

SENECA VALLEY SCHOOL DISTRICT

CURRICULUM

Course Title: Math
Grade Level(s): 6
Periods Per Week: 5
Length of Period: 70 minutes
Length of Course: 180 days
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Date: October 2014

COURSE DESCRIPTION:

The state has developed anchors (points of focus) in Mathematics. The anchors specify eligible content for the content areas. The anchors include standards 2.1, 2.2, 2.3, and 2.4.

The PA Grade 6 Eligible Content from each Anchor has been bolded.

The state has developed anchors (points of focus) in (Course Name). The anchors specify eligible content for the content areas. The anchors include standards 2.1, 2.2, 3.3, and 2.4.

The following outline provides a general overview of the course content, not a chronological timetable.

COURSE OUTLINE	PA ASSESSMENT ANCHORS (bolded) and PA COMMON CORE STANDARDS (non-bolded)			
Solve Problems with ratio and Proportion	<p>M06. A-R.1.1.2, M06.A-R.1.1.3 M06.A-R.1.1.1 Use ratio language and notation (such as 3 to 4, 3:4, $\frac{3}{4}$) to describe a ratio relationship between two quantities. <u>Example 1:</u> “The ratio of girls to boys in math class is 2:3, because for every 2 girls there are 3 boys.” <u>Example 2:</u> “For every five votes candidate A received, candidate B received four votes.”</p>			
Identify, Solve and Write Proportion Situations	<p>M06. A-R.1.1.2, M06.A-R.1.1.3 M06.A-R.1.1.1 M06. A-N.2.2.1 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.</p>			
<i>II. Area of Polygons</i>	<p>PA.CC.2.3.6.A.1 M06. A-R.1.1.2, M06.A-R.1.1.3</p>			
Derive Area Formulas and Solve Problems: Parallelograms and Triangles	<p>M06.A-R.1.1.1 M06.C-G.1.1.1 Determine the area of triangles and special quadrilaterals (i.e. square, rectangle, parallelogram, rhombus, and trapezoid). Formulas will be provided. M06.B-E.1.1.4 Evaluate expressions at specific values of their variables, including expressions that arise from formulas used in real-world problems. <u>Example</u> Evaluate the expression $b^2 - 5$ when $b=4$.</p>			
Derive Area Formulas and Solve Problems: Trapezoids and other Polygons	<p>PA.CC.2.3.6.A.1, PA.CC.2.2.6.B.1, PA.CC.2.2.6.B.2 M06.C-G.1.1.1 M06.C-G.1.1.2 Determine the area of irregular polygons. <u>Example:</u> Find the area of a room in the shape of an irregular polygon by composing and/or decomposing. M06.C-G.1.1.4</p>			

COURSE OUTLINE	PA ASSESSMENT ANCHORS (bolded) and PA COMMON CORE STANDARDS (non-bolded)			
<p><i>III. Operations with Whole Numbers and Decimals</i></p> <p>Multiplication and Division with Whole Numbers and Decimals</p> <p>Relating, Composing, and Decomposing Decimals and Fractions</p> <p>Multiplying Fractions and Dividing with Fractions and Whole Numbers</p>	<p>Given the coordinates for the vertices of a polygon in the plane, use the coordinates to find the side lengths and area of the polygon (limit to triangles and special quadrilaterals). Formulas will be provided. M06.B-E.1.1.4 M06.B-E.1.1.5 Apply the properties of operations to generate equivalent expressions. <i>Example 1: Apply the distributive property to the expression $3(2+x)$ to produce the equivalent expression $6+3x$.</i> <i>Example 2: Apply the distributive property to the expression $24x+18y$ to produce the equivalent expression $6(4x+3y)$.</i> <i>Example 3: Apply the properties of operations to $y+y+y$ to produce the equivalent expression $3y$.</i> M06. B-E.2.1.2</p> <p>PA.CC.2.1.6.E.2 M06.A-N.2.1.1 Solve the problems involving operations (+,-,×,÷) with whole numbers, decimals (through thousandths), straight computation, or word problems. PA.CC.2.1.6.E.2, PA.CC.2.1.6.E.3 M06.A-N.2.1.1 M06.A-N.2.2.1</p> <p>PA.CC.2.1.6.E.1,PA.CC.2.1.6.E.2,PA.CC.2.1.6.E.3 M06.A-N.1.1.1 Interpret and compute quotients of fractions (including mixed numbers), and solve word problems involving division of fractions by fractions. <i>Example 1: Given a story context for $(2/3) \div (3/4)$, explain that $(2/3) \div (3/4) = 8/9$ because $3/4$ of $8/9$ of $2/3$. (In general $a/b \div c/d = (a/b) \times (d/c) = ad/bc$.)</i></p>			

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<p>Dividing a Fraction by a Fraction</p>	<p><i>Example 2: How wide is a rectangular strip of land with length $\frac{3}{4}$ mi and area $\frac{1}{2}$ square mi?</i> <i>Example 3: How many $2\frac{1}{4}$ foot pieces can be cut from a 15 $\frac{1}{2}$ –foot board?</i> M06.A-N.2.1.1 M06.A-N.2.2.1 M06.A-N.2.2.2</p> <p>PA.CC.2.1.6.E.1,PA.CC.2.1.6.E.2,PA.CC.2.1.6.E.3 M06.A-N.1.1.1 M06.A-N.2.1.1 M06.A-N.2.2.1 M06.A-N.2.2.2</p>			
<p><i>IV. Surface Area of Prisms and Pyramids</i></p> <p>Nets and Surface Area of Prisms</p> <p>Nets and Surface Area of Pyramids</p> <p><i>V. Expressions and Equations</i></p> <p>Writing, Interpreting, and Analyzing Expressions</p>	<p>PA.CC.2.3.6.A.1,PA.CC.2.2.6.B.1 M06.C-G.1.1.1 M06.C-G.1.1.5 Represent three-dimensional figures using nets made up of rectangles and triangles. M06.C-G.1.1.6 Determine the surface area of the triangular and rectangular prisms (including cubes). Formulas will be provided. M06.B-E.1.1.4</p> <p>PA.CC.2.3.6.A.1,PA.CC.2.2.6.B.1,PA.CC.2.2.2.B.2 M06.C-G.1.1.1 M06.C-G.1.1.5 M06.B-E.1.1.4 M06.B-E.2.1.2</p> <p>PA.CC.2.2.6.B.1,PA.CC.2.3.6.A.1 M06. B-E.1.1.1 Write and evaluate numerical expressions involving whole-number expressions. M06.B-E.1.1.2</p>			

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<p><i>VI. Volume of a Rectangular Prism</i></p> <p>Volume Formulas for Rectangular Prisms</p> <p><i>VII. Ratios and Rates with Fractions, Decimals, and Percents</i></p> <p>Ratios, Fractions, Unit Rates, and Cross-Multiplying</p> <p>Ratios with Tape Diagrams and Equations</p> <p>Percent</p> <p>Relate Different Measurement</p>	<p>PA.CC.2.2.6.B.1, PA.CC.2.3.6.A.1 M06.B-E.1.1.4 M06.C-G.1.1.1 M06.C-G.1.1.2 M06.C-G.1.1.3 Determine the volume of right rectangular prisms with fractional edge lengths. Formulas will be provided. M06.C-G.1.1.5</p> <p>PA.CC.2.1.6.D.1,PA.CC.2.2.6.B.2 M06.A-R.1.1.1 M06.A-R.1.1.2 M06.A-R.1.1.3 M06.A-R.1.1.4 M06.B-E.2.1.2 M06.B-E.2.1.3</p> <p>PA.CC.2.1.6.D.1,PA.CC.2.2.6.B.2 M06.A-R.1.1.1 M06.A-R.1.1.2 M06.A-R.1.1.3 M06.A-R.1.1.4 M06.B-E.2.1.2 M06.B-E.2.1.3</p> <p>PA.CC.2.1.6.D.1, PA.CC.2.2.6.B.2 M06.A-R1.1.5 Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent. M06.B-E.2.1.2 M06.B-E.2.1.3</p> <p>PA.CC.2.1.6.D.1,PA.CC.2.2.6.B.2,PA.CC.2.3.6.A.1</p>			

COURSE OUTLINE	PA ASSESSMENT ANCHORS (bolded) and PA COMMON CORE STANDARDS (non-bolded)			
Units	M06.A-R.1.1 Represent and/or solve real-world and mathematical problems using rates, ratios, and/or percents. M06.B-E.2.1.2 M06.B-E.2.1.3 M06.C-G.1.1.1 M06.G-C.1.1.2 M06.C-G.1.1.5 M06.C-G.1.1.6			
<p><i>VIII. Analyzing Statistics</i></p> <p>Displaying Data</p> <p>Summarizing Data: Mean and Median</p> <p>Describing Variability in Data</p> <p><i>IX. Rational Numbers and the Coordinate Plane</i></p>	<p>PA.CC.2.4.6.B.1 M06.D-S.1.1.1 Display numerical data in plots on a number line, including dot plots, histograms, and box-and-whisker plots. M06.D-S.1.1.3 Describe any overall pattern and any deviations from the overall pattern with reference to the context in which the data were gathered.</p> <p>PA.CC.2.4.6.B.1 M06.D-S.1.1.1 M06.D-S.1.1.2 Determine quantitative measures of center (e.g., range, interquartile range, and/or mean absolute deviation). M06.D-S.1.1.3 M06.D-S.1.1.4 Relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.</p> <p>PA.CC.2.4.6.B.1 M06.D-S.1.1.1 M06.D-S.1.1.2 M06.D-S.1.1.3 M06.D-S.1.1.4</p>			

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<p>X. Operations with Integers (Not in CC. Introduction for 7th grade after Pennsylvania state assessment.)</p>	<p>PA.CC.2.1.7.E.1, M07.A-N.1.1.1 Apply properties of operations to add and subtract rational numbers, including real world contexts. M07.A-N.1.1.2 Represent addition and subtraction on a horizontal or vertical number line. M07.A-N.1.1.3 Apply properties of operations to multiply and divide rational numbers, including real-world contexts; demonstrate that the decimal form of a rational number terminates or eventually repeats.</p>			

Additional Resources from the Pennsylvania Department of Education:

- 1) PACC Online Resources: [PACC Resources](#)
- 2) Explanations and Examples of Math CC: [CC Resource](#)