be extended, described, and generalized.</p>	<p>How is mathematics used to quantify, compare, represent, and model numbers?</p> <p>How can mathematics support effective communication? How are relationships represented mathematically?</p> <p>How can expressions, equations and inequalities be used to quantify, solve, model, and/or analyze mathematical situations?</p> <p>How can recognizing repetition or regularity assist in solving problems more efficiently?</p>	Addition and Subtraction	<p>Use addition and subtraction within 100 to solve one- and two-step word problems by using drawings and equations with a symbol for the unknown number to represent the problem.</p> <p>Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20.</p> <p>Understand subtraction as an unknown-addend problem. For example, subtract <math>10 - 8</math> by finding the number that make 10 when added to 8.</p> <p>Add and subtract within 20. Use strategies such as counting on; making ten; decomposing a</p>	CC.2.2.A.1		

**PA Core Standards For Mathematics  
Curriculum Framework  
Grade Level 2**

Grade	Big Idea	Essential Questions	Concepts	Competencies	Standard	Eligible Content	Vocabulary
				number leading to a ten; using the relationship between addition and subtraction; and creating equivalent but easier or known sums.			
2	<p>Mathematical relationships among numbers can be represented, compared, and communicated.</p> <p>Mathematical relationships can be represented as expressions, equations and inequalities in mathematical situations.</p> <p>Patterns exhibit relationships that can be extended, described, and generalized.</p>	<p>How is mathematics used to quantify, compare, represent, and model numbers?</p> <p>How can mathematics support effective communication?</p> <p>How are relationships represented mathematically?</p> <p>How can expressions, equations and inequalities be used to quantify, solve, model, and/or analyze mathematical situations?</p> <p>How can patterns be used to describe relationships in mathematical situations?</p>	Properties of Operations	<p>Fluently add and subtract within 20 using mental strategies.</p> <p>Apply properties of operations as strategies to add and subtract (commutative property of addition; associative property of addition).</p>	CC.2.2.A.2		
2	<p>Mathematical relationships among numbers can be represented, compared, and communicated.</p> <p>Mathematical relationships can be represented as expressions, equations and inequalities in mathematical situations.</p> <p>Patterns exhibit relationships that can be extended, described, and generalized.</p>	<p>How is mathematics used to quantify, compare, represent, and model numbers?</p> <p>How are relationships represented mathematically?</p> <p>How can patterns be used to describe relationships in mathematical situations?</p> <p>How can patterns be used to describe relationships in mathematical situations?</p>	Equal Groups of Objects	<p>Determine whether a group of objects (up to 20) has an odd or even number of members and write an equation to express an even number as a sum of two equal addends.</p> <p>Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.</p>	CC.2.2.A.3		
2	Patterns exhibit relationships	How can patterns be used to describe	Shape	Recognize and draw shapes	CC.2.3.2.A.1		

**PA Core Standards For Mathematics  
Curriculum Framework  
Grade Level 2**

Grade	Big Idea	Essential Questions	Concepts	Competencies	Standard	Eligible Content	Vocabulary
	<p>that can be extended, described, and generalized.</p> <p>Geometric relationships can be described, analyzed, and classified based on spatial reasoning and/or visualization.</p>	<p>relationships in mathematical situations?</p> <p>How can recognizing repetition or regularity assist in solving problems more efficiently?</p> <p>How are spatial relationships, including shape and dimension, used to draw, construct, model, and represent real situations or solve problems?</p>	Attributes	having specified attributes. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.			
2	<p>Patterns exhibit relationships that can be extended, described, and generalized.</p> <p>Geometric relationships can be described, analyzed, and classified based on spatial reasoning and/or visualization.</p>	<p>How can patterns be used to describe relationships in mathematical situations?</p> <p>How can recognizing repetition or regularity assist in solving problems more efficiently?</p> <p>How are spatial relationships, including shape and dimension, used to draw, construct, model, and represent real situations or solve problems?</p> <p>How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?</p> <p>How can geometric properties and theorems be used to describe, model, and analyze situations?</p>	Fractions	Partition circles and rectangles into two, three, or four equal shares, recognize that equal shares of identical wholes need not have the same shape.	CC.2.3.2.A.2		
2	Numerical quantities,	What does it mean to estimate or	Measuremen	Measure the length of an object	CC.2.4.2.A.1		

**PA Core Standards For Mathematics  
Curriculum Framework  
Grade Level 2**

Grade	Big Idea	Essential Questions	Concepts	Competencies	Standard	Eligible Content	Vocabulary
	<p>calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.</p> <p>Measurement attributes can be quantified, and estimated using customary and non-customary units of measure.</p>	<p>analyze numerical quantities?</p> <p>When is it appropriate to estimate versus calculate?</p> <p>What makes a tool and/or strategy appropriate for a given task?</p> <p>Why does “what” we measure influence “how” we measure?</p> <p>In what ways are the mathematical attributes of objects or processes measured, calculated and/or interpreted?</p> <p>How precise do measurements and calculations need to be?</p>	t	<p>by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.</p> <p>Measure the same length with different-sized units then discuss the measurement made with the smaller unit is more than the measurement made with the larger unit and vice versa.</p> <p>Estimate lengths using units of inches, feet, centimeters, and meters.</p> <p>Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.</p>			
2	<p>Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.</p>	<p>What does it mean to estimate or analyze numerical quantities?</p> <p>When is it appropriate to estimate versus calculate?</p> <p>What makes a tool and/or strategy appropriate for a given task?</p>	Time and Money	<p>Tell and write time from analog and digital clocks to the nearest five minutes.</p> <p>Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately.</p>	CC.2.4.2.A.2		
2	<p>Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.</p>	<p>What does it mean to estimate or analyze numerical quantities?</p> <p>What makes a tool and/or strategy appropriate for a given task?</p> <p>How can data be organized and</p>	Represent and Interpret Data	<p>Make a line plot to show measurement data of the lengths of several objects to the nearest whole-number unit.</p> <p>Draw a picture graph and a bar graph (with single-unit scale) to</p>	CC.2.4.2.A.3		

**PA Core Standards For Mathematics  
Curriculum Framework  
Grade Level 2**

Grade	Big Idea	Essential Questions	Concepts	Competencies	Standard	Eligible Content	Vocabulary
	<p>Mathematical relations and functions can be modeled through multiple representations and analyzed to raise and answer questions.</p> <p>Data can be modeled and used to make inferences.</p>	<p>represented to provide insight into the relationship between quantities?</p> <p>How does the type of data influence the choice of display?</p> <p>How can probability and data analysis be used to make predictions?</p>		<p>represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems using information presented in the graph.</p>			
2	<p>Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.</p> <p>Measurement attributes can be quantified, and estimated using customary and non-customary units of measure.</p>	<p>What does it mean to estimate or analyze numerical quantities?</p> <p>What makes a tool and/or strategy appropriate for a given task?</p> <p>In what ways are the mathematical attributes of objects or processes measured, calculated and/or interpreted?</p> <p>How precise do measurements and calculations need to be?</p>	<p>Addition and Subtraction</p>	<p>Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units by using drawings and equations with a symbol for the unknown number to represent the problem.</p> <p>Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, and represent whole-number sums and differences within 100 on a number line diagram.</p>	CC.2.4.2.A.4		