## Grade 6 | Alabama Standards for Mathematical Content Correlation to Eureka Math ${ }^{2 ®}$

When the original Eureka Math ${ }^{\circledR}$ curriculum was released, it quickly became the most widely used $\mathrm{K}-5$ mathematics curriculum in the country. Now, the Great Minds ${ }^{\circledR}$ teacher-writers have created Eureka Math ${ }^{2 ®}$, 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 Math ${ }^{2}$ 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 Math ${ }^{2}$ employs streamlined materials that allow teachers to plan more efficiently and focus their energy on delivering highquality 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 Math ${ }^{2}$ 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 Math ${ }^{2}$ 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.

| Student Mathematical Practices | Aligned Components of Eureka Math² |
| :---: | :---: |
| MP. 1 <br> 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 <br> 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 <br> 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 <br> Model with mathematics. | Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson. |
| MP. 5 <br> 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 <br> Attend to precision. | Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson. |
| MP. 7 <br> 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 <br> 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. |

## Proportional Reasoning

## Develop an understanding of ratio concepts and use reasoning about ratios to solve problems.

## Alabama Standards for Mathematical Content <br> Aligned Components of Eureka Math ${ }^{2}$

| 6.PR.1 | 6 M1 Lesson 2: Introduction to Ratios |
| :--- | :--- |
| Use appropriate notations $\left[\frac{a}{b}, a\right.$ to $\left.b, a: b\right]$ <br> to represent a proportional relationship <br> between quantities and use ratio <br> language to describe the relationship <br> between quantities. | 6 M1 Lesson 3: Ratios and Tape Diagrams |
|  | 6 M1 Lesson 4: Exploring Ratios by Making Batches |
|  | 6 M1 Lesson 5: Equivalent Ratios |
|  | 6 M1 Lesson 8: Addition Patterns in Ratio Relationships |
| $\mathbf{6 . P R 1}$ Lesson 10: Multiplicative Reasoning in Ratio Relationships |  |
| Use unit rates to represent and describe | 6 M1 Lesson 11: Applications of Ratio Reasoning |
| ratio relationships. | 6 M1 Lesson 16: Speed |
|  | 6 M1 Lesson 17: Rates |

## Alabama Standards for Mathematical Content

## Aligned Components of Eureka Math ${ }^{2}$

## 6.PR. 3

Use ratio and rate reasoning to solve mathematical and real-world problems (including but not limited to percent, measurement conversion, and equivalent ratios) using a variety of models, including tables of equivalent ratios, tape diagrams, double number lines, and equations.

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6 ~ M 1 ~ L e s s o n ~ 1 : ~ J a r s ~ o f ~ J e l l y ~ B e a n s
6 \text { M1 Lesson 3: Ratios and Tape Diagrams}
6 \text { M1 Lesson 4: Exploring Ratios by Making Batches}
6 \text { M1 Lesson 5: Equivalent Ratios}
6 M1 Topic B: Collections of Equivalent Ratios
6 ~ M 1 ~ T o p i c ~ C : ~ C o m p a r i n g ~ R a t i o ~ R e l a t i o n s h i p s
6 M1 Topic D: Rates
6 M1 Topic E: Percents
6 \text { M4 Lesson 22: Relationship Between Two Variables}
6 \text { M4 Lesson 23: Graphs of Ratio Relationships}
6 M5 Lesson 8: Areas of Composite Figures in Real-World Situations
6 ~ M 5 ~ L e s s o n ~ 1 3 : ~ S u r f a c e ~ A r e a ~ i n ~ R e a l - W o r l d ~ S i t u a t i o n s
```


## Number Systems and Operations

## Use prior knowledge of multiplication and division to divide fractions.

## Alabama Standards for Mathematical Content

## Aligned Components of Eureka Math ${ }^{2}$

| 6.NSO.4 |
| :--- |
| Interpret and compute quotients of |
| fractions using visual models and |
| equations to represent problems. |
| 6.NSO.4.a |
| Use quotients of fractions to analyze and |
| solve problems. |

## 6 M2 Topic B: Dividing Fractions <br> 6 M2 Topic C: Dividing Fractions Fluently

6 M2 Topic B: Dividing Fractions
6 M2 Topic C: Dividing Fractions Fluently

## Number Systems and Operations

Compute multi-digit numbers fluently and determine common factors and multiples.

## Alabama Standards for Mathematical Content

## Aligned Components of Eureka Math ${ }^{2}$

|  |  |
| :---: | :---: |
| Fluently divide multi-digit whole numbers using a standard algorithm to solve real-world and mathematical problems. | 6 M2 Lesson 18: The Standard Division Algorithm <br> 6 M2 Lesson 19: Expressing Quotients as Decimals |
| 6.NSO. 6 <br> Add, subtract, multiply, and divide decimals using a standard algorithm. | 6 M2 Lesson 13: Decimal Addition and Subtraction <br> 6 M2 Lesson 14: Patterns in Multiplying Decimals <br> 6 M2 Lesson 15: Decimal Multiplication <br> 6 M2 Topic F: Decimal Division |
| 6.NSO. 7 <br> Use the distributive property to express the sum of two whole numbers with a common factor as a multiple of a sum of two whole numbers with no common factor. | 6 M2 Topic A: Factors, Multiples, and Divisibility <br> 6 M4 Lesson 13: The Distributive Property <br> 6 M4 Lesson 14: Using the Distributive Property to Factor Expressions |
| 6.NSO. 8 <br> Find the greatest common factor (GCF) and least common multiple (LCM) of two or more whole numbers. | 6 M2 Topic A: Factors, Multiples, and Divisibility <br> 6 M4 Lesson 13: The Distributive Property <br> 6 M4 Lesson 14: Using the Distributive Property to Factor Expressions |
| 6.NSO.8.a <br> Use factors and multiples to determine prime factorization. | 6 M2 Lesson 3: The Greatest Common Factor <br> 6 M2 Lesson 4: The Least Common Multiple <br> 6 M2 Lesson 5: The Euclidean Algorithm <br> 6 M4 Lesson 3: Exploring Exponents |

## Number Systems and Operations

Apply knowledge of the number system to represent and use rational numbers in a variety of forms.

## Alabama Standards for Mathematical Content

## Aligned Components of Eureka Math ${ }^{2}$

| 6.NSO. 9 | 6 M3 Lesson 1: Positive and Negative Numbers |
| :---: | :---: |
| Use signed numbers to describe quantities that have opposite directions or values and to represent quantities in real-world contexts. | 6 M3 Lesson 4: Rational Numbers in Real-World Situations |
| 6.NSO. 10 <br> Locate integers and other rational numbers on a horizontal or vertical line diagram. | 6 M3 Lesson 3: Rational Numbers <br> 6 M3 Lesson 11: Plotting Points in the Coordinate Plane <br> 6 M3 Lesson 12: Reflections in the Coordinate Plane <br> 6 M3 Lesson 13: Constructing the Coordinate Plane <br> 6 M3 Topic D: Solving Problems in the Coordinate Plane |
| 6.NSO.10.a <br> Define opposites as numbers located on opposite sides of 0 and the same distance from 0 on a number line. | 6 M3 Lesson 2: Integers <br> 6 M3 Lesson 3: Rational Numbers <br> 6 M3 Lesson 4: Rational Numbers in Real-World Situations |
| 6.NSO.10.b <br> Use rational numbers in real-world and | 6 M3 Lesson 1: Positive and Negative Numbers <br> 6 M3 Lesson 4: Rational Numbers in Real-World Situations |

## Alabama Standards for Mathematical Content

## Aligned Components of Eureka Math²

| 6.NSO. 11 | 6 M3 Lesson 3: Rational Numbers |
| :---: | :---: |
| Find the position of pairs of integers and other rational numbers on the coordinate plane. | 6 M3 Lesson 11: Plotting Points in the Coordinate Plane <br> 6 M3 Lesson 12: Reflections in the Coordinate Plane <br> 6 M3 Lesson 13: Constructing the Coordinate Plane <br> 6 M3 Topic D: Solving Problems in the Coordinate Plane |
| 6.NSO.11.a <br> Identify quadrant locations of ordered pairs on the coordinate plane based on the signs of the $x$ and $y$ coordinates. | 6 M3 Lesson 10: The Four Quadrants of the Coordinate Plane 6 M3 Lesson 11: Plotting Points in the Coordinate Plane 6 M3 Lesson 12: Reflections in the Coordinate Plane 6 M3 Lesson 13: Constructing the Coordinate Plane |
| 6.NSO.11.b <br> Identify $(a, b)$ and $(a,-b)$ as reflections across the $x$-axis. | 6 M3 Lesson 10: The Four Quadrants of the Coordinate Plane 6 M3 Lesson 11: Plotting Points in the Coordinate Plane 6 M3 Lesson 12: Reflections in the Coordinate Plane 6 M3 Lesson 13: Constructing the Coordinate Plane |
| 6.NSO.11.C <br> Identify $(a, b)$ and $(-a, b)$ as reflections across the $y$-axis. | 6 M3 Lesson 10: The Four Quadrants of the Coordinate Plane 6 M3 Lesson 11: Plotting Points in the Coordinate Plane 6 M3 Lesson 12: Reflections in the Coordinate Plane 6 M3 Lesson 13: Constructing the Coordinate Plane |

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## Aligned Components of Eureka Math ${ }^{2}$

| 6.NSO.11.d <br> Solve real-world and mathematical <br> problems by graphing points in all four <br> quadrants of the coordinate plane, <br> including finding distances between <br> points with the same first or second <br> coordinate. | 66 M3 Lesson 14: Modeling with the Coordinate Plane |
| :--- | :--- |
| 6 M3 Topic D: Solving Problems in the Coordinate Plane |  |
| 6.NSO.12 |  |
| Explain the meaning of absolute value 5: Perimeter and Area in the Coordinate Plane <br> and determine the absolute value of <br> rational numbers in real-world contexts. | 6 M3 Lesson 7: Absolute Value |
| 6.NSO.13 <br> Compare and order rational numbers <br> and absolute value of rational numbers <br> with and without a number line in order <br> to solve real-world and mathematical <br> problems. | 6 M3 Lesson 8: Absolute Value and Order |

## Algebra and Functions

## Apply knowledge of arithmetic to read, write, and evaluate algebraic expressions.

## Alabama Standards for Mathematical Content

## Aligned Components of Eureka Math ${ }^{2}$

## 6.AF. 14

Write, evaluate, and compare expressions involving whole number exponents.

## 6.AF. 15

Write, read, and evaluate expressions in which letters represent numbers in real-world contexts.

## 6.AF.15.a

Interpret a variable as an unknown value for any number in a specified set, depending on the context.

## 6.AF.15.b

Write expressions to represent verbal statements and real-world scenarios.

## 6.AF.15.c

Identify parts of an expression using mathematical terms such as sum, term, product, factor, quotient, and coefficient.

## 6 M4 Topic A: Numerical Expressions

This standard is fully addressed by the lessons aligned to its subsections.

6 M4 Lesson 9: Addition and Subtraction Expressions from Real-World Situations
6 M4 Lesson 10: Multiplication and Division Expressions from Real-World Situations
6 M4 Lesson 11: Modeling Real-World Situations with Expressions
6 M4 Lesson 16: Equivalent Algebraic Expressions

6 M4 Lesson 7: Algebraic Expressions with Addition and Subtraction
6 M4 Lesson 8: Algebraic Expressions with Addition, Subtraction, Multiplication, and Division
6 M4 Lesson 9: Addition and Subtraction Expressions from Real-World Situations

6 M4 Lesson 7: Algebraic Expressions with Addition and Subtraction
6 M4 Lesson 8: Algebraic Expressions with Addition, Subtraction, Multiplication, and Division
6 M4 Lesson 9: Addition and Subtraction Expressions from Real-World Situations
6 M4 Lesson 11: Modeling Real-World Situations with Expressions

## Alabama Standards for Mathematical Content

## Aligned Components of Eureka Math ${ }^{2}$

| 6.AF.15.d | 6 M4 Lesson 8: Algebraic Expressions with Addition, Subtraction, Multiplication, and Division |
| :---: | :---: |
| Evaluate expressions (which may include absolute value and whole number exponents) with respect to order of operations. | 6 M4 Lesson 11: Modeling Real-World Situations with Expressions |
|  | 6 M4 Lesson 12: Applying Properties to Multiplication and Division Expressions |
|  | 6 M4 Lesson 17: Equations and Solutions |
|  | 6 M5 Lesson 1: The Area of a Parallelogram |
|  | 6 M5 Lesson 3: The Area of a Triangle |
|  | 6 M5 Lesson 12: From Nets to Surface Area |
|  | 6 M5 Lesson 13: Surface Area in Real-World Situations |
|  | 6 M5 Lesson 14: Designing a Box |
|  | 6 M5 Lesson 16: Applying Volume Formulas |
| 6.AF. 16 | 6 M4 Topic C: Equivalent Expressions Using the Properties of Operations |
| Generate equivalent algebraic expressions using the properties of operations, including inverse, identity, commutative, associative, and distributive. | 6 M5 Lesson 4: Areas of Triangles in Real-World Situations |
|  | 6 M5 Lesson 6: Problem Solving with Area in the Coordinate Plane |
|  | 6 M5 Lesson 7: Area of Trapezoids and Other Polygons |
| 6.AF. 17 | 6 M4 Topic C: Equivalent Expressions Using the Properties of Operations |
| Determine whether two expressions are equivalent and justify the reasoning. | 6 M5 Lesson 7: Area of Trapezoids and Other Polygons |
|  | 6 M5 Lesson 12: From Nets to Surface Area |
|  | 6 M5 Lesson 17: Problem Solving with Volume |

## Algebra and Functions

## Use equations and inequalities to represent and solve real-world or mathematical problems.

## Alabama Standards for Mathematical Content

## Aligned Components of Eureka Math ${ }^{2}$

| $6 . A F .18$ | 6 M4 Lesson 17: Equations and Solutions |
| :---: | :---: |
| Determine whether a value is a solution to an equation or inequality by using substitution to conclude whether a given value makes the equation or inequality true. | 6 M4 Lesson 18: Inequalities and Solutions <br> 6 M4 Lesson 19: Solving Equations with Addition and Subtraction <br> 6 M4 Lesson 20: Solving Equations with Multiplication and Division |
| 6.AF. 19 | 6 M4 Lesson 17: Equations and Solutions |
| Write and solve an equation in the form of $x+p=q$ or $p x=q$ for cases in which $p, q$, and $x$ are all non-negative rational numbers to solve real-world and mathematical problems. | 6 M4 Lesson 19: Solving Equations with Addition and Subtraction 6 M4 Lesson 20: Solving Equations with Multiplication and Division 6 M4 Lesson 21: Solving Problems with Equations <br> 6 M5 Lesson 2: The Area of a Right Triangle |
| 6.AF.19.a | 6 M4 Lesson 17: Equations and Solutions |
| Interpret the solution of an equation in the context of the problem. | 6 M4 Lesson 19: Solving Equations with Addition and Subtraction 6 M4 Lesson 20: Solving Equations with Multiplication and Division 6 M4 Lesson 21: Solving Problems with Equations <br> 6 M5 Lesson 2: The Area of a Right Triangle |
| $6 . A F .20$ | 6 M4 Lesson 18: Inequalities and Solutions |
| Write and solve inequalities in the form of $x>c, x<c, x \geq c$, or $x \leq c$ to represent a constraint or condition in a real-world or mathematical problem. |  |

## Alabama Standards for Mathematical Content

## Aligned Components of Eureka Math ${ }^{2}$

| 6.AF.20.a | 6 M4 Lesson 18: Inequalities and Solutions |
| :--- | :--- |
| Interpret the solution of an inequality in <br> the context of a problem. |  |
| 6.AF.20.b | 6 M4 Lesson 18: Inequalities and Solutions |
| Represent the solutions of inequalities <br> on a number line and explain that the <br> solution set may contain infinitely many <br> solutions. |  |

## Algebra and Functions

Identify and analyze relationships between independent and dependent variables.

## Alabama Standards for Mathematical Content

Aligned Components of Eureka Math ${ }^{2}$

| 6.AF.21 | 6 M4 Topic E: Relating Variables by Using Tables, Graphs, and Equations |
| :--- | :--- |
| Identify, represent, and analyze two |  |
| quantities that change in relationship |  |
| to one another in real-world or |  |
| mathematical situations. |  |

## Data Analysis, Statistics, and Probability

Use real-world and mathematical problems to analyze data and demonstrate an understanding of statistical variability and measures of center.

## Alabama Standards for Mathematical Content

## Aligned Components of Eureka Math ${ }^{2}$

| 6.DSP.22 | 6 M 6 Lesson 1: Posing Statistical Questions |
| :--- | :--- |
| Write examples and non-examples of <br> statistical questions, explaining that <br> a statistical question anticipates <br> variability in the data related to <br> the question. | 6 M 6 Lesson 6: Selecting a Data Display |
| 6.DSP.23 | 6 M 6 Lesson 17: Developing a Statistical Project |
| Calculate, interpret, and compare <br> measures of center (mean, median, mode) <br> and variability (range and interquartile | 6 M 6 Lesson 4: Creating a Histogram |
| range) in real-world data sets. | 6 M 6 Lesson 7: Using the Mean to Describe the Center |

## Alabama Standards for Mathematical Content

## Aligned Components of Eureka Math²

| 6.DSP.23.b <br> Interpret the measures of center and <br> variability in the context of a problem. | 6 M Lesson 20: Choosing a Measure of Center |
| :--- | :--- |
| 6.DSP.24 | 6 M 6 Lesson 3: Creating a Dot Plot |
| Represent numerical data graphically, <br> using dot plots, line plots, histograms, <br> stem and leaf plots, and box plots. | 6 M 6 Lesson 4: Creating a Histogram |
| 6 M 6 Lesson 5: Comparing Data Displays |  |
| 6 M 6 Lesson 6: Selecting a Data Display |  |

## Alabama Standards for Mathematical Content

## Aligned Components of Eureka Math ${ }^{2}$

## 6.DSP.24.b

Use graphical representations of real-world data to describe the context from which they were collected.

## Geometry and Measurement

## Graph polygons in the coordinate plane to solve real-world and mathematical problems.

## Alabama Standards for Mathematical Content

Supplemental material is necessary to address this standard.

## 6.GM. 25

Graph polygons in the coordinate plane given coordinates of the vertices to solve real-world and mathematical problems.

## 6.GM.25.a

Determine missing vertices of a rectangle with the same $x$-coordinate or the same $y$-coordinate when graphed in the coordinate plane.

## 6.GM.25.b

Use coordinates to find the length of a side between points having the same $x$-coordinate or the same $y$-coordinate.

6 M5 Lesson 5: Perimeter and Area in the Coordinate Plane
6 M5 Lesson 6: Problem Solving with Area in the Coordinate Plane

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6 M5 Lesson 6: Problem Solving with Area in the Coordinate Plane

## 6.GM.25.c

Calculate perimeter and area of a polygon graphed in the coordinate plane.

6 M5 Lesson 5: Perimeter and Area in the Coordinate Plane

## Geometry and Measurement

## Solve real-world and mathematical problems to determine area, surface area, and volume.

## Alabama Standards for Mathematical Content

## Aligned Components of Eureka Math ${ }^{2}$

## 6.GM. 26

Calculate the area of triangles, special quadrilaterals, and other polygons by composing and decomposing them into known shapes.

## 6.GM.26.a

Apply the techniques of composing and decomposing polygons to find area in the context of solving real-world and mathematical problems.

## 6.GM. 27

Determine the surface area of three-dimensional figures by representing them with nets composed of rectangles and triangles to solve real-world and mathematical problems.

## 6.GM. 28

Apply previous understanding of volume of right rectangular prisms to those with fractional edge lengths to solve real-world and mathematical problems.

6 M5 Topic A: Areas of Polygons
6 M5 Topic B: Problem Solving with Area

6 M5 Topic A: Areas of Polygons
6 M5 Topic B: Problem Solving with Area

6 M5 Topic C: Nets and Surface Area
6 M5 Lesson 19: Volume and Surface Area in Real-World Situations

## Alabama Standards for Mathematical Content

## Aligned Components of Eureka Math²

6.GM.28.a
Use models (cubes or drawings) and the volume formulas ( $V=l w h$ and $V=B h$ )
to find and compare volumes of right
rectangular prisms.

