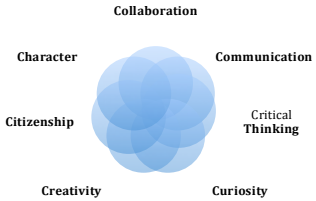
Content Area	Course: Mathematics	**Grade Level: 5**
	R14 The Seven Cs of Learning 	

Unit Titles	**Length of Unit**
Unit 1-Multiply and Divide Whole Numbers/Order of Operations	6 weeks
Unit 2-Extending Place Value to Numbers Less Than One	5 weeks
Unit 3-Adding and Subtracting Fractions and Decimals	5 weeks
Unit 4-Volume and Data	6 weeks
Unit 5-Multiplying and Dividing Fractions and Decimals	7 weeks
Unit 6-Geometry	5 weeks

Strands	Course Level Expectations
Number and Operations in Base-Ten	1. Understand the place value system. 2. Understand why division procedures work based on the meaning of base-ten numerals and properties of operations. 3. Finalize fluency with multi-digit addition, subtraction, and multiplication 4. Perform operations with multi-digit whole numbers and with decimals to hundredths.
Number and Operations with Fractions	1. Use equivalent fractions as a strategy to add and subtract fractions with like and unlike denominators. 2. Use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Limited to case of dividing unit fractions by whole numbers and whole numbers by unit fractions.) 3. Apply and extend previous understandings of multiplication and division to multiply and divide fractions and decimals.
Operations and Algebraic Thinking	1. Write and interpret numerical expressions. 2. Analyze patterns and relationships.

Strands	Course Level Expectations
Geometry	1. Graph points on the coordinate plane to solve real-world mathematical problems. 2. Classify two-dimensional figures into categories based on their properties.
Measurement and Data	1. Convert like measurement units within a given measurement system. 2. Represent and interpret data. 3. Geometric measurement: understand concepts of volume and relate volume to multiplication and addition. 4. Decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes.

Unit Title	Multiply and Divide Whole Numbers/Order of Operations	Length of Unit	6 weeks

Inquiry Questions (Engaging & Debatable)	● How do we write and interpret numerical expressions? ● How do we multiply multi-digit whole numbers most efficiently? ● How do we use properties of operations, place value and other strategies to solve division problems?
Standards	**Operations and Algebraic Thinking** 5.OA.A1, 5.OA.A2, **Number and Operations in Base-Ten** 5.NBT.B5, 5.NBT.B6
Unit Strands & Concepts	● Arithmetic patterns ● Order of operations ● Unitizing ● Distributive property ● Multi-digit multiplication and division strategies ● Efficient composing and decomposing strategies
Key Vocabulary	Parentheses, brackets, braces, numerical expressions, quotients, dividends, divisors, equations, rectangular arrays, area models

Standards based on Common Core State Standards
For more information visit: http://www.corestandards.org/Math/Content/5/introduction/

Unit Title	Multiply and Divide Whole Numbers/Order of Operations	Length of Unit	6 weeks

Critical Content: My students will Know…	**Key Skills: My students will be able to (Do)…**
● Some division situations will produce a remainder, but the remainder will always be less than the divisor. If the remainder is greater than the divisor that means at least one more can be given to each or at least one more group of the given size may be created. ● How the remainder is explained depends on the problem situation. ● The role of the distributive property in performing multi-digit multiplication ● Numbers can be expressed in different base ten units (i.e.120 ones=12 tens= 1 hundred and 2 tens). ● Division situations can involve finding the size of a given group or the number of groups. ● Division and multiplication problems with large numbers can be decomposed into several smaller problems. ● Conventional order of operations ● Larger quotients and products can be derived using foundational and familiar facts. ● Arithmetic patterns can be used to solve more complex multiplication problems. ● Relationship between multiplication and division ● Division can be interpreted as an unknown factor problem	● Use parentheses, brackets, or braces in numerical expressions ● Evaluate expressions containing parentheses, brackets, or braces in numerical expressions ● Write simple expressions to record numeric calculations ● Interpret numerical expressions ● Fluently multiply multi-digit whole numbers using strategies based on place value, properties of operations. ● Find whole number quotients and remainders (up to 4-digit dividends with 2-digit divisors) using strategies based on place value, properties of operations, and the relationship between multiplication and division ● Relate written equations to pictorial or concrete models ● Fluently multiply multi-digit whole numbers using the standard algorithm, ● Represent numbers in different units (i.e. 120 ones or 12 tens). ● Decompose numbers in order to simplify larger multiplication and division problems. ● Use various concrete and pictorial models to represent multiplication and division situations (arrays, number bonds, area models, equal groups, counters, base ten blocks, etc.) ● Model and solve multiplication and division stories ● Assess the reasonableness of answers using mental computation and estimation strategies including rounding

Assessments:	Performance task focused on evaluating and writing numeric expressions, multi-digit multiplication and division strategies, unitizing, and ability to compose and decompose numbers efficiently.
Teacher Resources:	MyMath, Engage NY, 3 Act Task Bank, CCSS aligned anchor tasks, Illustrative Mathematics, Georgia Department of Education CCSS aligned tasks, North Carolina Department of Instruction, CCSS aligned tasks.

Unit Title	Extending Place Value to Numbers Less Than One	Length of Unit	5 weeks

Inquiry Questions (Engaging & Debatable)	● How do we use concepts of place value to understand powers of ten? ● How do we extend our understanding of the place value system to read, write and compare decimals to the thousandths?
Standards	**Number and Operations in Base-Ten** 5.NBT.A1, 5.NBT.A2, 5.NBT.A3, 5.NBT.A4
Unit Strands & Concepts	• Unitizing • Composing and decomposing • Base ten and place value patterns • Rounding and comparison strategies • Exponential reasoning and notation
Key Vocabulary	Digit, zeros, product, powers of ten, decimal point, exponents, tenths, hundredths, thousandths, rounding

Unit Title	Extending Place Value to Numbers Less Than One	Length of Unit	5 weeks

Critical Content: My students will **Know**…	Key Skills: My students will be able to **(Do)**…
● In a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents to its left. ● The decimal point does not move when multiplying or dividing a number by a power of 10, instead the digits shift places to reflect the product or quotient. ● Zeros following the last digit (1-9) in a decimal number to not influence its value ● Numbers can be decomposed in multiple ways (3.7 = 3 ones and 7 tenths, or 3.7 = 37 tenths or 2 ones and 17 tenths, etc.)	● Explain patterns in the number of zeros of a product when multiplying by powers of 10. ● 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 ● Read, write, and compare decimals to the thousandths using base ten numerals, number names, and expanded form. ● Compare two decimals to the thousandths based on the meaning of the digits in each place ● Use place value understanding to round decimals to any place

Assessments:	Performance task focused on understanding number position and magnitude, recognizing and applying base ten patterns, early exponential r*e*asoning, and rounding and comparison strategies.
Teacher Resources:	MyMath, Engage NY, 3 Act Task Bank, CCSS aligned anchor tasks, Illustrative Mathematics, Georgia Department of Education CCSS aligned tasks, North Carolina Department of Instruction, CCSS aligned tasks.

Unit Title	Adding and Subtracting Fractions and Decimals	Length of Unit	5 weeks

Inquiry Questions (Engaging & Debatable)	● How do we perform operations with multi-digit whole numbers and with decimals to the hundredths? ● How do we use equivalent fractions as a strategy to add and subtract fractions? ● How do we use number sense of fractions to solve problems and estimate reasonableness of answers? ● How can division situations be represented with fractions? ●
Standards	**Number and Operations in Base-Ten** 5.NBT.B7, **Number and Operations with Fractions** 5.NF.A1, 5.NF.A2, 5.NF.B3
Unit Strands & Concepts	● Relationship between decimals and fractions ● Fractions as a division situation ● Extending addition and subtraction to quantities less than one whole ● Fractional equivalence
Vocabulary	Decimal, tenths, hundredths, thousandths, fractions, unlike denominators, mixed numbers, equivalent fractions, benchmark fractions, estimate, reasonableness, numerator, denominator

Unit Title	Adding and Subtracting Fractions and Decimals	**Length of Unit**	5 weeks

Critical Content: **My students will Know…**	**Key Skills:** **My students will be able to (Do)…**
● The process of composing and decomposing a base-ten unit is the same for decimals as for whole numbers ● Fractions and decimals, like whole numbers, cannot be combined or separated without a common unit. ● Equivalent fractions and decimals have the same value. ● Fractions can represent a part of a whole, part of a set, or a division situation. ● Finding equivalent fractions through multiplication or division is understood as multiplying or dividing by a by a form of 1 (i.e. . 2/3 x 2/2 =4/6 where 2/2 is understood to be equivalent to multiplying by 1, which will not change a number's value since 2 x1 is still 2). ● It is not necessary to find a least common denominator to calculate sums and differences of fraction	● Add and subtract decimals to the hundredths place using concrete or pictorial models, strategies based on place value, properties of operations, the relationship between addition and subtraction of whole numbers and fractions ● Add and subtract fractions and mixed numbers with unlike denominators by generating equivalent fractions ● Represent and solve problems that call for the interpretation of a fraction as a division statement. ● Use visual fraction models, number lines, and equations to represent and solve problems involving fractional quantities ● Use benchmark fractions and estimation to assess the reasonableness of answers

Assessments:	MyMath, Engage NY, 3 Act Task Bank, Fosnot Field Trips and Fundraisers Unit, CCSS aligned anchor tasks, Illustrative Mathematics, Georgia Department of Education CCSS aligned tasks, North Carolina Department of Instruction, CCSS aligned tasks.
Teacher Resources:	Performance task focused on strategies to add and subtract fractions and decimals, understanding of fractional representations, and application of fractional benchmarks when applicable.

Unit Title	Volume and Data	Length of Unit	6 weeks

Inquiry Questions (Engaging & Debatable)	● How can we understand concepts of volume and relate volume to multiplication and addition? ● How can we convert like measurement units within a given measurement system, and use this to solve problems? ● How can we represent and interpret data involving measurement in fractions of a unit on a line plot?
Standards	**Measurement and Data** 5.MD.C3, 5.MD.C4, 5.MD.C5, 5.MD.A1, 5.MD.B2
Unit Strands & Concepts	● Volume and its relationship to multiplication and addition ● Measurement conversion ● Length benchmarks ● Part-whole relationships ● Spatial structuring
Key Vocabulary	Volume, solid figure, cube, cubic unit, cubic cm, cubic ft., right rectangular prism, length, height, base, area, convert, conversion, line plot

Unit Title	Volume and Data	Length of Unit	6 weeks

Critical Content: My students will Know…	Key Skills: My students will be able to (Do)…
● Volume is the number of cubic units that can be packed into a figure without gaps or overlaps ● Volume of irregular figures can be found by decomposing them into non overlapping right rectangular prisms and combining the separate volumes found ● Relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. ● Relationship between units inside the metric system ● Difference between area and volume ● Visual benchmarks for common units of length (foot, meter, quart, etc.)	● Convert among different-sized standard measurement units within a given measurement system ● Solve multi-step problems involving units of measure ● Make a line plot to display a data set of measurements in fractions of units (½, ¼, ⅛) ● Recognize volume as an attribute of solid figures ● Measure volume by counting unit cubes ● Find the volume of solid figures using concrete and pictorial models and relate these models to the multiplicative properties of volume ● Apply the formula for volume to find the volume of right rectangular prisms with whole number side lengths ● Compare the volume of right rectangular prisms that have different dimensions ● Compose and decompose figures to find volume measurements ● Apply understanding of volume to solve problems in context

Assessments:	Performance task focused on converting between units of measure, data display and analysis, and calculation and application of volume in context.
Teacher Resources:	MyMath, Engage NY, 3 Act Task Bank, CCSS aligned anchor tasks, Illustrative Mathematics, Georgia Department of Education CCSS aligned tasks, North Carolina Department of Instruction, CCSS aligned tasks.

Unit Title	**Multiplying and Dividing Fractions and Decimals**	**Length of Unit**	7 weeks

Inquiry Questions **(Engaging & Debatable)**	● How can we apply and extend our previous understanding of multiplication and division to multiply and divide fractions? ● How can we interpret multiplication as scaling (resizing)? ● How can we use properties of operations, concrete models and other strategies to perform operations with multi-digit whole numbers and with decimals to hundredths?
Standards	5.NF.B4, 5.NF.B5, 5.NF.B6, 5.NF.B7, 5.NBT.B7,
Unit Strands & Concepts	● Multiplication as scaling ● Relationship between multiplying and dividing fractions ● Relationship between fractions and decimals ● Estimation as a means to assess reasonableness of answers
Key Vocabulary	Fraction, product, partition, area, unit fraction, mixed numbers, whole numbers, non-zero whole number, scaling, resizing, compare, equivalence, decimals, tenths, hundredths

Unit Title	Multiplying and Dividing Fractions and Decimals	Length of Unit	7 weeks

Critical Content: My students will Know…	Key Skills: My students will be able to (Do)…
● Relate multiplying a whole number by a mixed number to their prior knowledge of whole number multiplication ● Relate dividing by a whole number to multiplying fractions ● Fractions can represent a part of a whole, part of a set, or a division situation. ● Multiplication can produce products greater than, equal to, or less than one depending on the size of the factors. ● The relationship between multiplication and division involving fractional amounts is the same as the whole number relationship between the two operations. ● Difference between quotative (how many groups?) and partitive (How many in each group?) fractional division models.	● Use concrete models and pictorial models to multiply fractions by whole numbers and fractions by fractions ● Create a story context for a given equation involving multiplication or division of fractions ● Find the area of a rectangle with fractional side lengths and represent fraction products as rectangular areas ● Compare the size of the factors in a multiplication sentence to determine whether the product will be larger, smaller, or the same as a given factor in the equation. ● Explain the effect on the product when multiplying a given number by a fraction greater than 1, less than 1, or equal to 1. ● Use visual fraction models, number lines, and equations to represent and solve problems involving fractional quantities ● Use benchmark fractions and estimation to assess the reasonableness of answers ● Solve problems involving multiplication and division of fractions and decimals ● Relate concrete and pictorial models for multiplying and dividing fractions and decimals to written equations ● Use concrete models, pictorial models, and the relationship between multiplication and division to divide fractions by whole numbers and whole numbers by fractions ● Multiply and divide decimals to the hundredths place using concrete or pictorial models, strategies based on place value, properties of operations, the relationship between multiplication and division of whole numbers and fractions

Assessments:	Performance task focused on multiplication and division situations involving fractions and decimals, strategies to multiply and divide fractions and decimals, understanding of multiplication as scaling, and application of fractional benchmarks and other estimation strategies..
Teacher Resources:	MyMath, Engage NY, 3 Act Task Bank, CCSS aligned anchor tasks, Illustrative Mathematics, Georgia Department of Education CCSS aligned tasks, North Carolina Department of Instruction, CCSS aligned tasks.

Unit Title	Geometry	Length of Unit	4 weeks

Inquiry Questions (Engaging & Debatable)	● How do we graph points on the coordinate plane to interpret information and solve problems? ● How do we classify two-dimensional figures based on their properties? ● How do we generate patterns from ordered pairs using two given rules?
Standards	**Geometry** 5.G.A1, 5.G.A2, 5.G.B3, 5.G.B4, 5.OA.B3
Unit Strands & Concepts	● Geometric composition and decomposition ● Coordinate plane ● Geometric hierarchies ● Spatial structuring ● Propagation of properties
Key Vocabulary	Axes, x-axis, y-axis, coordinate system, intersect, origin, point, plane, ordered pair, coordinates, x-coordinate, y-coordinate, quadrant, classify, category, sub-category, hierarchy, properties, patterns

Unit Title	Geometry	Length of Unit	4 weeks

Critical Content: My students will **Know**…	Key Skills: My students will be able to **(Do)**…
● The first term in an ordered pair refers to the x coordinate and the second term refers to the y coordinate when graphing on the coordinate plane ● Attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category ● Continuous nature of two-dimensional space	● Identify apparent relationships between corresponding terms and form ordered pairs from the two patterns in order to graph them on the coordinate plane (quadrant 1 only) ● Connect ordered pairs of (whole number) coordinates to points on the grid ● Interpret information plotted on a given coordinate plane to solve problems ● Classify two-dimensional figures in a hierarchy based on properties ● Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, ● Interpret coordinate values of points in the context of a given situation.

Assessments:	Performance task focused on graphing and interpreting ordered pairs on a coordinate plane and classifying two-dimensional figures in a hierarchal manner.
Teacher Resources:	MyMath, Engage NY, 3 Act Task Bank, CCSS aligned anchor tasks, Illustrative Mathematics, Georgia Department of Education CCSS aligned tasks, North Carolina Department of Instruction, CCSS aligned tasks.