Grade 5 | Oregon Mathematics Standards 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.

Algebraic Reasoning:Operations
5.OA.A Write and interpret numerical expressions.

Oregon Mathematics Standards	Aligned Components of *Eureka Math²*
5.OA.A.1 Write and evaluate numerical expressions that include parentheses.	M1 L7: Multiply by using familiar methods. M1 L8: Multiply two- and three-digit numbers by two-digit numbers by using the distributive property. M1 L17: Write, interpret, and compare numerical expressions. M1 L18: Create and solve real-world problems for given numerical expressions. M1 L19: Solve multi-step word problems involving multiplication and division. M1 L20: Solve multi-step word problems involving the four operations. M3 L18: Compare and evaluate expressions with parentheses. M3 L22: Evaluate expressions involving nested grouping symbols. M4 L29: Interpret, evaluate, and compare numerical expressions involving decimals. M4 L30: Create and solve real-world problems for given numerical expressions involving decimals.
5.OA.A.2 Write expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.	M1 L17: Write, interpret, and compare numerical expressions. M1 L18: Create and solve real-world problems for given numerical expressions. M1 L19: Solve multi-step word problems involving multiplication and division. M1 L20: Solve multi-step word problems involving the four operations. M3 L12: Divide a nonzero whole number by a unit fraction to find the number of groups. M3 L16: Reason about the size of quotients of whole numbers and unit fractions and quotients of unit fractions and whole numbers. M3 L18: Compare and evaluate expressions with parentheses. M4 L29: Interpret, evaluate, and compare numerical expressions involving decimals. M4 L30: Create and solve real-world problems for given numerical expressions involving decimals.

Algebraic Reasoning: Operations
5.OA.B Analyze patterns and relationships.

Oregon Mathematics Standards	Aligned Components of *Eureka Math²*
5.OA.B.3 Generate two numerical patterns using two given rules. Identify and analyze relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns and graph them on a coordinate plane.	M6 L7: Generate number patterns to form ordered pairs. M6 L8: Identify addition and subtraction relationships between corresponding terms in number patterns. M6 L9: Identify multiplication and division relationships between corresponding terms in number patterns. M6 L11: Draw lines in the coordinate plane and identify points on the lines. M6 L20: Reason about patterns in real-world situations.

Numeric Reasoning: Base Ten Arithmetic
5.NBT.A Understand the place value system.

Oregon Mathematics Standards	Aligned Components of *Eureka Math²*
5.NBT.A.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left.	M1 L1: Relate adjacent place value units by using place value understanding. M1 L2: Multiply and divide by 10, 100, and 1,000 and identify patterns in the products and quotients. M4 L1: Model and relate decimal place value units to thousandths. M4 L2: Represent thousandths as a place value unit. M4 L3: Represent decimal numbers to the thousandths place in different forms. M4 L4: Relate the values of digits in a decimal number by using place value understanding.
5.NBT.A.2 Use whole number exponents to denote powers of 10 and explain the patterns in placement of digits that occur when multiplying and/or dividing whole numbers and decimals by powers of 10.	M1 L2: Multiply and divide by 10, 100, and 1,000 and identify patterns in the products and quotients. M1 L3: Use exponents to multiply and divide by powers of 10. M1 L4: Estimate products and quotients by using powers of 10 and their multiples. M4 L5: Multiply and divide decimal numbers by powers of 10.

Oregon Mathematics Standards	Aligned Components of *Eureka Math²*
5.NBT.A.3 Read, write, and compare decimals to thousandths.	M4 L1: Model and relate decimal place value units to thousandths. M4 L2: Represent thousandths as a place value unit. M4 L3: Represent decimal numbers to the thousandths place in different forms. M4 L6: Compare decimal numbers to the thousandths place.
5.NBT.A.4 Use place value understanding to round decimals to any place.	M4 L7: Round decimal numbers to the nearest one, tenth, or hundredth. M4 L8: Round decimal numbers to any place value unit.

Numeric Reasoning: Base Ten Arithmetic
5.NBT.B Perform operations with multi-digit whole numbers and with decimals to hundredths.

Oregon Mathematics Standards	Aligned Components of *Eureka Math²*
5.NBT.B.5 Fluently multiply multi-digit whole numbers using accurate, efficient, and flexible strategies and algorithms based on place value and properties of operations.	M1 L7: Multiply by using familiar methods. M1 L8: Multiply two- and three-digit numbers by two-digit numbers by using the distributive property. M1 L9: Multiply two- and three-digit numbers by two-digit numbers by using the standard algorithm. M1 L10: Multiply three- and four-digit numbers by three-digit numbers by using the standard algorithm. M1 L11: Multiply two multi-digit numbers by using the standard algorithm.
5.NBT.B.6 Use a variety of representations and strategies to find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors.	M1 L12: Divide two- and three-digit numbers by multiples of 10. M1 L13: Divide two-digit numbers by two-digit numbers in problems that result in one-digit quotients. M1 L14: Divide three-digit numbers by two-digit numbers in problems that result in one-digit quotients. M1 L15: Divide three-digit numbers by two-digit numbers in problems that result in two-digit quotients. M1 L16: Divide four-digit numbers by two-digit numbers.

Oregon Mathematics Standards	Aligned Components of *Eureka Math²*
5.NBT.B.7 Use a variety of representations and strategies to add, subtract, multiply, and divide decimals to hundredths. Relate the strategy to a written method and explain the reasoning used.	M4 L9: Add decimal numbers by using different methods. M4 L10: Add decimal numbers by using place value understanding. M4 L11: Subtract decimal numbers by using different methods. M4 L12: Subtract decimal numbers by using place value understanding. M4 L14: Multiply decimal numbers to hundredths by one-digit whole numbers by using different models. M4 L15: Multiply decimal numbers to hundredths by one-digit whole numbers and multiples of 10, 100, or 1,000 by using different written methods. M4 L16: Multiply decimal numbers to hundredths by two-digit whole numbers by using area models and vertical form. M4 L17: Multiply decimal numbers to hundredths by two-digit whole numbers by using different methods. M4 L18: Relate decimal-number multiplication to fraction multiplication. M4 L19: Multiply a decimal number by a decimal number. M4 L20: 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. M4 L21: Divide decimal numbers to hundredths by one-digit whole numbers and multiples of 10, 100, or 1,000 by using place value understanding and vertical form. M4 L22: Divide decimal numbers to hundredths by two-digit whole numbers. M4 L23: Relate division by 0.1 and 0.01 to division by a unit fraction. M4 L24: Divide decimal numbers by decimal numbers, resulting in whole-number quotients. M4 L25: Divide decimal numbers by decimal numbers, resulting in decimal-number quotients.

Numeric Reasoning: Fractions

5.NF.A Use equivalent fractions as a strategy to add and subtract fractions.

Oregon Mathematics Standards	Aligned Components of *Eureka Math²*
5.NF.A.1 Add and subtract fractions with unlike denominators, including common fractions larger than one and mixed numbers.	M2 L7: Add and subtract fractions with related units by finding equivalent fractions numerically. M2 L8: Add and subtract fractions with unrelated units by finding equivalent fractions pictorially. M2 L9: Add and subtract fractions with unrelated units by finding equivalent fractions numerically. M2 L10: Add whole numbers and mixed numbers and add mixed numbers with related units. M2 L11: Add mixed numbers with unrelated units. M2 L12: Subtract whole numbers from mixed numbers and mixed numbers from whole numbers. M2 L13: Subtract mixed numbers from mixed numbers with related units. M2 L14: Subtract mixed numbers from mixed numbers with unrelated units.
5.NF.A.2 Solve problems in authentic contexts involving addition and subtraction of fractions with unlike denominators, including common fractions larger than one and mixed numbers.	M2 L10: Add whole numbers and mixed numbers and add mixed numbers with related units. M2 L11: Add mixed numbers with unrelated units. M2 L12: Subtract whole numbers from mixed numbers and mixed numbers from whole numbers. M2 L13: Subtract mixed numbers from mixed numbers with related units. M2 L14: Subtract mixed numbers from mixed numbers with unrelated units. M2 L17: Solve problems by equally redistributing a total amount.

Numeric Reasoning: Fractions
5.NF.B Apply and extend previous understandings of multiplication and division.

Oregon Mathematics Standards	Aligned Components of *Eureka Math²*
5.NF.B.3 Interpret a fraction as division of the numerator by the denominator $\left(\frac{a}{b} = a \div b\right)$. Solve problems in authentic contexts involving division of whole numbers that result in answers that are common fractions or mixed numbers.	M2 L1: Interpret a fraction as division. M2 L2: Interpret a fraction as division by writing remainders as fractions. M2 L3: Represent fractions as division by using models. M2 L4: Solve word problems involving division and fractions.
5.NF.B.4 Apply and extend previous understanding and strategies of multiplication to multiply a fraction or whole number by a fraction. Multiply fractional side lengths to find areas of rectangles, and represent fractional products as rectangular areas.	M3 L1: Find fractions of a set with arrays. M3 L2: Interpret fractions as division to find fractions of a set with tape diagrams and number lines. M3 L3: Multiply a whole number by a fraction less than 1. M3 L4: Multiply a whole number by a fraction. M3 L5: Convert larger customary measurement units to smaller measurement units. M3 L6: Convert smaller customary measurement units to larger measurement units. M3 L7: Multiply fractions less than 1 by unit fractions pictorially. M3 L8: Multiply fractions less than 1 pictorially. M3 L11: Multiply fractions. M5 L9: Organize, count, and represent a collection of square tiles. M5 L11: Find areas of rectangles with fraction side lengths by using multiplication. M5 L12: Multiply mixed numbers. M5 L13: Solve mathematical problems involving areas of composite figures with mixed-number side lengths. M5 L14: Solve real-world problems involving areas of composite figures with mixed-number side lengths. M6 L15: Use the coordinate plane to reason about perimeters and areas of rectangles.

Oregon Mathematics Standards	Aligned Components of *Eureka Math²*
5.NF.B.5 Apply and extend previous understandings of multiplication and division to represent and calculate multiplication and division of fractions. Interpret multiplication as scaling (resizing) by comparing the size of products of two factors.	M3 L1: Find fractions of a set with arrays. M3 L2: Interpret fractions as division to find fractions of a set with tape diagrams and number lines. M3 L3: Multiply a whole number by a fraction less than 1. M3 L4: Multiply a whole number by a fraction. M3 L7: Multiply fractions less than 1 by unit fractions pictorially. M3 L8: Multiply fractions less than 1 pictorially. M3 L9: Multiply fractions by unit fractions by making simpler problems. M3 L10: Multiply fractions greater than 1 by fractions. M3 L11: Multiply fractions. M5 L10: Find the area of a rectangle with fraction side lengths by relating the rectangle to a unit square.
5.NF.B.6 Solve problems in authentic contexts involving multiplication of common fractions and mixed numbers.	M3 L17: Solve word problems involving fractions with multiplication and division. M3 L21: Solve multi-step word problems involving fractions. M5 L14: Solve real-world problems involving areas of composite figures with mixed-number side lengths. M5 L15: Solve multi-step word problems involving multiplication of mixed numbers.
5.NF.B.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions, including solving problems in authentic contexts.	M3 L12: Divide a nonzero whole number by a unit fraction to find the number of groups. M3 L13: Divide a nonzero whole number by a unit fraction to find the size of the group. M3 L14: Divide a unit fraction by a nonzero whole number. M3 L15: Divide by whole numbers and unit fractions. M3 L16: Reason about the size of quotients of whole numbers and unit fractions and quotients of unit fractions and whole numbers. M3 L17: Solve word problems involving fractions with multiplication and division. M3 L19: Create and solve one-step word problems involving fractions. M3 L21: Solve multi-step word problems involving fractions.

Geometric Reasoning and Measurement

5.GM.A Graph points on the coordinate plane to solve real-world and mathematical problems.

Oregon Mathematics Standards	Aligned Components of *Eureka Math²*
5.GM.A.1 Graph and name coordinate points in the first quadrant using the standard (x, y) notation. Understand the coordinate points values represent the distance traveled along the horizontal x-axis and vertical y-axis.	M6 L1: Construct a coordinate system on a line. M6 L2: Construct a coordinate system in a plane. M6 L3: Identify and plot points by using ordered pairs.
5.GM.A.2 Represent authentic contexts and mathematical problems by graphing points in the first quadrant of the coordinate plane. Interpret the meaning of the coordinate values based on the context of a given situation.	M6 L4: Describe the distance and direction between points in the coordinate plane. M6 L5: Identify properties of horizontal and vertical lines. M6 L6: Use properties of horizontal and vertical lines to solve problems. M6 L7: Generate number patterns to form ordered pairs. M6 L8: Identify addition and subtraction relationships between corresponding terms in number patterns. M6 L9: Identify multiplication and division relationships between corresponding terms in number patterns. M6 L11: Draw lines in the coordinate plane and identify points on the lines. M6 L12: Graph and classify quadrilaterals in the coordinate plane. M6 L13: Draw symmetric figures in the coordinate plane. M6 L14: Solve mathematical problems with rectangles in the coordinate plane. M6 L15: Use the coordinate plane to reason about perimeters and areas of rectangles. M6 L16: Interpret graphs that represent real-world situations. M6 L17: Plot data in the coordinate plane and analyze relationships. M6 L18: Interpret line graphs. M6 L20: Reason about patterns in real-world situations.

Geometric Reasoning and Measurement

5.GM.B Classify two-dimensional figures into categories based on their properties.

Oregon Mathematics Standards	Aligned Components of *Eureka Math²*
5.GM.B.3 Classify two-dimensional figures within a hierarchy based on their geometrical properties, and explain the relationship across and within different categories of these figures.	M5 L1: Analyze hierarchies and identify properties of quadrilaterals. M5 L2: Classify trapezoids based on their properties. M5 L3: Classify parallelograms based on their properties. M5 L4: Classify rectangles and rhombuses based on their properties. M5 L5: Classify kites and squares based on their properties. M5 L6: Identify quadrilaterals from given properties. M5 L7: Classify quadrilaterals in a hierarchy based on properties.

Geometric Reasoning and Measurement

5.GM.C Convert like measurement units within a given measurement system.

Oregon Mathematics Standards	Aligned Components of *Eureka Math²*
5.GM.C.4 Convert between different-sized standard measurement units within a given measurement system. Use these conversions in solving multi-step problems in authentic contexts.	M1 L5: Convert measurements and describe relationships between metric units. M1 L6: Solve multi-step word problems by using metric measurement conversion. M3 L5: Convert larger customary measurement units to smaller measurement units. M3 L6: Convert smaller customary measurement units to larger measurement units. M4 L26: Solve a real-world problem involving metric measurements. M4 L27: Convert metric measurements involving decimals. M4 L28: Convert customary measurements involving decimals.

Geometric Reasoning and Measurement

5.GM.D Geometric measurement understand concepts of volume.

Oregon Mathematics Standards	Aligned Components of *Eureka Math²*
5.GM.D.5 Recognize that volume is a measurable attribute of solid figures.	M5 L16: Identify attributes and properties of right rectangular prisms. M5 L17: Find the volume of right rectangular prisms by packing with unit cubes and counting. M5 L19: Compose and decompose right rectangular prisms to find their volume by using layers. M5 L20: Interpret volume as filling. M5 L21: Relate volumes of solids and liquid volume.
5.GM.D.6 Measure the volume of a rectangular prism by counting unit cubes using standard and nonstandard units.	M5 L17: Find the volume of right rectangular prisms by packing with unit cubes and counting. M5 L18: Find the volume of right rectangular prisms by packing with improvised units. M5 L19: Compose and decompose right rectangular prisms to find their volume by using layers. M5 L21: Relate volumes of solids and liquid volume.
5.GM.D.7 Relate volume of rectangular prisms to the operations of multiplication and addition. Solve problems in authentic contexts involving volume using a variety of strategies.	M5 L22: Find the volumes of right rectangular prisms by using the area of the base. M5 L23: Find the volumes of right rectangular prisms by multiplying the edge lengths. M5 L24: Solve word problems involving volumes of right rectangular prisms. M5 L25: Find the volumes of solid figures composed of right rectangular prisms. M5 L26: Solve word problems involving perimeter, area, and volume. M5 L27: Apply concepts and formulas of volume to design a sculpture by using right rectangular prisms, part 1. M5 L28: Apply concepts and formulas of volume to design a sculpture by using right rectangular prisms, part 2.

Data Reasoning

5.DR.A Pose investigative questions and collect/consider data.

Oregon Mathematics Standards	Aligned Components of *Eureka Math²*
5.DR.A.1 Generate questions to investigate situations within the classroom, school, or community. Determine strategies for collecting or considering data involving operations with fractions for this grade that can naturally answer questions by using information presented in line plots.	M2 L15: Represent data on a line plot. M2 L16: Solve problems by using data from a line plot. M2 L17: Solve problems by equally redistributing a total amount.

Data Reasoning

5.DR.B Analyze, represent, and interpret data.

Oregon Mathematics Standards	Aligned Components of *Eureka Math²*
5.DR.B.2 Analyze graphical representations and describe the distribution of the numerical data through line plots or categorical data through bar graphs. Interpret information presented to answer investigative questions.	M2 L15: Represent data on a line plot. M2 L16: Solve problems by using data from a line plot. M2 L17: Solve problems by equally redistributing a total amount.