Grade 3 | West Virginia College- and Career-Readiness Standards for Mathematics 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 Habits of Mind	Aligned Components of *Eureka Math²*
MHM.1 Make sense of problems and persevere in solving them.	Lessons in every module engage students in mathematical habits of mind. These are indicated in margin notes included with every lesson.
MHM.2 Reason abstractly and quantitatively.	Lessons in every module engage students in mathematical habits of mind. These are indicated in margin notes included with every lesson.
MHM.3 Construct viable arguments and critique the reasoning of others.	Lessons in every module engage students in mathematical habits of mind. These are indicated in margin notes included with every lesson.
MHM.4 Model with mathematics.	Lessons in every module engage students in mathematical habits of mind. These are indicated in margin notes included with every lesson.
MHM.5 Use appropriate tools strategically.	Lessons in every module engage students in mathematical habits of mind. These are indicated in margin notes included with every lesson.
MHM.6 Attend to precision.	Lessons in every module engage students in mathematical habits of mind. These are indicated in margin notes included with every lesson.
MHM.7 Look for and make use of structure.	Lessons in every module engage students in mathematical habits of mind. These are indicated in margin notes included with every lesson.
MHM.8 Look for and express regularity in repeated reasoning.	Lessons in every module engage students in mathematical habits of mind. These are indicated in margin notes included with every lesson.

Operations and Algebraic Thinking

Represent and solve problems involving multiplication and division.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.1 Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each (e.g., describe context in which a total number of objects can be expressed as 5×7).	3 M1 Lesson 2: Interpret equal groups as multiplication. 3 M1 Lesson 3: Relate multiplication to the array model. 3 M1 Lesson 4: Interpret the meaning of factors as number of groups or number in each group. 3 M1 Lesson 10: Demonstrate the commutative property of multiplication using a unit of 2 and the array model. 3 M1 Lesson 11: Demonstrate the commutative property of multiplication using a unit of 4 and the array model. 3 M1 Lesson 13: Demonstrate the commutative property of multiplication using a unit of 3 and the array model. 3 M3 Lesson 15: Reason about and explain patterns of multiplication and division with units of 1 and 0. 3 M3 Lesson 18: Create multiplication and division word problems.
M.3.2 Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each (e.g., describe a context in which a number of shares or a number of groups can be expressed as $56 \div 8$).	3 M1 Lesson 6: Explore measurement and partitive division by modeling concretely and drawing. 3 M1 Lesson 7: Model measurement and partitive division by drawing equal groups. 3 M1 Lesson 8: Model measurement and partitive division by drawing arrays. 3 M1 Lesson 9: Represent and solve division word problems using drawings and equations. 3 M1 Lesson 15: Model division as an unknown factor problem. 3 M1 Lesson 16: Model the quotient as the number of groups using units of 2, 3, 4, 5, and 10. 3 M1 Lesson 17: Model the quotient as the size of each group using units of 2, 3, 4, 5, and 10. 3 M1 Lesson 18: Represent and solve measurement and partitive division word problems. 3 M3 Lesson 15: Reason about and explain patterns of multiplication and division with units of 1 and 0. 3 M3 Lesson 18: Create multiplication and division word problems.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).	3 M1 Lesson 5: Represent and solve multiplication word problems by using drawings and equations. 3 M1 Lesson 8: Model measurement and partitive division by drawing arrays. 3 M1 Lesson 9: Represent and solve division word problems using drawings and equations. 3 M1 Lesson 16: Model the quotient as the number of groups using units of 2, 3, 4, 5, and 10. 3 M1 Lesson 17: Model the quotient as the size of each group using units of 2, 3, 4, 5, and 10. 3 M1 Lesson 18: Represent and solve measurement and partitive division word problems. 3 M1 Lesson 22: Represent and solve two-step word problems using the properties of multiplication. 3 M1 Lesson 23: Represent and solve two-step word problems using drawings and equations. 3 M3 Lesson 2: Count by units of 6 to multiply and divide by using arrays. 3 M3 Lesson 7: Count by units of 7 to multiply and divide by using arrays and tape diagrams. 3 M3 Lesson 8: Use the break apart and distribute strategy to multiply with units of 7. 3 M3 Lesson 12: Solve one-step word problems involving multiplication and division. 3 M3 Lesson 25: Apply multiplication and division concepts to complete a multi-part task.
M.3.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers (e.g., determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$, $5 = ? \div 3$, $6 \times 6 = ?$).	3 M1 Lesson 15: Model division as an unknown factor problem. 3 M1 Lesson 16: Model the quotient as the number of groups using units of 2, 3, 4, 5, and 10. 3 M1 Lesson 17: Model the quotient as the size of each group using units of 2, 3, 4, 5, and 10. 3 M3 Lesson 2: Count by units of 6 to multiply and divide by using arrays. 3 M3 Lesson 3: Count by units of 8 to multiply and divide by using arrays. 3 M3 Lesson 7: Count by units of 7 to multiply and divide by using arrays and tape diagrams.

Operations and Algebraic Thinking

Understand properties of multiplication and the relationship between multiplication and division.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.5 Apply properties of operations as strategies to multiply and divide (e.g., if $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known: Commutative Property of Multiplication; $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$: Associative Property of Multiplication; knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$: Distributive Property).	3 M1 Lesson 10: Demonstrate the commutative property of multiplication using a unit of 2 and the array model. 3 M1 Lesson 11: Demonstrate the commutative property of multiplication using a unit of 4 and the array model. 3 M1 Lesson 12: Demonstrate the distributive property using a unit of 4. 3 M1 Lesson 13: Demonstrate the commutative property of multiplication using a unit of 3 and the array model. 3 M1 Lesson 14: Demonstrate the distributive property using units of 2, 3, 4, 5, and 10. 3 M1 Lesson 19: Use the distributive property to break apart multiplication problems into known facts. 3 M3 Lesson 1: Organize, count, and represent a collection of objects. 3 M3 Lesson 3: Count by units of 8 to multiply and divide by using arrays. 3 M3 Lesson 4: Decompose pictorial arrays to create expressions with three factors. 3 M3 Lesson 5: Use the break apart and distribute strategy to multiply with units of 6 and 8. 3 M3 Lesson 6: Use the break apart and distribute strategy to divide with units of 6 and 8. 3 M3 Lesson 8: Use the break apart and distribute strategy to multiply with units of 7. 3 M3 Lesson 9: Model the associative property as a strategy to multiply. 3 M3 Lesson 10: Use parentheses in expressions with different operations. 3 M3 Lesson 11: Use the break apart and distribute strategy to divide with units of 7. 3 M3 Lesson 14: Apply strategies and identify patterns to multiply with units of 9. 3 M3 Lesson 21: Multiply by multiples of 10 by using place value strategies and the associative property. 3 M3 Lesson 23: Identify patterns and apply strategies to multiply with units of 11 and 12. 3 M3 Lesson 24: Organize, count, and represent a collection of objects.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.6 Understand division as an unknown-factor problem (e.g., find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8).	3 M1 Lesson 15: Model division as an unknown factor problem. 3 M1 Lesson 16: Model the quotient as the number of groups using units of 2, 3, 4, 5, and 10. 3 M1 Lesson 17: Model the quotient as the size of each group using units of 2, 3, 4, 5, and 10. 3 M1 Lesson 20: Use the distributive property to break apart division problems into known facts. 3 M3 Lesson 2: Count by units of 6 to multiply and divide by using arrays. 3 M3 Lesson 7: Count by units of 7 to multiply and divide by using arrays and tape diagrams.

Operations and Algebraic Thinking

Multiply and divide within 100.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.7 Fluently (efficiently, flexibly, and accurately) multiply and divide within 100 using strategies such as the relationship between multiplication and division and the properties of operations. By the end of Grade 3, know the multiplication table (facts) within 100 (0s–10s) efficiently.	3 M1 Lesson 12: Demonstrate the distributive property using a unit of 4. 3 M1 Lesson 14: Demonstrate the distributive property using units of 2, 3, 4, 5, and 10. 3 M1 Lesson 19: Use the distributive property to break apart multiplication problems into known facts. 3 M1 Lesson 20: Use the distributive property to break apart division problems into known facts. 3 M1 Lesson 21: Compose and decompose arrays to create expressions with three factors. 3 M1 Lesson 22: Represent and solve two-step word problems using the properties of multiplication. 3 M1 Lesson 23: Represent and solve two-step word problems using drawings and equations. 3 M3 Lesson 1: Organize, count, and represent a collection of objects. 3 M3 Lesson 14: Apply strategies and identify patterns to multiply with units of 9. 3 M3 Lesson 17: Identify and complete patterns with input–output tables. 3 M3 Lesson 24: Organize, count, and represent a collection of objects.

Operations and Algebraic Thinking

Solve problems involving the four operations and identify and explain patterns in arithmetic.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.8 Solve two-step word problems using the four operations, represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	3 M1 Lesson 22: Represent and solve two-step word problems using the properties of multiplication. 3 M1 Lesson 23: Represent and solve two-step word problems using drawings and equations. 3 M2 Lesson 25: Solve two-step word problems. 3 M3 Lesson 19: Solve two-step word problems involving all four operations and assess the reasonableness of solutions. 3 M3 Lesson 22: Solve two-step word problems involving multiplication of single-digit factors and multiples of 10. 3 M3 Lesson 25: Apply multiplication and division concepts to complete a multi-part task. 3 M6 Lesson 7: Count coins and create money word problems.
M.3.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain those using properties of operations (e.g., observe that 4 times a number is always even and explain why 4 times a number can be decomposed into two equal addends).	3 M3 Lesson 13: Count by units of 9 to multiply. 3 M3 Lesson 14: Apply strategies and identify patterns to multiply with units of 9. 3 M3 Lesson 15: Reason about and explain patterns of multiplication and division with units of 1 and 0. 3 M3 Lesson 16: Identify patterns using the multiplication table. 3 M3 Lesson 17: Identify and complete patterns with input–output tables. 3 M3 Lesson 23: Identify patterns and apply strategies to multiply with units of 11 and 12.

Number and Operations in Base Ten

Use place value understanding and properties of operations to perform multi-digit arithmetic.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.10 Read and write numbers to 10,000 using standard form, word form, and expanded form.	*Supplemental material is necessary to address this standard.*
M.3.11 Compare two four-digit numbers based on meanings of the thousands, hundreds, tens, and ones digits using >, = and < symbols to record the results of the comparisons. Order numbers based on place value.	*Supplemental material is necessary to address this standard.*
M.3.12 Use place value understanding to round whole numbers to the nearest 10 or 100.	3 M2 Lesson 8: Read temperatures on a thermometer using number line concepts. 3 M2 Lesson 9: Round two-digit numbers to the nearest ten on the vertical number line. 3 M2 Lesson 10: Round two- and three-digit numbers to the nearest ten on the vertical number line. 3 M2 Lesson 11: Round to the nearest hundred on the vertical number line. 3 M2 Lesson 12: Estimate sums and differences by rounding.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.13 Fluently (efficiently, flexibly, and accurately) add and subtract within $1{,}000$ using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	3 M2 Lesson 12: Estimate sums and differences by rounding. 3 M2 Lesson 14: Use place value understanding to add and subtract like units. 3 M2 Lesson 15: Use the associative property to make the next ten to add. 3 M2 Lesson 16: Use compensation to add. 3 M2 Lesson 17: Use place value understanding to subtract efficiently using take from a ten. 3 M2 Lesson 18: Use place value understanding to subtract efficiently using take from a hundred. 3 M2 Lesson 19: Use compensation to subtract. 3 M2 Lesson 20: Add measurements using the standard algorithm to compose larger units once. 3 M2 Lesson 21: Add measurements using the standard algorithm to compose larger units twice. 3 M2 Lesson 22: Subtract measurements using the standard algorithm to decompose larger units once. 3 M2 Lesson 23: Subtract measurements using the standard algorithm to decompose larger units twice. 3 M2 Lesson 24: Subtract measurements using the standard algorithm to decompose larger units across two place values.
M.3.14 Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9×80, 5×60) using strategies based on place value and properties of operations.	3 M3 Lesson 20: Multiply by multiples of 10 by using the place value chart. 3 M3 Lesson 21: Multiply by multiples of 10 by using place value strategies and the associative property. 3 M3 Lesson 22: Solve two-step word problems involving multiplication of single-digit factors and multiples of 10.

Number and Operations—Fractions

Develop understanding of fractions as numbers.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.15 Understand a fraction $\frac{1}{b}$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction $\frac{a}{b}$ as the quantity formed by a parts of size $\frac{1}{b}$.	3 M5 Lesson 4: Partition a whole into fractional units pictorially and identify the unit fraction. 3 M5 Lesson 5: Partition a whole into fractional units and write fractions in fraction form. 3 M5 Lesson 6: Build non-unit fractions less than 1 from unit fractions concretely. 3 M5 Lesson 7: Identify and represent a whole as two parts: a unit fraction and a non-unit fraction. 3 M5 Lesson 8: Identify and represent a whole as two non-unit fractions. 3 M5 Lesson 27: Apply fraction concepts to complete a multi-part task.
M.3.16 Understand a fraction as a number on the number line and represent fractions on a number line diagram.	*This standard is fully addressed by the lessons aligned to its subsections.*
M.3.16.a Represent a fraction $\frac{1}{b}$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $\frac{1}{b}$ and that the endpoint of the part based at 0 locates the number $\frac{1}{b}$ on the number line (e.g., given that b parts is 4 parts, then $\frac{1}{b}$ represents $\frac{1}{4}$; students partition the number line into fourths and locate $\frac{1}{4}$ on the number line).	3 M5 Lesson 11: Locate fractions from 0 to 1 on a number line by using fraction tiles. 3 M5 Lesson 12: Represent fractions from 0 to 1 on a number line. 3 M5 Lesson 15: Identify fractions on a ruler as numbers on a number line.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.16.b Represent a fraction $\frac{a}{b}$ on a number line diagram by marking off a lengths $\frac{1}{b}$ from 0. Recognize that the resulting interval has size $\frac{a}{b}$ and that its endpoint locates the number $\frac{a}{b}$ on the number line (e.g., given that $\frac{a}{b}$ represents $\frac{3}{4}$ or $\frac{6}{4}$, students partition the number line into fourths and represent these fractions accurately on the same number line; students extend the number line to include the number of wholes required for the given fractions).	3 M5 Lesson 11: Locate fractions from 0 to 1 on a number line by using fraction tiles. 3 M5 Lesson 12: Represent fractions from 0 to 1 on a number line. 3 M5 Lesson 15: Identify fractions on a ruler as numbers on a number line. 3 M5 Lesson 18: Compare fractions with like units by using a number line. 3 M5 Lesson 26: Create a ruler with 1-inch, half-inch, and quarter-inch intervals. 3 M5 Lesson 27: Apply fraction concepts to complete a multi-part task.
M.3.17 Explain equivalence of fractions in special cases and compare fractions by reasoning about their size.	*This standard is fully addressed by the lessons aligned to its subsections.*
M.3.17.a Understand two fractions as equivalent (equal) if they are the same size or the same point on a number line.	3 M5 Lesson 13: Identify equivalent fractions from 0 to 1 with tape diagrams and on number lines. 3 M5 Lesson 14: Recognize that equivalent fractions share the same location on a number line. 3 M5 Lesson 16: Measure lengths and record data on a line plot. 3 M5 Lesson 17: Represent fractions greater than 1 on a number line and identify fractions equivalent to whole numbers. 3 M5 Lesson 22: Identify fractions equivalent to whole numbers by using number lines. 3 M5 Lesson 23: Reason to find fractions equivalent to whole numbers by using patterns and number lines.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.17.b Recognize and generate simple equivalent fractions $\left(\text{e.g., } \frac{1}{2}=\frac{2}{4}, \frac{4}{6}=\frac{2}{3}\right)$. Explain why the fractions are equivalent (e.g., by using a visual fraction model).	3 M5 Lesson 13: Identify equivalent fractions from 0 to 1 with tape diagrams and on number lines. 3 M5 Lesson 14: Recognize that equivalent fractions share the same location on a number line. 3 M5 Lesson 16: Measure lengths and record data on a line plot. 3 M5 Lesson 17: Represent fractions greater than 1 on a number line and identify fractions equivalent to whole numbers. 3 M5 Lesson 22: Identify fractions equivalent to whole numbers by using number lines. 3 M5 Lesson 23: Reason to find fractions equivalent to whole numbers by using patterns and number lines. 3 M5 Lesson 24: Generate equivalent fractions greater than 1 by using a number line. 3 M5 Lesson 26: Create a ruler with 1-inch, half-inch, and quarter-inch intervals.
M.3.17.c Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers (e.g., express 3 in the form $3=\frac{3}{1}$; recognize that $\frac{6}{1}=6$; locate $\frac{4}{4}$ and 1 at the same point of a number line diagram).	3 M5 Lesson 8: Identify and represent a whole as two non-unit fractions. 3 M5 Lesson 17: Represent fractions greater than 1 on a number line and identify fractions equivalent to whole numbers. 3 M5 Lesson 22: Identify fractions equivalent to whole numbers by using number lines. 3 M5 Lesson 23: Reason to find fractions equivalent to whole numbers by using patterns and number lines. 3 M5 Lesson 24: Generate equivalent fractions greater than 1 by using a number line. 3 M5 Lesson 25: Express whole numbers as fractions with a denominator of 1.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.17.d Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols $>$, $=$ or $<$ and justify the conclusions (e.g., by using a visual fraction model).	3 M5 Lesson 9: Compare unit fractions by reasoning about their size concretely. 3 M5 Lesson 10: Compare non-unit fractions less than 1 with the same numerator by using tape diagrams. 3 M5 Lesson 18: Compare fractions with like units by using a number line. 3 M5 Lesson 19: Compare fractions with unlike units but the same numerator by using number lines. 3 M5 Lesson 20: Compare fractions with related units by using a number line. 3 M5 Lesson 21: Compare various fractions by representing them on number lines. 3 M5 Lesson 27: Apply fraction concepts to complete a multi-part task.

Measurement and Data

Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.18 Tell and write time to the nearest minute, measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes (e.g., by representing the problem on a number line diagram).	3 M6 Lesson 1: Relate skip-counting by fives on the clock to telling time on the number line. 3 M6 Lesson 2: Count by fives and ones on the number line as a strategy for telling time to the nearest minute on the clock. 3 M6 Lesson 3: Solve time word problems where the end time is unknown. 3 M6 Lesson 4: Solve time word problems where the start time is unknown. 3 M6 Lesson 5: Solve time word problems where the change in time is unknown. 3 M6 Lesson 6: Solve time word problems and use time data to create a line plot.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.19 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg) and liters (l). Add, subtract, multiply or divide to solve one-step word problems involving masses or volumes that are given in the same units (e.g., by using drawings, such as a beaker with a measurement scale) to represent the problem.	3 M2 Lesson 1: Connect the composition of 1 kilogram to the composition of 1 thousand. 3 M2 Lesson 2: Estimate the weight of familiar objects and read scales when weighing objects. 3 M2 Lesson 3: Use all four operations to solve one-step word problems involving weight. 3 M2 Lesson 4: Connect decomposition of 1 liter to the decomposition of 1 thousand. 3 M2 Lesson 5: Estimate and measure liquid volume using a vertical number line and connect composition of 1 liter to composition of 1 thousand. 3 M2 Lesson 6: Use all four operations to solve one-step word problems involving liquid volume. 3 M2 Lesson 7: Solve one-step word problems using metric units.

Measurement and Data

Represent and interpret data.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.20 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs (e.g., draw a bar graph in which each square might represent 5 pets).	3 M2 Lesson 13: Collect and represent data in a scaled bar graph and solve related problems. 3 M6 Lesson 22: Generate categorical data and represent it by using a scaled picture graph. 3 M6 Lesson 23: Solve word problems by creating scaled picture graphs and scaled bar graphs.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.21 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves or quarters.	3 M5 Lesson 16: Measure lengths and record data on a line plot. 3 M6 Lesson 20: Record measurement data in a line plot. 3 M6 Lesson 21: Create and analyze a line plot for measurement data to the nearest half unit and quarter unit.

Measurement and Data

Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.22 Recognize area as an attribute of plane figures and understand concepts of area measurement.	3 M4 Lesson 1: Explore attributes of squares, rectangles, and trapezoids. 3 M4 Lesson 2: Recognize area as an attribute of polygons. 3 M4 Lesson 3: Tile polygons to find their areas. 3 M4 Lesson 4: Compose rectangles to compare areas. 3 M4 Lesson 5: Relate side lengths to the number of tiles on a side. 3 M4 Lesson 16: Solve historical math problems involving area.
M.3.22.a A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area and can be used to measure area.	3 M4 Lesson 2: Recognize area as an attribute of polygons. 3 M4 Lesson 3: Tile polygons to find their areas. 3 M4 Lesson 4: Compose rectangles to compare areas. 3 M4 Lesson 5: Relate side lengths to the number of tiles on a side. 3 M4 Lesson 16: Solve historical math problems involving area.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.22.b A plane figure which can be covered without gaps or overlaps by b unit squares is said to have an area of b square units.	3 M4 Lesson 2: Recognize area as an attribute of polygons. 3 M4 Lesson 3: Tile polygons to find their areas. 3 M4 Lesson 4: Compose rectangles to compare areas. 3 M4 Lesson 5: Relate side lengths to the number of tiles on a side. 3 M4 Lesson 16: Solve historical math problems involving area.
M.3.23 Measure areas by counting unit squares (square cm, square m, square in, square ft. and improvised units).	3 M4 Lesson 2: Recognize area as an attribute of polygons. 3 M4 Lesson 3: Tile polygons to find their areas. 3 M4 Lesson 4: Compose rectangles to compare areas. 3 M4 Lesson 5: Relate side lengths to the number of tiles on a side. 3 M4 Lesson 6: Tile rectangles with squares to make arrays and relate the side lengths to the area. 3 M4 Lesson 7: Draw rows and columns to complete a rectangular array and determine its area. 3 M4 Lesson 16: Solve historical math problems involving area. 3 M4 Lesson 18: Find the area of shapes and represent area data on a line plot.
M.3.24 Relate area to the operations of multiplication and addition.	*This standard is fully addressed by the lessons aligned to its subsections.*
M.3.24.a Find the area of a rectangle with whole-number side lengths by tiling it and show that the area is the same as would be found by multiplying the side lengths.	3 M4 Lesson 6: Tile rectangles with squares to make arrays and relate the side lengths to the area. 3 M4 Lesson 7: Draw rows and columns to complete a rectangular array and determine its area. 3 M4 Lesson 8: Determine the area of a rectangle by using side lengths. 3 M4 Lesson 12: Find all possible side lengths of rectangles with a given area.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.24.b Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real-world and mathematical problems and represent whole-number products as rectangular areas in mathematical reasoning.	3 M4 Lesson 8: Determine the area of a rectangle by using side lengths. 3 M4 Lesson 9: Multiply side lengths to find the area of a rectangle. 3 M4 Lesson 11: Decompose to find the total area of a rectangle. 3 M4 Lesson 12: Find all possible side lengths of rectangles with a given area. 3 M4 Lesson 13: Apply area understanding to real-world situations. 3 M4 Lesson 14: Reason to find the area of composite shapes by using grids. 3 M4 Lesson 15: Reason to find the area of composite shapes by using rectangles. 3 M4 Lesson 17: Apply area concepts to a real-world context. 3 M4 Lesson 18: Find the area of shapes and represent area data on a line plot. 3 M4 Lesson 19: Apply area concepts to complete a multi-part task.
M.3.24.c Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.	3 M4 Lesson 10: Compose large rectangles and reason about their areas. 3 M4 Lesson 11: Decompose to find the total area of a rectangle. 3 M4 Lesson 13: Apply area understanding to real-world situations.
M.3.24.d Recognize area as additive and find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.	3 M4 Lesson 10: Compose large rectangles and reason about their areas. 3 M4 Lesson 11: Decompose to find the total area of a rectangle. 3 M4 Lesson 14: Reason to find the area of composite shapes by using grids. 3 M4 Lesson 15: Reason to find the area of composite shapes by using rectangles. 3 M4 Lesson 17: Apply area concepts to a real-world context. 3 M4 Lesson 18: Find the area of shapes and represent area data on a line plot. 3 M4 Lesson 19: Apply area concepts to complete a multi-part task.

Measurement and Data

Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.25 Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	3 M6 Lesson 13: Decompose quadrilaterals to understand perimeter as the boundary of a shape. 3 M6 Lesson 14: Measure side lengths in whole-number units to determine the perimeters of polygons. 3 M6 Lesson 15: Recognize perimeter as an attribute of shapes and solve problems with unknown measurements. 3 M6 Lesson 16: Solve problems to determine the perimeters of rectangles with the same area. 3 M6 Lesson 17: Solve problems to determine the areas of rectangles with the same perimeter. 3 M6 Lesson 18: Solve real-world problems involving perimeter and unknown measurements by using all four operations. 3 M6 Lesson 19: Measure the perimeter of various circles to the nearest quarter inch by using string.

Geometry

Reason with shapes and their attributes.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math²*
M.3.26 Understand that shapes in distinct categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides) and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	3 M4 Lesson 1: Explore attributes of squares, rectangles, and trapezoids. 3 M4 Lesson 5: Relate side lengths to the number of tiles on a side. 3 M6 Lesson 8: Compare and classify quadrilaterals. 3 M6 Lesson 9: Compare and classify other polygons. 3 M6 Lesson 10: Draw polygons with specified attributes. 3 M6 Lesson 11: Reason about composing polygons by using tetrominoes. 3 M6 Lesson 12: Reason about composing polygons by using tangrams.
M.3.27 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as $\frac{1}{4}$ or the area of the shape.	3 M5 Lesson 1: Partition a whole into equal parts and name the fractional unit. 3 M5 Lesson 2: Partition different wholes into fractional units concretely. 3 M5 Lesson 3: Partition a whole into fractional units by folding fraction strips. 3 M5 Lesson 4: Partition a whole into fractional units pictorially and identify the unit fraction. 3 M5 Lesson 5: Partition a whole into fractional units and write fractions in fraction form. 3 M5 Lesson 6: Build non-unit fractions less than 1 from unit fractions concretely. 3 M5 Lesson 7: Identify and represent a whole as two parts: a unit fraction and a non-unit fraction. 3 M5 Lesson 8: Identify and represent a whole as two non-unit fractions. 3 M5 Lesson 9: Compare unit fractions by reasoning about their size concretely. 3 M5 Lesson 10: Compare non-unit fractions less than 1 with the same numerator by using tape diagrams.