EUREKA MATH™

GREAT MINDS

ABOUT *EUREKA MATH*	Created by the nonprofit Great Minds, *Eureka Math* helps teachers deliver unparalleled math instruction that provides students with a deep understanding and fluency in math. Crafted by teachers and math scholars, the curriculum carefully sequences the mathematical progressions to maximize coherence from Prekindergarten through Precalculus—a principle tested and proven to be essential in students' mastery of math.
	Teachers and students using *Eureka Math* find the trademark "Aha!" moments in *Eureka Math* to be a source of joy and inspiration, lesson after lesson, year after year.
ALIGNED	*Eureka Math* is the only curriculum found by EdReports.org to align fully with the Common Core State Standards for Mathematics for all grades, Kindergarten through Grade 8. Great Minds offers detailed analyses which demonstrate how each grade of *Eureka Math* aligns with specific state standards. Access these free alignment studies at greatminds.org/state-studies.
DATA	Schools and districts nationwide are experiencing student growth and impressive test scores after using *Eureka Math*. See their stories and data at greatminds.org/data.
FULL SUITE OF RESOURCES	As a nonprofit, Great Minds offers the *Eureka Math* curriculum as PDF downloads for free, noncommercial use. Access the free PDFs at greatminds.org/math/curriculum.
	The teacher–writers who created the curriculum have also developed essential resources, available only from Great Minds, including the following:

- Printed material in English and Spanish
- Digital resources
- Professional development
- Classroom tools and manipulatives
- Teacher support materials
- Parent resources

Oklahoma Academic Standards for Mathematics Correlation to *Eureka Math*™

GRADE 4 MATHEMATICS

The majority of the Grade 4 Oklahoma Academic Standards for Mathematics are fully covered by the Grade 4 *Eureka Math* curriculum. The areas where the Grade 4 Oklahoma Academic Standards for Mathematics and Grade 4 *Eureka Math* do not align will require the use of *Eureka Math* content from other grade levels or supplemental materials. A detailed analysis of alignment is provided in the table below. With strategic placement of supplemental materials, *Eureka Math* can ensure students are successful in achieving the proficiencies of the Oklahoma Academic Standards for Mathematics while still benefiting from the coherence and rigor of *Eureka Math*.

INDICATORS

Green indicates that the Oklahoma standard is fully addressed in *Eureka Math*.

Yellow indicates that the Oklahoma standard may not be completely addressed in *Eureka Math*.

Red indicates that the Oklahoma standard is not addressed in *Eureka Math*.

Blue indicates there is a discrepancy between the grade level at which this standard is addressed in the Oklahoma standards and in *Eureka Math*.

Mathematical Actions and Processes	Aligned Components of *Eureka Math*
Develop a Deep and Flexible Conceptual Understanding Demonstrate a deep and flexible conceptual understanding of mathematical concepts, operations, and relations while making mathematical and real-world connections. Students will develop an understanding of how and when to apply and use the mathematics they know to solve problems.	Lessons in every module engage students in making sense of problems and persevering in solving them as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 1 and 2, which are specifically addressed in the following modules: G4 M1: Place Value, Rounding, and Algorithms for Addition and Subtraction G4 M2: Unit Conversions and Problem Solving with Metric Measurement G4 M3: Multi-Digit Multiplication and Division G4 M4: Angle Measure and Plane Figures G4 M5: Fraction Equivalence, Ordering, and Operations G4 M6: Decimal Fractions G4 M7: Exploring Measurement with Multiplication

Mathematical Actions and Processes	Aligned Components of *Eureka Math*
Develop Accurate and Appropriate Procedural Fluency Learn efficient procedures and algorithms for computations and repeated processes based on a strong sense of numbers. Develop fluency in addition, subtraction, multiplication, and division of numbers and expressions. Students will generate a sophisticated understanding of the development and application of algorithms and procedures.	Lessons in every module engage students in reasoning abstractly and quantitatively as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 7 and 8, which are specifically addressed in the following modules: G4 M2: Unit Conversions and Problem Solving with Metric Measurement G4 M3: Multi-Digit Multiplication and Division G4 M5: Fraction Equivalence, Ordering, and Operations G4 M6: Decimal Fractions G4 M7: Exploring Measurement with Multiplication

Mathematical Actions and Processes	**Aligned Components of *Eureka Math***
Develop Strategies for Problem Solving Analyze the parts of complex mathematical tasks and identify entry points to begin the search for a solution. Students will select from a variety of problem solving strategies and use corresponding multiple representations (verbal, physical, symbolic, pictorial, graphical, tabular) when appropriate. They will pursue solutions to various tasks from real-world situations and applications that are often interdisciplinary in nature. They will find methods to verify their answers in context and will always question the reasonableness of solutions.	Lessons in every module engage students in constructing viable arguments and critiquing the reasoning of others as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 1, 2, and 8, which are specifically addressed in the following modules: G4 M1: Place Value, Rounding, and Algorithms for Addition and Subtraction G4 M2: Unit Conversions and Problem Solving with Metric Measurement G4 M3: Multi-Digit Multiplication and Division G4 M4: Angle Measure and Plane Figures G4 M5: Fraction Equivalence, Ordering, and Operations G4 M6: Decimal Fractions G4 M7: Exploring Measurement with Multiplication

Mathematical Actions and Processes	**Aligned Components of *Eureka Math***
Develop Mathematical Reasoning Explore and communicate a variety of reasoning strategies to think through problems. Students will apply their logic to critique the thinking and strategies of others to develop and evaluate mathematical arguments, including making arguments and counterarguments and making connections to other contexts.	Lessons in every module engage students in modeling with mathematics as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 3, which is specifically addressed in the following modules: G4 M1: Place Value, Rounding, and Algorithms for Addition and Subtraction G4 M4: Angle Measure and Plane Figures G4 M5: Fraction Equivalence, Ordering, and Operations G4 M7: Exploring Measurement with Multiplication

Mathematical Actions and Processes	Aligned Components of *Eureka Math*
Develop a Productive Mathematical Disposition Hold the belief that mathematics is sensible, useful, and worthwhile. Students will develop the habit of looking for and making use of patterns and mathematical structures. They will persevere and become resilient, effective problem solvers.	Lessons in every module engage students in using appropriate tools strategically as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 1, 7, and 8, which are specifically addressed in the following modules: G4 M1: Place Value, Rounding, and Algorithms for Addition and Subtraction G4 M2: Unit Conversions and Problem Solving with Metric Measurement G4 M3: Multi-Digit Multiplication and Division G4 M5: Fraction Equivalence, Ordering, and Operations G4 M6: Decimal Fractions G4 M7: Exploring Measurement with Multiplication

Mathematical Actions and Processes	Aligned Components of *Eureka Math*
Develop the Ability to Make Conjectures, Model, and Generalize Make predictions and conjectures and draw conclusions throughout the problem solving process based on patterns and the repeated structures in mathematics. Students will create, identify, and extend patterns as a strategy for solving and making sense of problems.	Lessons in every module engage students in attending to precision as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 4, 7, and 8, which are specifically addressed in the following modules: G4 M2: Unit Conversions and Problem Solving with Metric Measurement G4 M3: Multi-Digit Multiplication and Division G4 M5: Fraction Equivalence, Ordering, and Operations G4 M6: Decimal Fractions G4 M7: Exploring Measurement with Multiplication

Mathematical Actions and Processes	Aligned Components of *Eureka Math*
Develop the Ability to Communicate Mathematically Students will discuss, write, read, interpret and translate ideas and concepts mathematically. As they progress, students' ability to communicate mathematically will include their increased use of mathematical language and terms and analysis of mathematical definitions.	Lessons in every module engage students in looking for and making use of structure as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 3 and 6, which are specifically addressed in the following modules: G4 M1: Place Value, Rounding, and Algorithms for Addition and Subtraction G4 M4: Angle Measure and Plane Figures G4 M5: Fraction Equivalence, Ordering, and Operations G4 M6: Decimal Fractions G4 M7: Exploring Measurement with Multiplication

Strand	Objectives for Mathematical Content	Aligned Components of *Eureka Math*
Number & Operations	**Standard: Solve real-world and mathematical problems using multiplication and division.**	
	4.N.1.1 Demonstrate fluency with multiplication and division factors with factors up to 12.	G3 M1 Topic E: Multiplication and Division Using Units of 4 G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10 Note: Supplemental material is necessary to address factors greater than 10.
	4.N.1.2 Use an understanding of place value to multiply or divide a number by 10, 100 and 1,000.	G4 M3 Topic B: Multiplication by 10, 100, and 1,000 G4 M3 Lesson 26: Divide multiples of 10, 100, and 1,000 by single-digit numbers.
	4.N.1.3 Multiply 3-digit by 1-digit or a 2-digit by 2-digit whole numbers, using efficient and generalizable procedures and strategies, based on knowledge of place value, including but not limited to standard algorithms.	G4 M3: Multi-Digit Multiplication and Division
	4.N.1.4 Estimate products of 3-digit by 1-digit or 2-digit by 2-digit whole numbers using rounding, benchmarks and place value to assess the reasonableness of results. Explore larger numbers using technology to investigate patterns.	G4 M3 Topic D: Multiplication Word Problems G4 M7 Topic B: Problem Solving with Measurement Note: Supplemental material is necessary to incorporate the use of technology.

Strand	Objectives for Mathematical Content		Aligned Components of *Eureka Math*
	4.N.1.5 Solve multi-step real-world and mathematical problems requiring the use of addition, subtraction, and multiplication of multi-digit whole numbers. Use various strategies, including the relationship between operations, the use of appropriate technology, and the context of the problem to assess the reasonableness of results.		G4 M1: Place Value, Rounding, and Algorithms for Addition and Subtraction G4 M3: Multi-Digit Multiplication and Division G4 M3 Topic D: Multiplication Word Problems G4 M3 Lesson 29: Represent numerically four-digit dividend division with divisors of 2, 3, 4, and 5, decomposing a remainder up to three times. G4 M3 Lesson 31: Interpret division word problems as either *number of groups unknown* or *group size unknown*. G4 M7 Topic B: Problem Solving with Measurement G4 M7 Lesson 14: Solve multi-step word problems involving converting mixed number measurements to a single unit. Note: Supplemental material is necessary to incorporate the use of technology.
	4.N.1.6 Use strategies and algorithms based on knowledge of place value, equality and properties of operations to divide 3-digit dividend by 1-digit whole number divisors. (e.g., mental strategies, standard algorithms, partial quotients, repeated subtraction, the commutative, associative, and distributive properties).		G4 M3 Topic E: Division of Tens and Ones with Successive Remainders G4 M3 Topic G: Division of Thousands, Hundreds, Tens, and Ones

Strand	Objectives for Mathematical Content	Aligned Components of *Eureka Math*
	4.N.1.7 Determine the unknown addend(s) or factor(s) in equivalent and non-equivalent expressions. (e.g., $5 + 6 = 4 + \square$, $3 \times 8 < 3 \times \square$).	G4 M1: Place Value, Rounding, and Algorithms for Addition and Subtraction G4 M3: Multi-Digit Multiplication and Division
	Standard: Represent and compare fractions and decimals in real-world and mathematical situations; use place value to understand how decimals represent quantities.	
	4.N.2.1 Represent and rename equivalent fractions using fraction models (e.g. parts of a set, area models, fraction strips, number lines).	G4 M5 Lesson 5: Decompose unit fractions using area models to show equivalence. G4 M5 Lesson 6: Decompose fractions using area models to show equivalence. G4 M5 Topic B: Fraction Equivalence Using Multiplication and Division G4 M5 Lessons 20–21: Use visual models to add two fractions with related units using the denominators 2, 3, 4, 5, 6, 8, 10, and 12. G4 M6 Lesson 5: Model the equivalence of tenths and hundredths using the area model and place value disks.
	4.N.2.2 Use benchmark fractions (0, 1/4, 1/3, 1/2, 2/3, 3/4, 1) to locate additional fractions on a number line. Use models to order and compare whole numbers and fractions less than and greater than one using comparative language and symbols.	G4 M5 Topic C: Fraction Comparison G4 M5 Lesson 26: Compare fractions greater than 1 by reasoning using benchmark fractions. G4 M5 Lesson 27: Compare fractions greater than 1 by creating common numerators or denominators.

Strand	Objectives for Mathematical Content	Aligned Components of *Eureka Math*
	4.N.2.3 Decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations (e.g., 3/4 = 1/4 + 1/4 + 1/4).	G4 M5 Topic A: Decomposition and Fraction Equivalence G4 M5 Lesson 25: Decompose and compose fractions greater than 1 to express them in various forms.
	4.N.2.4 Use fraction models to add and subtract fractions with like denominators in real-world and mathematical situations.	G4 M5 Lesson 24: Decompose and compose fractions greater than 1 to express them in various forms. G4 M5 Topic F: Addition and Subtraction of Fractions by Decomposition
	4.N.2.5 Represent tenths and hundredths with concrete models, making connections between fractions and decimals.	G4 M6 Topic B: Tenths and Hundredths G4 M6 Topic D: Addition with Tenths and Hundredths G4 M6 Topic E: Money Amounts as Decimal Numbers
	4.N.2.6 Represent, read and write decimals up to at least the hundredths place in a variety of contexts including money.	G4 M6: Decimal Fractions

Strand	Objectives for Mathematical Content	Aligned Components of *Eureka Math*
	4.N.2.7 Compare and order decimals and whole numbers using place value, a number line and models such as grids and base 10 blocks.	G4 M5 Topic C: Fraction Comparison G4 M5 Lesson 26: Compare fractions greater than 1 by reasoning using benchmark fractions. G4 M5 Lesson 27: Compare fractions greater than 1 by creating common numerators or denominators. G4 M5 Lesson 28: Solve word problems with line plots. G4 M6 Topic C: Decimal Comparison
	4.N.2.8 Compare benchmark fractions (1/4, 1/3, 1/2, 2/3, 3/4) and decimals (0.25, 0.50, 0.75) in real-world and mathematical situations.	G4 M5 Topic C: Fraction Comparison G4 M6 Topic C: Decimal Comparison
	Standard: Determine the value of coins in order to solve monetary transactions.	
	4.N.3.1 Given a total cost (whole dollars up to $20 or coins) and amount paid (whole dollars up to $20 or coins), find the change required in a variety of ways. Limited to whole dollars up to $20 or sets of coins.	G4 M6 Topic E: Money Amounts as Decimal Numbers Note: Supplemental material is necessary to completely address this standard.

Strand	Objectives for Mathematical Content	Aligned Components of *Eureka Math*
Algebraic Reasoning & Algebra	**Standard: Use multiple representations of patterns to solve real-world and mathematical problems.**	
	4.A.1.1 Create an input/output chart or table to represent or extend a numerical pattern.	G5 M6 Topic B: Patterns in the Coordinate Plane and Graphing Number Patterns from Rules G5 M6 Lesson 18: Draw symmetric figures on the coordinate plane.
	4.A.1.2 Describe the single operation rule for a pattern from an input/output table or function machine involving any operation of a whole number.	G5 M6 Topic B: Patterns in the Coordinate Plane and Graphing Number Patterns from Rules G5 M6 Lesson 18: Draw symmetric figures on the coordinate plane.
	4.A.1.3 Create growth patterns involving geometric shapes and define the single operation rule of the pattern.	G5 M6 Lesson 31: Explore the Fibonacci sequence. Note: Supplemental material is necessary to completely address this standard.

Strand	Objectives for Mathematical Content	Aligned Components of *Eureka Math*
	Standard: Use multiplication and division with unknowns to create number sentences representing a given problem situation.	
	4.A.2.1 Use number sense, properties of multiplication and the relationship between multiplication and division to solve problems and find values for the unknowns represented by letters and symbols that make number sentences true.	G4 M3 Topic A: Multiplicative Comparison Word Problems G4 M3 Lesson 11: Connect the area model and the partial products method to the standard algorithm. G4 M3 Topic D: Multiplication Word Problems G4 M3 Lesson 26: Divide multiples of 10, 100, and 1,000 by single-digit numbers. G4 M7 Lesson 4: Solve multiplicative comparison word problems using measurement conversion tables. G4 M7 Lesson 5: Share and critique peer strategies. G4 M7 Lesson 8: Solve problems involving mixed units of weight. G4 M7 Lesson 10: Solve multi-step measurement word problems.

Strand	Objectives for Mathematical Content	Aligned Components of *Eureka Math*
	4.A.2.2 Solve for unknowns in problems by solving open sentences (equations) and other problems involving addition, subtraction, multiplication, or division with whole numbers. Use real-world situations to represent number sentences and vice versa.	G4 M1: Place Value, Rounding, and Algorithms for Addition and Subtraction G4 M3 Topic D: Multiplication Word Problems G4 M3 Lesson 29: Represent numerically four-digit dividend division with divisors of 2, 3, 4, and 5, decomposing a remainder up to three times. G4 M3 Lesson 31: Interpret division word problems as either *number of groups unknown* or *group size unknown*. G4 M7 Topic B: Problem Solving with Measurement G4 M7 Lesson 14: Solve multi-step word problems involving converting mixed number measurements to a single unit.
Geometry & Measurement	**Standard: Name, describe, classify and construct polygons, and three-dimensional figures.**	
	4.GM.1.1 Identify points, lines, line segments, rays, angles, endpoints, and parallel and perpendicular lines in various contexts.	G4 M4: Angle Measure and Plane Figures
	4.GM.1.2 Describe, classify, and sketch quadrilaterals, including squares, rectangles, trapezoids, rhombuses, parallelograms, and kites. Recognize quadrilaterals in various contexts.	G4 M4 Topic D: Two-Dimensional Figures and Symmetry G5 M5 Topic D: Drawing, Analysis, and Classification of Two-Dimensional Shapes

Strand	Objectives for Mathematical Content	Aligned Components of *Eureka Math*
	4.GM.1.3 Given two three-dimensional shapes, identify similarities, and differences.	G2 M8: Time, Shapes, and Fractions as Equal Parts of Shapes
	Standard: Understand angle, length, and area as measurable attributes of real-world and mathematical objects. Use various tools to measure angles, length, area, and volume.	
	4.GM.2.1 Measure angles in geometric figures and real-world objects with a protractor or angle ruler.	G4 M4 Topic B: Angle Measurement
	4.GM.2.2 Find the area of polygons that can be decomposed into rectangles.	G3 M4 Topic D: Applications of Area Using Side Lengths of Figures
	4.GM.2.3 Using a variety of tools and strategies, develop the concept that the volume of rectangular prisms with whole-number edge lengths can be found by counting the total number of same-sized unit cubes that fill a shape without gaps or overlaps. Use appropriate measurements such as cm³.	G5 M5 Topic A: Concepts of Volume
	4.GM.2.4 Choose an appropriate instrument and measure the length of an object to the nearest whole centimeter or quarter-inch.	G2 M2: Addition and Subtraction of Length Units G2 M7 Topic C: Creating an Inch Ruler G2 M7 Topic D: Measuring and Estimating Length Using Customary and Metric Units

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	4.GM.2.5 Solve problems that deal with measurements of length, when to use liquid volumes, when to use mass, temperatures above zero and money using addition, subtraction, multiplication, or division as appropriate (customary and metric).	G4 M2: Unit Conversions and Problem Solving with Metric Measurement G4 M6 Topic E: Money Amounts as Decimal Numbers G4 M7: Exploring Measurement with Multiplication Note: Supplemental material is necessary to incorporate temperatures above 0.
	Standard: Determine elapsed time and convert between units of time.	
	4.GM.3.1 Determine elapsed time.	G3 M2 Topic A: Time Measurement and Problem Solving G3 M2 Lesson 12: Round two-digit measurements to the nearest ten on the vertical number line.
	4.GM.3.2 Solve problems involving the conversion of one measure of time to another.	G4 M7: Exploring Measurement with Multiplication
Data & Probability	**Standard: Collect, organize, and analyze data.**	
	4.D.1.1 Represent data on a frequency table or line plot marked with whole numbers and fractions using appropriate titles, labels, and units.	G2 M7 Topic A: Problem Solving with Categorical Data G4 M5 Lesson 28: Solve word problems with line plots. G4 M5 Lesson 40: Solve word problems involving the multiplication of a whole number and a fraction including those involving line plots.

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	4.D.1.2 Use tables, bar graphs, timelines, and Venn diagrams to display data sets. The data may include benchmark fractions or decimals (1/4, 1/3, 1/2, 2/3, 3/4, 0.25, 0.50, 0.75).	G4 M5 Lesson 28: Solve word problems with line plots. G4 M5 Lesson 40: Solve word problems involving the multiplication of a whole number and a fraction including those involving line plots. Note: Supplemental material is necessary to address timelines and Venn diagrams.
	4.D.1.3 Solve one- and two-step problems using data in whole number, decimal, or fraction form in a frequency table and line plot.	G4 M5 Lesson 28: Solve word problems with line plots. G4 M5 Lesson 40: Solve word problems involving the multiplication of a whole number and a fraction including those involving line plots.