



# **GRADE 5 MATHEMATICS**

CURRICULUM

CARLISLE AREA SCHOOL DISTRICT

DATE OF BOARD APPROVAL: AUGUST 18, 2022

## COURSE OVERVIEW

<b>Title:</b>	Grade 5 Mathematics
<b>Grade Level:</b>	5
<b>Level:</b>	N/A
<b>Length:</b>	90 Minute Blocks
<b>Duration:</b>	165-180 Days
<b>Frequency:</b>	Daily
<b>Pre-Requisites:</b>	N/A
<b>Credit:</b>	N/A
<b>Description:</b>	<p>This curriculum document is part of a vertically-aligned sequence of curricula from grades Kindergarten through five. Each grade level is aligned to the Pennsylvania Mathematics Standards, and addresses the four curricular domains: Numbers and Operations, Algebraic Thinking, Geometry, and Measurement and Data. Throughout elementary school, these courses are designed to develop students' concrete and abstract understanding of mathematics, foster strong number sense, and strengthen the ability to solve increasingly complex problems using a variety of methods and strategies. Ultimately, the objective is to empower students as mathematical thinkers and communicators.</p> <p><i>*Throughout document, italicized vocabulary appears in PSSA Mathematics Glossary.</i></p>

## COURSE TIMELINE

UNIT	TITLE	KEY CONCEPTS	DURATION (DAYS)
	Number Sense and Math Fluency	<ul style="list-style-type: none"> <li>• Ongoing skill development</li> </ul>	Ongoing
1	Numbers and Operations in Base 10 – Place Value	<ul style="list-style-type: none"> <li>• Understanding place value</li> <li>• Navigating standard and expanded forms</li> <li>• Comparing, ordering, and rounding decimals</li> </ul>	25 Days
2	Numbers and Operations in Base 10 - Multi-Digit Whole Number and Decimal Operations	<ul style="list-style-type: none"> <li>• Multiplying and dividing whole numbers</li> <li>• Adding and subtracting decimals</li> <li>• Multiplying and dividing decimals</li> </ul>	30 Days
3	Numbers and Operations - Fractions	<ul style="list-style-type: none"> <li>• Representing fractions in various ways</li> <li>• Adding and subtracting fractions with unlike denominators</li> <li>• Multiplying and dividing fractions</li> </ul>	30 Days
4	Algebraic Concepts	<ul style="list-style-type: none"> <li>• Writing expressions</li> <li>• Solving multi-step equations with order of operations</li> <li>• Identifying patterns</li> </ul>	30 Days
5	Measurement and Data	<ul style="list-style-type: none"> <li>• Measuring and converting measurements in real problems</li> <li>• Reading and interpreting charts and graphs</li> <li>• Solving problems involving fractions</li> <li>• Solving problems involving volume</li> </ul>	25 Days
6	Geometry	<ul style="list-style-type: none"> <li>• Understanding coordinate grids</li> <li>• Classifying objects based on specific attributes</li> <li>• Classifying quadrilaterals and triangles based on properties</li> </ul>	25 Days

## DISCIPLINARY SKILLS and PRACTICES

DISCIPLINARY SKILL/PRACTICE	DESCRIPTION
Make sense of problems and persevere in solving them	Make conjectures about how real-world application problems may be solved, monitor progress toward a solution, and make adjustments in the problem solving plan if necessary.
Reason abstractly and quantitatively	Estimate and check answers to problems and determine the reasonableness of results.
Construct viable arguments and critique the reasoning of others	Justify and communicate conclusions effectively and respond to arguments logically.
Model with mathematics	Use mathematics to model real world problems, interpreting the mathematical results in the context of the situation.
Use appropriate tools strategically	Consider the tools available in solving problems and understand the insights gained by using the tool as well as the limitation of the tool.
Attend to precision	Calculate accurately and efficiently within the context of problems and communicate results precisely.
Look for and make use of structure	Examine problems to discern a pattern or structure and utilize this finding in similar problems.
Look for and express regularity in repeated reasoning	Notice repeated calculations or processes and generalize from those insights in order to solve problems.

*\*Adapted from PA Academic Standards for Mathematics.*

## FLUENCY UNIT

<b>Unit Title</b>	Number Sense and Math Fluency ( <b>Ongoing</b> )		
<b>Unit Description</b>	This is an ongoing mathematics fluency unit that is designed to be taught and reviewed consistently throughout the school year.		
<b>Unit Assessment</b>	N/A		
<b>Essential Question</b>	<b>Learning Goals</b>	<b>Content and Vocabulary</b>	<b>Standards</b>
Fluency Skills	<input type="checkbox"/> Review and practice addition, subtraction, multiplication, and division for basic facts (1-12). <input type="checkbox"/> Review and practice adding/subtracting within 10, and multiplication and division fact families (factor, multiple, prime, composite). <input type="checkbox"/> Regroup and manipulate numbers to assist in whole number operations (specifically with two- and three-digit addition and subtraction). <input type="checkbox"/> Review and practice place value and number sense with whole numbers through millions and decimals up to hundredths.	<b>Vocabulary</b> addition, subtraction, regrouping, multiplication, division, basic facts, factors, addends, subtrahend, dividend, divisor, quotient, minuend, product, sum, difference	Grade 3 standards

# UNIT 1

<b>Unit Title</b>	Numbers and Operations in Base 10 – Place Value (25 Days)		
<b>Unit Description</b>	Students will learn about place value and operations with whole numbers and decimals. They will be able to read and represent whole numbers and decimals and explain the digits’ relationship to each other based on place value. Students will identify the value of numbers utilizing knowledge of location of digits and the use of exponents including powers of 10. They will compare, order, and round decimals based on the value of the number. This unit provides a foundation for number sense and place value that students will need to understand mathematical operations and problem-solving skills.		
<b>Unit Assessment</b>	Common Assessment		
<b>Essential Question</b>	<b>Learning Goals</b>	<b>Content and Vocabulary</b>	<b>Standards</b>
How does the location of the digit determine its value in a whole number?	<input type="checkbox"/> Read and write whole numbers in standard and expanded forms. (Review) <input type="checkbox"/> Explain the relationship between place values in multi-digit numbers ( $\times 10$ or $\times 1/10$ ).	<b>Vocabulary</b> standard form/notation, <i>expanded form/notation</i>	CC.2.1.5.B.1 Apply place value concepts to show an understanding of operations and rounding as they pertain to whole numbers and decimals.  <b>Eligible Content</b> M05.A-T.1.1.1
How do I represent the place value of a whole number using powers of 10?	<input type="checkbox"/> Use whole-number exponents to denote powers of 10. <input type="checkbox"/> Multiply whole numbers by powers of 10; explain the number of zeros in the product. <input type="checkbox"/> Expand a whole number using exponential notation. <input type="checkbox"/> Explain patterns in the number of zeroes as it relates to powers of 10.	<b>Vocabulary</b> base, exponents, powers of 10, exponential notation	CC.2.1.5.B.1 Apply place value concepts to show an understanding of operations and rounding as they pertain to whole numbers and decimals.  <b>Eligible Content</b> M05.A-T.1.1.2

<p>How does the location of the digit determine its value in a decimal?</p>	<input type="checkbox"/> Read and write decimals to the thousandths using standard notation. <input type="checkbox"/> Read and write decimals to the thousandths in word form. <input type="checkbox"/> Read and write decimals to the thousandths using expanded form.	<p><b>Vocabulary</b> tenths, hundredths, thousandths</p>	<p>CC.2.1.5.B.1 Apply place value concepts to show an understanding of operations and rounding as they pertain to whole numbers and decimals.</p> <p><b>Eligible Content</b> M05.A-T.1.1.3</p>
<p>How do I compare, order, and round decimals?</p>	<input type="checkbox"/> Compare and order decimals to the thousandths. <input type="checkbox"/> Round a decimal to any place value.	<p><b>Vocabulary</b> tenths, hundredths, thousandths, greater than, less than, equal to, not equal to</p>	<p>CC.2.1.5.B.1 Apply place value concepts to show an understanding of operations and rounding as they pertain to whole numbers and decimals.</p> <p><b>Eligible Content</b> M05.A-T.1.1.4 M05.A-T.1.1.5</p>
<p>How do I represent the place value of a decimal using powers of 10?</p>	<input type="checkbox"/> Multiply decimals by powers of 10. <input type="checkbox"/> Divide decimals by powers of 10.	<p><b>Vocabulary</b> base, exponents, powers of 10, exponential notation</p>	<p>CC.2.1.5.B.1 Apply place value concepts to show an understanding of operations and rounding as they pertain to whole numbers and decimals.</p> <p><b>Eligible Content</b> M05.A-T.1.1.1</p>
<p>How do I answer open ended questions involving number sense and place value?</p>	<input type="checkbox"/> Review the steps to answer open ended questions using number sense and place value questions.	<p>N/A</p>	<p>N/A</p>

## UNIT 2

<b>Unit Title</b>	Numbers and Operations in Base 10 - Multi-Digit Whole Number and Decimal Operations <b>(30 Days)</b>		
<b>Unit Description</b>	Students will learn about multi-digit whole number and decimal operations using multiple algorithms. Whole number addition and subtraction should be reviewed to provide the foundation for decimal addition and subtraction. Students should review the rounding of whole numbers for the purpose of determining the reasonableness of an answer. Students will use critical thinking and problem-solving to interpret and represent the remainder of a division problem.		
<b>Unit Assessment</b>	Common Assessment		
<b>Essential Question</b>	<b>Learning Goals</b>	<b>Content and Vocabulary</b>	<b>Standards</b>
How do I multiply a multi-digit whole number?	<input type="checkbox"/> Multiply up to a 3 x 3 multi-digit whole number using a standard algorithm.	<b>Vocabulary</b> traditional algorithm, partial products algorithm, lattice algorithm, <i>product, factor</i>	CC.2.1.5.B.2 Extend an understanding of operations with whole numbers to perform operations including decimals.  <b>Eligible Content</b> M05.A-T.2.1.1
How do I divide multi-digit whole numbers?	<input type="checkbox"/> Divide multi-digit whole numbers with up to four-digit dividends and two-digit divisors using a standard algorithm.	<b>Vocabulary</b> inverse operations, <i>dividend, divisor, quotient</i> , traditional algorithm, partial quotients algorithm, remainder	CC.2.1.5.B.2 Extend an understanding of operations with whole numbers to perform operations including decimals.  <b>Eligible Content</b> M05.A-T.2.1.2



<p>How do I solve a word problem using division?</p>	<p><input type="checkbox"/> Interpret the remainder in a division word problem.</p> <p><input type="checkbox"/> Explain the solution to multi-digit, whole number operations using words or examples (straight computation or word problems).</p>	<p><b>Vocabulary</b> remainder</p>	<p>CC.2.1.5.B.2 Extend an understanding of operations with whole numbers to perform operations including decimals.</p> <p><b>Eligible Content</b> M05.A-T.2.1.2</p>
<p>How do I add and subtract numbers with decimals?</p>	<p><input type="checkbox"/> Add two decimals up to the hundredths.</p> <p><input type="checkbox"/> Subtract two decimals up to the hundredths.</p> <p><input type="checkbox"/> Explain decimal addition and subtraction strategies and their relationship to one another.</p>	<p><b>Vocabulary</b> <i>sum, difference, addend, subtrahend, minuend</i></p>	<p>CC.2.1.5.B.2 Extend an understanding of operations with whole numbers to perform operations including decimals.</p> <p><b>Eligible Content</b> M05.A-T.2.1.3</p>
<p>How do I multiply and divide decimals?</p>	<p><input type="checkbox"/> Multiply two decimals up to the hundredths.</p> <p><input type="checkbox"/> Divide a dividend up to the hundredths by up to a two-digit, whole number divisor. (The divisor does not include a decimal.)</p> <p><input type="checkbox"/> Explain decimal multiplication and division strategies and their relationship to one another.</p>	<p><b>Vocabulary</b> <i>dividend, divisor, quotient, product, factor</i></p>	<p>CC.2.1.5.B.2 Extend an understanding of operations with whole numbers to perform operations including decimals.</p> <p><b>Eligible Content</b> M05.A-T.2.1.3</p>
<p>How do I solve open ended questions involving decimals?</p>	<p><input type="checkbox"/> Review the steps to answer open ended questions involving decimals.</p>	<p>N/A</p>	<p>N/A</p>

## UNIT 3

<b>Unit Title</b>	Numbers and Operations – Fractions (30 Days)		
<b>Unit Description</b>	Students will learn about fractional relationships, equivalency, scaling, and operations including fractions and mixed numbers. Students will be able to convert, regroup, and simplify fractions in order to compare fractions, order fractions, and solve problems. This unit provides the fractional knowledge and understanding needed for mastery in the domains of algebraic concepts, measurement and data, and geometry.		
<b>Unit Assessment</b>	Common Assessment		
<b>Essential Question</b>	<b>Learning Goals</b>	<b>Content and Vocabulary</b>	<b>Standards</b>
How do I represent the same fraction in different ways?	<input type="checkbox"/> Convert improper fractions to mixed numbers. <input type="checkbox"/> Convert mixed numbers to improper fractions. <input type="checkbox"/> Simplify fractions to lowest terms	<b>Vocabulary</b> <i>fraction</i> , benchmark fractions, equivalent fractions, improper fractions, mixed numbers, simplify/lowest terms, <i>numerator</i> , <i>denominator</i>	CC.2.1.5.C.1 Use the understanding of equivalency to add and subtract fractions.  <b>Eligible Content</b> M05.A-F.1.1.1
How do I add fractions with unlike denominators?	<input type="checkbox"/> Use estimates and benchmark fractions to reason about sums of fractions. <input type="checkbox"/> Add fractions with unlike denominators. <input type="checkbox"/> Add mixed numbers with unlike denominators.	<b>Vocabulary</b> <i>sum</i> , regroup, equivalent fraction	CC.2.1.5.C.1 Use the understanding of equivalency to add and subtract fractions.  <b>Eligible Content</b> M05.A-F.1.1.1

<p>How do I subtract fractions with unlike denominators?</p>	<p><input type="checkbox"/> Use estimates and benchmark fractions to reason about differences of fractions.</p> <p><input type="checkbox"/> Subtract fractions with unlike denominators.</p> <p><input type="checkbox"/> Subtract mixed numbers with unlike denominators.</p> <p><input type="checkbox"/> Solve word problems involving fraction addition and subtraction.</p>	<p><b>Vocabulary</b> <i>difference, regroup, equivalent fraction</i></p>	<p>CC.2.1.5.C.1 Use the understanding of equivalency to add and subtract fractions.</p> <p><b>Eligible Content</b> M05.A-F.1.1.1</p>
<p>How do I multiply with fractions?</p>	<p><input type="checkbox"/> Multiply fractions by fractions.</p> <p><input type="checkbox"/> Multiply mixed numbers by fractions and mixed numbers.</p>	<p><b>Vocabulary</b> <i>product, improper fractions</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><b>Eligible Content</b> M05.A-F.2.1.2</p>
<p>What are effects of multiplying fractions by other fractions?</p>	<p><input type="checkbox"/> Explain the effects of multiplying by fractions greater than one or less than one.</p> <p><input type="checkbox"/> Explain the effects of multiplying by fractions equal to one (equivalent fractions).</p> <p><input type="checkbox"/> Compare the size of a product to one scale factor based.</p> <p><input type="checkbox"/> Apply the concept of scaling to word problems.</p>	<p><b>Vocabulary</b> <i>scale, scale drawing, scale factor</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><b>Eligible Content</b> M05.A-F.2.1.3</p>

<p>How do I divide with fractions?</p>	<p><input type="checkbox"/> Divide a whole number by a unit fraction.  <input type="checkbox"/> Divide a unit fraction by a whole number.  <input type="checkbox"/> Use contexts or word problems to solve fraction-based division problems.</p>	<p><b>Vocabulary</b>  unit fraction, <i>dividend</i>, <i>divisor</i>, <i>quotient</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><b>Eligible Content</b>  M05.A-F.2.1.4  M05.A-F.2.1.1</p>
<p>How do I solve open ended questions involving fractions?</p>	<p><input type="checkbox"/> Review the steps to answer open ended questions involving fractions.</p>	<p>N/A</p>	<p>N/A</p>

## UNIT 4

<b>Unit Title</b>	Algebraic Concepts (30 Days)		
<b>Unit Description</b>	Students will learn about order of operations, patterns, and relationships between whole numbers, decimals, and fractions. Students will identify and use symbols following order of operations to solve and evaluate problems. They will generate and extend rules to identify the relationship between two corresponding terms (i.e. an input/output table).		
<b>Unit Assessment</b>	Common Assessment		
<b>Essential Question</b>	<b>Learning Goals</b>	<b>Content and Vocabulary</b>	<b>Standards</b>
How do I write an expression?	<input type="checkbox"/> Explain the difference between an expression and an equation. <input type="checkbox"/> Write numerical expressions that contain grouping symbols. <input type="checkbox"/> Use parentheses interchangeably with the multiplication symbol.	<b>Vocabulary</b> parenthesis, brackets, braces, nested parenthesis, grouping symbols, <i>order of operations</i> , <i>numerical expression</i> , <i>equation</i>	CC.2.2.5.A.1 Interpret and evaluate numerical expressions using order of operations.  <b>Eligible Content</b> M05.B-O.1.1.1 M05.B-O.1.1.2
How do I solve a multi-step equation using order of operations?	<input type="checkbox"/> Compare numerical expressions without solving them. <input type="checkbox"/> Evaluate expressions using the order of operations.	<b>Vocabulary</b> evaluate, simplify, <i>order of operations</i> , <i>associative property of addition and multiplication</i> , <i>commutative property of addition and multiplication</i>	CC.2.2.5.A.1 Interpret and evaluate numerical expressions using order of operations.  <b>Eligible Content</b> M05.B-O.1.1.1

<p>How do I identify and extend a pattern?</p>	<p><input type="checkbox"/> Generate two numerical patterns using two given rules.  <input type="checkbox"/> Identify relationships between corresponding terms of two patterns.</p>	<p><b>Vocabulary</b>  pattern</p>	<p>CC.2.2.5.A.4  Analyze patterns and relationships using two rules.   <b>Eligible Content</b>  M05.B-O.2.1.1  M05.B-O.2.1.2</p>
<p>How do I solve open ended questions using algebra?</p>	<p><input type="checkbox"/> Review the steps to answer open ended questions involving decimals.</p>	<p>N/A</p>	<p>N/A</p>

## UNIT 5

<b>Unit Title</b>	Measurement and Data (25 Days)		
<b>Unit Description</b>	Student will learn to convert within the same measurement system to solve real-world problems. Additionally, students will understand concepts of volume including computation of volume for figures composed of multiple rectangular prisms. Students will work with different graphs and charts to interpret data involving fractions. This unit comes after instruction on decimal and fraction concepts because basic computation knowledge of fractions and decimals are foundational to problem-solving with measurement and data.		
<b>Unit Assessment</b>	Common Assessment		
<b>Essential Question</b>	<b>Learning Goals</b>	<b>Content and Vocabulary</b>	<b>Standards</b>
How do I convert measurements within a given system?	<input type="checkbox"/> Convert among measurement units within the same system. <input type="checkbox"/> Use measurement conversions to solve multi-step, real-world problems.	<b>Vocabulary</b> metric system, U.S. standard system, conversion	CC.2.4.5.A.1 Solve problems using conversions within a given measurement system.  <b>Eligible Content</b> M05.D-M.1.1.1
How do I interpret and create charts and graphs using data?	<input type="checkbox"/> Interpret data shown in tallies, tables, charts, pictographs, bar graphs, and line graphs, and line plots. <input type="checkbox"/> Use a title, appropriate scale, and labels on graphs.	<b>Vocabulary</b> <i>bar graph</i> , line graph, <i>line plot</i> , <i>scale</i> , labels, <i>pictograph</i>	CC.2.4.5A.2 Represent and interpret data using appropriate scale.  <b>Eligible Content</b> M05.D-M.2.1.2

How do I solve problems with fractions on a line plot?	<input type="checkbox"/> Solve problems involving fractional data on line plots.	<b>Vocabulary</b> <i>line plot, interval</i>	CC.2.4.5.A.4 Solve problems involving computation of fractions using information provided in a line plot.  <b>Eligible Content</b> M05.D-M.2.1.1
How do I solve for volume of a right rectangular prism?	<input type="checkbox"/> Solve for the area of a rectangle. <input type="checkbox"/> Measure volume by counting unit cubes and improvised units. <input type="checkbox"/> Apply formulas to find volumes of rectangular prisms including $V = l \times w \times h$ and $V = B \times h$ .	<b>Vocabulary</b> cubic units, 3-D figure, <i>volume</i> , formula, <i>rectangular prism</i> , base	CC.2.4.5.A.5 Apply concepts of volume to solve problems and relate volume to multiplication and addition.  <b>Eligible Content</b> M05.D-M.3.1.1
How do I apply the formula for the volume of rectangular prisms to real-world problems?	<input type="checkbox"/> Find volumes of figures composed of rectangular prisms using whole numbers only. <input type="checkbox"/> Solve real-world problems involving volumes of figures composed of prisms.	<b>Vocabulary</b> cubic units, 3-D figure (review), <i>volume</i> , formula, <i>prism</i> , <i>rectangular prism</i> , base, <i>edge</i>	CC.2.4.5.A.5 Apply concepts of volume to solve problems and relate volume to multiplication and addition.  <b>Eligible Content</b> M05.D-M.3.1.2
How do I solve open ended questions involving measurement and data?	<input type="checkbox"/> Review the steps to answer open ended questions involving measurement and data.	N/A	N/A



## UNIT 6

<b>Unit Title</b>	Geometry (25 Days)		
<b>Unit Description</b>	Students will learn the properties of a polygon and classification as well as plotting data on a coordinate grid. They will create hierarchies of quadrilaterals and triangles based on identified properties. Students will also identify and use ordered pairs to represent and identify data on a coordinate grid.		
<b>Unit Assessment</b>	Common Assessment		
<b>Essential Question</b>	<b>Learning Goals</b>	<b>Content and Vocabulary</b>	<b>Standards</b>
How do I understand and use a Cartesian coordinate grid?	<input type="checkbox"/> Understand and use a Cartesian coordinate grid in two dimensions. <input type="checkbox"/> Identify the components of a coordinate plane. <input type="checkbox"/> Identify an ordered pair (x,y) in quadrant 1 of a coordinate plane. <input type="checkbox"/> Represent real-world problems by graphing points in quadrant 1.	<b>Vocabulary</b> <i>coordinate grid, plane, axis, X-axis, Y-axis, origin, coordinates, X-coordinate, Y-coordinate, quadrants, ordered pair, point</i>	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.  <b>Eligible Content</b> M05.C-G.1.1.1 M05.C-G.1.1.2
What are common properties of polygons?	<input type="checkbox"/> Understand that shapes in a subcategory have all the properties of shapes in the parent category.	<b>Vocabulary</b> Two-dimensional (2D), properties, <i>quadrilaterals, triangles, polygons, edge</i>	CC.2.3.5.A.2 Classify two-dimensional figures into categories based on an understanding of their properties.  <b>Eligible Content</b> M05.C-G.2.1.1

<p>How do I classify quadrilaterals in a hierarchy based on properties?</p>	<input type="checkbox"/> Classify quadrilaterals in a hierarchy based on properties.	<p><b>Vocabulary</b>          classify, congruent, <i>quadrilaterals</i>, hierarchy, properties, <i>polygon</i>, parallel, perpendicular, <i>vertex</i>, vertices, <i>parallelogram</i>, rhombus, <i>rectangle</i>, <i>square</i>, trapezoid, <i>angles</i></p>	<p>CC.2.3.5.A.2          Classify two-dimensional figures into categories based on an understanding of their properties.</p> <p><b>Eligible Content</b>          M05.C-G.2.1.1</p>
<p>How do I classify triangles in a hierarchy based on properties?</p>	<input type="checkbox"/> Classify triangles in a hierarchy based on properties.	<p><b>Vocabulary</b>          classify, congruent, <i>triangles</i>, hierarchy, properties, <i>right angle</i>, <i>obtuse angle</i>, <i>acute angle</i>, <i>right triangle</i>, <i>equilateral triangle</i>, <i>isosceles triangle</i>, <i>scalene triangle</i>, <i>straight angle</i></p>	<p>CC.2.3.5.A.2          Classify two-dimensional figures into categories based on an understanding of their properties.</p> <p><b>Eligible Content</b>          M05.C-G.2.1.1</p>
<p>How do I solve open ended questions involving geometry?</p>	<input type="checkbox"/> Review the steps to answer open ended questions involving geometry.	<p>N/A</p>	<p>N/A</p>

# ACCOMMODATIONS AND MODIFICATIONS

Adaptations or modifications to this planned course will allow exceptional students to earn credits toward graduation or develop skills necessary to make a transition from the school environment to community life and employment. The I.E.P. team has determined that modifications to this planned course will meet the student's I.E.P. needs.

Adaptations/Modifications may include but are not limited to:

## **INSTRUCTION CONTENT**

- Modification of instructional content and/or instructional approaches
- Modification or deletion of some of the essential elements

## **SETTING**

- Preferential seating

## **METHODS**

- Additional clarification of content
- Occasional need for one to one instruction
- Minor adjustments or pacing according to the student's rate of mastery
- Written work is difficult, use verbal/oral approaches
- Modifications of assignments/testing
- Reasonable extensions of time for task/project completion
- Assignment sheet/notebook
- Modified/adjusted mastery rates
- Modified/adjusted grading criteria
- Retesting opportunities

## **MATERIALS**

- Supplemental texts and materials
- Large print materials for visually impaired students
- Outlines and/or study sheets
- Carbonless notebook paper
- Manipulative learning materials
- Alternatives to writing (tape recorder/calculator)

## **Grade 5 Eligible Content (EC) Standards**

### **UNIT 1**

*How does the location of the digit determine its value in a whole number?*

M05.A-T.1.1.1

Demonstrate an understanding that in a multi-digit number, a digit in one place represents  $\frac{1}{10}$  of what it represents in the place to its left.

*How do I represent the place value of a whole number using powers of 10?*

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.

*How does the location of the digit determine its value in a decimal?*

M05.A-T.1.1.3

Read and write decimals to thousandths using base-ten numerals, word form, and expanded form.

*How do I compare, order, and round decimals?*

M05.A-T.1.1.4

Compare two decimals to thousandths based on meanings of the digits in each place using  $>$ ,  $=$ , and  $<$  symbols.

M05.A-T.1.1.5

Round decimals to any place (limit rounding to ones, tenths, hundredths, or thousandths place).

*How do I represent the place value of a decimal using powers of 10?*

M05.A-T.1.1.1

Demonstrate an understanding that in a multi-digit number, a digit in one place represents  $\frac{1}{10}$  of what it represents in the place to its left.

## UNIT 2

*How do I multiply a multi-digit whole number?*

M05.A-T.2.1.1

Multiply whole digit numbers (not to exceed 3-digit x 3 digit).

*How do I divide multi-digit whole numbers?*

*How do I solve a word problem using division?*

M05.A-T.2.1.2

Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors.

*How do I add and subtract numbers with decimals?*

*How do I multiply and divide decimals?*

M05.A-T.2.1.3

Add, subtract, multiply, and divide decimals to hundredths (no divisors with decimals).

## UNIT 3

*How do I represent the same fraction in different ways?*

*How do I add fractions with unlike denominators?*

*How do I subtract fractions with unlike denominators?*

M05.A-F.1.1.1

Add and subtract fractions (including mixed numbers) with unlike denominators. (May include multiple methods and representations.)

*How do I multiply with fractions?*

M05.A-F.2.1.2

Multiply a fraction including mixed numbers by a fraction.

*What are effects of multiplying fractions by other fractions?*

M05.A-F.2.1.3

Demonstrate an understanding of multiplication as scaling (resizing). 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. 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.

*How do I divide with fractions?*

M05.A-F.2.1.4

Divide unit fractions by whole numbers and whole numbers by unit fractions.

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).

## **UNIT 4**

*How do I write an expression?*

*How do I solve a multi-step equation using order of operations?*

M05.B-O.1.1.1

Use multiple grouping symbols in numerical expressions and evaluate expressions containing these symbols.

M05.B-O.1.1.2

Write simple expressions that model calculations with numbers and interpret numerical expressions without evaluating them.

*How do I identify and extend a pattern?*

M05.B-O.2.1.1

Generate two numerical patterns using two given rules.

M05.B-O.2.1.2

Identify apparent relationships between corresponding terms of two patterns with the same starting numbers that follow different rules.

## UNIT 5

*How do I convert measurements within a given system?*

M05.D-M.1.1.1

Convert between different-sized measurement units within a given measurement system. A table of equivalencies will be provided.

*How do I interpret and create charts and graphs using data?*

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.

*How do I solve problems with fractions on a line plot?*

M05.D-M.2.1.1

Solve problems involving computation of fractions by using information presented in line plots.

*How do I solve for volume of a right rectangular prism?*

M05.D-M.3.1.1

Apply the formulas  $V = l \times w \times h$  for rectangular prisms to find volumes of right rectangular prism with whole number edge-lengths in the context of solving real-world and mathematical problems.

*How do I apply the formula for the volume of rectangular prisms to real-world problems?*

M05.D-M.3.1.2

Find volumes of solid figures composed of two non-overlapping right rectangular prisms.

## UNIT 6

*How do I understand and use a Cartesian coordinate grid?*

M05.C-G.1.1.1

Identify parts of the coordinate plane. Limit the coordinate plane to quadrant 1.

M05.C-G.1.1.2

Represent real-world and mathematical problems by plotting points in quadrant 1 of the coordinate plane and interpret coordinate values of points in the context of the situation.

*What are common properties of polygons?*

*How do I classify quadrilaterals in a hierarchy based on properties?*

*How do I classify triangles in a hierarchy based on properties?*

M05.C-G.2.1.1

Classify two-dimensional figures in a hierarchy based on properties.