

**DIOCESE OF HARRISBURG
MATHEMATICS CURRICULUM – GRADE 2**

Anchor	Second Grade Expectations	Every second grader should be able to:	Text pages or supplementary materials	Date Assessed	
2A. Numbers and Operations					
1.	Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers and number systems	a. Apply place-value concepts and numeration to counting, ordering, grouping and equivalency.	1. Count, read, and write whole numbers to 1,000 and identify the place value for each digit.		
			2. Identify the place value of each digit for numerals through 1,000.		
			3. Read and express 3-digit numbers in standard, expanded, and word form.		
			4. Identify odd and even numbers.		
			5. Identify and name ordinal positions “first” through “twentieth”.		
			6. Order a set of whole numbers from least to greatest and greatest to least up through 1,000.		
			7. Compare whole numbers to 1,000 using the symbols =, <, >..		
			8. Represent equivalent forms of the same number through the use of concrete objects, drawings, word names and symbols through 1,000.		
			9. Count by 2’s, 3’s, 4’s, 5’s, and 10’s: by 100’s, 1000’s, 10,000’s.		
	b. Use fractions to represent quantities as part of a whole.	1. Show parts of a whole and of a set using models, drawings, diagrams, and abstract representations for halves, thirds, fourths, sixths, eighths, and tenths.			
		2. Compare fractional parts of the same unit using real objects or models. (e.g., $\frac{1}{2} = \frac{2}{4}$)			
		3. Recognize that when all fractional parts are included, such as $\frac{4}{4}$, the result is equal to one whole.			
	c. Count, record, compare, and make change using a collection of coins.	1. Count a collection of coins and bills up to a total of \$10.00 and represent amounts of money using the dollar sign and decimal notation.			
		2. Compare total values of combinations of coins and bills up to \$10.00.			
		3. Identify equivalencies by making coin exchanges and bill exchanges.			
4. Make change for amounts up to one dollar.					

**DIOCESE OF HARRISBURG
MATHEMATICS CURRICULUM – GRADE 2**

Anchor	Second Grade Expectations	Every second grader should be able to:	Text pages or supplementary materials	Date Assessed
2A. Numbers and Operations				
2.	Understand meanings of operations, use operations and understand how they relate to each other.	a. Understand the meanings and use of addition and subtraction; addition and multiplication, and the relationship between them.	1. Understand and use the inverse relationship between addition and subtraction (fact families) to solve problems and check solutions.	
			2. Represent multiplication as equal groups, repeated addition, arrays, rectangular areas, and counting by multiples.	
		b. Apply appropriate operations to solve problems.	1. Understand and use the commutative property for addition and multiplication.	
			2. Solve word problems involving, addition, subtraction, and/or multiplication of whole numbers and/or money.	
		c. Understand and use properties of operations	1. Understand and use the commutative property for addition.	
3.	Compute accurately and fluently and make reasonable estimates.	a. Solve problems using addition and subtraction for both computation and word problems.	1. Demonstrate mastery of basic addition and subtraction facts through 18.	
			2. Use mental math to solve addition and subtraction problems.	
			3. Add and subtract 2- and 3-digit numbers with and without regrouping	
			4. Extend basic facts to mentally compute related problems using powers of 10 (e.g., 20×4 , $60 - 40$).	
		b. Use estimation skills to reach reasonable conclusions.	1. Round 2- and 3-digit whole numbers up to 1,000 to the nearest 10 or 100.	
			2. Round amounts of money to the nearest dollar.	
			3. Use estimation to arrive at simple sums and differences and to check reasonableness of an answer.	

**DIOCESE OF HARRISBURG
MATHEMATICS CURRICULUM – GRADE 2**

Anchor	Second Grade Expectations	Every second grader should be able to:	Text pages or supplementary materials	Date Assessed	
2B. Measurement					
1.	Demonstrate an understanding of measurable attributes of objects and figures, and the units, systems and processes of measurement.	a. Determine time.	1. Recognize, tell, and show time to the hour, half hour, quarter hour, and 5-minute intervals on an analog and/or digital clock.		
			2. Identify times of the day and night as A.M./P.M.		
			3. Read time as before or after the hour.		
			4. Estimate and compare elapsed time for real life activities (e.g., which takes longer-brushing your teeth or watching a movie?)		
			5. Identify and order days and months.		
			6. Recognize seasons and calendar patterns.		
		b. Use attributes of length, weight, area and capacity to describe objects.	1. Select an appropriate unit and tool for the attribute being measured.		
			2. Compare/order items according to length, weight, and capacity.		
			3. Find the perimeter and/or area of squares and rectangles on a grid.		
2.	Apply appropriate techniques, tools, and formulas to determine measurements.	a. Estimate and determine the measurement of an object using standard units and appropriate tools.	1. Estimate and use a ruler or meter stick to measure to the nearest inch, foot, yard, centimeter and/or meter.		
			2. Estimate, measure and compare the capacity of regular containers. (cups, pints, quarts, half gallons, gallons, and liters.)		
			3. Use a simple pan balance to determine which is heavier, lighter, or equal in weight.		

**DIOCESE OF HARRISBURG
MATHEMATICS CURRICULUM – GRADE 2**

Anchor	Second Grade Expectations	Every second grader should be able to:	Text pages or supplementary materials	Date Assessed
2C. Geometry				
1.	Analyze characteristics and properties of two- and three-dimensional geometric shapes and demonstrate understanding of geometric relationships.	a. Recognize, name, build, draw, compare, and sort two- and three-dimensional shapes.	1. Name, identify, describe and draw two-dimensional shapes: circles, triangles, squares, and rectangles. Describe a circle and its difference to other 2-D shapes.	
			2. Name, identify, build, compare, and sort three-dimensional figures: cylinder, cone, sphere, cube, and rectangular prism.	
			3. Describe attributes and parts of two- and three-dimensional shapes: faces, sides, corners.	
			4. Investigate and predict the results of putting together and taking apart two- and three-dimensional shapes.	
2.	Identify and/or apply concepts of transformation or symmetry.	a. Apply concepts of transformation and symmetry.	1. Create a reflection and identify the line of symmetry in a two-dimensional shape.	
			2. Identify and draw symmetrical shapes.	
			3. Identify and draw congruent shapes.	
2D. Algebraic Concepts				
1.	Demonstrate an understanding of patterns, relations, and functions.	a. Recognize, describe, extend, create, and/or replicate a variety of patterns.	1. Recognize, describe, and extend a pattern with shape, size, color, sound, or number.	
			2. Identify the rule for a simple numerical or geometric pattern.	
			3. Find patterns in addition, subtraction, multiplication, and division facts.	
			4. Determine the missing addend in a number sentence.	
2.	Represent and /or analyze mathematical situations using numbers, symbols, words, tables, and/or graphs.	a. Create/ model expressions and equations to match a problem situation.	1. Demonstrate, solve, and/or describe story problems using addition or subtraction equations.	
			2. Create or match a story to a given combination of numbers and symbols (+, -, =).	

**DIOCESE OF HARRISBURG
MATHEMATICS CURRICULUM – GRADE 2**

Anchor	Second Grade Expectations	Every second grader should be able to:	Text pages or supplementary materials	Date Assessed
2E. Data Analysis and Probability				
1.	Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.	a. Answer questions based on given data.	1. Make predictions and pose questions to investigate a topic using data collection. (informal surveys, raising hands, etc.)	
			2. Answer questions based on data shown on graphs.	
		b. Collect, organize, display, and analyze data to answer questions.	1. Gather, organize, tally, and display data using tally charts, pictures, bar graphs, and/or pictographs.	
			2. Collect and display data over time and predict what conditions will change the data.	
2.	Select and/or use appropriate statistical methods to analyze data.	a. Describe and analyze data using grade appropriate vocabulary,	1. Describe and analyze data from graphs, charts, and tables identifying most, least, greater, less, equal.	
3.	Understand and/or apply basic concepts of probability or outcomes.	a. Predict or determine the likelihood of an event based on data or chance.	1. Make predictions about life events concerning the likelihood or unlikelihood of the event occurring. (e.g., never, sometimes, always)	