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

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Alabama Course of Study: Mathematics Correlation to *Eureka Math*®

GRADE K MATHEMATICS

The majority of the Grade K Alabama Course of Study: Mathematics are fully covered by the Grade K *Eureka Math* curriculum. One standard from the content area of Operations and Algebraic Thinking and one from Data Analysis will require the use of *Eureka Math* content from another grade level. A detailed analysis of alignment is provided in the table below.

INDICATORS

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

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Standards for Mathematical Practice	Aligned Components of *Eureka Math*
1. Make sense of problems and persevere in solving them. These students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. These students consider analogous problems and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculators to obtain the information they need. Mathematically proficient students can explain correspondences among equations, verbal descriptions, tables, and graphs, or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solve complex problems and identify correspondences between different approaches.	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: GK M2: Two-Dimensional and Three-Dimensional Shapes GK M4: Number Pairs, Addition and Subtraction to 10 GK M6: Analyzing, Comparing, and Composing Shapes

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Standards for Mathematical Practice	Aligned Components of *Eureka Math*
2. Reason abstractly and quantitatively. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships. One is the ability to *decontextualize*, to abstract a given situation, represent it symbolically, and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents. The second is the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.	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: GK M1: Numbers to 10 GK M3: Comparison of Length, Weight, Capacity, and Numbers to 10 GK M4: Number Pairs, Addition and Subtraction to 10 GK M5: Numbers 10–20 and Counting to 100

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Standards for Mathematical Practice	Aligned Components of *Eureka Math*
3. Construct viable arguments and critique the reasoning of others. These students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. These students justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments; distinguish correct logic or reasoning from that which is flawed; and, if there is a flaw in an argument, explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until the middle or upper grades. Later, students learn to determine domains to which an argument applies. Students in all grades can listen to or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.	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: GK M1: Numbers to 10 GK M2: Two-Dimensional and Three-Dimensional Shapes GK M3: Comparison of Length, Weight, Capacity, and Numbers to 10 GK M5: Numbers 10–20 and Counting to 100

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Standards for Mathematical Practice	Aligned Components of *Eureka Math*
4. Model with mathematics. These students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, students might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, students might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts, and formulas and can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.	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: GK M1: Numbers to 10 GK M4: Number Pairs, Addition and Subtraction to 10 GK M5: Numbers 10–20 and Counting to 100 GK M6: Analyzing, Comparing, and Composing Shapes

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Standards for Mathematical Practice	Aligned Components of *Eureka Math*
5. Use appropriate tools strategically. Mathematically proficient students consider available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and the tools' limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a Web site, and use these to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.	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: GK M3: Comparison of Length, Weight, Capacity, and Numbers to 10 GK M4: Number Pairs, Addition and Subtraction to 10

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Standards for Mathematical Practice	Aligned Components of *Eureka Math*
6. Attend to precision. These students try to communicate mathematical ideas and concepts precisely. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. Mathematically proficient students are careful about specifying units of measure and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, and express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school, they have learned to examine claims and make explicit use of definitions.	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: GK M2: Two-Dimensional and Three-Dimensional Shapes GK M3: Comparison of Length, Weight, Capacity, and Numbers to 10 GK M6: Analyzing, Comparing, and Composing Shapes

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Standards for Mathematical Practice	Aligned Components of *Eureka Math*
7. Look for and make use of structure. Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7 × 8 equals 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. These students also can pause and reflect for an overview or a shift in perspective. They can observe the complexities of mathematics, such as seeing some algebraic expressions as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that mental picture to realize that the value of the expression cannot be more than 5 for any real numbers x and y.	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: GK M1: Numbers to 10 GK M2: Two-Dimensional and Three-Dimensional Shapes GK M3: Comparison of Length, Weight, Capacity, and Numbers to 10 GK M4: Number Pairs, Addition and Subtraction to 10 GK M5: Numbers 10–20 and Counting to 100 GK M6: Analyzing, Comparing, and Composing Shapes

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Standards for Mathematical Practice	Aligned Components of *Eureka Math*
8. Look for and express regularity in repeated reasoning. Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As students work to solve a problem, mathematically proficient students maintain oversight of the process while attending to the details and continually evaluate the reasonableness of their intermediate results.	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 modules: GK M1: Numbers to 10 GK M4: Number Pairs, Addition and Subtraction to 10

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Content Area	Standards for Mathematical Content	Aligned Components of *Eureka Math*
Foundations of Counting	**Cluster: Know number names and the count sequence.**	
	1. Count forward orally from 0 to 100 by ones and by tens. Count backward orally from 10 to 0 by ones.	GK M5 Topic A: Count 10 Ones and Some Ones GK M5 Topic D: Extend the Say Ten and Regular Count Sequence to 100
	2. Count to 100 by ones beginning with any given number between 0 and 99	GK M5 Topic D: Extend the Say Ten and Regular Count Sequence to 100
	3. Write numerals from 0 to 20. a. Represent 0 to 20 using concrete objects when given a written numeral from 0 to 20 (with 0 representing a count of no objects).	GK M1 Topic D: The Concept of Zero and Working with Numbers 0–5 GK M1 Topic E: Working with Numbers 6–8 in Different Configurations GK M1 Topic F: Working with Numbers 9 and 10 in Different Configurations GK M5 Topic B: Compose Numbers 11–20 from 10 Ones and Some Ones; Represent and Write Teen Numbers

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Content Area	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	Cluster: Count to tell the number of objects.	
	4. Connect counting to cardinality using a variety of concrete objects. a. Say the number names in consecutive order when counting objects. b. Indicate that the last number name said tells the number of objects counted in a set. c. Indicate that the number of objects in a set is the same regardless of their arrangement or the order in which they were counted. d. Explain that each successive number name refers to a quantity that is one larger.	GK M1 Topic B: Classify to Make Categories and Count GK M1 Topic C: Numerals to 5 in Different Configurations, Math Drawings, and Expressions GK M1 Topic D: The Concept of Zero and Working with Numbers 0–5 GK M1 Topic E: Working with Numbers 6–8 in Different Configurations GK M1 Topic F: Working with Numbers 9 and 10 in Different Configurations GK M1 Topic G: One More Than with Numbers 0–10 GK M1 Topic H: One Less Than with Numbers 0–10 GK M5 Topic C: Decompose Numbers 11–20, and Count to Answer “How Many?” Questions in Varied Configurations

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Content Area	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	5. Count to answer “how many?” questions. a. Count using no more than 20 concrete objects arranged in a line, a rectangular array, or a circle. b. Count using no more than 10 concrete objects in a scattered configuration. c. Draw the number of objects that matches a given numeral from 0 to 20.	GK M1 Topic C: Numbers to 5 in Different Configurations, Math Drawings, and Expressions GK M1 Topic D: The Concept of Zero and Working with Numbers 0–5 GK M1 Topic E: Working with Numbers 6–8 in Different Configurations GK M1 Topic F: Working with Numbers 9 and 10 in Different Configurations GK M5 Topic C: Decompose Numbers 11–20, and Count to Answer “How Many?” Questions in Varied Configurations GK M5 Topic E: Represent and Apply Compositions and Decompositions of Teen Numbers

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Content Area	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	Cluster: Compare numbers.	
	6. Orally identify whether the number of objects in one group is greater/more than, less/fewer than, or equal/the same as the number of objects in another group, in groups containing up to 10 objects, by using matching, counting, or other strategies.	GK M1 Topic G: One More Than with Numbers 0–10 GK M1 Topic H: One Less Than with Numbers 0–10 GK M3 Topic E: Are There Enough? GK M3 Topic F: Comparison of Sets Within 10
	7. Compare two numbers between 0 and 10 presented as written numerals (without using inequality symbols).	GK M3 Topic G: Comparison of Numerals

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Content Area	Standards for Mathematical Content	Aligned Components of *Eureka Math*
Operations and Algebraic Thinking	**Cluster: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.**	
	8. Represent addition and subtraction up to 10 with concrete objects, fingers, pennies, mental images, drawings, claps or other sounds, acting out situations, verbal explanations, expressions, or equations.	GK M4 Topic A: Compositions and Decompositions of 2, 3, 4, and 5 GK M4 Topic C: Addition with Totals of 6, 7, and 8 GK M4 Topic D: Subtraction from Numbers to 8 GK M4 Topic G: Subtraction from 9 and 10 GK M4 Topic H: Patterns with Adding 0 and 1 and Making 10

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Content Area	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	9. Solve addition and subtraction word problems, and add and subtract within 10, by using concrete objects or drawings to represent the problem.	GK M4 Topic C: Addition with Totals of 6, 7, and 8 GK M4 Topic D: Subtraction from Numbers to 8 GK M4 Topic F: Addition with Totals of 9 and 10 GK M4 Topic G: Subtraction from 9 and 10 GK M4 Topic H: Patterns with Adding 0 and 1 and Making 10
	10. Decompose numbers less than or equal to 10 into pairs of smaller numbers in more than one way, by using concrete objects or drawings, and record each decomposition by a drawing or equation. Example: 5 = 2 + 3 and 5 = 4 + 1	GK M1 Topic C: Numbers to 5 in Different Configurations, Math Drawings, and Expressions GK M1 Topic D: The Concept of Zero and Working with Numbers 0–5 GK M4 Topic A: Compositions and Decompositions of 2, 3, 4, and 5 GK M4 Topic B: Decompositions of 6, 7, and 8 into Number Pairs GK M4 Topic D: Subtraction from Numbers to 8 GK M4 Topic E: Decompositions of 9 and 10 into Number Pairs GK M4 Topic G: Subtraction from 9 and 10

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Content Area	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	11. For any number from 0 to 10, find the number that makes 10 when added to the given number, by using concrete objects or drawings, and record the answer with a drawing or equation.	GK M4 Topic H: Patterns with Adding 0 and 1 and Making 10
	12. Fluently add and subtract within 5.	GK M4 Topic A: Compositions and Decompositions of 2, 3, 4, and 5
	Cluster: Understand simple patterns.	
	13. Duplicate and extend simple patterns using concrete objects.	GPK M5 Lesson 25: Identify and duplicate patterns using sounds and movement. Represent those patterns with objects. GPK M5 Lesson 26: Duplicate and extend patterns with movement and objects.

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Content Area	Standards for Mathematical Content	Aligned Components of *Eureka Math*
Operations with Numbers	**Cluster: Work with numbers 11–19 to gain foundations for place value.**	
	14. Compose and decompose numbers from 11 to 19 by using concrete objects or drawings to demonstrate understanding that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	GK M5 Topic A: Count 10 Ones and Some Ones GK M5 Topic B: Compose numbers 11–20 from 10 Ones and Some Ones; Represent and Write Teen Numbers GK M5 Topic C: Decompose Numbers 11–20, and Count to Answer “How Many?” Questions in Varied Configurations GK M5 Topic E: Represent and Apply Compositions and Decompositions of Teen Numbers
Data Analysis	**Cluster: Collect and analyze data and interpret results.**	
	15. Classify objects into given categories of 10 or fewer; count the number of objects in each category and sort the categories by count. a. Categorize data on Venn diagrams, pictographs, and "yes-no" charts using real objects, symbolic representations, or pictorial representations.	GK M1 Topic A: Attributes of Two Related Objects GK M1 Topic B: Classify to Make Categories and Count GK M2 Topic C: Two-Dimensional and Three-Dimensional Shapes

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Content Area	Standards for Mathematical Content	Aligned Components of *Eureka Math*
Measurement	**Cluster: Describe and compare measurable attributes.**	
	16. Identify and describe measurable attributes (length, weight, height) of a single object using vocabulary such as long/short, heavy/light, or tall/short.	GK M3 Topic A: Comparison of Length and Height GK M3 Topic B: Comparison of Length and Height of Linking Cube Sticks Within 10 GK M3 Topic C: Comparison of Weight GK M3 Topic H: Clarification of Measurable Attributes
	17. Directly compare two objects with a measurable attribute in common to see which object has "more of" or "less of" the attribute and describe the difference.	GK M3 Topic A: Comparison of Length and Height GK M3 Topic B: Comparison of Length and Height of Linking Cube Sticks Within 10 GK M3 Topic C: Comparison of Weight GK M3 Topic D: Comparison of Volume GK M3 Topic H: Clarification of Measurable Attributes
Geometry	**Cluster: Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).**	
	18. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.	GK M2 Topic A: Two-Dimensional Flat Shapes GK M2 Topic B: Three-Dimensional Solid Shapes

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Content Area	Standards for Mathematical Content	Aligned Components of *Eureka Math*
	19. Correctly name shapes regardless of their orientations or overall sizes.	GK M2 Topic A: Two-Dimensional Flat Shapes GK M2 Topic B: Three-Dimensional Solid Shapes
	20. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").	GK M2 Topic A: Two-Dimensional Flat Shapes GK M2 Topic B: Three-Dimensional Solid Shapes
	Cluster: Analyze, compare, create, and compose shapes.	
	21. Analyze and compare two-and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (number of sides and vertices or "corners"), and other attributes.	GK M2 Topic A: Two-Dimensional Flat Shapes GK M2 Topic B: Three-Dimensional Solid Shapes
	22. Model shapes in the world by building them from sticks, clay balls, or other components and by drawing them.	GK M6 Topic A: Building and Drawing Flat and Solid Shapes
	23. Use simple shapes to compose larger shapes.	GK M6 Topic B: Composing and Decomposing Shapes

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