

SENECA VALLEY SCHOOL DISTRICT

CURRICULUM

Course Title:	Math
Grade Level(s):	5
Periods Per Week:	5
Length of Period:	75 minutes
Length of Course:	Full Year
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Date:	October 15, 2014

COURSE DESCRIPTION:

KEY:

Fifth grade mathematic students will demonstrate: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

This document identifies the eligible content for each of the strands of the Common Core Standards. The “Big Ideas” highlights the “Learning Focus” in each unit. The standards and eligible content are found in the “Standards” column. The “Resources” column identifies the corresponding units in the *Math Expressions* series that can be used for instruction. Also listed under “Resources” are the higher level tasks that are to be used when teaching each strand. Tasks can be accessed by clicking on the link. Additional tasks are available on the All shared.

BIG IDEAS	PA COMMON CORE STANDARDS		
Fraction Concepts	Number and Operations - Fractions		
<p><u>Unit 1</u></p> <ul style="list-style-type: none"> - Addition/ Subtraction with Fractions - Equivalent Fractions <p><u>Unit 3</u></p> <ul style="list-style-type: none"> - Multiplication with Fractions - Division with Fractions 	<p>CC.2.1.5.C.1 Use the understanding of equivalency to add and subtract fractions.</p> <p><u>Eligible Content</u></p> <p>M05.A-F.1.1.1 Add and subtract fractions (including mixed numbers) with unlike denominators. (May include multiple methods and representations.) <i>Example: $2/3 + 5/4 = 8/12 + 15/12 = 23/12$</i></p> <p>CC.2.1.5.C.2 Apply and extend previous understandings of multiplication and division to multiply and divide fractions.</p> <p><u>Eligible Content</u></p> <p>M05.A-F.2.1.1 Solve word problems involving division of whole numbers leading to answers in the form of fractions (including mixed numbers).</p> <p>M05.A-F.2.1.2 Multiply a fraction (including mixed numbers) by a fraction.</p> <p>M05.A-F.2.1.3 Demonstrate an understanding of multiplication as scaling (resizing). <i>Example 1: Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.</i></p>		

Example 2: Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number.

M05.A-F.2.1.4 Divide unit fractions by whole numbers and whole numbers by unit fractions.

BIG IDEAS	PA COMMON CORE STANDARDS		
Place Value System	Numbers and Operations Base Ten		
<p><u>Unit 2</u></p> <ul style="list-style-type: none"> - Read and Write Whole Numbers and Decimals - Round and Estimate with Decimals 	<p>CC.2.1.5.B.1 <i>Apply place value concepts to show an understanding of operations and rounding as they pertain to whole numbers and decimals.</i></p> <p><u>Eligible Content</u></p> <p>M05.A-T.1.1.1 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. <i>Example: Recognize that in the number 770, the 7 in the tens place is 1/10 the 7 in the hundreds place.</i></p> <p>M05.A-T.1.1.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and 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. <i>Example 1: $4 \times 102 = 400$</i> <i>Example 2: $0.05 \div 103 = 0.00005$</i></p> <p>M05.A-T.1.1.3 Read and write decimals to thousandths using base-ten numerals, word form, and expanded form. <i>Example: $347.392 = 300 + 40 + 7 + 0.3 + 0.09 + 0.002 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (0.1) + 9 \times (0.01) + 2 \times (0.001)$</i></p>		

	<p>M05.A-T.1.1.4 Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols.</p>		
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	<p>M05.A-T.1.1.5 Round decimals to any place (limit rounding to ones, tenths, hundredths, or thousandths place).</p>		
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BIG IDEAS	PA COMMON CORE STANDARDS		
Understanding Operations	Numbers and Operations Base Ten		
<u>Unit 2</u> - Addition/ Subtraction Whole Numbers and Decimals <u>Unit 4</u> - Multiplication with Whole Numbers - Multiplication with Decimals <u>Unit 5</u> - Division with Whole Numbers - Division with Decimal Numbers	CC.2.1.5.B.2 Extend an understanding of operations with whole numbers to perform operations including decimals. <u>Eligible Content</u> M05.A-T.2.1.1 Multiply multi-digit whole numbers (not to exceed 3-digit by 3-digit). M05.A-T.2.1.2 Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors. M05.A-T.2.1.3 Add, subtract, multiply, and divide decimals to hundredths (no divisors with decimals).		

BIG IDEAS	PA COMMON CORE STANDARDS		
Numerical Expressions	Operations and Algebraic Thinking		
<u>Unit 7</u> <ul style="list-style-type: none"> - Algebraic Reasoning and Expressions - Patterns and Graphs 	<p>CC.2.2.5.A.1 Interpret and evaluate numerical expressions using order of operations.</p> <p><u>Eligible Content</u></p> <p>M05.B-O.1.1.1 Use multiple grouping symbols (parentheses, brackets, or braces) in numerical expressions, and evaluate expressions containing these symbols.</p> <p>M05.B-O.1.1.2 Write simple expressions that model calculations with numbers, and interpret numerical expressions without evaluating them. <i>Example 1: Express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$.</i> <i>Example 2: Recognize that $3 \times (18,932 + 921)$ is three times as large as $18,932 + 921$, without having to calculate the indicated sum or product.</i></p> <p>CC.2.2.5.A.4 Analyze patterns and relationships using two rules.</p> <p><u>Eligible Content</u></p> <p>M05.B-O.2.1.1 Generate two numerical patterns using two given rules. <i>Example: Given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences.</i></p>		

	<p>M05.B-O.2.1.2 Identify apparent relationships between corresponding terms of two patterns with the same starting numbers that follow different rules.</p>		
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Example: Given two patterns in which the first pattern follows the rule “add 8” and the second pattern follows the rule “add 2,” observe that the terms in the first pattern are 4 times the size of the terms in the second pattern.

BIG IDEAS	PA COMMON CORE STANDARDS		
Measurement	Measurement and Data		
<p><u>Unit 7</u></p> <ul style="list-style-type: none"> - Patterns and Graphs <p><u>Unit 8</u></p> <ul style="list-style-type: none"> - Measurements and Data - Area and Volume 	<p>CC.2.4.5.A.1 Solve problems using conversions within a given measurement system.</p> <p><u>Eligible Content</u></p> <p>M05.D-M.1.1.1 Convert among different-sized measurement units within a given measurement system. A table of equivalencies will be provided. <i>Example: Convert 5 cm to meters.</i></p> <p>CC.2.4.5.A.2 Represent and interpret data using appropriate scale.</p> <p>CC.2.4.5.A.4 Solve problems involving computation of fractions using information provided in a line plot.</p> <p><u>Eligible Content</u></p> <p>M05.D-M.2.1.1 Solve problems involving computation of fractions by using information presented in line plots.</p> <p>M05.D-M.2.1.2 Display and interpret data shown in tallies, tables, charts, pictographs, bar graphs, and line graphs, and use a title, appropriate scale, and labels. A grid will be provided to display data on bar graphs or line graphs.</p>		

CC.2.4.5.A.5
Apply concepts of volume to solve problems and relate volume to multiplication and to addition.

Eligible Content

M05.D-M.3.1.1 Apply the formulas $V = l \times w \times h$ and $V = B \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems. Formulas will be provided.

M05.D-M.3.1.2 Find volumes of solid figures composed of two non-overlapping right rectangular prisms.

BIG IDEAS	PA COMMON CORE STANDARDS		
Geometry	Geometry		
<p><u>Unit 7</u> Patterns and Graphs</p> <p><u>Unit 8</u> Classify Geometric Figures</p>	<p>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. <u>Eligible Content</u> M05.C-G.1.1.1 Identify parts of the coordinate plane (<i>x</i>-axis, <i>y</i>-axis, and the origin) and the ordered pair (<i>x</i>-coordinate and <i>y</i>-coordinate). Limit the coordinate plane to quadrant I.</p> <p>M05.C-G.1.1.2 Represent real-world and mathematical problem by plotting points in quadrant I of the coordinate plane, and interpret coordinate values of points in the context of the situation.</p> <p>CC.2.3.5.A.2 Classify two-dimensional figures into categories based on an understanding of their properties. <u>Eligible Content</u> M05.C-G.2.1.1 Classify two-dimensional figures in a hierarchy based on properties. <i>Example 1: All polygons have at least 3 sides, and pentagons are polygons, so all pentagons have at least 3 sides.</i> <i>Example 2: A rectangle is a parallelogram, which is a quadrilateral, which is a polygon; so, a rectangle can be classified as a parallelogram, as a quadrilateral, and as a polygon.</i></p>		