

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

Arizona Mathematics Standards Correlation to *Eureka Math*™

GRADE 6 MATHEMATICS

The majority of the Grade 6 Arizona Mathematics Standards are fully covered by the Grade 6 *Eureka Math* curriculum. The primary area where the Grade 6 Arizona Mathematics Standards and *Eureka Math* do not align is in the domain The Number System. One standard from this domain will require the use of 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 Arizona Mathematics Standards while still benefiting from the coherence and rigor of *Eureka Math*.

INDICATORS

-  Green indicates that the Arizona standard is fully addressed in *Eureka Math*.
-  Yellow indicates that the Arizona standard may not be completely addressed in *Eureka Math*.
-  Red indicates that the Arizona 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 Arizona standards and in *Eureka Math*.

Standards for Mathematical Practice

Aligned Components of *Eureka Math*

<p>1: Make sense of problems and persevere in solving them.</p> <p>Mathematically proficient students explain to themselves the meaning of a problem, look for entry points to begin work on the problem, and plan and choose a solution pathway. While engaging in productive struggle to solve a problem, they continually ask themselves, “Does this make sense?” to monitor and evaluate their progress and change course if necessary. Once they have a solution, they look back at the problem to determine if the solution is reasonable and accurate. Mathematically proficient students check their solutions to problems using different methods, approaches, or representations. They also compare and understand different representations of problems and different solution pathways, both their own and those of others.</p>	<p>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:</p> <p>G6 M1: Ratios and Unit Rates</p> <p>G6 M2: Arithmetic Operations Including Division of Fractions</p> <p>G6 M5: Area, Surface Area, and Volume Problems</p> <p>G6 M6: Statistics</p>
<p>2: Reason abstractly and quantitatively.</p> <p>Mathematically proficient students make sense of quantities and their relationships in problem situations. Students can contextualize and decontextualize problems involving quantitative relationships. They contextualize quantities, operations, and expressions by describing a corresponding situation. They decontextualize a situation by representing it symbolically. As they manipulate the symbols, they can pause as needed to access the meaning of the numbers, the units, and the operations that the symbols represent. Mathematically proficient students know and flexibly use different properties of operations, numbers, and geometric objects and when appropriate they interpret their solution in terms of the context.</p>	<p>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:</p> <p>G6 M1: Ratios and Unit Rates</p> <p>G6 M2: Arithmetic Operations Including Division of Fractions</p> <p>G6 M3: Rational Numbers</p> <p>G6 M4: Expressions and Equations</p> <p>G6 M6: Statistics</p>

Standards for Mathematical Practice

Aligned Components of *Eureka Math*

3: Construct viable arguments and critique the reasoning of others.

Mathematically proficient students construct mathematical arguments (explain the reasoning underlying a strategy, solution, or conjecture) using concrete, pictorial, or symbolic referents. Arguments may also rely on definitions, assumptions, previously established results, properties, or structures.

Mathematically proficient students 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.

Mathematically proficient students present their arguments in the form of representations, actions on those representations, and explanations in words (oral or written). Students critique others by affirming or questioning the reasoning of others. They can listen to or read the reasoning of others, decide whether it makes sense, ask questions to clarify or improve the reasoning, and validate or build on it. Mathematically proficient students can communicate their arguments, compare them to others, and reconsider their own arguments in response to the critiques of others.

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:

G6 M5: Area, Surface Area, and Volume Problems

G6 M6: Statistics

Standards for Mathematical Practice

Aligned Components of *Eureka Math*

<p>4: Model with mathematics.</p> <p>Mathematically proficient students apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. When given a problem in a contextual situation, they identify the mathematical elements of a situation and create a mathematical model that represents those mathematical elements and the relationships among them. Mathematically proficient students use their model to analyze the relationships and draw conclusions. They 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.</p>	<p>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:</p> <p>G6 M3: Rational Numbers</p> <p>G6 M5: Area, Surface Area, and Volume Problems</p> <p>G6 M6: Statistics</p>
<p>5: Use appropriate tools strategically.</p> <p>Mathematically proficient students consider available tools when solving a mathematical problem. They choose tools that are relevant and useful to the problem at hand. 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 their limitations. Students deepen their understanding of mathematical concepts when using tools to visualize, explore, compare, communicate, make and test predictions, and understand the thinking of others.</p>	<p>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:</p> <p>G6 M1: Ratios and Unit Rates</p>

Standards for Mathematical Practice

Aligned Components of *Eureka Math*

6: Attend to precision.

Mathematically proficient students clearly communicate to others using appropriate mathematical terminology, and craft explanations to convey their reasoning. When making mathematical arguments about a solution, strategy, or conjecture, they describe mathematical relationships and connect their words clearly to their representations. Mathematically proficient students understand meanings of symbols used in mathematics, calculate accurately and efficiently, label quantities appropriately, and record their work clearly and concisely.

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:

G6 M1: Ratios and Unit Rates

G6 M2: Arithmetic Operations Including Division of Fractions

G6 M3: Rational Numbers

G6 M4: Expressions and Equations

G6 M5: Area, Surface Area, and Volume Problems

G6 M6: Statistics

7: Look for and make use of structure.

Mathematically proficient students use structure and patterns to assist in making connections among mathematical ideas or concepts when making sense of mathematics. Students recognize and apply general mathematical rules to complex situations. They are able to compose and decompose mathematical ideas and notations into familiar relationships. Mathematically proficient students manage their own progress, stepping back for an overview and shifting perspective when needed.

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:

G6 M1: Ratios and Unit Rates

G6 M2: Arithmetic Operations Including Division of Fractions

G6 M3: Rational Numbers

G6 M4: Expressions and Equations

Standards for Mathematical Practice

Aligned Components of *Eureka Math*

8: Look for and express regularity in repeated reasoning.

Mathematically proficient students look for and describe regularities as they solve multiple related problems. They formulate conjectures about what they notice and communicate observations with precision. While solving problems, students maintain oversight of the process and continually evaluate the reasonableness of their results. This informs and strengthens their understanding of the structure of mathematics which leads to fluency.

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:

G6 M2: Arithmetic Operations Including Division of Fractions

G6 M4: Expressions and Equations

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
Ratio and Proportion	Cluster: Understand ratio concepts and use ratio reasoning to solve problems.	
	<p>6.RP.A.1</p> <p>Understand the concept of a ratio as comparing two quantities multiplicatively or joining/composing the two quantities in a way that preserves a multiplicative relationship. Use ratio language to describe a ratio relationship between two quantities.</p>	G6 M1: Ratios and Unit Rates
	<p>6.RP.A.2</p> <p>Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language (e.g., for every, for each, for each 1, per) in the context of a ratio relationship. (Complex fraction notation is not an expectation for unit rates in this grade level.)</p>	G6 M1 Topic C: Unit Rates

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>6.RP.A.3</p> <p>Use ratio and rate reasoning to solve mathematical problems and problems in real-world context (e.g., by reasoning about data collected from measurements, tables of equivalent ratios, tape diagrams, double number line diagrams, or equations).</p>	
	<p>a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.</p>	G6 M1 Topic B: Collections of Equivalent Ratios
	<p>b. Solve unit rate problems including those involving unit pricing and constant speed.</p>	<p>G6 M1 Lessons 21–22: Getting the Job Done—Speed, Work, and Measurement Units</p> <p>G6 M1 Lesson 23: Problem-Solving Using Rates, Units Rates, and Conversions</p>
	<p>c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity). Solve percent problems with the unknown in all positions of the equation.</p>	G6 M1 Topic D: Percent
	<p>d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.</p>	<p>G6 M1 Lessons 21–22: Getting the Job Done—Speed, Work, and Measurement Units</p> <p>G6 M1 Lesson 23: Problem-Solving Using Rates, Units Rates, and Conversions</p>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
The Number System	Cluster: Apply and extend previous understanding of multiplication and division to divide fractions by fractions.	
	6.NS.A.1 Interpret and compute quotients of fractions to solve mathematical problems and problems in real-world context involving division of fractions by fractions using visual fraction models and equations to represent the problem.	G6 M2 Topic A: Dividing Fractions by Fractions
	Cluster: Compute fluently with multi-digit numbers and find common factors and multiples.	
	6.NS.B.2 Fluently divide multi-digit numbers using the standard algorithm.	G6 M2 Topic C: Dividing Whole Numbers and Decimals
	6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using a standard algorithm for each operation.	G6 M2: Arithmetic Operations Including Division of Fractions
	6.NS.B.4 Use previous understanding of factors to find the greatest common factor and the least common multiple.	
	a. Find the greatest common factor of two whole numbers less than or equal to 100.	G6 M2 Topic D: Number Theory—Thinking Logically About Multiplicative Arithmetic
	b. Find the least common multiple of two whole numbers less than or equal to 12.	G6 M2 Topic D: Number Theory—Thinking Logically About Multiplicative Arithmetic

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>c. Use the distributive property to express a sum of two whole numbers 1 to 100 with a common factor as a multiple of a sum of two whole numbers with no common factor.</p>	<p>G6 M4 Lesson 11: Factoring Expressions</p> <p>G6 M4 Lesson 12: Distributing Expressions</p> <p>Note: Supplemental material may be necessary to address this standard completely.</p>
	<p>Cluster: Apply and extend previous understandings of numbers to the system of rational numbers.</p>	
	<p>6.NS.C.5</p> <p>Understand that positive and negative numbers are used together to describe quantities having opposite directions or values. Use positive and negative numbers to represent quantities in real-world context, explaining the meaning of 0 in each situation.</p>	<p>G6 M3 Topic A: Understanding Positive and Negative Numbers on the Number Line</p> <p>G6 M3 Lesson 13: Statements of Order in the Real World</p>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>6.NS.C.6</p> <p>Understand a rational number can be represented as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.</p>	
	<p>a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, and that 0 is its own opposite.</p>	<p>G6 M3 Lesson 4: The Opposite of a Number</p> <p>G6 M3 Lesson 5: The Opposite of a Number's Opposite</p>
	<p>b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.</p>	<p>G6 M3 Topic C: Rational Numbers and the Coordinate Plane</p>
	<p>c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.</p>	<p>G6 M3: Rational Numbers</p>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>6.NS.C.7 Understand ordering and absolute value of rational numbers.</p>	
	<p>a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.</p>	G6 M3 Topic B: Order and Absolute Value
	<p>b. Write, interpret, and explain statements of order for rational numbers in real-world contexts.</p>	G6 M3 Topic B: Order and Absolute Value
	<p>c. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.</p>	<p>G6 M3 Lesson 11: Absolute Value—Magnitude and Distance G6 M3 Lesson 13: Statements of Order in the Real World</p>
	<p>d. Distinguish comparisons of absolute value from statements about order in mathematical problems and problems in real world context.</p>	<p>G6 M3 Lesson 11: Absolute Value—Magnitude and Distance G6 M3 Lesson 12: The Relationship Between Absolute Value and Order G6 M3 Lesson 13: Statements of Order in the Real World</p>
	<p>6.NS.C.8 Solve mathematical problems and problems in real-world context by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.</p>	G6 M3 Topic C: Rational Numbers and the Coordinate Plane

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
Expressions and Equations	Cluster: Apply and extend previous understandings of arithmetic to algebraic expressions.	
	6.EE.A.1 Write and evaluate numerical expressions involving whole-number exponents.	G6 M4 Topic B: Special Notations of Operations G6 M4 Lesson 16: Write Expressions in Which Letters Stand for Numbers
	6.EE.A.2 Write, read, and evaluate algebraic expressions.	
	a. Write expressions that record operations with numbers and variables.	G6 M4 Topic D: Expanding, Factoring, and Distributing Expressions G6 M4 Topic E: Expressing Operations in Algebraic Form G6 M4 Topic F: Writing and Evaluating Expressions and Formulas
	b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity.	G6 M4 Topic D: Expanding, Factoring, and Distributing Expressions G6 M4 Topic E: Expressing Operations in Algebraic Form

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>c. Evaluate expressions given specific values of their variables. Include expressions that arise from formulas used to solve mathematical problems and problems in real-world context. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).</p>	<p>G6 M4 Topic B: Special Notations of Operations</p> <p>G6 M4 Topic C: Replacing Letters and Numbers</p>
	<p>6.EE.A.3 Apply the properties of operations to generate equivalent expressions.</p>	<p>G6 M4 Topic A: Relationships of the Operations</p> <p>G6 M4 Topic D: Expanding, Factoring, and Distributing Expressions</p>
	<p>6.EE.A.4 Identify when two expressions are equivalent.</p>	<p>G6 M4 Topic C: Replacing Letters and Numbers</p> <p>G6 M4 Topic D: Expanding, Factoring, and Distributing Expressions</p>
<p>Cluster: Reason about and solve one-variable equations and inequalities.</p>		
	<p>6.EE.B.5 Understand solving an equation or inequality as a process of reasoning to find the value(s) of the variables that make that equation or inequality true. Use substitution to determine whether a given number in a specified set makes an equation or inequality true.</p>	<p>G6 M4 Topic G: Solving Equations</p> <p>G6 M4 Topic H: Applications of Equations</p>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>6.EE.B.6</p> <p>Use variables to represent numbers and write expressions when solving mathematical problems and problems in real-world context; understand that a variable can represent an unknown number or any number in a specified set.</p>	<p>G6 M4 Topic F: Writing and Evaluating Expressions and Formulas</p> <p>G6 M4 Topic G: Solving Equations</p> <p>G6 M4 Topic H: Applications of Equations</p>
	<p>6.EE.B.7</p> <p>Solve mathematical problems and problems in real-world context by writing and solving equations of the form $x + p = q$, $x - p = q$, $px = q$, and $x/p = q$ for cases in which p, q and x are all non-negative rational numbers.</p>	<p>G6 M4 Topic G: Solving Equations</p> <p>G6 M4 Topic H: Applications of Equations</p>
	<p>6.EE.B.8</p> <p>Write an inequality of the form $x > c$, $x < c$, $x \geq c$, or $x \leq c$ to represent a constraint or condition to solve mathematical problems and problems in real-world context. Recognize that inequalities have infinitely many solutions; represent solutions of such inequalities on number lines.</p>	<p>G6 M4 Lesson 33: From Equations to Inequalities</p> <p>G6 M4 Lesson 34: Writing and Graphing Inequalities in Real-World Problems</p>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>Cluster: Represent and analyze quantitative relationships between dependent and independent variables.</p> <p>6.EE.C.9 Use variables to represent two quantities that change in relationship to one another to solve mathematical problems and problems in real-world context. Write an equation to express one quantity (the dependent variable) in terms of the other quantity (the independent variable). Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.</p>	<p>G6 M4 Lesson 31: Problems in Mathematical Terms</p> <p>G6 M4 Lesson 32: Multi-Step Problems in the Real World</p>
<p>Geometry</p>	<p>Cluster: Solve mathematical problems and problems in real-world context involving area, surface area, and volume.</p> <p>6.G.A.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques to solve mathematical problems and problems in real-world context.</p>	<p>G6 M5: Area, Surface Area, and Volume Problems</p>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>6.G.A.2</p> <p>Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Understand and use the formula $V = B \cdot h$, where in this case, B is the area of the base ($B = l \times w$) to find volumes of right rectangular prisms with fractional edge lengths in mathematical problems and problems in real-world context.</p>	<p>G6 M5 Topic C: Volume of Right Rectangular Prisms</p> <p>G6 M5 Lesson 19: Surface Area and Volume in the Real World</p> <p>G6 M5 Lesson 19a: Addendum Lesson for Modeling—Applying Surface Area and Volume to Aquariums</p>
	<p>6.G.A.3</p> <p>Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques to solve mathematical problems and problems in a real-world context.</p>	<p>G6 M5 Topic B: Polygons on the Coordinate Plane</p>
	<p>6.G.A.4</p> <p>Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques to solve mathematical problems and problems in real-world context.</p>	<p>G6 M5 Topic D: Nets and Surface Area</p>

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
Statistics and Probability	Cluster: Develop understanding of statistical variability.	
	6.SP.A.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for variability in the answers.	G6 M6 Lesson 1: Posing Statistical Questions
	6.SP.A.2 Understand that a set of data collected to answer a statistical question has a distribution whose general characteristics can be described by its center, spread, and overall shape.	G6 M6: Statistics
	6.SP.A.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation uses a single number to describe the spread of the data set.	G6 M6: Statistics
	Cluster: Summarize and describe distributions.	
	6.SP.B.4 Display and interpret numerical data by creating plots on a number line including histograms, dot plots, and box plots.	G6 M6: Statistics

Domain	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>6.SP.B.5 Summarize numerical data sets in relation to their context by:</p>	
	<p>a. Reporting the number of observations.</p>	G6 M6: Statistics
	<p>b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.</p>	G6 M6: Statistics
	<p>c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.</p>	G6 M6: Statistics
	<p>d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.</p>	G6 M6: Statistics