## Grade 4 | Oregon Mathematics Standards Correlation to Eureka Math ${ }^{2 ®}$

When the original Eureka Math ${ }^{\circledR}$ curriculum was released, it quickly became the most widely used $\mathrm{K}-5$ mathematics curriculum in the country. Now, the Great Minds ${ }^{\circledR}$ teacher-writers have created Eureka Math ${ }^{2 ®}$, 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 Math ${ }^{2}$ 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 Math ${ }^{2}$ employs streamlined materials that allow teachers to plan more efficiently and focus their energy on delivering highquality 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 Math ${ }^{2}$ 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

## 4.OA.A Use the four operations with whole numbers to solve problems.

Oregon Mathematics Standards

## Aligned Components of Eureka Math ${ }^{2}$

## 4.OA.A. 1

Interpret a multiplication equation as comparing quantities. Represent verbal statements of multiplicative comparisons as equations.

M1 L1: Interpret multiplication as multiplicative comparison.
M1 L2: Solve multiplicative comparison problems with unknowns in various positions.
M1 L3: Describe relationships between measurements by using multiplicative comparison.
M1 L4: Represent the composition of larger units of money by using multiplicative comparison.
M1 L6: Demonstrate that a digit represents 10 times the value of what it represents in the place to its right.

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M1 L2: Solve multiplicative comparison problems with unknowns in various positions.
M1 L3: Describe relationships between measurements by using multiplicative comparison.
M1 L4: Represent the composition of larger units of money by using multiplicative comparison.
M2 L9: Solve multiplication word problems.
M2 L2O: Solve word problems involving additive and multiplicative comparisons.

M1 L15: Apply estimation to real-world situations by using rounding.
M1 L16: Add by using the standard algorithm.
M1 L17: Solve multi-step addition word problems by using the standard algorithm.
M1 L21: Solve two-step word problems by using addition and subtraction.
M1 L22: Solve multi-step word problems by using addition and subtraction.
M3 L21: Find whole-number quotients and remainders.
M3 L22: Represent, estimate, and solve division word problems.
M3 L23: Solve multi-step word problems and interpret remainders.
M3 L24: Solve multi-step word problems and assess the reasonableness of solutions.

## Algebraic Reasoning: Operations

## 4.OA.B Gain familiarity with factors and multiples.

## Oregon Mathematics Standards

## Aligned Components of Eureka Math ${ }^{2}$

## 4.OA.B. 4

Find all factor pairs for a whole number in the range $1-100$. Determine whether a given whole number in the range of $1-100$ is a multiple of a given one-digit number, and whether it is prime or composite.

M2 L21: Find factor pairs for numbers up to 100 and use factors to identify numbers as prime or composite.
M2 L22: Use division and the associative property of multiplication to find factors.
M2 L23: Determine whether a whole number is a multiple of another number.
M2 L24: Recognize that a number is a multiple of each of its factors.
M2 L25: Explore properties of prime and composite numbers up to 100 by using multiples.

## Algebraic Reasoning: Operations

## 4.OA.C Generate and analyze patterns.

## Oregon Mathematics Standards

Aligned Components of Eureka Math ${ }^{2}$

## 4.OA.C. 5

Analyze a number, visual, or contextual pattern that follows a given rule.

## Numeric Reasoning: Base Ten Arithmetic

## 4.NBT.A Generalize place value understanding for multi-digit whole numbers.

## Oregon Mathematics Standards

## 4.NBT.A. 1

Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.

## Aligned Components of Eureka Math ${ }^{2}$

M1 L6: Demonstrate that a digit represents 10 times the value of what it represents in the place to its right.

Oregon Mathematics Standards

## 4.NBT.A. 2

Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Use understandings of place value within these forms to compare two multi-digit numbers using $>$, $=$, and $<$ symbols.

## Aligned Components of Eureka Math²

M1 L5: Organize, count, and represent a collection of objects.
M1 L7: Write numbers to $1,000,000$ in unit form and expanded form by using place value structure.
M1 L8: Write numbers to $1,000,000$ in standard form and word form.
M1 L9: Compare numbers within $1,000,000$ using $>$, $=$, and $<$.
M1 L10: Name numbers by using place value understanding.
M1 L11: Find 1, 10, and 100 thousand more than and less than a given number.
M1 L12: Round to the nearest thousand.
M1 L13: Round to the nearest ten thousand and hundred thousand.
M1 L14: Round multi-digit numbers to any place.
M1 L15: Apply estimation to real-world situations by using rounding.

## Numeric Reasoning: Base Ten Arithmetic

## 4.NBT.B Use place value understanding and properties of operations to perform multi-digit arithmetic.

## Oregon Mathematics Standards

## Aligned Components of Eureka Math ${ }^{2}$

## 4.NBT.B. 4

Fluently add and subtract multi-digit whole numbers using accurate, efficient, and flexible strategies and algorithms based on place value and properties of operations.

M1 L16: Add by using the standard algorithm.
M1 L17: Solve multi-step addition word problems by using the standard algorithm.
M1 L18: Subtract by using the standard algorithm, decomposing larger units once.
M1 L19: Subtract by using the standard algorithm, decomposing larger units up to 3 times.
M1 L2O: Subtract by using the standard algorithm, decomposing larger units multiple times.
M1 L21: Solve two-step word problems by using addition and subtraction.
M1 L22: Solve multi-step word problems by using addition and subtraction.

## Oregon Mathematics Standards

## 4.NBT.B. 5

Use representations and strategies to multiply a whole number of up to four digits by a one-digit number, and a two-digit number by a two-digit number using strategies based on place value and the properties of operations.

## Aligned Components of Eureka Math²

M2 L1: Multiply multiples of 10 by one-digit numbers by using the associative property of multiplication.
M2 L4: Multiply by using familiar strategies.
M2 L5: Multiply by using place value strategies and the distributive property.
M2 L6: Multiply with regrouping by using place value strategies and the distributive property.
M2 L7: Multiply by using an area model and the distributive property.
M2 L8: Multiply by applying the distributive property and write equations.
M2 L9: Solve multiplication word problems.
M2 L10: Multiply by applying simplifying strategies.
M3 L2: Multiply by multiples of 100 and 1,000 .
M3 L3: Multiply a two-digit multiple of 10 by a two-digit multiple of 10 .
M3 L9: Apply place value strategies to multiply three-digit numbers by one-digit numbers.
M3 L10: Apply place value strategies to multiply four-digit numbers by one-digit numbers.
M3 L11: Represent multiplication by using partial products.
M3 L12: Multiply by using various recording methods in vertical form.
M3 L13: Multiply two-digit numbers by two-digit multiples of 10 .
M3 L14: Apply place value strategies to multiply two-digit numbers by two-digit numbers.
M3 L15: Multiply with four partial products.
M3 L16: Multiply with two partial products.
M3 L17: Apply the distributive property to multiply.

## Oregon Mathematics Standards

## 4.NBT.B. 6

Use representations and strategies to find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.

## Aligned Components of Eureka Math ${ }^{2}$

M2 L2: Divide two- and three-digit multiples of 10 by one-digit numbers.
M2 L11: Divide by using familiar strategies.
M2 L12: Divide two-digit numbers by one-digit numbers by using an area model.
M2 L13: Divide three-digit numbers by one-digit numbers by using an area model.
M2 L14: Divide two-digit numbers by one-digit numbers by using place value strategies.
M2 L15: Divide three-digit numbers by one-digit numbers by using place value strategies.
M2 L16: Divide by using the break apart and distribute strategy.
M3 L1: Divide multiples of 100 and 1,000.
M3 L4: Apply place value strategies to divide hundreds, tens, and ones.
M3 L5: Apply place value strategies to divide thousands, hundreds, tens, and ones.
M3 L6: Connect pictorial representations of division to long division.
M3 L7: Represent division by using partial quotients.
M3 L8: Choose and apply a method to divide multi-digit numbers.
M3 L21: Find whole-number quotients and remainders.
M3 L22: Represent, estimate, and solve division word problems.

## Numeric Reasoning: Fractions

## 4.NF.A Extend understanding of fraction equivalence and ordering.

## Oregon Mathematics Standards

## Aligned Components of Eureka Math ${ }^{2}$

## 4.NF.A. 1

Use visual fraction representations to recognize, generate, and explain relationships between equivalent fractions.

M4 L8: Generate equivalent fractions with smaller units for unit fractions.
M4 L9: Generate equivalent fractions with smaller units for non-unit fractions.
M4 L10: Generate equivalent fractions with larger units.
M4 L11: Represent equivalent fractions by using tape diagrams, number lines, and multiplication or division.
M4 L12: Generate equivalent fractions for fractions greater than 1 and generate equivalent mixed numbers.

M4 L13: Compare fractions by using the benchmarks $0, \frac{1}{2}$, and 1 .
M4 L14: Compare fractions with related denominators.
M4 L15: Compare fractions with related numerators.
M4 L16: Generate a common numerator or denominator to compare fractions.
M4 L17: Apply fraction comparison strategies to compare fractions greater than 1.

## Numeric Reasoning: Fractions

## 4.NF.B Build fractions from unit fractions.

## Oregon Mathematics Standards

## Aligned Components of Eureka Math²

## 4.NF.B. 3

Understand a fraction $\left(\frac{a}{b}\right)$ as the sum (a) of fractions of the same denominator $\left(\frac{1}{b}\right)$. Solve problems in authentic contexts involving addition and subtraction of fractions referring to the same whole and having like denominators.

M4 L1: Decompose whole numbers into a sum of unit fractions.
M4 L2: Decompose fractions into a sum of unit fractions.
M4 L3: Decompose fractions into a sum of fractions.
M4 L4: Represent fractions by using various fraction models.
M4 L5: Rename fractions greater than 1 as mixed numbers.
M4 L6: Rename mixed numbers as fractions greater than 1.
M4 L7: Rename fractions as a sum of equivalent smaller unit fractions.
M4 L18: Estimate sums and differences of fractions by using benchmarks.
M4 L19: Add and subtract fractions with like units.
M4 L2O: Subtract a fraction from a whole number.
M4 L21: Solve addition and subtraction word problems and estimate the reasonableness of the answers.

M4 L22: Add two fractions with related units.
M4 L23: Add a fraction to a mixed number.
M4 L24: Add a mixed number to a mixed number.
M4 L25: Subtract a fraction from a mixed number, part 1.
M4 L26: Subtract a fraction from a mixed number, part 2.
M4 L27: Subtract a mixed number from a mixed number.
M4 L28: Represent and solve word problems with mixed numbers by using drawings and equations.

Oregon Mathematics Standards

## 4.NF.B. 4

Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. Represent and solve problems in authentic contexts involving multiplication of a fraction by a whole number.

## Aligned Components of Eureka Math²

M4 L31: Decompose non-unit fractions into a product of a whole number and a unit fraction.
M4 L32: Multiply a fraction by a whole number by using the associative property.
M4 L33: Solve word problems involving multiplication of a fraction by a whole number.
M4 L34: Multiply a mixed number by a whole number by using the distributive property.

## Numeric Reasoning: Fractions

## 4.NF.C Understand decimal notation for fractions, and compare decimal fractions.

## Oregon Mathematics Standards

## Aligned Components of Eureka Math ${ }^{2}$

## 4.NF.C. 5

Demonstrate and explain the concept of equivalent fractions with denominators of 10 and 100 , using concrete materials and visual models. Add two fractions with denominators of 10 and 100.

M5 L5: Decompose 1 one and express hundredths in fraction form and decimal form.
M5 L6: Represent hundredths as a place value unit.
M5 L7: Write mixed numbers in decimal form with hundredths.
M5 L8: Represent decimal numbers in expanded form.
M5 L12: Apply fraction equivalence to add tenths and hundredths.
M5 L13: Apply fraction equivalence to add mixed numbers with tenths and hundreds.
M5 L14: Solve word problems with tenths and hundredths.

## Oregon Mathematics Standards

## 4.NF.C. 6

Use and interpret decimal notation for fractions with denominators 10 or 100.

M5 L1: Organize, count, and represent a collection of money.
M5 L2: Decompose 1 one and express tenths in fraction form and decimal form.
M5 L3: Represent tenths as a place value unit.
M5 L4: Write mixed numbers in decimal form with tenths.
M5 L5: Decompose 1 one and express hundredths in fraction form and decimal form.
M5 L6: Represent hundredths as a place value unit.
M5 L7: Write mixed numbers in decimal form with hundredths.
M5 L8: Represent decimal numbers in expanded form.

M5 L9: Compare measurements expressed as decimal numbers.
M5 L10: Use pictorial representations to compare decimal numbers.
M5 L11: Compare and order decimal numbers.

## Geometric Reasoning and Measurement

## 4.GM.A Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

Oregon Mathematics Standards
Aligned Components of Eureka Math ${ }^{2}$

## 4.GM.A. 1

Explore, investigate, and draw points, lines, line segments, rays, angles, and perpendicular and parallel lines. Identify these in two-dimensional figures.

M6 L1: Identify and draw points, lines, line segments, rays, and angles.
M6 L2: Identify right, acute, obtuse, and straight angles.
M6 L3: Draw right, acute, obtuse, and straight angles.
M6 L4: Identify, define, and draw perpendicular lines.
M6 L5: Identify, define, and draw parallel lines.
M6 L6: Relate geometric figures to a real-world context.
M6 L10: Use $180^{\circ}$ protractors to measure angles.
M6 L11: Estimate and measure angles with a $180^{\circ}$ protractor.
M6 L12: Use a protractor to draw angles up to $180^{\circ}$.
M6 L18: Analyze and classify triangles based on side length, angle measure, or both.
M6 L19: Construct and classify triangles based on given attributes.
M6 L20: Sort polygons based on a given rule.

M6 L18: Analyze and classify triangles based on side length, angle measure, or both.
M6 L19: Construct and classify triangles based on given attributes.
M6 L20: Sort polygons based on a given rule.

M6 L17: Recognize, identify, and draw lines of symmetry.

## Geometric Reasoning and Measurement

## 4.GM.B Solve problems involving measurement and conversion of measurements.

## Aligned Components of Eureka Math ${ }^{2}$

Oregon Mathematics Standards

## 4.GM.B. 4

Know relative sizes of measurement units and express measurements in a larger unit in terms of a smaller unit.

M1 L23: Express metric measurements of length in terms of smaller units.
M1 L24: Express metric measurements of mass and liquid volume in terms of smaller units.
M2 L17: Express measurements of length in terms of smaller units.
M3 L18: Express units of time in terms of smaller units.
M3 L19: Express customary measurements of weight in terms of smaller units.
M3 L20: Express customary measurements of liquid volume in terms of smaller units.

## 4.GM.B. 5

Apply knowledge of the four operations and relative size of measurement units to solve problems in authentic contexts that include familiar fractions or decimals.

M1 L23: Express metric measurements of length in terms of smaller units.
M1 L24: Express metric measurements of mass and liquid volume in terms of smaller units.
M2 L17: Express measurements of length in terms of smaller units.
M2 L20: Solve word problems involving additive and multiplicative comparisons
M3 L18: Express units of time in terms of smaller units.
M3 L19: Express customary measurements of weight in terms of smaller units.
M3 L20: Express customary measurements of liquid volume in terms of smaller units.
M4 L20: Subtract a fraction from a whole number.
M4 L21: Solve addition and subtraction word problems and estimate the reasonableness of the answers.

M4 L27: Subtract a mixed number from a mixed number.
M4 L28: Represent and solve word problems with mixed numbers by using drawings and equations.
M4 L33: Solve word problems involving multiplication of a fraction by a whole number.
M5 L14: Solve word problems with tenths and hundredths.

## Oregon Mathematics Standards

## 4.GM.B. 6

Apply the area and perimeter formulas for rectangles in authentic contexts and mathematical problems.

## Aligned Components of Eureka Math²

M2 L3: Investigate and use a formula for the area of a rectangle.
M2 L7: Multiply by using an area model and the distributive property.
M2 L18: Investigate and use formulas for the perimeter of a rectangle.
M2 L19: Apply area and perimeter formulas to solve problems.
M2 L2O: Solve word problems involving additive and multiplicative comparisons.

## Geometric Reasoning and Measurement

## 4.GM.C Geometric measurement understand concepts of angle and measure angles.

Oregon Mathematics Standards

## Aligned Components of Eureka Math²

## 4.GM.C. 7

Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint. Understand and apply concepts of angle measurement.

M6 L7: Explore angles as fractional turns through a circle.
M6 L8: Use a circular protractor to recognize a $1^{\circ}$ angle as a turn through $\frac{1}{360}$ of a circle.
M6 L9: Identify and measure angles as turns and recognize them in various contexts.
M6 L10: Use $180^{\circ}$ protractors to measure angles.
M6 L11: Estimate and measure angles with a $180^{\circ}$ protractor.

## 4.GM.C. 8

Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

## 4.GM.C. 9

Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts.

M6 L8: Use a circular protractor to recognize a $1^{\circ}$ angle as a turn through $\frac{1}{360}$ of a circle.
M6 L10: Use $180^{\circ}$ protractors to measure angles.
M6 L11: Estimate and measure angles with a $180^{\circ}$ protractor.
M6 L12: Use a protractor to draw angles up to $180^{\circ}$.

M6 L13: Decompose angles by using pattern blocks.
M6 L14: Find unknown angle measures within right and straight angles.
M6 L15: Find unknown angle measures within a decomposed angle of up to $180^{\circ}$.
M6 L16: Find unknown angle measures around a point.

## Data Reasoning

## 4.DR.A Pose investigative questions and collect/consider data.

## Oregon Mathematics Standards

## Aligned Components of Eureka Math ${ }^{2}$

## 4.DR.A. 1

Generate questions to investigate situations within the classroom, school, or community. Determine strategies for collecting or considering data involving addition and subtraction of fractions that can naturally answer questions by using information presented in line plots.

## Data Reasoning

## 4.DR.B Analyze, represent, and interpret data.

## Oregon Mathematics Standards

M4 L29: Solve problems by using data from a line plot.
M4 L30: Represent data on a line plot.

## 4.DR.B. 2

Analyze line plots to display a distribution of numerical measurement data, which include displays of data sets of fractional measurements with the same denominator. Interpret information presented to answer investigative questions.

## Aligned Components of Eureka Math ${ }^{2}$

M4 L30: Represent data on a line plot.

