Grade 5 | 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.

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.

Number and Number Sense

5.NS.1 The student will use reasoning and justification to identify and represent equivalency between fractions (with denominators that are thirds, eighths, and factors of 100) and decimals; and compare and order sets of fractions (proper, improper, and/or mixed numbers having denominators of 12 or less) and decimals (through thousandths).

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.NS.1.a Use concrete and pictorial models to represent fractions with denominators that are thirds, eighths, and factors of 100 in their equivalent decimal form.	4 M5 Topic A: Exploration of Tenths 4 M5 Topic B: Tenths and Hundredths *Supplemental material is necessary to fully address this standard.*
5.NS.1.b Use concrete and pictorial models to represent decimals in their equivalent fraction form (thirds, eighths, and factors of 100).	4 M5 Topic A: Exploration of Tenths 4 M5 Topic B: Tenths and Hundredths *Supplemental material is necessary to fully address this standard.*
5.NS.1.c Identify equivalent relationships between decimals and fractions with denominators that are thirds, eighths, and factors of 100 in their equivalent decimal form, with and without models.	4 M5 Topic A: Exploration of Tenths 4 M5 Topic B: Tenths and Hundredths *Supplemental material is necessary to fully address this standard.*

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.NS.1.d Compare (using symbols <, >, =) and order (least to greatest and greatest to least) a set of no more than four decimals and fractions (proper, improper) and/or mixed numbers using multiple strategies (e.g., benchmarks, place value, number lines). Justify solutions orally, in writing, or with a model.	4 M5 Topic C: Comparison of Decimal Numbers 5 M4 Lesson 6: Compare decimal numbers to the thousandths place. *Supplemental material is necessary to address comparing and ordering sets containing decimals and fractions.*

Number and Number Sense

5.NS.2 The student will demonstrate an understanding of prime and composite numbers, and determine the prime factorization of a whole number up to 100.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.NS.2.a Given a whole number up to 100, create a concrete or pictorial representation to demonstrate whether the number is prime or composite, and justify reasoning.	4 M2 Lesson 21: Find factor pairs for numbers up to 100 and use factors to identify numbers as prime or composite. 4 M2 Lesson 25: Explore properties of prime and composite numbers up to 100 by using multiples.
5.NS.2.b Classify, compare, and contrast whole numbers up to 100 using the characteristics prime and composite.	4 M2 Lesson 21: Find factor pairs for numbers up to 100 and use factors to identify numbers as prime or composite. 4 M2 Lesson 25: Explore properties of prime and composite numbers up to 100 by using multiples.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.NS.2.c Determine the prime factorization for a whole number up to 100.	6 M2 Lesson 3: The Greatest Common Factor

Computation and Estimation

5.CE.1 The student will estimate, represent, solve, and justify solutions to single-step and multistep contextual problems using addition, subtraction, multiplication, and division with whole numbers.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.CE.1.a Estimate the sum, difference, product, and quotient of whole numbers in contextual problems.	4 M1 Lesson 15: Apply estimation to real-world situations by using rounding. 4 M1 Lesson 16: Add by using the standard algorithm. 4 M1 Lesson 17: Solve multi-step addition word problems by using the standard algorithm. 4 M1 Lesson 21: Solve two-step word problems by using addition and subtraction. 4 M1 Lesson 22: Solve multi-step word problems by using addition and subtraction. 4 M3 Topic F: Remainders, Estimating, and Problem Solving 5 M1 Lesson 4: Estimate products and quotients by using powers of 10 and their multiples.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.CE.1.b Represent, solve, and justify solutions to single-step and multistep contextual problems by applying strategies (e.g., estimation, properties of addition and multiplication) and algorithms, including the standard algorithm, involving addition, subtraction, multiplication, and division of whole numbers, with and without remainders, in which:	*This standard is fully addressed by the lessons aligned to its subsections.*
5.CE.1.b.i sums, differences, and products do not exceed five digits;	4 M1 Lesson 17: Solve multi-step addition word problems by using the standard algorithm. 4 M1 Lesson 21: Solve two-step word problems by using addition and subtraction. 4 M1 Lesson 22: Solve multi-step word problems by using addition and subtraction. 5 M1 Lesson 6: Solve multi-step word problems by using metric measurement conversion. 5 M1 Topic B: Multiplication of Whole Numbers 5 M1 Lesson 19: Solve multi-step word problems involving multiplication and division. 5 M1 Lesson 20: Solve multi-step word problems involving the four operations.
5.CE.1.b.ii factors do not exceed two digits by three digits;	5 M1 Topic B: Multiplication of Whole Numbers
5.CE.1.b.iii divisors do not exceed two digits; or	5 M1 Topic C: Division of Whole Numbers

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.CE.1.b.iv dividends do not exceed four digits.	5 M1 Topic C: Division of Whole Numbers
5.CE.1.c Interpret the quotient and remainder when solving a contextual problem.	4 M3 Topic F: Remainders, Estimating, and Problem Solving

Computation and Estimation

5.CE.2 The student will estimate, represent, solve, and justify solutions to single-step and multistep problems, including those in context, using addition and subtraction of fractions with like and unlike denominators (with and without models), and solve single-step contextual problems involving multiplication of a whole number and a proper fraction, with models.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.CE.2.a Determine the least common multiple of two numbers to find the least common denominator for two fractions.	6 M2 Lesson 4: The Least Common Multiple *Supplemental material is necessary to address finding the least common denominator for two fractions.*
5.CE.2.b Estimate and determine the sum or difference of two fractions (proper or improper) and/or mixed numbers, having like and unlike denominators limited to 2, 3, 4, 5, 6, 8, 10, and 12 (e.g., $\frac{5}{8}+\frac{1}{4}, \frac{4}{5}-\frac{2}{3}, 3\frac{3}{4}+2\frac{5}{12}$), and simplify the resulting fraction.	4 M5 Topic D: Addition of Tenths and Hundredths 5 M2 Topic B: Addition and Subtraction of Fractions by Making Like Units 5 M2 Topic C: Addition and Subtraction of Fractions, Whole Numbers, and Mixed Numbers *Supplemental material is necessary to address simplifying the resulting fraction.*

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.CE.2.c Estimate and solve single-step and multistep contextual problems involving addition and subtraction with fractions (proper or improper) and/or mixed numbers having like and unlike denominators, with and without models. Denominators should be limited to 2, 3, 4, 5, 6, 8, 10, and 12. Answers should be expressed in simplest form.	4 M5 Lesson 14: Solve word problems with tenths and hundredths. 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 simplifying the resulting fraction.*
5.CE.2.d Solve single-step contextual problems involving multiplication of a whole number, limited to 12 or less, and a proper fraction (e.g., $9 \times \frac{2}{3}$, $8 \times \frac{3}{4}$), with models. The denominator will be a factor of the whole number and answers should be expressed in simplest form.	4 M4 Lesson 33: Solve word problems involving multiplication of a fraction by a whole number. *Supplemental material is necessary to address simplifying the resulting fraction.*

Computation and Estimation

5.CE.3 The student will estimate, represent, solve, and justify solutions to single-step and multistep problems, including those in context, using addition, subtraction, multiplication, and division with decimal numbers.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.CE.3.a Apply estimation strategies (e.g., rounding to the nearest whole number, tenth or hundredth; compatible numbers, place value) to determine a reasonable solution for single-step and multistep contextual problems involving addition, subtraction, and multiplication of decimals, and single-step contextual problems involving division of decimals.	5 M4 Lesson 7: Round decimal numbers to the nearest one, tenth, or hundredth. 5 M4 Lesson 8: Round decimal numbers to any place value unit. 5 M4 Lesson 9: Add decimal numbers by using different methods. 5 M4 Lesson 10: Add decimal numbers by using place value understanding. 5 M4 Lesson 11: Subtract decimal numbers by using different methods. 5 M4 Lesson 12: Subtract decimal numbers by using place value understanding. 5 M4 Topic C: Multiplication of Decimal Numbers 5 M4 Topic D: Division of Decimal Numbers
5.CE.3.b Estimate and determine the product of two numbers using strategies and algorithms, including the standard algorithm, when given:	*This standard is fully addressed by the lessons aligned to its subsections.*
5.CE.3.b.i a two-digit factor and a one-digit factor (e.g., 2.3×4; 0.08×0.9; $.16 \times 5$);	5 M4 Topic C: Multiplication of Decimal Numbers
5.CE.3.b.ii a three-digit factor and a one-digit factor (e.g., 0.156×4, 3.28×7, 8.09×0.2); and	5 M4 Topic C: Multiplication of Decimal Numbers

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.CE.3.b.iii a two-digit factor and a two-digit factor (e.g., 0.85×3.7, 14×1.6, 9.2×3.5).	5 M4 Topic C: Multiplication of Decimal Numbers
5.CE.3.c Estimate and determine the quotient of two numbers using strategies and algorithms, including the standard algorithm, in which:	*This standard is fully addressed by the lessons aligned to its subsections.*
5.CE.3.c.i quotients do not exceed four digits with or without a decimal point;	5 M1 Topic C: Division of Whole Numbers 5 M4 Topic D: Division of Decimal Numbers
5.CE.3.c.ii quotients may include whole numbers, tenths, hundredths, or thousandths;	5 M4 Topic D: Division of Decimal Numbers *Supplemental material is necessary to address quotients to the thousandths.*
5.CE.3.c.iii divisors are limited to a single digit whole number or a decimal expressed as tenths; and	5 M4 Topic D: Division of Decimal Numbers
5.CE.3.c.iv no more than one additional zero will need to be annexed.	*Supplemental material is necessary to address this standard.*

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.CE.3.d Solve single-step and multistep contextual problems involving addition, subtraction, and multiplication of decimals by applying strategies (e.g., estimation, modeling) and algorithms, including the standard algorithm.	5 M4 Lesson 9: Add decimal numbers by using different methods. 5 M4 Lesson 12: Subtract decimal numbers by using place value understanding. 5 M4 Lesson 13: Solve word problems involving addition and subtraction of decimal numbers and fractions. 5 M4 Lesson 15: Multiply decimal numbers to hundredths by one-digit whole numbers and multiples of 10, 100, or $1{,}000$ by using different written methods. 5 M4 Lesson 16: Multiply decimal numbers to hundredths by two-digit whole numbers by using area models and vertical form. 5 M4 Lesson 17: Multiply decimal numbers to hundredths by two-digit whole numbers by using different methods. 5 M4 Lesson 19: Multiply a decimal number by a decimal number.
5.CE.3.e Solve single-step contextual problems involving division with decimals by applying strategies (e.g., estimation, modeling) and algorithms, including the standard algorithm.	5 M4 Lesson 20: Divide decimal numbers to hundredths by one-digit whole numbers and multiples of 10, 100, or $1{,}000$ by using unit form and place value understanding. 5 M4 Lesson 22: Divide decimal numbers to hundredths by two-digit whole numbers. 5 M4 Lesson 23: Relate division by 0.1 and 0.01 to division by a unit fraction. 5 M4 Lesson 24: Divide decimal numbers by decimal numbers, resulting in whole-number quotients. 5 M4 Lesson 25: Divide decimal numbers by decimal numbers, resulting in decimal-number quotients.

Computation and Estimation

5.CE.4 The student will simplify numerical expressions with whole numbers using the order of operations.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.CE.4.a Use order of operations to simplify numerical expressions with whole numbers, limited to addition, subtraction, multiplication, and division in which:	5 M1 Lesson 7: Multiply by using familiar methods. 5 M1 Lesson 8: Multiply two- and three-digit numbers by two-digit numbers by using the distributive property. 5 M1 Topic D: Multi-Step Problems with Whole Numbers *Supplemental material is necessary to address order of operations.*
5.CE.4.a.i expressions may contain no more than one set of parentheses;	*Supplemental material is necessary to address this standard.*
5.CE.4.a.ii simplification will be limited to five whole numbers and four operations in any combination of addition, subtraction, multiplication, or division;	*Supplemental material is necessary to address this standard.*
5.CE.4.a.iii whole numbers will be limited to two digits or less; and	*Supplemental material is necessary to address this standard.*
5.CE.4.a.iv expressions should not include braces, brackets, or fraction bars.	*Supplemental material is necessary to address this standard.*

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.CE.4.b Given a whole number numerical expression involving more than one operation, describe which operation is completed first, which is second, and which is third.	5 M1 Lesson 7: Multiply by using familiar methods. 5 M1 Lesson 8: Multiply two- and three-digit numbers by two-digit numbers by using the distributive property. 5 M1 Topic D: Multi-Step Problems with Whole Numbers *Supplemental material is necessary to fully address this standard.*

Measurement and Geometry

5.MG.1 The student will reason mathematically to solve problems, including those in context, that involve length, mass, and liquid volume using metric units.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.MG.1.a Determine the most appropriate unit of measure to use in a contextual problem that involves metric units:	*Supplemental material is necessary to address this standard.*
5.MG.1.a.i length (millimeters, centimeters, meters, and kilometers);	*Supplemental material is necessary to address this standard.*
5.MG.1.a.ii mass (grams and kilograms); and	*Supplemental material is necessary to address this standard.*
5.MG.1.a.iii liquid volume (milliliters and liters).	*Supplemental material is necessary to address this standard.*

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.MG.1.b Estimate and measure to solve contextual problems that involve metric units:	*Supplemental material is necessary to address this standard.*
5.MG.1.b.i length (millimeters, centimeters, and meters);	*Supplemental material is necessary to address this standard.*
5.MG.1.b.ii mass (grams and kilograms); and	*Supplemental material is necessary to address this standard.*
5.MG.1.b.iii liquid volume (milliliters and liters).	*Supplemental material is necessary to address this standard.*
5.MG.1.c Given the equivalent metric measure of one unit, in a contextual problem, determine the equivalent measurement within the metric system:	*This standard is fully addressed by the lessons aligned to its subsections.*
5.MG.1.c.i length (millimeters, centimeters, meters, and kilometers);	4 M1 Lesson 23: Express metric measurements of length in terms of smaller units. 5 M1 Lesson 5: Convert measurements and describe relationships between metric units. 5 M1 Lesson 6: Solve multi-step word problems by using metric measurement conversion. 5 M4 Lesson 27: Convert metric measurements involving decimals.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.MG.1.c.ii mass (grams and kilograms); and	4 M1 Lesson 24: Express metric measurements of mass and liquid volume in terms of smaller units. 5 M1 Lesson 5: Convert measurements and describe relationships between metric units. 5 M1 Lesson 6: Solve multi-step word problems by using metric measurement conversion. 5 M4 Lesson 27: Convert metric measurements involving decimals.
5.MG.1.c.iii liquid volume (milliliters and liters).	4 M1 Lesson 24: Express metric measurements of mass and liquid volume in terms of smaller units. 5 M1 Lesson 5: Convert measurements and describe relationships between metric units. 5 M1 Lesson 6: Solve multi-step word problems by using metric measurement conversion. 5 M4 Lesson 26: Solve a real-world problem involving metric measurements. 5 M4 Lesson 27: Convert metric measurements involving decimals.

Measurement and Geometry

5.MG.2 The student will use multiple representations to solve problems, including those in context, involving perimeter, area, and volume.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.MG.2.a Investigate and develop a formula for determining the area of a right triangle.	6 M5 Lesson 2: The Area of a Right Triangle

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.MG.2.b Estimate and determine the area of a right triangle, with diagrams, when the base and the height are given in whole number units, in metric or U.S. Customary units, and record the solution with the appropriate unit of measure (e.g., 16 square inches).	6 M5 Lesson 2: The Area of a Right Triangle *Supplemental material is necessary to fully address this standard.*
5.MG.2.c Describe volume as a measure of capacity and give examples of volume as a measurement in contextual situations.	5 M5 Lesson 16: Identify attributes and properties of right rectangular prisms. 5 M5 Lesson 17: Find the volume of right rectangular prisms by packing with unit cubes and counting. 5 M5 Lesson 19: Compose and decompose right rectangular prisms to find their volume by using layers. 5 M5 Lesson 20: Interpret volume as filling. 5 M5 Lesson 21: Relate volumes of solids and liquid volume.
5.MG.2.d Investigate and develop a formula for determining the volume of rectangular prisms using concrete objects.	5 M5 Lesson 17: Find the volume of right rectangular prisms by packing with unit cubes and counting. 5 M5 Lesson 18: Find the volume of right rectangular prisms by packing with improvised units. 5 M5 Lesson 19: Compose and decompose right rectangular prisms to find their volume by using layers. 5 M5 Lesson 21: Relate volumes of solids and liquid volume. 5 M5 Lesson 22: Find the volumes of right rectangular prisms by using the area of the base. 5 M5 Lesson 23: Find the volumes of right rectangular prisms by multiplying the edge lengths. 5 M5 Lesson 25: Find the volumes of solid figures composed of right rectangular prisms. 5 M5 Lesson 26: Solve word problems involving perimeter, area, and volume.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.MG.2.d *continued*	5 M5 Lesson 27: Apply concepts and formulas of volume to design a sculpture by using right rectangular prisms, part 1. 5 M5 Lesson 28: Apply concepts and formulas of volume to design a sculpture by using right rectangular prisms, part 2.
5.MG.2.e Solve problems, including those in context, to estimate and determine the volume of a rectangular prism using concrete objects, diagrams, and formulas when the length, width, and height are given in whole number units. Record the solution with the appropriate unit of measure (e.g., 12 cubic inches).	5 M5 Lesson 22: Find the volumes of right rectangular prisms by using the area of the base. 5 M5 Lesson 23: Find the volumes of right rectangular prisms by multiplying the edge lengths. 5 M5 Lesson 25: Find the volumes of solid figures composed of right rectangular prisms. 5 M5 Lesson 26: Solve word problems involving perimeter, area, and volume. 5 M5 Lesson 27: Apply concepts and formulas of volume to design a sculpture by using right rectangular prisms, part 1. 5 M5 Lesson 28: Apply concepts and formulas of volume to design a sculpture by using right rectangular prisms, part 2.
5.MG.2.f Identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation.	5 M5 Lesson 26: Solve word problems involving perimeter, area, and volume.
5.MG.2.g Solve contextual problems that involve perimeter, area, and volume in standard units of measure.	5 M5 Lesson 8: Find areas of square tiles with fraction side lengths by relating the tile to a unit square. 5 M5 Lesson 9: Organize, count, and represent a collection of square tiles. 5 M5 Lesson 10: Find the area of a rectangle with fraction side lengths by relating the rectangle to a unit square. 5 M5 Lesson 11: Find areas of rectangles with fraction side lengths by using multiplication. 5 M5 Lesson 12: Multiply mixed numbers. 5 M5 Lesson 13: Solve mathematical problems involving areas of composite figures with mixed-number side lengths.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.MG.2.g *continued*	5 M5 Lesson 14: Solve real-world problems involving areas of composite figures with mixed-number side lengths. 5 M5 Topic D: Volume and the Operations of Multiplication and Addition 5 M6 Lesson 15: Use the coordinate plane to reason about perimeters and areas of rectangles.

Measurement and Geometry

5.MG.3 The student will classify and measure angles and triangles, and solve problems, including those in context.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.MG.3.a Classify angles as right, acute, obtuse, or straight and justify reasoning.	4 M6 Lesson 2: Identify right, acute, obtuse, and straight angles. 4 M6 Lesson 3: Draw right, acute, obtuse, and straight angles. 4 M6 Lesson 7: Explore angles as fractional turns through a circle.
5.MG.3.b Classify triangles as right, acute, or obtuse and equilateral, scalene, or isosceles and justify reasoning.	4 M6 Lesson 18: Analyze and classify triangles based on side length, angle measures, or both. 4 M6 Lesson 19: Construct and classify triangles based on given attributes. 4 M6 Lesson 20: Sort polygons based on a given rule.
5.MG.3.c Identify congruent sides and right angles using geometric markings to denote properties of triangles.	4 M6 Topic A: Lines and Angles 4 M6 Lesson 18: Analyze and classify triangles based on side length, angle measures, or both. 4 M6 Lesson 19: Construct and classify triangles based on given attributes. 4 M6 Lesson 20: Sort polygons based on a given rule.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.MG.3.d Compare and contrast the properties of triangles.	4 M6 Lesson 18: Analyze and classify triangles based on side length, angle measures, or both. 4 M6 Lesson 19: Construct and classify triangles based on given attributes. 4 M6 Lesson 20: Sort polygons based on a given rule.
5.MG.3.e Identify the appropriate tools (e.g., protractor, straightedge, angle ruler, available technology) to measure and draw angles.	4 M6 Lesson 8: Use a circular protractor to recognize a $1°$ angle as a turn through $\frac{1}{360}$ of a circle. 4 M6 Lesson 9: Identify and measure angles as turns and recognize them in various contexts. 4 M6 Lesson 10: Use $180°$ protractors to measure angles. 4 M6 Lesson 11: Estimate and measure angles with a $180°$ protractor. 4 M6 Lesson 12: Use a protractor to draw angles up to $180°$. *Supplemental material is necessary to fully address this standard.*
5.MG.3.f Measure right, acute, obtuse, and straight angles, using appropriate tools, and identify measures in degrees.	4 M6 Lesson 8: Use a circular protractor to recognize a $1°$ angle as a turn through $\frac{1}{360}$ of a circle. 4 M6 Lesson 10: Use $180°$ protractors to measure angles. 4 M6 Lesson 11: Estimate and measure angles with a $180°$ protractor. 4 M6 Lesson 12: Use a protractor to draw angles up to $180°$.
5.MG.3.g Use models to prove that the sum of the interior angles of a triangle is 180 degrees and use the relationship to determine an unknown angle measure in a triangle.	4 M6 Lesson 13: Decompose angles by using pattern blocks. *Supplemental material is necessary to fully address this standard.*
5.MG.3.h Solve addition and subtraction contextual problems to determine unknown angle measures on a diagram.	4 M6 Topic C: Determine Unknown Angle Measures

Probability and Statistics

5.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 line plots (dot plots) and stem-and-leaf plots.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.PS.1.a Formulate questions that require the collection or acquisition of data.	6 M6 Lesson 1: Posing Statistical Questions 6 M6 Lesson 17: Developing a Statistical Project
5.PS.1.b Determine the data needed to answer a formulated question and collect or acquire existing data (limited to 30 or fewer data points) using various methods (e.g., polls, observations, measurements, experiments).	6 M6 Lesson 1: Posing Statistical Questions 6 M6 Lesson 17: Developing a Statistical Project *Supplemental material is necessary to fully address this standard.*
5.PS.1.c Organize and represent a data set using a line plot (dot plot) with a title, labeled axes, and a key, with and without the use of technology tools. Lines plots (dot plots) may contain whole numbers, fractions, or decimals.	4 M4 Lesson 30: Represent data on a line plot. 5 M2 Topic D: Problem Solving and Line Plots with Fractional Measurements 6 M6 Lesson 3: Creating a Dot Plot
5.PS.1.d Organize and represent numerical data using a stem-and-leaf plot with a title and key, where the stems are listed in ascending order and the leaves are in ascending order, with or without commas between the leaves.	*Supplemental material is necessary to address this standard.*

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.PS.1.e Analyze data represented in line plots (dot plots) and stem-and-leaf plots and communicate results orally and in writing:	*This standard is addressed by the lessons aligned to its subsections.*
5.PS.1.e.i describe the characteristics of the data represented in a line plot (dot plot) and stem-and-leaf plot as a whole (e.g., the shape and spread of the data);	4 M4 Lesson 29: Solve problems by using data from a line plot. 5 M2 Topic D: Problem Solving and Line Plots with Fractional Measurements 6 M6 Lesson 2: Describing a Data Distribution 6 M6 Lesson 3: Creating a Dot Plot 6 M6 Lesson 9: Variability in a Data Distribution *Supplemental material is necessary to address describing characteristics of data in stem-and-leaf plots.*
5.PS.1.e.ii make inferences about data represented in line plots (dot plots) and stem-and-leaf plots (e.g., based on a line plot (dot plot) of the number of books students in a bus line have in their backpack, every student will have from two to four books in their backpack);	4 M4 Lesson 29: Solve problems by using data from a line plot. 5 M2 Topic D: Problem Solving and Line Plots with Fractional Measurements 6 M6 Lesson 2: Describing a Data Distribution 6 M6 Lesson 3: Creating a Dot Plot 6 M6 Lesson 9: Variability in a Data Distribution *Supplemental material is necessary to address making inferences about data in stem-and-leaf plots.*

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.PS.1.e.iii identify parts of the data that have special characteristics and explain the meaning of the greatest, the least, or the same (e.g., the stem-and-leaf plot shows that the same number of students scored in the 90s as scored in the 70s);	4 M4 Lesson 29: Solve problems by using data from a line plot. 5 M2 Topic D: Problem Solving and Line Plots with Fractional Measurements 6 M6 Lesson 2: Describing a Data Distribution 6 M6 Lesson 3: Creating a Dot Plot 6 M6 Lesson 9: Variability in a Data Distribution *Supplemental material is necessary to address stem-and-leaf plots.*
5.PS.1.e.iv draw conclusions about the data and make predictions based on the data to answer questions; and	4 M4 Lesson 29: Solve problems by using data from a line plot. 5 M2 Topic D: Problem Solving and Line Plots with Fractional Measurements 6 M6 Lesson 2: Describing a Data Distribution 6 M6 Lesson 3: Creating a Dot Plot 6 M6 Lesson 9: Variability in a Data Distribution *Supplemental material is necessary to address making predictions based on the data to answer questions.*
5.PS.1.e.v solve single-step and multistep addition and subtraction problems using data from line plots (dot plots) and stem-and-leaf plots.	4 M4 Lesson 29: Solve problems by using data from a line plot. 5 M2 Topic D: Problem Solving and Line Plots with Fractional Measurements *Supplemental material is necessary to address solving problems using data from stem-and-leaf plots.*

Probability and Statistics

5.PS.2 The student will solve contextual problems using measures of center and the range.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.PS.2.a Describe mean as fair share.	6 M6 Lesson 7: Using the Mean to Describe the Center 6 M6 Lesson 8: The Mean as a Balance Point
5.PS.2.b Describe and determine the mean of a set of data values representing data from a given context as a measure of center.	6 M6 Lesson 7: Using the Mean to Describe the Center 6 M6 Lesson 8: The Mean as a Balance Point
5.PS.2.c Describe and determine the median of a set of data values representing data from a given context as a measure of center.	6 M6 Lesson 12: Using the Median to Describe the Center
5.PS.2.d Describe and determine the mode of a set of data values representing data from a given context as a measure of center.	*Supplemental material is necessary to address this standard.*
5.PS.2.e Describe and determine the range of a set of data values representing data from a given context as a measure of spread.	6 M6 Lesson 2: Describing a Data Distribution 6 M6 Lesson 3: Creating a Dot Plot 6 M6 Lesson 9: Variability in a Data Distribution

Probability and Statistics

5.PS.3 The student will determine the probability of an outcome by constructing a model of a sample space and using the Fundamental (Basic) Counting Principle.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.PS.3.a Determine the probability of an outcome by constructing a sample space (with a total of 24 or fewer equally likely possible outcomes), using a tree diagram, list, or chart to represent and determine all possible outcomes.	*Supplemental material is necessary to address this standard.*
5.PS.3.b Determine the number of possible outcomes by using the Fundamental (Basic) Counting Principle.	*Supplemental material is necessary to address this standard.*

Patterns, Functions, and Algebra

5.PFA.1 The student will identify, describe, extend, and create increasing and decreasing patterns with whole numbers, fractions, and decimals, including those in context, using various representations.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.PFA.1.a Identify, describe, extend, and create increasing and decreasing patterns using various representations (e.g., objects, pictures, numbers, number lines, input/output tables, function machines).	5 M6 Lesson 7: Generate number patterns to form ordered pairs. 5 M6 Lesson 20: Reason about patterns in real-world situations. *Supplemental material is necessary to fully address this standard.*

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.PFA.1.b Analyze an increasing or decreasing single-operation numerical pattern found in lists, input/output tables, and function machines, and generalize the change to identify the rule, extend the pattern, or identify missing terms. (Patterns will be limited to addition, subtraction, multiplication, and division of whole numbers; addition and subtraction of fractions with like denominators of 12 or less; and addition and subtraction of decimals expressed in tenths or hundredths).	5 M6 Lesson 7: Generate number patterns to form ordered pairs. 5 M6 Lesson 20: Reason about patterns in real-world situations. *Supplemental material is necessary to fully address this standard.*
5.PFA.1.c Solve contextual problems that involve identifying, describing, and extending increasing and decreasing patterns using single-operation input and output rules (limited to addition, subtraction, multiplication, and division of whole numbers; addition and subtraction of fractions with like denominators of 12 or less; and addition and subtraction of decimals expressed in tenths or hundredths).	5 M6 Lesson 20: Reason about patterns in real-world situations. *Supplemental material is necessary to fully address this standard.*

Patterns, Functions, and Algebra

5.PFA.2 The student will investigate and use variables in contextual problems.

Mathematics Standards of Learning for Virginia Public Schools	Aligned Components of *Eureka Math²*
5.PFA.2.a Describe the concept of a variable (presented as a box, letter, or other symbol) as a representation of an unknown quantity.	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
5.PFA.2.b Write an equation (with a single variable that represents an unknown quantity and one operation) from a contextual situation, using addition, subtraction, multiplication, or division.	6 M4 Lesson 9: Addition and Subtraction Expressions from Real-World Situations 6 M4 Lesson 10: Multiplication and Division Expressions from Real-World Situations 6 M4 Lesson 11: Modeling Real-World Situations with Expressions 6 M4 Lesson 16: Equivalent Algebraic Expressions 6 M4 Lesson 17: Equations and Solutions 6 M4 Lesson 21: Solving Problems with Equations *Supplemental material is necessary to fully address this standard.*
5.PFA.2.c Use an expression with a variable to represent a given verbal expression involving one operation (e.g., "5 more than a number" can be represented by $y + 5$).	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
5.PFA.2.d Create and write a word problem to match a given equation with a single variable and one operation.	5 M3 Lesson 19: Create and solve one-step word problems involving fractions. *Supplemental material is necessary to fully address this standard.*