Essential Questions	Domains & Clusters	5th Grade Skill		5	6	Vocabulary	Resources
What can affect the relationship between numbers?	***Operations and Algebraic Thinking (OA)*** Write and interpret numerical expressions. Analyze patterns and relationships.	5.OA.1a	Evaluate numerical expressions with parentheses, brackets, and/or braces.	M		Parentheses Brackets Braces Symbol Sum Difference Product Quotient Ordered pairs Corresponding terms Patterns Numerical patterns Coordinate plane Variable Corresponding terms	
		5.OA.1b	Write numerical expressions with parentheses, brackets, and/or braces.	M			
		5.OA.2a	Translate verbal expressions to numerical expressions.	M			
		5.OA.2b	Write simple numerical expressions from verbal expressions without evaluating the expressions.	M			
		5.OA.2c	Translate numerical expressions to verbal expressions.	M			
		5.OA.3a	Generate two numerical patterns using two given rules. (i.e. 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, and observe that the terms in one sequence are twice the corresponding terms in the other sequence.)	M			
		5.OA.3b	Describe the relationship between two numerical patterns.	M			
		5.OA.3c	Construct input/output table to form ordered pairs.	M			
		5.OA.3d	Graph ordered pairs on a coordinate plane.	M			
		5.OA.3e	Identify the relationship between two numerical patterns in a graph.	M			
		5.OA.3f	Explain why the relationship between two numerical patterns on a graph exists.	M			
		5.OA.3g	Write the rule for a pattern using a variable.	M			

Essential Questions	Domains & Clusters	5th Grade Skill		5	6	Vocabulary	Resources
	Numbers and Operations in Base Ten (NBT)	5.NBT.1a	Define a number in one place as 1/10 of its value in the pace to its left.	M		Place value names Base ten Powers of ten Exponents	
		5.NBT.1b	Define a number in one place as 10 times its value in the place to its right.	M			

How do we round decimals? How do we compare decimals? What patterns occur in our number system?	Understanding the place value system.	5.NBT.2a	Explain the pattern in the number of zeros in a product when multiplying by powers of 10.	M		Product Place value names Base ten numerals Number names Expanded form Greater than Less than Equal to Round Estimation Decimals	
		5.NBT.2b	Explain the pattern in moving the decimal point when multiplying or dividing by powers of 10.	M			
		5.NBT.2c	Write whole number exponents to denote powers of 10.	M			
		5.NBT.3a	Read and write decimals to the thousandths using base 10 numerals and number names.	M			
		5.NBT.3b	Read and write decimals to the thousandths using expanded form (with fractions of 1/10, 1/100, and 1/1000 to denote decimal places)	M			
		5.NBT.3c	Compare two decimals to the thousandths using greater than, less than, and equal to symbols.	M			
		5.NBT.4	Round decimals to any place (up to thousandths).	M			
		5.NBT.5	Fluently multiply multi-digit whole numbers using the standard algorithm.	M			
		5.NBT.6a	Divide whole numbers with up to 4-digit dividends and 2-digit divisors.	M		Factors Product Algorithm Divisor Dividend Quotient Rectangular Array Area model Add Hundredths Addend Difference	
		5.NBT.6b	Illustrate and explain quotient (solution) through equations, rectangular arrays, and/or area models.	M			
		5.NBT.7a	Add decimals (to hundredths place).	M			
		5.NBT.7b	Subtract decimals (to hundredths place).	M			
		5.NBT.7c	Multiply decimals (to hundredths place).	M			
		5.NBT.7d	Divide decimals (whole numbers divisors and dividends to hundredths place).	M			
		5.NBT.7e	Explain the method used to solve problems in all four operations involving decimals.	M			

Essential Questions	Domains & Clusters	5th Grade Skill		5	6	Vocabulary	Resources
	Number and Operations – Fractions (NF)	5.NF.1a	Rewrite two fractions with unlike denominators to have common denominators in order to add or subtract fractions.	M		Simplify Common denominators	

How do we add, subtract, and multiply fractions? How does multiplying fractions relate to real world problems? How do you show multiplying fractions in a visual model? How do you simplify fractions?	Use equivalent fractions as a strategy to add and subtract fractions. Apply and extend previous understandings of multiplication and division to multiply and divide fractions.	5.NF.1b	Add and subtract with unlike denominators (including mixed numbers).	M		Unlike denominators Benchmark fractions Estimation Numerator Denominator Division Part of Area Tiling Unit fraction Unit square Equivalence Product Factor Improper fraction Mixed number product Equivalent fraction Fractions Mixed number Visual models Whole number Estimation Quotients	
		5.NF.1c	Simplify fraction solutions.	M			
		5.NF.2	Solve word problems involving addition and subtraction of fractions of unlike denominators referring to the same whole.	M			
		5.NF.3a	Define a fraction as division of the numerator by its denominator.	M			
		5.NF.3b	Solve word problems involving the division of two whole numbers where the solution is a fraction or mixed number.	M			
		5.NF.4a	Draw a fraction model to illustrate a product of a fraction by whole number and a fraction by a fraction.	M			
		5.NF.4b	Relate multiplying by a fraction as taking “part of” a whole number.	M			
		5.NF.4c	Compute the area of a rectangle with fractional side lengths.	M			
		5.NF.4d	Tile a unit square into fraction side lengths.	M			
		5.NF.4e	Prove through tiling the equivalence of multiplication and area.	M			
		5.NF.5a	Describe the size of a product in terms of how many times larger one factor is to another without multiplying.	M			
		5.NF.5b	Explain and show why multiplying by a fraction less than one will result in a product less than a given number.	M			
		5.NF.5c	Explain and show why multiplying by an improper/mixed number will result in a product greater than a given number.	M			
		5.NF.5d	Explain and show why multiplying by a fraction equal to 1 will result in an equivalent fraction.	M			
		5.NF.5e	Rewrite the number 1 as an equivalent fraction i.e. 2/2, 3/3, 4/4, etc.	M			
		5.NF.6a	Solve word problems involving multiplication of	M			

			fractions and mixed numbers.				
		5.NF.6b	Represent the product of fractions in simplest form.	M			
		5.NF.6c	Write equations to represent word problems involving multiplication of fractions.	M			
		5.NF.6d	Draw/show multiplication of fraction through visual models.	M			
		5.NF.7a	Define a unit fraction as a fraction with a numerator of 1.	M			
		5.NF.7b	Divide a unit fraction by a whole number.	M			
		5.NF.7c	Draw/show division of a unit fraction by a whole number as dividing the unit fraction into smaller parts.	M			
		5.NF.7d	Explain the effects of dividing a unit fraction by a whole number.	M			
		5.NF.7e	Simplify/reduce quotients to lowest terms.	M			
		5.NF.7f	Divide a whole number by a unit fraction.	M			
		5.NF.7g	Explain the effects of dividing a whole number by a unit fraction.	M			
		5.NF.7h	Define and use the reciprocal of a unit fraction for the purpose of division.	M			
		5.NF.7i	Divide a whole number by a unit fraction (vice versa) in context of word problems.	M			
		5.NF.7j	Explain the effects of dividing a whole number by a unit fraction (vice versa) in the context of a word problem.	M			

Essential Questions	Domains & Clusters	5th Grade Skill		5	6	Vocabulary	Resources
How do we convert measurements within systems?	***Measurement and Data (MD)***	5.MD.1a	Convert measurements within a given measurement system.	M		Measurement systems Convert Line plot Data Average (mean)	
		5.MD.1b	Solve multi-step measurement conversion word problems.	M			
		5.MD.2a	Create and label a line plot to display a data set containing fractions.	M			
		5.MD.2b	Calculate the average of a data set containing fractions with unlike denominators.	M			

	Convert like measurement units within a given measurement system. Represent and interpret data.	5.MD.2c	Solve problems using data (fractions) represented in line plot.	M		Fractions Lowest terms Repeated addition Volume Solid figure 2D figure 3D figure Unit cube Solid figure Volume Right rectangular Prism Base Length Width Height Area of base (B) Non-overlapping parts	
		5.MD.2d	Add, subtract, multiply, and divide fractions.	M			
		5.MD.2e	Simplify/reduce fractions to lowest terms.	M			
		5.MD.3a	Explain a unit cube as having side length of one.	M			
		5.MD.3b	Describe volume in terms of cubic units.	M			
		5.MD.3c	Explain/show the volume of a solid figure through repeated addition of unit cubes.	M			
		5.MD.3d	Explain the difference between 2D and 3D figures.	M			
		5.MD.4a	Calculate the volume of a solid figure by counting the unit cubes.	M			
		5.MD.4b	Select the appropriate unit of measure for calculating the volume of a figure.	M			
		5.MD.5a	Define right rectangular prism.	M			
		5.MD.5b	Calculate the volume of a right rectangular prism by packing it with unit cubes.	M			
		5.MD.5c	Describe/show how *l x w = B* (length times width equals area of the base.	M			
		5.MD.5d	Calculate the volume of a right rectangular prism by using the formulas *V = 1 x w x h* and *V = B x h* (Area of the Base times the height).	M			
		5.MD.5e	Explain how finding the volume using the methods above result in the same solution.	M			
		5.MD.5f	Explain the meaning of cubic units.	M			
		5.MD.5g	Calculate the volume of a right rectangular prism in the context of a word problem.	M			
		5.MD.5h	Calculate the volumes of non-overlapping right rectangular prisms and add them together.	M			
		5.MD.5i	Solve word problems requiring the calculations of multiple volumes and adding them together.	M			

Essential Questions	Domains & Clusters	5th Grade Skill		5	6	Vocabulary	Resources
	Geometry (G)	5.G.1a	Define the coordinate plane as a set of perpendicular lines, called axis.	M			
		5.G.1b	Define the intersection of the perpendicular lines	M			

How do we graph ordered pairs? What are the properties of two-dimensional figures?	Graph points on the coordinate plane to solve real-world and mathematical problems.		as the origin.			Coordinate plane Perpendicular lines Origin y-coordinate x-coordinate Quadrant Axes Ordered pairs Polygons Attributes Category Subcategory Two-dimensional figures Hierarchy Properties	
		5.G.1c	Define the first number in an ordered pair as how far the point travels left or right, known as the x-coordinate.	M			
		5.G.1d	Define the second number in an ordered pair as how far the point travels up or down, known as the y-coordinate.	M			
		5.G.1e	Describe the horizontal axis as the x-axis and the vertical as the y-axis.	M			
		5.G.2a	Graph points in the first quadrant based on word problems.	M			
		5.G.2b	Plot coordinates on a plane.	M			
	Classify two-dimensional figures into categories based on their properties.	5.G.3a	Identify given polygons.	M			
		5.G.3b	Describe the attributes of given polygons.	M			
		5.G.3c	Categorize polygons according to their attributes.	M			
		5.G.3d	Define subcategories within polygon categories.	M			
		5.G.3e	Describe polygons belonging to a category also belong to all subcategories.	M			
		5.G.4a	Classify two-dimensional figures based on their properties.	M			
		5.G.4b	Classify two-dimensional figures in a hierarchy based on their properties.	M			