Grade 4 | Georgia State 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.

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.

Numerical Reasoning

4.NR.1 Recognize patterns within the base ten place value system with quantities presented in real-life situations to compare and round multi-digit whole numbers through the hundred-thousands place.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
4.NR.1.1 Read and write multi-digit whole numbers to the hundred-thousands place using base-ten numerals and expanded form.	4 M1 Topic B: Place Value and Comparison Within $1{,}000{,}000$ 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.
4.NR.1.2 Recognize and show that a digit in one place has a value ten times greater than what it represents in the place to its right and extend this understanding to determine the value of a digit when it is shifted to the left or right, based on the relationship between multiplication and division.	4 M1 Lesson 6: Demonstrate that a digit represents 10 times the value of what it represents in the place to its right. *Choral Response fluencies and Sprints for* 10 *times as much are found in 4 Module 1 and 4 Module 2.*
4.NR.1.3 Use place value reasoning to represent, compare, and order multi-digit numbers, using $>$, $=$, and $<$ symbols to record the results of comparisons.	4 M1 Lesson 5: Organize, count, and represent a collection of objects. 4 M1 Lesson 9: Compare numbers within $1{,}000{,}000$ by using $>$, $=$, and $<$.
4.NR.1.4 Use place value understanding to round multi-digit whole numbers.	4 M1 Topic C: Rounding Multi-Digit Whole Numbers

Numerical Reasoning

4.NR.2 Using part-whole strategies, solve problems involving addition and subtraction through the hundred-thousands place, as well as multiplication and division of multi-digit whole numbers presented in real-life, mathematical situations.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
4.NR.2.1 Fluently add and subtract multi-digit numbers to solve practical, mathematical problems using place value understanding, properties of operations, and relationships between operations.	4 M1 Topic D: Multi-Digit Whole Number Addition and Subtraction
4.NR.2.2 Interpret, model, and solve problems involving multiplicative comparison.	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 M2 Lesson 9: Solve multiplication word problems. 4 M2 Lesson 20: Solve word problems involving additive and multiplicative comparisons.
4.NR.2.3 Solve relevant problems involving multiplication of a number with up to four digits by a 1-digit whole number or involving multiplication of 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 Lesson 4: Multiply by using familiar strategies. 4 M2 Topic B: Multiplication of Tens and Ones by One-Digit Numbers 4 M3: Multiplication and Division of Multi-Digit Numbers

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
4.NR.2.4 Solve authentic division problems involving up to 4-digit dividends and 1-digit divisors (including whole number quotients with remainders) using strategies based on place-value understanding, properties of operations, and the relationships between operations.	4 M2 Lesson 2: Divide two- and three-digit multiples of 10 by one-digit numbers. 4 M2 Lesson 11: Divide by using familiar strategies. 4 M2 Topic C: Division of Tens and Ones by One-Digit Numbers 4 M2 Lesson 16: Divide by using the break apart and distribute strategy. 4 M3 Lesson 1: Divide multiples of 100 and 1,000. 4 M3 Topic B: Division of Thousands, Hundreds, Tens, and Ones 4 M3 Topic F: Remainders, Estimating, and Problem Solving
4.NR.2.5 Solve multi-step problems using addition, subtraction, multiplication, and division involving whole numbers. Use mental computation and estimation strategies to justify the reasonableness of solutions.	4 M1 Lesson 15: Apply estimation to real-world situations by using rounding. 4 M1 Topic D: Multi-Digit Whole Number Addition and Subtraction 4 M3 Topic F: Remainders, Estimating, and Problem Solving

Patterning and Algebraic Reasoning

4.PAR.3 Generate and analyze patterns, including those involving shapes, input/output diagrams, factors, multiples, prime numbers, and composite numbers.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
4.PAR.3.1 Generate both number and shape patterns that follow a provided rule.	4 M2 Topic E: Factors and Multiples

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
4.PAR.3.2 Use input-output rules, tables, and charts to represent and describe patterns, find relationships, and solve problems.	3 M3 Lesson 17: Identify and complete patterns with input–output tables. 4 M2 Topic E: Factors and Multiples
4.PAR.3.3 Find factor pairs in the range 1–100 and find multiples of single-digit numbers up to 100.	4 M2 Topic E: Factors and Multiples
4.PAR.3.4 Identify composite numbers and prime numbers and explain the relationship with the factor pairs.	4 M2 Topic E: Factors and Multiples

Numerical Reasoning

4.NR.4 Solve real-life problems involving addition, subtraction, equivalence, and comparison of fractions with denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100 using part-whole strategies and visual models.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
4.NR.4.1 Using concrete materials, drawings, and number lines, demonstrate and explain the relationship between equivalent fractions, including fractions greater than one, and explain the identity property of multiplication as it relates to equivalent fractions. Generate equivalent fractions using these relationships.	4 M4 Topic B: Equivalent Fractions

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
4.NR.4.2 Compare two fractions with the same numerator or the same denominator by reasoning about their size and recognize that comparisons are valid only when the two fractions refer to the same whole.	3 M5 Lesson 10: Compare non-unit fractions less than 1 with the same numerator by using tape diagrams. 3 M5 Topic D: Comparing Fractions 3 M5 Lesson 27: Apply fraction concepts to complete a multi-part task.
4.NR.4.3 Compare two fractions with different numerators and/or different denominators by flexibly using a variety of tools and strategies and recognize that comparisons are valid only when the two fractions refer to the same whole.	4 M4 Topic C: Compare Fractions
4.NR.4.4 Represent whole numbers and fractions as the sum of unit fractions.	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.NR.4.5 Represent a fraction as a sum of fractions with the same denominator in more than one way, recording with an equation.	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.NR.4.6 Add and subtract fractions and mixed numbers with like denominators using a variety of tools.	4 M4 Topic D: Add and Subtract Fractions 4 M4 Topic E: Add and Subtract Mixed Numbers

Numerical Reasoning

4.NR.5 Solve real-life problems involving addition, equivalence, comparison of fractions with denominators of 10 and 100, and comparison of decimal numbers as tenths and hundredths using part-whole strategies and visual models.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
4.NR.5.1 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.	4 M5: Place Value Concepts for Decimal Fractions
4.NR.5.2 Represent, read, and write fractions with denominators of 10 or 100 using decimal notation, and decimal numbers to the hundredths place as fractions, using concrete materials and drawings.	4 M5: Place Value Concepts for Decimal Fractions
4.NR.5.3 Compare two decimal numbers to the hundredths place by reasoning about their size. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions.	4 M5 Topic C: Comparison of Decimal Numbers

Measurement and Data Reasoning

4.MDR.6 Measure time and objects that exist in the world to solve real-life, mathematical problems and analyze graphical displays of data to answer relevant questions.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
4.MDR.6.1 Use the four operations to solve problems involving elapsed time to the nearest minute, intervals of time, metric measurements of liquid volumes, lengths, distances, and masses of objects, including problems involving fractions with like denominators, and also problems that require expressing measurements given in a larger unit in terms of a smaller unit, and expressing a smaller unit in terms of a larger unit based on the idea of equivalence.	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 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 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. *Supplemental material is needed to address expressing smaller units in terms of a larger unit within the same measurement system.*
4.MDR.6.2 Ask questions and answer them based on gathered information, observations, and appropriate graphical displays to solve problems relevant to everyday life.	4 M4 Lesson 29: Solve problems by using data from a line plot. 4 M4 Lesson 30: Represent data on a line plot.
4.MDR.6.3 Create dot plots to display a distribution of numerical (quantitative) measurement data.	4 M4 Lesson 29: Solve problems by using data from a line plot. 4 M4 Lesson 30: Represent data on a line plot.

Geometric and Spatial Reasoning

4.GSR.7 Investigate the concepts of angles and angle measurement to estimate and measure angles.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
4.GSR.7.1 Recognize angles as geometric shapes formed when two rays share a common endpoint. Draw right, acute, and obtuse angles based on the relationship of the angle measure to 90 degrees.	4 M6 Lesson 7: Explore angles as fractional turns through a circle. 4 M6 Topic B: Angle Measurement
4.GSR.7.2 Measure angles in reference to a circle with the center at the common endpoint of two rays. Determine an angle's measure in relation to the 360 degrees in a circle through division or as a missing factor problem.	4 M6 Lesson 7: Explore angles as fractional turns through a circle. 4 M6 Topic C: Determine Unknown Angle Measures

Geometric and Spatial Reasoning

4.GSR.8 Identify and draw geometric objects, classify polygons based on properties, and solve problems involving area and perimeter of rectangular figures.

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
4.GSR.8.1 Explore, investigate, and draw points, lines, line segments, rays, angles (right, acute, obtuse), perpendicular lines, parallel lines, and lines of symmetry. Identify these in two-dimensional figures.	4 M6: Angle Measurements and Plane Figures

Georgia State Standards for Mathematics	Aligned Components of *Eureka Math²*
4.GSR.8.2 Classify, compare, and contrast polygons based on lines of symmetry, the presence or absence of parallel or perpendicular line segments, or the presence or absence of angles of a specified size and based on side lengths.	4 M6 Topic D: Two-Dimensional Figures and Symmetry
4.GSR.8.3 Solve problems involving area and perimeter of composite rectangles involving whole numbers with known side lengths.	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 Topic D: Problem Solving with Measurement