Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Numbers and Operations in Base Ten	Understand the place value system	5.NBT.1 Recognize that 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 in the place to its left.	What is the rule for multiplying decimals by 10, 100, or 1000?	Decimal Decimal Point Place Value Tenths Hundredths Thousandths Algorithm	Unit 3 Investigation 1 3.1, 3.2, 3.5 Unit 6 1.1, 1.2, 1.5A, 2.5A	
		5.NBT.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.	What is the relationship between place value and powers of ten?	Exponent Power of 10	Unit 1 2.3-2.5, 3.2, 3.3 Unit 6 3A.1, 3A.5	*One Grain of Rice* - Demi

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Numbers and Operations in Base Ten	Understand the place value system	5.NBT.3a Read and write decimals to thousandths using base-ten numerals, number names, and expanded form	How do you read and write decimals in standard, expanded, and word form?	Expanded form Number lines	Unit 6 Investigation 1 Investigation 2 3A.1-3A.4 Unit 8 1.3, 1.4 2.1, 2.2, 2.5, 2.6	
		5.NBT.3b Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	How do you compare and order decimal numbers?	Greater Than Less Than Equal to	Unit 6 Investigation 1 Investigation 2 Unit 8 1.3, 1.4 2.1, 2.2, 2.5, 2.6	

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Numbers and Operations in Base Ten	Understand the place value system	5.NBT.4 Use place value understanding to round decimals to any place.	How do you use rounding and benchmark numbers to estimate amounts?	Round Estimate Benchmark Number Model	Unit 6 1.5A 3A.1-3A.4	
	Perform operations with multi-digit whole numbers and with decimals to hundredths	5.NBT.5 Fluently multiply multi-digit whole numbers using the standard algorithm. Up to 3-digit by 2-digit	How do you use an algorithm to multiply whole numbers?	Algorithm Area Model Array Factor Multiple Product Multiplication	Unit 1 Investigation 1 Investigation 2 3.1-3.3, 3.8 Unit 7 Investigation 2 Investigation 3 Investigation 4	

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Numbers and Operations in Base Ten	Perform operations with multi-digit whole numbers and with decimals to hundredths	5.NBT.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	What strategies can you use to divide whole numbers with up to 4-digit dividends and two-digit divisors?	Divisor Dividend Quotient	Unit 1 Investigation 3 Unit 7 Investigation 3 Investigation 4	

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Numbers and Operations in Base Ten	Perform operations with multi-digit whole numbers and with decimals to hundredths	5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	How can you use addition, subtraction, multiplication, & division to solve real world problems?		Unit 6 Investigation 2 Investigation 3	
Operations and Algebraic Thinking	Write and interpret numerical expressions	5.OA.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	How can I evaluate expressions that contain parentheses, brackets, and braces?	Parentheses Brackets Braces Expressions Evaluate	Unit 1 2.4A Reviewed in Unit 1 1.1,1.4,1.7,2.1 Unit 2 1.5A, 2.4A Unit 6 3A.8, 3A.9 Unit 8 2.2, 2.3	*Math Curse* – Jon Scieszka

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Operations and Algebraic Thinking	Write and interpret numerical expressions	5.OA.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, add 8 and 7, then multiply by 2 as 2 x (8+7)*	How can I describe the relationships between expressions?	Associative Communicative Distributive Identity	Need to supplement	*A Fair Bear Share* – Stuart J. Murphy
	Analyze patters and relations	5.OA.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.	How do I create a graph on a coordinate plane that represents two patterns?	Quadrant y-axis x-axis	Need to supplement	*The Fly on the Ceiling* – Julie Glass

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Numbers and Operations	**Use equivalent fractions as a strategy to add and subtract fractions**	**5.NF.1** **Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.** ***For example, 2/3 + 5/4 = 8/12 + 15/12= 23/12 = 1 11/12***	**How do I add and subtract fractions and mixed numbers with unlike denominators?**	**Multiples** **Numerator** **Denominator** **Mixed Numbers** **Factors** **Simplest Form** **Improper Fraction** **Equivalent**	**Unit 4** **1.1** **Investigation 3**	***Civil War Recipes: Adding and Subtracting Simple Fractions* –** **Lynn George**

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Numbers and Operations	Use equivalent fractions as a strategy to add and subtract fractions	5.NF.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.	How can I use my knowledge of fractions to solve real world problems?		Unit 4 Investigation 3	
	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	5.NF.3 Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem.	How do you interpret a fraction as a division problem?		Unit 6 1.7 Reviewed in Unit 6 1.8 – 1.10	

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Numbers and Operations	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	5.NF.4a Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. a. Interpret the product (a/b) × q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q÷ b.	How can I multiply a fraction by a whole number and a fraction?		Unit 4 Investigation 4	*Working with Fractions* – David A. Alder
		5.NF.4b Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.	How can I find the area of a rectangle with fractional side lengths?	Area Rectangle	Unit 4 4A.6, 4A.7, 4A.9, 4A.10	

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Numbers and Operations	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	5.NF.5a Interpret multiplication as scaling (resizing), by: a. 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.	How does multiplying a fraction by a whole number change the size of an area?	Scaling Resizing	Unit 4 4A.2, 4A.6	
		5. NF.5 Interpret multiplication as scaling (resizing), by: b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given; explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence a/b = (n × a)/(n × b) to the effect of multiplying a/b by 1.	How does multiplying a mixed number by a whole number or fraction change the size of an area?		Unit 4 4A.1 – 4A.3	

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Numbers and Operations	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.	How can I use my knowledge of multiplication of fractions, mixed numbers and whole numbers to solve real world problems?		Unit 4 4A.1 – 4A.3, 4A.7	*Multiplying Menace: The Revenge of Rumplestiltskin* – Pam Calvert
		5.NF.7a Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.	How can I divide unit fractions by whole numbers and whole numbers by unit fractions, given a story context?	Unit Fraction	Unit 4 4A.8, 4A.10	

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Numbers and Operations	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	5.NF.7b b. Interpret division of a whole number by a unit fraction, and compute such quotients.	How can I create a story context that requires the division of a unit fraction?		Unit 4 4A.9, 4A.10	
		5.NF.7c c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.	How can I use a variety of strategies to solve real world problems that require the division of a unit fraction?		Unit 4 4A.8 – 4A.10	

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Measurement and Data	Convert like measurement units within a given measurement system	5.MD.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.	How can I use multiplication and division to convert measurements within a system to solve multi-step real world problems?	Foot/Feet Inches Yard, Mile Millimeter Centimeter Meter Kilometer Weight, Mass Capacity Pound, Ounces Ton Gram, Kilogram Cup, Pint Quart, Gallon Liter, Milliliter	Unit 6 3A.8, 3A.9 Unit 8 1.1	*Inchworm and a Half* - ElinorJ. Pinczes *How Tall, How Short, How Far Away* – David A. Adler *Millions to Measure* – David M. Schwartz
	Represent and interpret data	5. MD.2 Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots.	How can I create a line plot to display measurement data in fractions?	Line Plot Data Graph Plot Median Range Probability Scale	Unit 9 Investigation 1	*If the World Were a Village: A Book About the World's People* – David Julian Smith

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Measurement and Data	Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	5. MD.3a Recognize volume as an attribute of solid figures and understand concepts of volume measurement. a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.		Cubic Unit Cubic Centimeter Cubic Meter Attribute Dimension Height Length Width	Unit 2 1.1, 1.2, 1.5A, 2.1, 2.4A	*Perimeter, Area, and Volume* – David A. Adler
		5. MD.3b Recognize volume as an attribute of solid figures and understand concepts of volume measurement. b. A solid which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.	How can I use unit cubes to model the volume of a solid?	Rectangular Prism	Unit 2 1.1, 1.2, 1.5A, 2.1, 2.4A	

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Measurement and Data	Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	5.MD.4 Measure volumes by counting unit cubes, using cubic cm, cubic in. , cubic ft. and improvised units	How can I use unit cubes to measure the volume of a solid?		Unit 2 1.1, 2.1-2.4A	
		5.MD.5a Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. a. Find the volume of a right-rectangular prism with whole number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height times the area of the base. Represent three-fold whole number products as volumes.	How can I explain the relationship between three different strategies for finding the volume of a right rectangular prism?		Unit 2 Investigation1 Investigation 2	

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Measurement and Data	Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	5. MD.5b Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. b. Apply the formula V= LxWxH and V= BxH for rectangular prisms to find the volume of right rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems	How can I apply the formulas for finding the volume of a right rectangular prism to solve real world problems?		Unit 2 1.2, 1.5A, 2.1, 2.3 -2.4A	
		5.MD.5c c. Recognize volume as additive. Find volumes of solid figures composed of two non- overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems	How does volume change when two non-overlapping rectangular prisms are added?		Unit 2 1.5A	

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Geometry	Graph points on the coordinate plane to solve real-world and mathematical problems.	5.G.1 Use a pair of perpendicular number lines, (axes) to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with 0 and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis.	How can I plot ordered pairs in the first quadrant on a coordinate plane?		Need to supplement	
		5.G.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.	How can I plot points in the first quadrant of a coordinate plane to represent real world and mathematical problems?		Need to supplement	

Common Core Strand	Cluster	Standard	Essential Question	Vocabulary	Investigations Connection	Resources
Geometry	Classify two-dimensional figures into categories based on their properties.	5.G.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.	How can I analyze the attributes of two-dimensional figures to classify them into categories and subcategories?	Polygon Quadrilateral Rectangle Rhombus Square Trapezoid Parallelogram Triangles Right, Acute, Obtuse Scalene Isosceles Equilateral Pentagon Hexagon Heptagon Octagon	Unit 5 Investigation 1	*The Greedy Triangle* – Marilyn Burns
		5.G.4 Classify two dimensional figures in a hierarchy based on properties.	How can I classify two-dimensional figures in a hierarchy based on properties?	Perpendicular Parallel Line Segment	Unit 5 1.1 – 1.4, 1.7	