Essential Questions	Domains & Clusters	6th Grade Skill		6	7	Vocabulary	Resources
How is geometry part of the world? How do we solve geometric problems? How do we use formulas?	***Geometry (G)*** Solve real-world and mathematical problems involving area, surface area, and volume.	6.G.1a	Calculate the area of right triangles and other types of triangles.	M		Right triangle Triangle Quadrilaterals Polygons Area Compose Decompose Volume Right rectangular prism Base Width, height Length Coordinate plane Vertices Ordered pairs Nets 3-dimensional figures Surface area	
		6.G.1b	Calculate the area of special quadrilaterals and polygons by composing then into rectangles or decomposing them into triangles.	M			
		6.G.1c	Apply techniques of finding the area of polygons to solve real-world problems.	M			
		6.G.2a	Compare finding the volume of a right rectangular prism by packing it with unit cubes to finding the volume by multiplying the side lengths.	M			
		6.G.2b	Calculate the volume of a right rectangular prism with fractional side lengths.	M			
		6.G.2c	Apply the formula of $V = 1 \times w \times h$ and $V = B \times h$ to find the volume of right rectangular prisms with fractional side lengths to solve real-world problems.	M			
		6.G.3a	Graph polygons in the coordinate plane given the vertices.	M			
		6.G.3b	Calculate the length of a side of a polygon graphed in the coordinate plane where the vertices have the same x-value or y-value.	M			
		6.G.3c	Calculate the surface area of a 3-dimensional by using nets made up of rectangles and triangles.	M			
		6.G.3d	Solve real-world problems involving surface area of 3-dimensional figures.	M			

Essential Questions	Domains & Clusters	6th Grade Skill		6	7	Vocabulary	Resources
	The Number System (NS)	6.NS.1a	Draw a visual fraction model to illustrate the quotient of two fractions.	M		Quotient Fraction Visual fraction model Standard algorithm Dividend Divisor Remainder	
		6.NS.1b	Compute quotients of fractions.	M			
		6.NS.1c	Solve word problems involving the division of fractions.	M			
		6.NS.1d	Apply the relationship between multiplication and division to justify your answer.	M			

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How do we compute fractions? How do we use patterns to understand fractions? How do we compute mixed numbers?	Apply and extend previous understandings of multiplication and division to divide fractions by fractions. Compute fluently with multi-digit numbers and find common factors and multiples.					Quotient Decimal Place value Product Sum Difference Greatest common factor Least common multiple Distributive property Compute Whole numbers Express Positive Negative opposite Zero Integer Elevation Sea level Credits/debits Sea level Deposits Withdrawls Ascend/descend Opposite sign Zero Number line Positive Negative Double negative Ordered pairs Coordinate plane x-axis y-axis Reflection Equidistant Horizontal number line Vertical number line Integers Rational numbers Plot	
		6.NS.2	Fluently divide multi-digit numbers using the standard algorithm.	M			
		6.NS.3	Add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	M			
		6.NS.4a	Compute the greatest common factor of two whole numbers less than or equal to 100.	M			
		6.NS.4b	Compute the least common multiple of two whole numbers less than or equal to 12.	M			
		6.NS.4c	Compute the greatest common factor of two whole numbers written as a sum.	M			
		6.NS.4d	Apply the distributive property to rewrite the sum with the GCF written outside parentheses and the two whole numbers with no common factor written inside the parentheses.	M			
		6.NS.5a	Define positive and negative numbers in terms of direction and value.	M			
		6.NS.5b	Describe real-world situations where positive and negative numbers are used.	M			
		6.NS.5c	Explain the meaning of 0 with positive and negative integers.	M			
		6.NS.6a	Locate opposite signed numbers on opposite sides of zero on a number line.	M			
		6.NS.6b	Define the opposite of the opposite of a number is the number itself.	M			
		6.NS.6c	Define the opposite of 0 as itself.	M			
		6.NS.6d	Graph ordered pairs in a coordinate plane.	M			
		6.NS.6e	Locate positive and negative numbers in a coordinate plane.	M			
		6.NS.6f	Describe that when two ordered pairs only differ by their signs, they are reflections across the *x*-axis, *y*-axis, or both axes.	M			
		6.NS.6g	Identify the four quadrants on a coordinate plane.	M			
		6.NS.6h	Plot and locate integers and rational numbers on vertical and horizontal number lines.	M			

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		6.NS.6i	Plot and locate integer and rational number pairs on the coordinate plane.	M		Inequality Greater than Less than equal to Rational number Temperature Positive and negative charge Absolute value/distance Magnitude/length Positive/negative quantities Ordered pairs Coordinate plane Quadrant	
		6.NS.7a	Compare rational number on a number line.	M			
		6.NS.7b	Describe statements of inequality on a number line.	M			
		6.NS.7c	Plot two numbers in a number line to describe the relationship between them on terms of less than, greater than, or equal to.	M			
		6.NS.7d	Write and explain statements of order for rational numbers in real-world contexts.	M			
		6.NS.7e	Explain how positive and negative rational numbers are used in real-world contexts.	M			
		6.NS.7f	Define the absolute value of a rational number as a distance from 0 on a number line.	M			
		6.NS.7g	Explain the absolute value of a positive or negative quantity in a real-world situation.	M			
		6.NS.7h	Compare and contrast the absolute value of a rational number to ordering rational numbers.	M			
		6.NS.7i	Define a number less than a negative number as having a greater distance from zero.	M			
		6.NS.8a	Graph points in all four quadrants.	M			
		6.NS.8b	Calculate the distance between two pints graphed on a coordinate plane (vertical or horizontal lines only).	M			
		6.NS.8c	Calculate the distance between two points with the same *x*-value or the same *y*-value.	M			

Essential Questions	Domains & Clusters	6th Grade Skill		6	7	Vocabulary	Resources
	Statistics & Probability (SP)	6.SP.1a	Define a statistical question as a question that allows for the gathering of variable data.	M		Statistical question Non-statistical question Variability Data Center Mean Median Spread	
		6.SP.1b	Identify statistical questions.	M			
		6.SP.1c	Contrast statistical and non-statistical questions. (For example, "How old I am?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.)	M			

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How do we organize data so that it is useful? How are graphs used?	Develop understanding of statistical variability. Summarize and describe distributions.						Range Interquartile range Mean absolute deviation Overall shape Measure of center Dot plot Histogram Box plot Number line Observations Data set Units of measurement Overall pattern Median Mean Measures of center Measures of variability Data distribution Context of data collection	
		6.SP.2	Describe a set of data in terms of its center.	M			
		6.SP.3a	Define measure of center for a data set as the summary of all its values as one number.	M			
		6.SP.3b	Define measure of variation for a data set as how the data varies as one number.	M			
		6.SP.4	Display numerical data as plots on a number line, in a dot plot, in a histogram, or in a box plot (box-whisker-plot).	M			
		6.SP.5a	Record the number of observations within a numerical data set.	M			
		6.SP.5b	Describe how a data set was measured and its units of measurement.	M			
		6.SP.5c	Calculate measures of center: median and/or mean.	M			
		6.SP.5d	Calculate measures of variability: interquartile range and/or mean absolute deviation.	M			
		6.SP.5e	Describe any overall patterns or deviations from the overall pattern in relation to the context of the data collection.	M			
		6.SP.5f	Compare and contrast the measures of center to the data distribution in the context of the data collection.	M			
		6.SP.5g	Compare and contrast the measures of variability to the data distribution in the context of the data collection.	M			

Essential Questions	Domains & Clusters	6th Grade Skill		6	7	Vocabulary	Resources
How do we identify mean, mode, median, and range?	***Ratios & Proportional Relationships (RP)***	6.RP.1a	Describe relationships between two quantities using the concept of a ratio and vocabulary.	M		Ratio Relationship Quantities Unit rate	
		6.RP.1b	Explain verbally the relationship between two quantities represented in a ratio.	M			

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What is an interquartile range and an absolute deviation?	Understand ratio concepts and use ratio reasoning to solve problems.	6.RP.2a	Convert a ratio to a unit rate written as a fraction. (Denominator not equal to zero.)	M		Ratio relationship Table Coordinate plane Equivalent ratios x-coordinate / x-axis y-coordinate / y-axis constant speed unit pricing proportion part whole percent quantity fraction standard units of measurement customary units of measurement		
		6.RP.2b	Define a unit rate in terms of a ratio relationship.	M				
		6.RP.3a	Construct a table of equivalent ratios relating to whole-number measurement quantities.	M				
		6.RP.3b	Compute the missing value in a table of equivalent ratios.	M				
		6.RP.3c	Graph pairs of equivalent ratios.	M				
		6.RP.3d	Compare two ratios using a table.	M				
		6.RP.3e	Solve unit rate problems involving unit pricing,	M				
		6.RP.3f	Solve unit rate problems involving constant speed.	M				
		6.RP.3g	Write proportion and solve problems with unit rates.	M				
		6.RP.3h	Write a percent as a fraction out of 100.	M				
		6.RP.3i	Solve percent word problems to find the while, given the part and percent.	M				
		6.RP.3j	Solve percent word problems by setting up a proportion.	M				
		6.RP.3k	Solve percent word problems to find the part, given the whole and percent.	M				
		6.RP.3l	Convert measurement units using ratios and proportions.	M				
		6.RP.3m	Convert measurement units appropriately when multiplying quantities.	M				
		6.RP.3n	Convert measurement units appropriately units when dividing quantities.	M				

Essential Questions	Domains & Clusters	6th Grade Skill		6	7	Vocabulary	Resources
	Expressions & Equations (EE)	6.EE.1	Write and evaluate numerical expressions involving whole-number exponents.	M		Numerical expressions Whole-number exponents Verbal expressions Algebraic expressions Term Product	
		6.EE.2a	Translate verbal expressions (word phrases) to algebraic expressions with letters standing got numbers.	M			
		6.EE.2b	Identify parts of an expressions using mathematical vocabulary.	M			
		6.EE.2c	Evaluate expressions by substituting a numerical	M			

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	Apply and extend previous understandings of arithmetic to algebraic expressions.		value for a variable.			Factor Coefficient Formula Order of operations Equivalent distributive property Variable Combine like terms Equivalent expressions	
		6.EE.2d	Simplify expressions using order of operations.	M			
		6.EE.2e	Solve real-world problems with a given formula.	M			
		6.EE.3a	Apply properties of operations to rewrite expressions.	M			
		6.EE.3b	Explain why an expression that is rewritten is equivalent to the original expression.	M			
		6.EE.4a	Identify when two expressions are equivalent (one expression is the simplified version of the other one).	M			
		6.EE.4b	Explain why two expressions are equivalent regardless of the number that is substituted for the variable.	M			
						Equation Inequality Substitution Solution Expression Variable Set (of numbers) Nonnegative rational numbers One-step equations Constraint Condition Inequality Solutions Table Dependent Ordered pairs Constant	
	Reason about and solve one-variable equations and inequalities.	6.EE.5	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in specified set makes an equation or inequality true.	M			
		6.EE.6a	Define a variable as a representation of un unknown number or numbers in a set.	M			
		6.EE.6b	Write expressions with variables to represent numbers in a real-world problem.	M			
		6.EE.7	Write and solve one-step equations with nonnegative rational numbers from real-world problems.	I	M		
		6.EE.8a	Write an inequality to represent a real-world condition or constraint.	I	M		
		6.EE.8b	Define inequalities as having infinitely many solutions.	I	M		
		6.EE.8c	Graph solutions to inequalities on number lines.	I	M		
		6.EE.9a	Write an equation to represent two variables, one dependent, and one independent.	I	M		

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		6.EE.9b	Analyze the relationship between independent and dependent variables using graphs, tables, and equations.	I	M		
		6.EE.9c	List and graph ordered pairs and write the equation to represent the relationship.	I	M		

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