EUREKA MATH™

GREAT MINDS

ABOUT *EUREKA MATH*

Created by the nonprofit Great Minds, *Eureka Math* helps teachers deliver unparalleled math instruction that provides students with a deep understanding and fluency in math. Crafted by teachers and math scholars, the curriculum carefully sequences the mathematical progressions to maximize coherence from Prekindergarten through Precalculus—a principle tested and proven to be essential in students' mastery of math.

Teachers and students using *Eureka Math* find the trademark "Aha!" moments in *Eureka Math* to be a source of joy and inspiration, lesson after lesson, year after year.

ALIGNED

Eureka Math is the only curriculum found by EdReports.org to align fully with the Common Core State Standards for Mathematics for all grades, Kindergarten through Grade 8. Great Minds offers detailed analyses which demonstrate how each grade of *Eureka Math* aligns with specific state standards. Access these free alignment studies at greatminds.org/state-studies.

DATA

Schools and districts nationwide are experiencing student growth and impressive test scores after using *Eureka Math*. See their stories and data at greatminds.org/data.

FULL SUITE OF RESOURCES

As a nonprofit, Great Minds offers the *Eureka Math* curriculum as PDF downloads for free, noncommercial use. Access the free PDFs at greatminds.org/math/curriculum.

The teacher–writers who created the curriculum have also developed essential resources, available only from Great Minds, including the following:

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

GRADE 5 MATHEMATICS

The majority of the Grade 5 Texas Essential Knowledge and Skills for Mathematics are fully covered by the Grade 5 *Eureka Math* curriculum. The areas where the Grade 5 Texas Essential Knowledge and Skills for Mathematics and Grade 5 *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 Texas Essential Knowledge and Skills for Mathematics while still benefiting from the coherence and rigor of *Eureka Math*.

INDICATORS

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

Mathematical Process Standards		Aligned Components of *Eureka Math*
(1) The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:		
a. apply mathematics to problems arising in everyday life, society, and the workplace;		This process standard is analogous to the CCSSM Standards for Mathematical Practice 1, which is specifically addressed in the following modules: G5 M2: Multi-Digit Whole Number and Decimal Fraction Operations G5 M3: Addition and Subtraction of Fractions G5 M5: Addition and Multiplication with Volume and Area G5 M6: Problem Solving with the Coordinate Plane
b. use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;		This process standard is analogous to the CCSSM Standards for Mathematical Practice 1, which is specifically addressed in the following modules: G5 M2: Multi-Digit Whole Number and Decimal Fraction Operations G5 M3: Addition and Subtraction of Fractions G5 M5: Addition and Multiplication with Volume and Area G5 M6: Problem Solving with the Coordinate Plane

Mathematical Process Standards	Aligned Components of *Eureka Math*
c. select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;	This process standard is analogous to the CCSSM Standards for Mathematical Practice 5, which is specifically addressed in the following modules: G5 M3: Addition and Subtraction of Fractions G5 M4: Multiplication and Division of Fractions and Decimal Fractions
d. communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;	This process standard is analogous to the CCSSM Standards for Mathematical Practice 4, which is specifically addressed in the following modules: G5 M4: Multiplication and Division of Fractions and Decimal Fractions G5 M5: Addition and Multiplication with Volume and Area
e. create and use representations to organize, record, and communicate mathematical ideas;	This process standard is analogous to the CCSSM Standards for Mathematical Practice 6, which is specifically addressed in the following modules: G5 M1: Place Value and Decimal Fractions G5 M5: Addition and Multiplication with Volume and Area G5 M6: Problem Solving with the Coordinate Plane

Mathematical Process Standards	Aligned Components of *Eureka Math*
f. analyze mathematical relationships to connect and communicate mathematical ideas; and	This process standard is analogous to the CCSSM Standards for Mathematical Practice 2, which is specifically addressed in the following modules: G5 M2: Multi-Digit Whole Number and Decimal Fraction Operations G5 M4: Multiplication and Division of Fractions and Decimal Fractions G5 M5: Addition and Multiplication with Volume and Area G5 M6: Problem Solving with the Coordinate Plane
g. display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.	This process standard is analogous to the CCSSM Standards for Mathematical Practice 3, which is specifically addressed in the following modules: G5 M3: Addition and Subtraction of Fractions G5 M4: Multiplication and Division of Fractions and Decimal Fractions G5 M5: Addition and Multiplication with Volume and Area G5 M6: Problem Solving with the Coordinate Plane

Skill	Expectations		Aligned Components of *Eureka Math*
Number and Operations	**111.7.2** The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to:		
	a. represent the value of the digit in decimals through the thousandths using expanded notation and numerals;		G5 M1: Place Value and Decimal Fractions
	b. compare and order two decimals to thousandths and represent comparisons using the symbols >, <, or =; and		G5 M1 Lesson 6: Compare decimal fractions to the thousandths using like units, and express comparisons with >, <, =.
	c. round decimals to tenths or hundredths.		G5 M1 Topic C: Place Value and Rounding Decimal Fractions
	111.7.3 The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to:		
	a. estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division;		G5 M2: Multi-Digit Whole Number and Decimal Fraction Operations G5 M4 Topic B: Fractions as Division G5 M4 Topic F: Multiplication with Fractions and Decimals as Scaling and Word Problems

Skill	Expectations	Aligned Components of *Eureka Math*
	b. multiply with fluency a three-digit number by a two-digit number using the standard algorithm;	G5 M2 Topic B: The Standard Algorithm for Multi-Digit Whole Number Multiplication G5 M2 Topic D: Measurement Word Problems with Whole Number and Decimal Multiplication
	c. solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm;	G5 M2 Topic E: Mental Strategies for Multi-Digit Whole Number Division G5 M2 Topic F: Partial Quotients and Multi-Digit Whole Number Division G5 M2 Topic H: Measurement Word Problems with Multi-Digit Division
	d. represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models;	G5 M1 Lesson 2: Reason abstractly using place value understanding to relate adjacent base ten units from millions to thousandths. G5 M1 Topic E: Multiplying Decimals G5 M2 Topic C: Decimal Multi-Digit Multiplication G5 M2 Lesson 14: Use fraction and decimal multiplication to express equivalent measurements. G5 M4 Topic F: Multiplication with Fractions and Decimals as Scaling and Word Problems

Skill	Expectations	Aligned Components of *Eureka Math*
	e. solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers;	G5 M1 Lesson 2: Reason abstractly using place value understanding to relate adjacent base ten units from millions to thousandths. G5 M1 Topic E: Multiplying Decimals G5 M2: Multi-Digit Whole Number and Decimal Fraction Operations G5 M4 Topic F: Multiplication with Fractions and Decimals as Scaling and Word Problems
	f. represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models;	G5 M1 Lesson 2: Reason abstractly using place value understanding to relate adjacent base ten units from millions to thousandths. G5 M1 Topic F: Dividing Decimals G5 M2: Multi-Digit Whole Number and Decimal Fraction Operations G5 M4 Lesson 29: Connect division by a unit fraction to division by 1 tenth and 1 hundredth. G5 M4 Lessons 30–31: Divide decimal dividends by non-unit decimal divisors.

Skill	Expectations	Aligned Components of *Eureka Math*
	g. solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm;	G5 M1 Lesson 2: Reason abstractly using place value understanding to relate adjacent base ten units from millions to thousandths. G5 M1 Topic F: Dividing Decimals G5 M2: Multi-Digit Whole Number and Decimal Fraction Operations G5 M4 Lesson 29: Connect division by a unit fraction to division by 1 tenth and 1 hundredth. G5 M4 Lessons 30–31: Divide decimal dividends by non-unit decimal divisors.
	h. represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations;	G5 M3: Addition and Subtraction of Fractions
	i. represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models;	G5 M4 Topic C: Multiplication of a Whole Number by a Fraction G5 M4 Lesson 10: Compare and evaluate expressions with parentheses. G5 M4 Topic E: Multiplication of a Fraction by a Fraction G5 M4 Topic H: Interpretation of Numerical Expressions

Skill	Expectations		Aligned Components of *Eureka Math*
	j. represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $1/3 \div 7$ and $7 \div 1/3$ using objects and pictorial models, including area models;		G5 M4 Lesson 25: Divide a whole number by a unit fraction. G5 M4 Lesson 26: Divide a unit fraction by a whole number.
	k. add and subtract positive rational numbers fluently; and		G5 M1: Place Value and Decimal Fractions G5 M3: Addition and Subtraction of Fractions
	l. divide whole numbers by unit fractions and unit fractions by whole numbers.		G5 M4 Lesson 25: Divide a whole number by a unit fraction. G5 M4 Lesson 26: Divide a unit fraction by a whole number.
Algebraic Reasoning	**111.7.4** The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:		
	a. identify prime and composite numbers;		G4 M3 Topic F: Reasoning with Divisibility
	b. represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity;		G5 M2 Topic B: The Standard Algorithm for Multi-Digit Whole Number Multiplication G5 M3 Lesson 7: Solve two-step word problems. G5 M3 Lesson 15: Solve multi-step word problems; assess reasonableness of solutions using benchmark numbers. G5 M6 Topic E: Multi-Step Word Problems

Skill	Expectations		Aligned Components of *Eureka Math*
	c. generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph;		G5 M6 Topic B: Patterns in the Coordinate Plane and Graphing Number Patterns from Rules G5 M6 Lesson 18: Draw symmetric figures on the coordinate plane.
	d. recognize the difference between additive and multiplicative numerical patterns given in a table or graph;		G5 M2 Topic A: Mental Strategies for Multi-Digit Whole Number Multiplication G5 M4 Topic F: Multiplication with Fractions and Decimals as Scaling and Word Problems G5 M6 Topic B: Patterns in the Coordinate Plane and Graphing Number Patterns from Rules G5 M6 Lesson 31: Explore the Fibonacci sequence. G5 M6 Lesson 32: Explore patterns in saving money.
	e. describe the meaning of parentheses and brackets in a numeric expression;		G5 M2 Lesson 3: Write and interpret numerical expressions, and compare expressions using a visual model. G5 M2 Lesson 4: Convert numerical expressions into unit form as a mental strategy for multi-digit multiplication. G5 M4 Lesson 10: Compare and evaluate expressions with parentheses. G5 M4 Topic H: Interpretation of Numerical Expressions

Skill	Expectations		Aligned Components of *Eureka Math*
	f. simplify numerical expressions that do not involve exponents, including up to two levels of grouping;		G5 M2 Lesson 3: Write and interpret numerical expressions, and compare expressions using a visual model. G5 M2 Lesson 4: Convert numerical expressions into unit form as a mental strategy for multi-digit multiplication. G5 M4 Lesson 10: Compare and evaluate expressions with parentheses. G5 M4 Topic H: Interpretation of Numerical Expressions
	g. use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l \times w \times h$, $V = s \times s \times s$, and $V = Bh$); and		G5 M5: Addition and Multiplication with Volume and Area
	h. represent and solve problems related to perimeter and/or area and related to volume.		G5 M5: Addition and Multiplication with Volume and Area
Geometry and Measurement	**111.7.5** The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.		G5 M5 Topic D: Drawing, Analysis, and Classification of Two-Dimensional Shapes

Skill	Expectations		Aligned Components of *Eureka Math*
	111.7.6 The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:		
	a. recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (*n* cubic units) needed to fill it with no gaps or overlaps if possible; and		G5 M5 Lesson 1: Explore volume by building with and counting unit cubes. G5 M5 Lesson 2: Find the volume of a right rectangular prism by packing with cubic units and counting.
	b. determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base.		G5 M5 Lesson 3: Compose and decompose right rectangular prisms using layers. G5 M5 Lesson 4: Use multiplication to calculate volume. G5 M5 Lesson 5: Use multiplication to connect volume as *packing* with volume as *filling*.

Skill	Expectations		Aligned Components of *Eureka Math*
	111.7.7 The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.		G5 M1 Lesson 4: Use exponents to denote powers of 10 with application to metric conversions. G5 M2 Topic D: Measurement Word Problems with Whole Number and Decimal Multiplication G5 M4 Topic C: Multiplication of a Whole Number by a Fraction G5 M4 Lesson 19: Convert measures involving whole numbers, and solve multi-step word problems. G5 M4 Lesson 20: Convert mixed unit measurements, and solve multi-step word problems.
	111.7.8 The student applies mathematical process standards to identify locations on a coordinate plane. The student is expected to:		
	a. describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the *x*-coordinate, the first number in an ordered pair, indicates movement parallel to the *x*-axis starting at the origin; and the *y*-coordinate, the second number, indicates movement parallel to the *y*-axis starting at the origin;		G5 M6 Topic A: Coordinate Systems G5 M6 Lesson 7: Plot points, use them to draw lines in the plane, and describe patterns within the coordinate pairs. G5 M6 Lesson 14: Construct parallel line segments, and analyze relationships of the coordinate pairs. G5 M6 Lesson 16: Construct perpendicular line segments, and analyze relationships of the coordinate pairs.

Skill	Expectations		Aligned Components of *Eureka Math*
	b. describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane; and		G5 M6 Topic A: Coordinate Systems G5 M6 Lesson 7: Plot points, use them to draw lines in the plane, and describe patterns within the coordinate pairs. G5 M6 Lesson 14: Construct parallel line segments, and analyze relationships of the coordinate pairs. G5 M6 Lesson 16: Construct perpendicular line segments, and analyze relationships of the coordinate pairs.
	c. graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.		G5 M6 Lesson 14: Construct parallel line segments, and analyze relationships of the coordinate pairs. G5 M6 Lesson 16: Construct perpendicular line segments, and analyze relationships of the coordinate pairs. G5 M6 Topic D: Problem Solving in the Coordinate Plane Note: Supplemental material is necessary to formally introduce input-output tables.

Skill	Expectations		Aligned Components of *Eureka Math*
Data Analysis	**111.7.9** The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:		
	a. represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots;		G3 M6: Collecting and Displaying Data G3 M7 Topic D: Recording Perimeter and Area Data on Line Plots G5 M6: Problem Solving with the Coordinate Plane G6 M6: Statistics Note: Supplemental material is necessary to address stem-and-leaf plots.
	b. represent discrete paired data on a scatterplot; and		G8 M6: Linear Functions
	c. solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot.		G6 M6: Statistics G8 M6: Linear Functions Note: Supplemental material is necessary to address stem-and-leaf plots.

Skill	Expectations		Aligned Components of *Eureka Math*
Personal Financial Literacy	**111.7.10** The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:		
	a. define income tax, payroll tax, sales tax, and property tax;		*Eureka Math* does not address personal financial skills.
	b. explain the difference between gross income and net income;		*Eureka Math* does not address personal financial skills.
	c. identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments;		*Eureka Math* does not address personal financial skills.
	d. develop a system for keeping and using financial records;		*Eureka Math* does not address personal financial skills.
	e. describe actions that might be taken to balance a budget when expenses exceed income; and		*Eureka Math* does not address personal financial skills.
	f. balance a simple budget.		*Eureka Math* does not address personal financial skills.