Grade 4 | Kansas College & Career Ready 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.

Standards for Mathematical Practice	Aligned Components of *Eureka Math²*
MP.1 Make sense of problems and persevere in solving them.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.2 Reason abstractly and quantitatively.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.3 Construct viable arguments and critique the reasoning of others.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.4 Model with mathematics.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.5 Use appropriate tools strategically.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.6 Attend to precision.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.7 Look for and make use of structure.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.8 Look for and express regularity in repeated reasoning.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.

Operations and Algebraic Thinking
Use the four operations with whole numbers to solve problems.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.OA.1 Interpret a multiplication equation as a comparison (e.g., interpret $35 = 5 \cdot 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5.) Represent verbal statements of multiplicative comparisons as multiplication equations.	4 M1 Topic A: Multiplication as Multiplicative Comparison 4 M1 Lesson 6: Demonstrate that a digit represents 10 times the value of what it represents in the place to its right.
4.OA.2 Multiply or divide to solve word problems involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison).	4 M1 Topic A: Multiplication as Multiplicative Comparison 4 M2 Lesson 9: Solve multiplication word problems. 4 M2 Lesson 20: Solve word problems involving additive and multiplicative comparisons.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.OA.3 Solve multi-step word problem posed with whole numbers and having whole number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using situation equations and/or solution equations with a letter or symbol standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	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

Operations and Algebraic Thinking
Gain familiarity with factors and multiples.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.OA.4 Find all factor pairs for a whole number in the range 1 to 100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1 to 100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1 to 100 is prime or 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 22: Use division and the associative property of multiplication to find factors. 4 M2 Lesson 23: Determine whether a whole number is a multiple of another number. 4 M2 Lesson 24: Recognize that a number is a multiple of each of its factors. 4 M2 Lesson 25: Explore properties of prime and composite numbers up to 100 by using multiples.

Operations and Algebraic Thinking

Generate and analyze patterns.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.	4 M2 Lesson 26: Use relationships within a pattern to find an unknown term in the sequence.

Number and Operations in Base Ten

Generalize place value understanding for multi-digit whole numbers.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.NBT.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.	4 M1 Lesson 6: Demonstrate that a digit represents 10 times the value of what it represents in the place to its right.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.NBT.2 Read and write multi-digit whole numbers using base-ten numerals, number names, expanded form, and unit form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, <, =, and ≠ symbols to record the results of comparisons.	4 M1 Lesson 5: Organize, count, and represent a collection of objects. 4 M1 Lesson 7: Write numbers to 1,000,000 in unit form and expanded form by using place value structure. 4 M1 Lesson 8: Write numbers to 1,000,000 in standard form and word form. 4 M1 Lesson 9: Compare numbers within 1,000,000 by using >, =, and <. 4 M1 Lesson 10: Name numbers by using place value understanding. 4 M1 Lesson 11: Find 1, 10, and 100 thousand more than and less than a given number. *Supplemental material is necessary to address the ≠ symbol.*
4.NBT.3 Use place value understanding to round multi-digit whole numbers to any place.	4 M1 Lesson 12: Round to the nearest thousand. 4 M1 Lesson 13: Round to the nearest ten thousand and hundred thousand. 4 M1 Lesson 14: Round multi-digit numbers to any place. 4 M1 Lesson 15: Apply estimation to real-world situations by using rounding.

Number and Operations in Base Ten
Use place value understanding and properties of operations to perform multi-digit arithmetic.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.NBT.4 Fluently (efficiently, accurately, and flexibly) add and subtract multi-digit whole numbers using an efficient algorithm (including, but not limited to: traditional, partial-sums, etc.), based on place value understanding and the properties of operations.	4 M1 Topic D: Multi-Digit Whole Number Addition and Subtraction

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.NBT.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	4 M2 Lesson 1: Multiply multiples of 10 by one-digit numbers by using the associative property of multiplication. 4 M2 Topic B: Multiplication of Tens and Ones by One-Digit Numbers 4 M3 Lesson 2: Multiply by multiples of 100 and 1,000. 4 M3 Lesson 3: Multiply a two-digit multiple of 10 by a two-digit multiple of 10. 4 M3 Topic C: Multiplication of up to Four-Digit Numbers by One-Digit Numbers 4 M3 Topic D: Multiplication of Two-Digit Numbers by Two-Digit Numbers
4.NBT.6 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. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	4 M2 Lesson 2: Divide two- and three-digit multiples of 10 by one-digit numbers. 4 M2 Topic C: Division of Tens and Ones by One-Digit Numbers 4 M3 Lesson 1: Divide multiples of 100 and 1,000. 4 M3 Topic B: Division of Thousands, Hundreds, Tens, and Ones 4 M3 Lesson 21: Find whole-number quotients and remainders. 4 M3 Lesson 22: Represent, estimate, and solve division word problems.

Number and Operations—Fractions
Extend understanding of fraction equivalence and ordering.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.NF.1 Explain why a fraction $\frac{a}{b}$ is equivalent to a fraction $\frac{n \cdot a}{n \cdot b}$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.	4 M4 Lesson 8: Generate equivalent fractions with smaller units for unit fractions. 4 M4 Lesson 9: Generate equivalent fractions with smaller units for non-unit fractions. 4 M4 Lesson 10: Generate equivalent fractions with larger units. 4 M4 Lesson 11: Represent equivalent fractions by using tape diagrams, number lines, and multiplication or division. 4 M4 Lesson 12: Generate equivalent fractions for fractions greater than 1 and generate equivalent mixed numbers.
4.NF.2 Compare two fractions with different numerators and different denominators (e.g., by creating common numerators or denominators, or by comparing to a benchmark fraction such as $\frac{1}{2}$). Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with relational symbols $>$, $<$, $=$, or $\neq$, and justify the conclusions (e.g., by using visual fraction models.).	4 M4 Topic C: Compare Fractions *Supplemental material is necessary to address the $\neq$ symbol.*

Number and Operations—Fractions

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.NF.3 Understand a fraction $\frac{a}{b}$ with $a > 1$ as a sum of fractions $\frac{1}{b}$.	*This standard is fully addressed by the lessons aligned to its subsections.*
4.NF.3a Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.	4 M4 Topic A: Fraction Decomposition and Equivalence 4 M4 Lesson 7: Rename fractions as a sum of equivalent smaller unit fractions. 4 M4 Topic D: Add and Subtract Fractions
4.NF.3b Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model.	4 M4 Topic A: Fraction Decomposition and Equivalence 4 M4 Lesson 7: Rename fractions as a sum of equivalent smaller unit fractions. 4 M4 Topic D: Add and Subtract Fractions
4.NF.3c Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction (simplest form is not an expectation), and/or by using properties of operations and the relationship between addition and subtraction.	4 M4 Lesson 23: Add a fraction to a mixed number. 4 M4 Lesson 24: Add a mixed number to a mixed number. 4 M4 Lesson 25: Subtract a fraction from a mixed number, part 1. 4 M4 Lesson 26: Subtract a fraction from a mixed number, part 2. 4 M4 Lesson 27: Subtract a mixed number from a mixed number.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.NF.3d Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.	4 M4 Lesson 18: Estimate sums and differences of fractions by using benchmarks. 4 M4 Lesson 20: Subtract a fraction from a whole number. 4 M4 Lesson 21: Solve addition and subtraction word problems and estimate the reasonableness of the answers. 4 M4 Lesson 24: Add a mixed number to a mixed number. 4 M4 Lesson 27: Subtract a mixed number from a mixed number. 4 M4 Lesson 28: Represent and solve word problems with mixed numbers by using drawings and equations.
4.NF.4 Apply and extend previous understandings of multiplication (refer to 2.OA.3, 2.OA.4, 3.OA.1, 3.NF.1, 3.NF.2) to multiply a fraction by a whole number.	*This standard is fully addressed by the lessons aligned to its subsections.*
4.NF.4a Understand a fraction $\frac{a}{b}$ as a multiple of $\frac{1}{b}$.	4 M4 Lesson 31: Decompose non-unit fractions into a product of a whole number and a unit fraction.
4.NF.4b Understand a multiple of $\frac{a}{b}$ as a multiple of $\frac{1}{b}$, and use this understanding to multiply a fraction by a whole number.	4 M4 Lesson 32: Multiply a fraction by a whole number by using the associative property. 4 M4 Lesson 33: Solve word problems involving multiplication of a fraction by a whole number. 4 M4 Lesson 34: Multiply a mixed number by a whole number by using the distributive property.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.NF.4c Solve word problems involving multiplication of a fraction by a whole number (e.g., by using visual fraction models and equations to represent the problem).	4 M4 Lesson 33: Solve word problems involving multiplication of a fraction by a whole number.

Number and Operations—Fractions

Understand decimal notation for fractions, and compare decimal fractions.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.NF.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.	4 M5 Topic B: Tenths and Hundredths 4 M5 Topic D: Addition of Tenths and Hundredths
4.NF.6 Use decimal notation for fractions with denominators 10 or 100.	4 M5 Topic A: Exploration of Tenths 4 M5 Topic B: Tenths and Hundredths

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.NF.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the relational symbols >, <, =, or ≠, and justify the conclusions (e.g., by using a visual model.).	4 M5 Topic C: Comparison of Decimal Number *Supplemental material is necessary to address the ≠ symbol.*

Measurement and Data

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.MD.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb., oz.; l, ml; hr., min., sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.	4 M1 Topic E: Metric Measurement Conversion Tables 4 M2 Lesson 17: Express measurements of length in terms of smaller units. 4 M3 Topic E: Problem Solving with Measurement

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	4 M2 Lesson 17: Express measurements of length in terms of smaller units. 4 M2 Lesson 20: Solve word problems involving additive and multiplicative comparisons. 4 M3 Topic E: Problem Solving with Measurement 4 M4 Lesson 18: Estimate sums and differences of fractions by using benchmarks. 4 M4 Lesson 20: Subtract a fraction from a whole number. 4 M4 Lesson 21: Solve addition and subtraction word problems and estimate the reasonableness of the answers. 4 M4 Lesson 24: Add a mixed number to a mixed number. 4 M4 Lesson 27: Subtract a mixed number from a mixed number. 4 M4 Lesson 28: Represent and solve word problems with mixed numbers by using drawings and equations. 4 M4 Lesson 33: Solve word problems involving multiplication of a fraction by a whole number. 4 M5 Lesson 14: Solve word problems with tenths and hundredths.
4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems explaining and justifying the appropriate unit of measure.	4 M2 Lesson 3: Investigate and use a formula for the area of a rectangle. 4 M2 Lesson 7: Multiply by using an area model and the distributive property. 4 M2 Lesson 18: Investigate and use formulas for the perimeter of a rectangle. 4 M2 Lesson 19: Apply area and perimeter formulas to solve problems. 4 M2 Lesson 20: Solve word problems involving additive and multiplicative comparisons.

Measurement and Data
Represent and interpret data.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.MD.4 Make a data display (line plot, bar graph, pictograph) to show a set of measurements in fractions of a unit $\left(\frac{1}{2}, \frac{1}{4}, \frac{1}{8}\right)$. Solve problems involving addition and subtraction of fractions by using information presented in the data display.	4 M4 Lesson 29: Solve problems by using data from a line plot. 4 M4 Lesson 30: Represent data on a line plot. *Supplemental material is necessary to address bar graphs and pictographs.*

Geometry
Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.G.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse, straight, reflex), and perpendicular and parallel lines. Identify these in two-dimensional figures.	4 M6 Topic A: Lines and Angles 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°. 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.

Kansas College & Career Ready Standards	Aligned Components of *Eureka Math²*
4.G.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles (right, acute, obtuse, straight, reflex). Recognize and categorize triangles based on angles (right, acute, obtuse, and equiangular) and/or sides (scalene, isosceles, and equilateral).	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. *Supplemental material is necessary to address equiangular triangles.*
4.G.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	4 M6 Lesson 17: Recognize, identify, and draw lines of symmetry.