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 that 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 academic 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

North Carolina Standard Course of Study Mathematics Correlation to *Eureka Math*®

GRADE 3 MATHEMATICS

The majority of the Grade 3 North Carolina Course of Study for Mathematics is covered by the Grade 3 *Eureka Math* curriculum. The areas where the Grade 3 North Carolina Course of Study for Mathematics and Grade 3 *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 Grade 3 North Carolina Course of Study for Mathematics while still benefiting from the coherence and rigor of *Eureka Math*.

INDICATORS

GREEN	indicates the North Carolina standard is addressed in *Eureka Math*.
YELLOW	indicates the North Carolina standard may not be completely addressed in *Eureka Math*.
RED	indicates the North Carolina standard is not addressed in *Eureka Math*.
BLUE	indicates there is a discrepancy between the grade level at which this standard is addressed in North Carolina and in *Eureka Math*.

Standards for Mathematical Practice	Aligned Components of *Eureka Math*
1. Make sense of problems and persevere in solving them. In third grade, mathematically proficient students know that doing mathematics involves solving problems and discussing how they solved them. Students explain to themselves the meaning of a problem and look for ways to solve it. Third grade students may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, "Does this make sense?" Students listen to other students' strategies and are able to make connections between various methods for a given problem.	Lessons in every module engage students in making sense of problems and persevering in solving them as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 1, which is specifically addressed in the following modules: G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10 G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10 G3 M7: Geometry and Measurement Word Problems
2. Reason abstractly and quantitatively. Mathematically proficient third grade students should recognize that a number represents a specific quantity. They connect the quantity to written symbols and create a logical representation of the problem at hand, considering both the appropriate units involved and the meaning of quantities.	Lessons in every module engage students in reasoning abstractly and quantitatively as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 2, which is specifically addressed in the following modules: G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10 G3 M2: Place Value and Problem Solving with Units of Measure G3 M4: Multiplication and Area G3 M5: Fractions as Numbers on the Number Line G3 M6: Collecting and Displaying Data

Standards for Mathematical Practice	Aligned Components of *Eureka Math*
3. Construct viable arguments and critique the reasoning of others. In third grade, mathematically proficient students may construct arguments using concrete referents, such as objects, pictures, and drawings. They refine their mathematical communication skills as they participate in mathematical discussions that the teacher facilities by asking questions such as “How did you get that?” and “Why is that true?” They explain their thinking to others and respond to others’ thinking.	Lessons in every module engage students in constructing viable arguments and critiquing the reasoning of others as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 3, which is specifically addressed in the following modules: G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10 G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10 G3 M4: Multiplication and Area G3 M5: Fractions as Numbers on the Number Line G3 M7: Geometry and Measurement Word Problems
4. Model with mathematics. Mathematically proficient students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart, list, or graph, creating equations, etc. Students require extensive opportunities to generate various mathematical representations and to both equations and story problems, and explain connections between representations as well as between representations and equations. Students should be able to use all of these representations as needed. They should evaluate their results in the context of the situation and reflect on whether the results make sense.	Lessons in every module engage students in modeling with mathematics as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 4, which is specifically addressed in the following modules: G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10 G3 M2: Place Value and Problem Solving with Units of Measure G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10

Standards for Mathematical Practice	Aligned Components of *Eureka Math*
5. Use appropriate tools strategically. Mathematically proficient third grade students consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, they may use graph paper to find all the possible rectangles that have a given perimeter. They compile the possibilities into an organized list or a table, and determine whether they have all the possible rectangles.	Lessons in every module engage students in using appropriate tools strategically as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 5, which is specifically addressed in the following modules: G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10 G3 M6: Collecting and Displaying Data G3 M7: Geometry and Measurement Word Problems
6. Attend to precision. Mathematically proficient third grade students develop their mathematical communication skills, they try to use clear and precise language in their discussions with others and in their own reasoning. They are careful about specifying units of measure and state the meaning of the symbols they choose. For instance, when figuring out the area of a rectangle they record their answers in square units.	Lessons in every module engage students in attending to precision as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 6, which is specifically addressed in the following modules: G3 M2: Place Value and Problem Solving with Units of Measure G3 M4: Multiplication and Area G3 M5: Fractions as Numbers on the Number Line G3 M6: Collecting and Displaying Data G3 M7: Geometry and Measurement Word Problems

Standards for Mathematical Practice	Aligned Components of *Eureka Math*
7. Look for and make use of structure. In third grade mathematically proficient students look closely to discover a pattern or structure. For instance, students use properties of operations as strategies to multiply and divide (commutative and distributive properties).	Lessons in every module engage students in looking for and making use of structure as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 7, which is specifically addressed in the following modules: G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10 G3 M2: Place Value and Problem Solving with Units of Measure G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10 G3 M4: Multiplication and Area G3 M5: Fractions as Numbers on the Number Line G3 M6: Collecting and Displaying Data
8. Look for and express regularity in repeated reasoning. Mathematically proficient students in third grade should notice repetitive actions in computation and look for more shortcut methods. For example, students may use the distributive property as a strategy for using products they know to solve products that they don't know. For example, if students are asked to find the product of 7 × 8, they might decompose 7 into 5 and 2 and then multiply 5 × 8 and 2 × 8 to arrive at 40 + 16 or 56. In addition, third graders continually evaluate their work by asking themselves, "Does this make sense?"	Lessons in every module engage students in looking for and expressing regularity in repeated reasoning as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 8, which is specifically addressed in the following module: G3 M4: Multiplication and Area

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
Operations and Algebraic Thinking	**Cluster: Represent and solve problems involving multiplication and division.**	
	NC.3.OA.1 For products of whole numbers with two factors up to and including 10: • Interpret the factors as representing the number of equal groups and the number of objects in each group • Illustrate and explain strategies including arrays, repeated addition, decomposing a factor, and applying the commutative and associative properties.	G3 M1 Topic A: Multiplication and the Meaning of the Factors G3 M1 Topic C: Multiplication Using Units of 2 and 3
	NC.3.OA.2 For whole-number quotients of whole numbers with a one-digit divisor and a one-digit quotient: • Interpret the divisor and quotient in a division equation as representing the number of equal groups and the number of objects in each group. • Illustrate and explain strategies including arrays, repeated addition or subtraction, and decomposing a factor.	G3 M1 Topic B: Division as an Unknown Factor Problem G3 M1 Topic D: Division Using Units of 2 and 3

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	NC.3.OA.3 Represent, interpret, and solve one-step problems involving multiplication and division. • Solve multiplication word problems with factors up to and including 10. Represent the problem using arrays, pictures, and/or equations with a symbol for the unknown number to represent the problem. • Solve division word problems with a divisor and quotient up to and including 10. Represent the problem using arrays, pictures, repeated subtraction and/or equations with a symbol for the unknown number to represent the problem.	G3 M1 Topic F: Distributive Property and Problem Solving Using Units of 2–5 and 10 G3 M3 Topic B: Multiplication and Division Using Units of 6 and 7 G3 M3 Topic C: Multiplication and Division Using Units up to 8 G3 M3 Topic D: Multiplication and Division Using Units of 9 G3 M3 Topic E: Analysis of Patterns and Problem Solving Including Units of 0 and 1
	NC.3.OA.6 Solve an unknown-factor problem by using division strategies and/or changing it to a multiplication problem.	G3 M1 Topic B: Division as an Unknown Factor Problem G3 M1 Topic D: Division Using Units of 2 and 3

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	Cluster: Multiply and divide within 100.	
	NC.3.OA.7 Demonstrate fluency with multiplication and division with factors, quotients and divisors up to and including 10. • Know from memory all products with factors up to and including 10. • Illustrate and explain using the relationship between multiplication and division. • Determine the unknown whole number in a multiplication or division equation relating three whole numbers.	G3 M1 Topic D: Division Using Units of 2 and 3 G3 M1 Topic E: Multiplication and Division Using Units of 4 G3 M1 Topic F: Distributive Property and Problem Solving Using Units of 2–5 and 10 G3 M3 Topic A: The Properties of Multiplication and Division G3 M3 Topic B: Multiplication and Division Using Units of 6 and 7 G3 M3 Topic C: Multiplication and Division Using Units up to 8 G3 M3 Topic D: Multiplication and Division Using Units of 9 G3 M3 Topic E: Analysis of Patterns and Problem Solving Including Units of 0 and 1

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	Cluster: Solve two-step problems.	
	NC.3.OA.8 Solve two-step word problems using addition, subtraction, and multiplication, representing problems using equations with a symbol for the unknown number.	G3 M1 Topic F: Distributive Property and Problem Solving Using Units of 2–5 and 10 G3 M3 Topic E: Analysis of Patterns and Problem Solving Including Units of 0 and 1 G3 M3 Topic F: Multiplication of Single-Digit Factors and Multiples of 10 G3 M7 Topic A: Solving Word Problems
	Cluster: Explore patterns of numbers.	
	NC.3.OA.9 Interpret patterns of multiplication on a hundreds board and/or multiplication table.	G3 M3 Topic A: The Properties of Multiplication and Division G3 M3 Topic B: Multiplication and Division Using Units of 6 and 7 G3 M3 Topic D: Multiplication and Division Using Units of 9 G3 M3 Topic E: Analysis of Patterns and Problem Solving Including Units of 0 and 1 G3 M3 Topic F: Multiplication of Single-Digit Factors and Multiples of 10

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
Number and Operations in Base Ten	**Cluster: Use place value to add and subtract.**	
	NC.3.NBT.2 Add and subtract whole numbers up to and including 1,000. • Use estimation strategies to assess reasonableness of answers. • Model and explain how the relationship between addition and subtraction can be applied to solve addition and subtraction problems. • Use expanded form to decompose numbers and then find sums and differences.	G2 M5 Topic A: Strategies for Adding and Subtracting Within 1,000 G2 M5 Topic C: Strategies for Decomposing Tens and Hundreds Within 1,000 G3 M2 Topic A: Time Measurement and Problem Solving G3 M2 Topic B: Measuring Weight and Liquid Volume in Metric Units G3 M2 Topic D: Two and Three-Digit Measurement Addition using the Standard Algorithm G3 M2 Topic E: Two and Three-Digit Measurement Subtraction Using the Standard Algorithm
	Cluster: Generalize place value understanding for multi-digit numbers.	
	NC.3.NBT.3 Use concrete and pictorial models, based on place value and the properties of operations, to find the product of a one-digit whole number by a multiple of 10 in the range 10–90.	G3 M3 Topic F: Multiplication of Single-Digit Factors and Multiples of 10

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
Number and Operations — Fractions	**Cluster: Understand fractions as numbers.**	
	NC.3.NF.1 Interpret unit fractions with denominators of 2, 3, 4, 6, and 8 as quantities formed when a whole is partitioned into equal parts: • Explain that a unit fraction is one of those parts. • Represent and identify unit fractions using area and length models.	G3 M5 Topic B: Unit Fractions and Their Relation to the Whole
	NC.3.NF.2 Interpret fractions with denominators of 2, 3, 4, 6, and 8 using area and length models. • Using an area model, explain that the numerator of a fraction represents the number of equal parts of the unit fraction. • Using a number line, explain that the numerator of a fraction represents the number of lengths of the unit fraction from 0.	G3 M5 Topic D: Fractions on the Number Line

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	NC.3.NF.3 Represent equivalent fractions with area and length models by: • Composing and decomposing fractions into equivalent fractions using related fractions: halves, fourths and eighths; thirds and sixths. • Explaining that a fraction with the same numerator and denominator equals one whole. • Expressing whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.	G3 M5 Topic C: Comparing Unit Fractions and Specifying the Whole G3 M5 Topic D: Fractions on the Number Line G3 M5 Topic E: Equivalent Fractions G3 M5 Topic F: Comparison, Order, and Size of Fractions
	NC.3.NF.4 Compare two fractions with the same numerator or the same denominator by reasoning about their size, using area and length models, and using the >, <, and = symbols. Recognize that comparisons are valid only when the two fractions refer to the same whole with denominators: halves, fourths and eighths; thirds and sixths.	G3 M5 Topic F: Comparison, Order, and Size of Fractions

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
Measurement and Data	**Cluster: Solve problems involving measurement.**	
	NC.3.MD.1 Tell and write time to the nearest minute. Solve word problems involving addition and subtraction of time intervals within the same hour.	G3 M2 Topic A: Time Measurement and Problem Solving G3 M2 Topic C: Rounding to the Nearest Ten and Hundred
	NC.3.MD.2 Solve problems involving customary measurement. • Estimate and measure lengths in customary units to the quarter-inch and half-inch, and feet and yards to the whole unit. • Estimate and measure capacity and weight in customary units to a whole number: cups, pints, quarts, gallons, ounces, and pounds. • Add, subtract, multiply, or divide to solve one-step word problems involving whole number measurements of length, weight, and capacity in the same customary units.	G2 M7 Topic D: Measuring and Estimating Length Using Customary and Metric Units G3 M6 Lesson 5: Create ruler with 1-inch, 1/2-inch, and 1/4-inch intervals, and generate measurement data. G3 M7 Lesson 16: Use string to measure the perimeter of various circles to the nearest quarter inch.

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	Cluster: Represent and interpret data.	
	NC.3.MD.3 Represent and interpret scaled picture and bar graphs: • Collect data by asking a question that yields data in up to four categories. • Make a representation of data and interpret data in a frequency table, scaled picture graph, and/or scaled bar graph with axes provided. • Solve one- and two-step “how many more” and “how many less” problems using information from these graphs.	G3 M6 Topic A: Generate and Analyze Categorical Data
	Cluster: Understand the concept of area.	
	NC.3.MD.5 Find the area of a rectangle with whole-number side lengths by tiling without gaps or overlaps and counting unit squares.	G3 M4 Topic A: Foundations for Understanding Area G3 M4 Topic B: Concepts of Area Measurement G3 M4 Topic C: Arithmetic Properties Using Area Models

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	NC.3.MD.7 Relate area to the operations of multiplication and addition. • Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. • Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving problems, and represent whole-number products as rectangular areas in mathematical reasoning. • Use tiles and/or arrays to illustrate and explain that the area of a rectangle can be found by partitioning it into two smaller rectangles, and that the area of the large rectangle is the sum of the two smaller rectangles.	G3 M4 Topic B: Concepts of Area Measurement G3 M4 Topic C: Arithmetic Properties Using Area Models G3 M4 Topic D: Application of Area Using Side Lengths of Figures
	Cluster: Understand the concept of perimeter.	
	NC.3.MD.8 Solve problems involving perimeters of polygons, including finding the perimeter given the side lengths, and finding an unknown side length.	G3 M7 Topic C: Problem Solving with Perimeter G3 M7 Topic D: Recording Perimeter and Area Data on Line Plots G3 M7 Topic E: Problem Solving with Perimeter and Area

Domain	Standards for Mathematical Content	Aligned Components of *Eureka Math*
Geometry	**Cluster: Reason with shapes and their attributes.**	
	NC.3.G.1 Reason with two-dimensional shapes and their attributes. • Investigate, examples and non-examples of types of quadrilaterals including rhombuses, rectangles, squares, parallelograms, and trapezoids.	G3 M7 Topic B: Attributes of Two-Dimensional Figures G3 M7 Topic E: Problem Solving with Perimeter and Area