

HAZLETON AREA SCHOOL DISTRICT



GRADE 5

Math Curriculum

Hazleton Area School District

Math Curriculum

Grade 5

Topic:	Geometry
Weeks:	3 ½-4 Weeks
PA Standards:	CC.2.3.5.A.1 Graph points in the first quadrant on the coordinate plane and interpret these points when solving real world and mathematical problems. CC.2.3.5.A.2 Classify two-dimensional figures into categories based on an understanding of their properties.
Math Practice Standards:	<ol style="list-style-type: none">1. Make sense of problems and persevere in solving them.2. Reason abstractly and quantitatively.3. Construct viable arguments and critique the reasoning of others.4. Model with mathematics.5. Use appropriate tools strategically.6. Attend to precision.7. Look for and make use of structure.8. Look for and make sense of regularity in repeated reasoning.

Weeks	Topic	PA Standard	Eligible Content	Concepts and Competencies The learner will:	Tier 2 & 3 Vocabulary
2 weeks	Coordinate Plane Analyze patterns and relationships using two rules.	CC.2.3.5.A.1 Graph points in the first quadrant on the coordinate plane and interpret these points when solving real world and mathematical problems.	M05.C-G.1.1.1 M05.C-G.1.1.2 M05.B-O.2.1.1 M05.B-O.2.1.2	<ul style="list-style-type: none"> • Generate, analyze and compare patterns. • Plot points in quadrant I. • Describe and interpret points given an ordered pair. • Identify parts of a coordinate grid. • Organize and display data in order to answer questions. • Represent and interpret data using appropriate scale. • Solve problems involving computation with fractions using information obtained from data displays. • Generate two numerical patterns using two given rules. • Identify apparent relationships between corresponding terms of two patterns with the same starting numbers that follow different rules. 	<p>Axis (axes) Coordinate plane Coordinate system Coordinates Corresponding terms Intersect Interval Ordered pair Origin Plane Quadrants Scale X-axis X-coordinate Y-axis Y-coordinate</p>

Weeks	Topic	PA Standard	Eligible Content	Concepts and Competencies The learner will:	Tier 2 & 3 Vocabulary
1-1 ½ weeks	Classify two-dimensional figures	CC.2.3.5.A.2 Classify two-dimensional figures into categories based on an understanding of their properties.	M05.C-G.2.1.1	<ul style="list-style-type: none"> • Measure the sides and angles of triangles • Classify triangles based on attributes such as side measures and angle measures • Measure the sides and angles of quadrilaterals • Classify quadrilaterals based on attributes, such as congruent sides, parallel sides, and right angles. 	Attribute Congruent Decagon Equilateral triangle Isosceles triangle Hierarchy Heptagon Hexagon Nonagon Polyhedron Regular polygon Scalene triangle

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Topic:	Numbers and Operations in Base Ten
Weeks:	13 weeks
PA Standards:	CC.2.1.5.B.1 Apply place value to show an understanding of operations and rounding as they pertain to whole numbers and decimals. CC.2.1.5.B.2 Extend an understanding of operations with whole numbers to perform operations including decimals.
Math Practice Standards:	<ol style="list-style-type: none">1. Make sense of problems and persevere in solving them.2. Reason abstractly and quantitatively.4. Model with mathematics.5. Use appropriate tools strategically.6. Attend to precision.7. Look for and make use of structure.8. Look for and make sense of regularity in repeated reasoning.

Weeks	Topic	PA Standard	Eligible Content	Concepts and Competencies The learner will:	Tier 2 & 3 Vocabulary
1 week	Place Value	CC.2.1.5.B.1 Apply place value to show an understanding of operations and rounding as they pertain to whole numbers and decimals.	M05.A-T.1.1.1 M05.A-T.1.1.2 M05.A-T.1.1.3	<ul style="list-style-type: none"> Demonstrate an understanding that in a multi-digit number, a digit in one place represents 1/10 of what it represents in the place to its left 	Base-ten numeral form Exponents Powers of 10 Distributive Property Evaluate Simplify Equivalent Decimals Inequality
1	Compare and order whole numbers and decimals	CC.2.1.5.B.1 Apply place value to show an understanding of operations and rounding as they pertain to whole numbers and decimals.	M05.A-T.1.1.4	<ul style="list-style-type: none"> Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols 	
½ week	Round Decimals	CC.2.1.5.B.1 Apply place value to show an understanding of operations and rounding as they pertain to whole numbers and decimals.	M05.A-T.1.1.5	<ul style="list-style-type: none"> Round decimals to ones, tenths, hundredths, or thousandths place 	
½ - 1 week	Multiply and Divide by powers of 10	CC.2.1.5.B.1 Apply place value to show an understanding of operations and rounding as they pertain to whole numbers and decimals.	M05.A-T.1.1.2	<ul style="list-style-type: none"> Explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10 Use whole number exponents to denote powers of 10 Explain patterns in the number of zeroes in the product when multiplying a number by powers of 10 	

Weeks	Topic	PA Standard	Eligible Content	Concepts and Competencies The learner will:	Tier 2 & 3 Vocabulary
1	Multiply multi-digit whole numbers	CC.2.1.5.B.2 Extend an understanding of operations with whole numbers to perform operations including decimals.	M05.A-T.2.1.1	<ul style="list-style-type: none"> • Multiply multi-digit whole numbers, not to exceed three digits by three digits 	
3-4	Divide Multi- Digit whole numbers	CC.2.1.5.B.2 Extend an understanding of operations with whole numbers to perform operations including decimals.	M05.A-T.2.1.2	<ul style="list-style-type: none"> • Find whole number quotients of whole numbers with up to four digit dividends and two digit divisors 	
4	Add, Subtract, Multiply and Divide decimals to the hundredths	CC.2.1.5.B.2 Extend an understanding of operations with whole numbers to perform operations including decimals.	M05.A-T.2.1.3	<ul style="list-style-type: none"> • Add, subtract, multiply, and divide decimals to hundredths (no divisors with decimals) 	

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Topic:	Algebraic Concepts
Weeks:	1½ weeks
PA Standards:	CC.2.2.5.A.1 Interpret and evaluate numerical expressions using order of operations.
Math Practice Standards:	<ol style="list-style-type: none">1. Make sense of problems and persevere in solving them.2. Reason abstractly and quantitatively.4. Model with mathematics.5. Use appropriate tools strategically.6. Attend to precision.7. Look for and make use of structure.8. Look for and make sense of regularity in repeated reasoning.

Weeks	Topic	PA Standard	Eligible Content	Concepts and Competencies The learner will:	Tier 2 & 3 Vocabulary
1 ½ weeks	Write and interpret numerical expressions.	CC.2.2.5.A.1 Interpret and evaluate numerical expressions using order of operations.	M05.B-O.1.1.1 M05.B-O.1.1.2	<ul style="list-style-type: none"> • Use multiple grouping symbols (parentheses, brackets, or braces) in numerical expressions to evaluate expressions containing these symbols. • Write simple expressions that model calculations with numbers • Interpret numerical expressions without evaluating them. 	Numerical Expression Order of Operations

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Topic:	Numbers and Operations- Fractions
Weeks:	9 Weeks
PA Standards:	CC.2.1.5.C.1- Use the understanding of equivalency to add and subtract fractions CC.2.1.5.C.2- Apply and extend previous understandings of multiplication and division to multiply and divide fractions
Math Practice Standards:	<ol style="list-style-type: none">1. Make sense of problems and persevere in solving them.2. Reason abstractly and quantitatively.4. Model with mathematics.5. Use appropriate tools strategically.6. Attend to precision.7. Look for and make use of structure.8. Look for and make sense of regularity in repeated reasoning.

Weeks	Topic	PA Standard	Eligible Content	Concepts and Competencies The learner will:	Tier 2 & 3 Vocabulary
3 – 4 weeks	Add and Subtract fractions, including mixed numbers, with like and unlike denominators	CC.2.1.5.C.1- Use the understanding of equivalency to add and subtract fractions	M05.A-F.1.1.1 M05.A-F.2.1.3	<ul style="list-style-type: none"> • Add and subtract fractions with like denominators and solve word problems involving the computation of fractions with like denominators. • Use models to add and subtract fractions • Add and subtract fractions with unlike denominators as well solve word problems involving computation of fractions with unlike denominator. • Add and subtract mixed numbers and solve word problems involving the addition and subtraction of mixed numbers • Use information provided on a line plot and/or tables to solve problems involving addition and subtraction of fractions. • Use fraction equivalency to subtract with renaming 	Unlike Fractions Least Common Denominator Greatest Common Factor Simplest Form Reciprocal
>1 week	Interpret the remainder of a division problem as a fraction	CC.2.1.5.C.2- Apply and extend previous understandings of multiplication and division to multiply and divide fractions	M05.A-F.2.1.1 M05.A-F.2.1.3	<ul style="list-style-type: none"> • Interpret the remainder of a division problem as a fraction 	

Weeks	Topic	PA Standard	Eligible Content	Concepts and Competencies • The learner will:	Tier 2 & 3 Vocabulary
2-2 ½ weeks	Multiply fractions including mixed numbers	CC.2.1.5.C.2- Apply and extend previous understandings of multiplication and division to multiply and divide fractions	M05.A-F.2.1.2 M05.A-F.2.1.3	<ul style="list-style-type: none"> Estimate products of fractions using compatible numbers and rounding Multiply fractions and whole numbers using models Multiply fractions Multiply mixed numbers 	
2 weeks	Divide unit fractions and whole numbers	CC.2.1.5.C.2- Apply and extend previous understandings of multiplication and division to multiply and divide fractions	M05.A-F.2.1.4 M05.A-F.2.1.3	<ul style="list-style-type: none"> Divide unit fractions by whole numbers and whole numbers by unit fractions 	

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Topic:	Measurement and Data
Weeks:	4 Weeks
PA Standards:	CC.2.4.5.A.1 Solve problems using conversions within a given measurement system. CC.2.4.5.A.2 Represent and interpret data using appropriate scale. CC.2.4.5.A.4 Solve problems involving computation of fractions using information provided in a line plot. CC.2.4.5.A.5 Apply concepts of volume to solve problems and relate volume to multiplication and to addition.
Math Practice Standards:	<ol style="list-style-type: none">1. Make sense of problems and persevere in solving them.2. Reason abstractly and quantitatively.4. Model with mathematics.5. Use appropriate tools strategically.6. Attend to precision.7. Look for and make use of structure.8. Look for and make sense of regularity in repeated reasoning.

Weeks	Topic	PA Standard	Eligible Content	Concepts and Competencies The learner will:	Tier 2 & 3 Vocabulary
3 weeks	Conversions	CC.2.4.5.A.1 Solve problems using conversions within a given measurement system.	M05.D-M.1.1.1	<ul style="list-style-type: none"> Solve problems using simple conversions. 	Decameter Volume Decimeter Prism Rectangular Prism Cubic Unit Unit Cube
½ weeks	Represent and Interpret Data (Review)	CC.2.4.5.A.2 CC.2.4.5.A.2 Represent and interpret data using appropriate scale.	M05.D-M.2.1.1 M05.D-M.2.1.2	<ul style="list-style-type: none"> Display and interpret data shown in tallies, tables, charts, pictographs, bar graphs, and line graphs Display and interpret data using a title, appropriate scale, and labels 	
½ weeks	Computation of Fractions on a Line Plot	CC.2.4.5.A.4 Solve problems involving computation of fractions using information provided in a line plot.	M05.D-M.2.1.1 M05.D-M.2.1.2	<ul style="list-style-type: none"> Solve problems using computation of fractions by using information presented in line plots 	