Grade 6 | Mathematics Standards of Learning for Virginia Public Schools Correlation to *Eureka Math²®*

When the original *Eureka Math®* curriculum was released, it quickly became the most widely used K–5 mathematics curriculum in the country. Now, the Great Minds® teacher–writers have created *Eureka Math²®*, a groundbreaking new curriculum that helps teachers deliver *exponentially better* math instruction while still providing students with the same deep understanding of and fluency in math. *Eureka Math²* carefully sequences mathematical content to maximize vertical alignment—a principle tested and proven to be essential in students' mastery of math—from kindergarten through high school.

While this innovative new curriculum includes all the trademark *Eureka Math* aha moments that have been delighting students and teachers for years, it also boasts these exciting new features:

Teachability

Eureka Math² employs streamlined materials that allow teachers to plan more efficiently and focus their energy on delivering high-quality instruction that meets the individual needs of their students. Differentiation suggestions, slide decks, digital interactives, and multiple forms of assessment are just a few of the resources built right into the teacher materials.

Accessibility

Eureka Math² incorporates Universal Design for Learning principles so all learners can access the mathematics and take on challenging math concepts. Student supports are built into the instructional design and are clearly identified in the *Teach* book. Further, the curriculum carries a focus on readability. By eliminating unnecessary words and using simple, clear sentences, the *Eureka Math²* teacher–writers have created one of the most readable mathematics curricula on the market. The curriculum's readability and accessibility help all students see themselves as mathematical thinkers and doers who are fully capable of owning their mathematics learning.

Digital Engagement

The digital elements of *Eureka Math²* add to students' engagement with the math. The curriculum provides teachers with digital slides for each lesson. In addition, each grade level includes wordless videos that spark students' interest and curiosity. Students at all levels work through mathematical explorations that help lead to their own mathematical discoveries. Digital lessons and videos provide opportunities for students to wonder, explore, and make sense of mathematics, which contributes to the development of a strong, positive mathematical identity.

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Mathematical Process Goals for Students	Aligned Components of *Eureka Math²*
Mathematical Problem Solving	Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.
Mathematical Communication	Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.
Mathematical Reasoning	Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.
Mathematical Connections	Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.
Mathematical Representations	Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.

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Number and Number Sense

6.NS.1 The student will reason and use multiple strategies to express equivalency, compare, and order numbers written as fractions, mixed numbers, decimals, and percents.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.NS.1.a Estimate and determine the percent represented by a given model (e.g., number line, picture, verbal description), including percents greater than 100% and less than 1%.	6 M1 Topic E: Percents
6.NS.1.b Represent and determine equivalencies among decimals (through the thousandths place) and percents incorporating the use of number lines, and concrete and pictorial models.	6 M1 Topic E: Percents
6.NS.1.c Represent and determine equivalencies among fractions (proper or improper) and mixed numbers that have denominators that are 12 or less or factors of 100 and percents incorporating the use of number lines, and concrete and pictorial models.	6 M1 Topic E: Percents

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Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.NS.1.d Represent and determine equivalencies among decimals, percents, fractions (proper or improper), and mixed numbers that have denominators that are 12 or less or factors of 100 incorporating the use of number lines, and concrete and pictorial models.	6 M1 Topic E: Percents
6.NS.1.e Use multiple strategies (e.g., benchmarks, number line, equivalency) to compare and order no more than four positive rational numbers expressed as fractions (proper or improper), mixed numbers, decimals, and percents (decimals through thousandths, fractions with denominators of 12 or less or factors of 100) with and without models. Justify solutions orally, in writing or with a model. Ordering may be in ascending or descending order.	6 M1 Topic E: Percents

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Number and Number Sense

6.NS.2 The student will reason and use multiple strategies to represent, compare, and order integers.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.NS.2.a Represent integers (e.g., number lines, concrete materials, pictorial models), including models derived from contextual situations, and identify an integer represented by a point on a number line.	6 M3 Lesson 10: The Four Quadrants of the Coordinate Plane 6 M3 Lesson 11: Plotting Points in the Coordinate Plane 6 M3 Lesson 12: Reflections in the Coordinate Plane 6 M3 Lesson 13: Constructing the Coordinate Plane
6.NS.2.b Compare and order integers using a number line.	6 M3 Lesson 2: Integers 6 M3 Lesson 3: Rational Numbers 6 M3 Lesson 4: Rational Numbers in Real-World Situations
6.NS.2.c Compare integers, using mathematical symbols ($<$, $>$, $=$).	6 M3 Lesson 5: Comparing Rational Numbers 6 M3 Lesson 6: Ordering Rational Numbers 6 M3 Lesson 8: Absolute Value and Order
6.NS.2.d Identify and describe the absolute value of an integer as the distance from zero on the number line.	6 M3 Lesson 5: Comparing Rational Numbers 6 M3 Lesson 6: Ordering Rational Numbers 6 M3 Lesson 8: Absolute Value and Order

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Number and Number Sense

6.NS.3 The student will recognize and represent patterns with whole number exponents and perfect squares.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.NS.3.a Recognize and represent patterns with bases and exponents that are whole numbers.	6 M4 Topic A: Numerical Expressions
6.NS.3.b Recognize and represent patterns of perfect squares not to exceed 20^2, by using concrete and pictorial models.	6 M4 Topic A: Numerical Expressions
6.NS.3.c Justify if a number between 0 and 400 is a perfect square through modeling or mathematical reasoning.	*Supplemental material is necessary to address this standard.*
6.NS.3.d Recognize and represent powers of 10 with whole number exponents by examining patterns in place value.	5 M1 Lesson 2: Multiply and divide by 10, 100, and $1{,}000$ and identify patterns in the products and quotients. 5 M1 Lesson 3: Use exponents to multiply and divide by powers of 10. 5 M1 Lesson 4: Estimate products and quotients by using powers of 10 and their multiples. 5 M4 Lesson 5: Multiply and divide decimal numbers by powers of 10.

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Computation and Estimation

6.CE.1 The student will estimate, demonstrate, solve, and justify solutions to problems using operations with fractions and mixed numbers, including those in context.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.CE.1.a Demonstrate/model multiplication and division of fractions (proper or improper) and mixed numbers using multiple representations.	5 M3 Lesson 17: Solve word problems involving fractions with multiplication and division. 5 M3 Lesson 21: Solve multi-step word problems involving fractions. 5 M5 Lesson 14: Solve real-world problems involving areas of composite figures with mixed-number side lengths. 5 M5 Lesson 15: Solve multi-step word problems involving multiplication of mixed numbers.
6.CE.1.b Multiply and divide fractions (proper or improper) and mixed numbers that include denominators of 12 or less. Answers are expressed in simplest form.	5 M3 Lesson 3: Multiply a whole number by a fraction less than 1. 5 M3 Lesson 9: Multiply fractions by unit fractions by making simpler problems. 5 M3 Lesson 10: Multiply fractions greater than 1 by fractions. 5 M5 Lesson 12: Multiply mixed numbers. 6 M2 Topic B: Dividing Fractions 6 M2 Topic C: Dividing Fractions Fluently *Supplemental material is necessary to address expressing answers in simplest form.*
6.CE.1.c Investigate and explain the effect of multiplying or dividing a fraction, whole number, or mixed number by a number between zero and one.	5 M3 Lesson 1: Find fractions of a set with arrays. 5 M3 Lesson 2: Interpret fractions as division to find fractions of a set with tape diagrams and number lines. 5 M3 Lesson 4: Multiply a whole number by a fraction. 5 M3 Lesson 5: Convert larger customary measurement units to smaller measurement units. 5 M3 Lesson 6: Convert smaller customary measurement units to larger measurement units. 5 M3 Topic B: Multiplication of Fractions

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Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.CE.1.d Estimate, determine, and justify the solution to single-step and multistep problems in context that involve addition and subtraction with fractions (proper or improper) and mixed numbers, with and without regrouping, that include like and unlike denominators of 12 or less. Answers are expressed in simplest form.	5 M2 Topic C: Addition and Subtraction of Fractions, Whole Numbers, and Mixed Numbers 5 M2 Lesson 17: Solve problems by equally redistributing a total amount. *Supplemental material is necessary to address expressing answers in simplest form.*
6.CE.1.e Estimate, determine, and justify the solution to single-step and multistep problems in context that involve multiplication and division with fractions (proper or improper) and mixed numbers that include denominators of 12 or less. Answers are expressed in simplest form.	5 M3 Lesson 17: Solve word problems involving fractions with multiplication and division. 5 M3 Lesson 21: Solve multi-step word problems involving fractions. 5 M5 Lesson 14: Solve real-world problems involving areas of composite figures with mixed-number side lengths. 5 M5 Lesson 15: Solve multi-step word problems involving multiplication of mixed numbers. 6 M2 Topic B: Dividing Fractions 6 M2 Topic C: Dividing Fractions Fluently *Supplemental material is necessary to address expressing answers in simplest form.*

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Computation and Estimation

6.CE.2 The student will estimate, demonstrate, solve, and justify solutions to problems using operations with integers, including those in context.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.CE.2.a Demonstrate/model addition, subtraction, multiplication, and division of integers using pictorial representations or concrete manipulatives.	*Supplemental material is necessary to address this standard.*
6.CE.2.b Add, subtract, multiply, and divide two integers.	7 M2 Topic A: Adding Rational Numbers 7 M2 Topic B: Subtracting Rational Numbers 7 M2 Topic C: Multiplying Rational Numbers 7 M2 Topic D: Dividing Rational Numbers 7 M2 Lesson 25: Writing and Evaluating Expressions with Rational Numbers, Part 1 7 M2 Lesson 26: Writing and Evaluating Expressions with Rational Numbers, Part 2
6.CE.2.c Simplify an expression that contains absolute value bars | | and an operation with two integers (e.g., $-\|5-8\|$ or $\frac{\|-12\|}{8}$) and represent the result on a number line.	6 M3 Lesson 7: Absolute Value

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Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.CE.2.d Estimate, determine, and justify the solution to one and two-step contextual problems, involving addition, subtraction, multiplication, and division with integers.	6 M4 Lesson 17: Equations and Solutions 6 M4 Lesson 19: Solving Equations with Addition and Subtraction 6 M4 Lesson 20: Solving Equations with Multiplication and Division 6 M4 Lesson 21: Solving Problems with Equations 6 M5 Lesson 2: The Area of a Right Triangle 7 M3 Lesson 7: Angle Relationships and Unknown Angle Measures 7 M3 Lesson 8: Strategies to Determine Unknown Angle Measures 7 M3 Lesson 12: Solving Equations Algebraically and Arithmetically 7 M3 Lesson 13: Solving Equations—Puzzles 7 M3 Lesson 14: Solving Equations—Scavenger Hunt 7 M3 Lesson 15: Solving Equations Fluently 7 M3 Lesson 16: Using Equations to Solve Rate Problems

Measurement and Geometry

6.MG.1 The student will identify the characteristics of circles and solve problems, including those in context, involving circumference and area.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.MG.1.a Identify and describe chord, diameter, radius, circumference, and area of a circle.	7 M4 Lesson 10: The Outside of a Circle 7 M4 Lesson 11: The Inside of a Circle 7 M4 Lesson 12: Exploring the Area and Circumference of a Circle 7 M4 Lesson 13: Finding Areas of Circular Regions 7 M4 Lesson 14: Composite Figures with Circular Regions 7 M4 Lesson 15: Watering a Lawn

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Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.MG.1.b Investigate and describe the relationship between:	7 M4 Lesson 10: The Outside of a Circle 7 M4 Lesson 11: The Inside of a Circle 7 M4 Lesson 12: Exploring the Area and Circumference of a Circle 7 M4 Lesson 13: Finding Areas of Circular Regions 7 M4 Lesson 14: Composite Figures with Circular Regions 7 M4 Lesson 15: Watering a Lawn
6.MG.1.b.i diameter and radius;	7 M4 Lesson 10: The Outside of a Circle 7 M4 Lesson 11: The Inside of a Circle 7 M4 Lesson 12: Exploring the Area and Circumference of a Circle 7 M4 Lesson 13: Finding Areas of Circular Regions 7 M4 Lesson 14: Composite Figures with Circular Regions 7 M4 Lesson 15: Watering a Lawn
6.MG.1.b.ii radius and circumference; and	7 M4 Lesson 10: The Outside of a Circle 7 M4 Lesson 11: The Inside of a Circle 7 M4 Lesson 12: Exploring the Area and Circumference of a Circle 7 M4 Lesson 13: Finding Areas of Circular Regions 7 M4 Lesson 14: Composite Figures with Circular Regions 7 M4 Lesson 15: Watering a Lawn

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Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.MG.1.b.iii diameter and circumference.	7 M4 Lesson 10: The Outside of a Circle 7 M4 Lesson 11: The Inside of a Circle 7 M4 Lesson 12: Exploring the Area and Circumference of a Circle 7 M4 Lesson 13: Finding Areas of Circular Regions 7 M4 Lesson 14: Composite Figures with Circular Regions 7 M4 Lesson 15: Watering a Lawn
6.MG.1.c Develop an approximation for pi (3.14) by gathering data and comparing the circumference to the diameter of various circles, using concrete manipulatives or technological models.	7 M4 Lesson 10: The Outside of a Circle 7 M4 Lesson 11: The Inside of a Circle 7 M4 Lesson 12: Exploring the Area and Circumference of a Circle 7 M4 Lesson 13: Finding Areas of Circular Regions 7 M4 Lesson 14: Composite Figures with Circular Regions 7 M4 Lesson 15: Watering a Lawn
6.MG.1.d Develop the formula for circumference using the relationship between diameter, radius, and pi.	7 M4 Lesson 10: The Outside of a Circle 7 M4 Lesson 11: The Inside of a Circle 7 M4 Lesson 12: Exploring the Area and Circumference of a Circle 7 M4 Lesson 13: Finding Areas of Circular Regions 7 M4 Lesson 14: Composite Figures with Circular Regions 7 M4 Lesson 15: Watering a Lawn

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Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.MG.1.e Solve problems, including those in context, involving circumference and area of a circle when given the length of the diameter or radius.	7 M4 Lesson 10: The Outside of a Circle 7 M4 Lesson 11: The Inside of a Circle 7 M4 Lesson 12: Exploring the Area and Circumference of a Circle 7 M4 Lesson 13: Finding Areas of Circular Regions 7 M4 Lesson 14: Composite Figures with Circular Regions 7 M4 Lesson 15: Watering a Lawn

Measurement and Geometry

6.MG.2 The student will reason mathematically to solve problems, including those in context, that involve the area and perimeter of triangles and parallelograms.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.MG.2.a Develop the formula for determining the area of parallelograms and triangles using pictorial representations and concrete manipulatives (e.g., two-dimensional diagrams, grid paper).	6 M5 Topic A: Areas of Polygons 6 M5 Topic B: Problem Solving with Area
6.MG.2.b Solve problems, including those in context, involving the perimeter and area of triangles and parallelograms.	6 M5 Topic A: Areas of Polygons 6 M5 Topic B: Problem Solving with Area

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Measurement and Geometry

6.MG.3 The student will describe the characteristics of the coordinate plane and graph ordered pairs.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.MG.3.a Identify and label the axes, origin, and quadrants of a coordinate plane.	5 M6 Topic A: Coordinate Systems 6 M3 Lesson 14: Modeling with the Coordinate Plane 6 M3 Topic D: Solving Problems in the Coordinate Plane 6 M5 Lesson 5: Perimeter and Area in the Coordinate Plane
6.MG.3.b Identify and describe the location (quadrant or the axis) of a point given as an ordered pair. Ordered pairs will be limited to coordinates expressed as integers.	5 M6 Topic A: Coordinate Systems 6 M3 Lesson 14: Modeling with the Coordinate Plane 6 M3 Topic D: Solving Problems in the Coordinate Plane 6 M5 Lesson 5: Perimeter and Area in the Coordinate Plane
6.MG.3.c Graph ordered pairs in the four quadrants and on the axes of a coordinate plane. Ordered pairs will be limited to coordinates expressed as integers.	5 M6 Topic A: Coordinate Systems 6 M3 Lesson 14: Modeling with the Coordinate Plane 6 M3 Topic D: Solving Problems in the Coordinate Plane 6 M5 Lesson 5: Perimeter and Area in the Coordinate Plane
6.MG.3.d Identify ordered pairs represented by points in the four quadrants and on the axes of the coordinate plane. Ordered pairs will be limited to coordinates expressed as integers.	5 M6 Topic A: Coordinate Systems 6 M3 Lesson 14: Modeling with the Coordinate Plane 6 M3 Topic D: Solving Problems in the Coordinate Plane 6 M5 Lesson 5: Perimeter and Area in the Coordinate Plane

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Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.MG.3.e Relate the coordinates of a point to the distance from each axis and relate the coordinates of a single point to another point on the same horizontal or vertical line. Ordered pairs will be limited to coordinates expressed as integers.	5 M6 Topic A: Coordinate Systems 6 M3 Lesson 14: Modeling with the Coordinate Plane 6 M3 Topic D: Solving Problems in the Coordinate Plane 6 M5 Lesson 5: Perimeter and Area in the Coordinate Plane
6.MG.3.f Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to determine the length of a side joining points with the same first coordinate or the same second coordinate. Ordered pairs will be limited to coordinates expressed as integers. Apply these techniques in the context of solving contextual and mathematical problems.	6 M5 Lesson 5: Perimeter and Area in the Coordinate Plane 6 M5 Lesson 6: Problem Solving with Area in the Coordinate Plane

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Measurement and Geometry

6.MG.4 The student will determine congruence of segments, angles, and polygons.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.MG.4.a Identify regular polygons.	*Supplemental material is necessary to address this standard.*
6.MG.4.b Draw lines of symmetry to divide regular polygons into two congruent parts.	*Supplemental material is necessary to address this standard.*
6.MG.4.c Determine the congruence of segments, angles, and polygons given their properties.	*Supplemental material is necessary to address this standard.*
6.MG.4.d Determine whether polygons are congruent or noncongruent according to the measures of their sides and angles.	*Supplemental material is necessary to address this standard.*

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Probability and Statistics

6.PS.1 The student will apply the data cycle (formulate questions; collect or acquire data; organize and represent data; and analyze data and communicate results) with a focus on circle graphs.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.PS.1.a Formulate questions that require the collection or acquisition of data with a focus on circle graphs.	6 M6 Lesson 1: Posing Statistical Questions 6 M6 Lesson 6: Selecting a Data Display 6 M6 Lesson 17: Developing a Statistical Project
6.PS.1.b Determine the data needed to answer a formulated question and collect the data (or acquire existing data) using various methods (e.g., observations, measurement, surveys, experiments).	6 M6 Lesson 2: Describing a Data Distribution 6 M6 Lesson 3: Creating a Dot Plot 6 M6 Lesson 4: Creating a Histogram 6 M6 Lesson 9: Variability in a Data Distribution 6 M6 Lesson 14: Using a Box Plot to Summarize a Distribution 6 M6 Lesson 18: Connecting Graphical Representations and Summary Measures
6.PS.1.c Determine the factors that will ensure that the data collected is a sample that is representative of a larger population.	7 M6 Lesson 13: Variability Between Samples 7 M6 Lesson 14: Sampling Variability When Estimating a Population Mean 7 M6 Lesson 15: Sampling Variability and the Effect of Sample Size 7 M6 Lesson 16: Sampling Variability When Estimating a Population Proportion

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Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.PS.1.d Organize and represent data using circle graphs, with and without the use of technology tools. The number of data values should be limited to allow for comparisons that have denominators of 12 or less or those that are factors of 100 (e.g., in a class of 20 students, 7 choose apples as a favorite fruit, so the comparison is 7 out of 20, $\frac{7}{20}$, or 35%).	*Supplemental material is necessary to address this standard.*
6.PS.1.e Analyze data represented in a circle graph by making observations and drawing conclusions.	*Supplemental material is necessary to address this standard.*
6.PS.1.f Compare data represented in a circle graph with the same data represented in other graphs, including but not limited to bar graphs, pictographs, and line plots (dot plots), and justify which graphical representation best represents the data.	*Supplemental material is necessary to address this standard.*

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Probability and Statistics

6.PS.2 The student will represent the mean as a balance point and determine the effect on statistical measures when a data point is added, removed, or changed.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.PS.2.a Represent the mean of a set of data graphically as the balance point represented in a line plot (dot plot).	6 M6 Lesson 7: Using the Mean to Describe the Center 6 M6 Lesson 8: The Mean as a Balance Point 6 M6 Lesson 10: The Mean Absolute Deviation 6 M6 Lesson 11: Using the Mean and Mean Absolute Deviation 6 M6 Lesson 12: Using the Median to Describe the Center 6 M6 Lesson 13: Using the Interquartile Range to Describe Variability 6 M6 Lesson 18: Connecting Graphical Representations and Summary Measures 6 M6 Lesson 21: Comparing Measures of Variability
6.PS.2.b Determine the effect on measures of center when a single value of a data set is added, removed, or changed.	6 M6 Lesson 1: Posing Statistical Questions 6 M6 Lesson 5: Comparing Data Displays 6 M6 Lesson 17: Developing a Statistical Project 6 M6 Lesson 21: Comparing Measures of Variability
6.PS.2.c Observe patterns in data to identify outliers and determine their effect on mean, median, mode, or range.	6 M6 Lesson 2: Describing a Data Distribution 6 M6 Lesson 3: Creating a Dot Plot 6 M6 Lesson 4: Creating a Histogram 6 M6 Lesson 9: Variability in a Data Distribution 6 M6 Lesson 14: Using a Box Plot to Summarize a Distribution 6 M6 Lesson 18: Connecting Graphical Representations and Summary Measures

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Patterns, Functions, and Algebra

6.PFA.1 The student will use ratios to represent relationships between quantities, including those in context.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.PFA.1.a Represent a relationship between two quantities using ratios.	6 M1 Lesson 1: Jars of Jelly Beans 6 M1 Lesson 2: Introduction to Ratios 6 M1 Lesson 3: Ratios and Tape Diagrams 6 M1 Lesson 4: Exploring Ratios by Making Batches 6 M1 Lesson 5: Equivalent Ratios 6 M1 Lesson 8: Addition Patterns in Ratio Relationships 6 M1 Lesson 10: Multiplicative Reasoning in Ratio Relationships 6 M1 Lesson 11: Applications of Ratio Reasoning
6.PFA.1.b Represent a relationship in context that makes a comparison by using the notations $\frac{a}{b}$, $a{:}b$, and a to b.	6 M1 Lesson 2: Introduction to Ratios 6 M1 Lesson 3: Ratios and Tape Diagrams 6 M1 Lesson 4: Exploring Ratios by Making Batches 6 M1 Lesson 5: Equivalent Ratios 6 M1 Lesson 8: Addition Patterns in Ratio Relationships 6 M1 Lesson 10: Multiplicative Reasoning in Ratio Relationships 6 M1 Lesson 11: Applications of Ratio Reasoning

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Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.PFA.1.c Represent different comparisons within the same quantity or between different quantities (e.g., part to part, part to whole, whole to whole).	6 M1 Lesson 2: Introduction to Ratios 6 M1 Lesson 3: Ratios and Tape Diagrams 6 M1 Lesson 4: Exploring Ratios by Making Batches 6 M1 Lesson 5: Equivalent Ratios 6 M1 Lesson 8: Addition Patterns in Ratio Relationships 6 M1 Lesson 10: Multiplicative Reasoning in Ratio Relationships 6 M1 Lesson 11: Applications of Ratio Reasoning
6.PFA.1.d Create a relationship in words for a given ratio expressed symbolically.	6 M1 Topic B: Collections of Equivalent Ratios 6 M1 Topic C: Comparing Ratio Relationships 6 M1 Lesson 16: Speed 6 M1 Lesson 18: Comparing Rates
6.PFA.1.e Create a table of equivalent ratios to represent a proportional relationship between two quantities, when given a ratio.	6 M1 Topic B: Collections of Equivalent Ratios 6 M1 Topic C: Comparing Ratio Relationships 6 M1 Lesson 16: Speed 6 M1 Lesson 18: Comparing Rates
6.PFA.1.f Create a table of equivalent ratios to represent a proportional relationship between two quantities, when given a contextual situation.	6 M1 Topic B: Collections of Equivalent Ratios 6 M1 Topic C: Comparing Ratio Relationships 6 M1 Lesson 16: Speed 6 M1 Lesson 18: Comparing Rates

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Patterns, Functions, and Algebra

6.PFA.2 The student will identify and represent proportional relationships between two quantities, including those in context (unit rates are limited to positive values).

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.PFA.2.a Identify the unit rate of a proportional relationship represented by a table of values, a contextual situation, or a graph.	6 M1 Topic D: Rates 6 M5 Lesson 8: Areas of Composite Figures in Real-World Situations 6 M5 Lesson 13: Surface Area in Real-World Situations
6.PFA.2.b Determine a missing value in a ratio table that represents a proportional relationship between two quantities using a unit rate.	6 M1 Topic B: Collections of Equivalent Ratios 6 M1 Topic C: Comparing Ratio Relationships 6 M1 Lesson 16: Speed 6 M1 Lesson 18: Comparing Rates
6.PFA.2.c Determine whether a proportional relationship exists between two quantities, when given a table of values, context, or graph.	6 M1 Topic D: Rates 6 M5 Lesson 8: Areas of Composite Figures in Real-World Situations 6 M5 Lesson 13: Surface Area in Real-World Situations
6.PFA.2.d When given a contextual situation representing a proportional relationship, find the unit rate and create a table of values or a graph.	6 M1 Topic D: Rates 6 M5 Lesson 8: Areas of Composite Figures in Real-World Situations 6 M5 Lesson 13: Surface Area in Real-World Situations

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Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.PFA.2.e Make connections between and among multiple representations of the same proportional relationship using verbal descriptions, ratio tables, and graphs.	6 M1 Topic B: Collections of Equivalent Ratios 6 M1 Topic C: Comparing Ratio Relationships 6 M1 Lesson 16: Speed 6 M1 Lesson 18: Comparing Rates

Patterns, Functions, and Algebra

6.PFA.3 The student will write and solve one-step linear equations in one variable, including contextual problems that require the solution of a one-step linear equation in one variable.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.PFA.3.a Identify and develop examples of the following algebraic vocabulary: equation, variable, expression, term, and coefficient.	6 M4 Lesson 7: Algebraic Expressions with Addition and Subtraction 6 M4 Lesson 8: Algebraic Expressions with Addition, Subtraction, Multiplication, and Division 6 M4 Lesson 9: Addition and Subtraction Expressions from Real-World Situations 6 M4 Lesson 11: Modeling Real-World Situations with Expressions
6.PFA.3.b Represent and solve one-step linear equations in one variable, using a variety of concrete manipulatives and pictorial representations (e.g., colored chips, algebra tiles, weights on a balance scale).	*Supplemental material is necessary to address this standard.*

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Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.PFA.3.c Apply properties of real numbers and properties of equality to solve a one-step equation in one variable. Coefficients are limited to integers and unit fractions. Numeric terms are limited to integers.	6 M4 Lesson 17: Equations and Solutions 6 M4 Lesson 19: Solving Equations with Addition and Subtraction 6 M4 Lesson 20: Solving Equations with Multiplication and Division 6 M4 Lesson 21: Solving Problems with Equations 6 M5 Lesson 2: The Area of a Right Triangle
6.PFA.3.d Confirm solutions to one-step linear equations in one variable using a variety of concrete manipulatives and pictorial representations (e.g., colored chips, algebra tiles, weights on a balance scale).	*Supplemental material is necessary to address this standard.*
6.PFA.3.e Write a one-step linear equation in one variable to represent a verbal situation, including those in context.	6 M4 Lesson 17: Equations and Solutions 6 M4 Lesson 19: Solving Equations with Addition and Subtraction 6 M4 Lesson 20: Solving Equations with Multiplication and Division 6 M4 Lesson 21: Solving Problems with Equations 6 M5 Lesson 2: The Area of a Right Triangle
6.PFA.3.f Create a verbal situation in context given a one-step linear equation in one variable.	6 M4 Lesson 7: Algebraic Expressions with Addition and Subtraction 6 M4 Lesson 8: Algebraic Expressions with Addition, Subtraction, Multiplication, and Division 6 M4 Lesson 9: Addition and Subtraction Expressions from Real-World Situations

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Patterns, Functions, and Algebra

6.PFA.4 The student will represent a contextual situation using a linear inequality in one variable with symbols and graphs on a number line.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.PFA.4.a Given the graph of a linear inequality in one variable on a number line, represent the inequality in two equivalent ways (e.g., $x < -5$ or $-5 > x$) using symbols. Symbols include $<$, $>$, $\leq$, $\geq$.	6 M4 Lesson 18: Inequalities and Solutions
6.PFA.4.b Write a linear inequality in one variable to represent a given constraint or condition in context or given a graph on a number line.	6 M4 Lesson 18: Inequalities and Solutions
6.PFA.4.c Given a linear inequality in one variable, create a corresponding contextual situation or create a number line graph.	6 M4 Lesson 18: Inequalities and Solutions
6.PFA.4.d Use substitution or a number line graph to justify whether a given number in a specified set makes a linear inequality in one variable true.	6 M4 Lesson 18: Inequalities and Solutions

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Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
6.PFA.4.e Identify a numerical value(s) that is part of the solution set of a given inequality in one variable.	6 M4 Lesson 17: Equations and Solutions 6 M4 Lesson 18: Inequalities and Solutions 6 M4 Lesson 19: Solving Equations with Addition and Subtraction 6 M4 Lesson 20: Solving Equations with Multiplication and Division

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