EUREKA MATH².

Grade 7 | Minnesota K–12 Academic Standards in Mathematics Correlation to *Eureka Math*^{2®}

When the original *Eureka Math*[®] curriculum was released, it quickly became the most widely used K-5 mathematics curriculum in the country. Now, the Great Minds[®] 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* and 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 Math*² 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.

Number & Operation

Read, write, represent and compare positive and negative rational numbers, expressed as integers, fractions and decimals.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of Eureka Math ²
7.1.1.1 Know that every rational number can be written as the ratio of two integers or as a terminating or repeating decimal. Recognize that π is not rational, but that it can be approximated by rational numbers such as $\frac{22}{7}$ and 3.14.	7 M2 Lesson 18: Understanding Negative Divisors 8 M1 Lesson 22: Familiar and Not So Familiar Numbers Supplemental material is necessary to address approximating π as $\frac{22}{7}$ and as 3.14.
7.1.1.2 Understand that division of two integers will always result in a rational number. Use this information to interpret the decimal result of a division problem when using a calculator.	7 M2 Lesson 18: Understanding Negative Divisors
7.1.1.3 Locate positive and negative rational numbers on the number line, understand the concept of opposites, and plot pairs of positive and negative rational numbers on a coordinate grid.	6 M3 Topic A: Integers and Rational Numbers 6 M3 Topic C: The Coordinate Plane
7.1.1.4 Compare positive and negative rational numbers expressed in various forms using the symbols $<, >, =, \le, \ge$.	6 M3 Lesson 5: Comparing Rational Numbers Supplemental material is needed to address using the symbols \leq and \geq .

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of <i>Eureka Math</i> ²
7.1.1.5	7 M2 Lesson 19: Rational Numbers as Decimals, Part 1
Recognize and generate equivalent representations of positive and negative rational numbers, including equivalent fractions.	7 M2 Lesson 20: Rational Numbers as Decimals, Part 2 8 M4 Lesson 5: An Interesting Application of Linear Equations, Part 1 8 M4 Lesson 6: An Interesting Application of Linear Equations, Part 2

Number & Operation

Calculate with positive and negative rational numbers, and rational numbers with whole-number exponents, to solve real-world and mathematical problems.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of Eureka Math ²
7.1.2.1	7 M2 Lesson 4: KAKOOMA®
Add, subtract, multiply and divide	7 M2 Lesson 5: Decomposing Rational Numbers to Make Addition More Efficient
positive and negative rational numbers	7 M2 Lesson 6: Adding Rational Numbers
that are integers, fractions and terminating decimals; use efficient and	7 M2 Lesson 9: Subtracting Integers, Part 2
generalizable procedures, including	7 M2 Lesson 10: Subtracting Rational Numbers, Part 1
standard algorithms; raise positive rational numbers to whole-number exponents.	7 M2 Lesson 11: Subtracting Rational Numbers, Part 2
	7 M2 Lesson 12: The Integer Game
	7 M2 Topic C: Multiplying Rational Numbers
	7 M2 Lesson 17: Understanding Negative Dividends
	7 M2 Lesson 18: Understanding Negative Divisors
	7 M2 Lesson 22: Multiplication and Division Expressions
	7 M2 Lesson 24: Order of Operations with Rational Numbers

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of <i>Eureka Math</i> ²
7.1.2.2	7 M2 Lesson 4: KAKOOMA®
Use real-world contexts and the	7 M2 Lesson 5: Decomposing Rational Numbers to Make Addition More Efficient
inverse relationship between addition and subtraction to explain why the	7 M2 Lesson 6: Adding Rational Numbers
procedures of arithmetic with negative	7 M2 Lesson 9: Subtracting Integers, Part 2
rational numbers make sense.	7 M2 Lesson 10: Subtracting Rational Numbers, Part 1
	7 M2 Lesson 11: Subtracting Rational Numbers, Part 2
	7 M2 Lesson 12: The Integer Game
7.1.2.3	7 M2 Lesson 20: Rational Numbers as Decimals, Part 2
Understand that calculators and other computing technologies often truncate or round numbers.	
7.1.2.4	7 M2 Lesson 25: Writing and Evaluating Expressions with Rational Numbers, Part 1
Solve problems in various contexts	7 M2 Lesson 26: Writing and Evaluating Expressions with Rational Numbers, Part 2
involving calculations with positive and negative rational numbers and positive	7 M3 Lesson 9: Solving Equations to Determine Unknown Angle Measures
integer exponents, including computing	7 M3 Lesson 10: Problem Solving with Unknown Angle Measures
simple and compound interest.	7 M3 Lesson 11: Dominoes and Dominoes
	7 M3 Lesson 16: Using Equations to Solve Rate Problems
	7 M3 Lesson 17: Using Equations to Solve Problems
	7 M4 Topic D: Area and Surface Area
	7 M4 Lesson 24: Volume of Prisms
	7 M4 Lesson 25: Volume of Composite Solids
	7 M4 Lesson 26: Designing a Fish Tank
	7 M5 Topic D: Applications of Percent

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Minnesota K–12 Academic Standards in Mathematics	Aligned Components of <i>Eureka Math</i> ²
7.1.2.5	7 M1 Lesson 7: Handstand Sprint
Use proportional reasoning to solve	7 M1 Lesson 10: Applying Proportional Reasoning
problems involving ratios in various contexts.	7 M1 Lesson 11: Constant Rates
contexts.	7 M1 Lesson 12: Multi-Step Ratio Problems, Part 1
	7 M1 Lesson 13: Multi-Step Ratio Problems, Part 2
	7 M5 Lesson 2: Racing for Percents
	7 M5 Lesson 3: Percent as a Rate per 100
	7 M5 Lesson 4: Proportion and Percent
	7 M5 Lesson 5: Common Denominators or Common Numerators
	7 M5 Topic B: Part of 100
	7 M5 Topic C: More or Less Than 100%
	7 M5 Topic D: Applications of Percent
	7 M5 Lesson 20: Making Money, Day 1
	7 M5 Lesson 21: Making Money, Day 2
	7 M5 Lesson 22: Making Mixtures
	7 M5 Lesson 23: Percents of Percents
7.1.2.6	6 M3 Lesson 7: Absolute Value
Demonstrate an understanding of the relationship between the absolute value of a rational number and distance on a number line. Use the symbol for absolute value.	6 M3 Lesson 8: Absolute Value and Order
	6 M3 Lesson 9: Interpreting Order and Distance in Real-World Situations

Minnesota K–12 Academic

Algebra

Understand the concept of proportionality in real-world and mathematical situations, and distinguish between proportional and other relationships.

Minnesota K–12 Academic Standards in Mathematics

7.2.1.1	7 M1 Lesson 2: Exploring Tables of Proportional Relationships
Understand that a relationship between	7 M1 Lesson 3: Identifying Proportional Relationships in Tables
two variables, x and y, is proportional	7 M1 Lesson 8: Relating Representations of Proportional Relationships
if it can be expressed in the form $\frac{y}{x} = k$ or $y = kx$. Distinguish proportional	7 M1 Lesson 10: Applying Proportional Reasoning
relationships from other relationships,	7 M1 Lesson 11: Constant Rates
including inversely proportional relationships ($xy = k$ or $y = \frac{k}{r}$).	7 M1 Lesson 12: Multi-Step Ratio Problems, Part 1
relationships $(xy - k \text{ or } y - \frac{1}{x})$.	7 M1 Lesson 13: Multi-Step Ratio Problems, Part 2
	7 M5 Lesson 1: Proportionality and Scale Factor
	7 M5 Lesson 4: Proportion and Percent
	7 M5 Lesson 5: Common Denominators or Common Numerators
	Supplemental material is necessary to address inversely proportional relationships.
7.2.1.2	7 M1 Lesson 4: Exploring Graphs of Proportional Relationships
Understand that the graph of a proportional relationship is a line through the origin whose slope is the unit rate (constant of proportionality). Know how to use graphing technology to examine	7 M1 Lesson 5: Analyzing Graphs of Proportional Relationships
	7 M1 Lesson 9: Comparing Proportional Relationships
	8 M4 Lesson 15: Comparing Proportional Relationships
	8 M4 Lesson 16: Proportional Relationships and Slope
what happens to a line when the unit rate is changed.	Supplemental material is necessary to address using graphing technology to examine what happens to a line when the unit rate is changed.

Algebra

Recognize proportional relationships in real-world and mathematical situations; represent these and other relationships with tables, verbal descriptions, symbols and graphs; solve problems involving proportional relationships and explain results in the original context.

Minnesota K–12 Academic Standards in Mathematics

7.2.2.1	7 M1 Lesson 4: Exploring Graphs of Proportional Relationships
Represent proportional relationships with tables, verbal descriptions, symbols,	7 M1 Lesson 5: Analyzing Graphs of Proportional Relationships
	7 M1 Lesson 6: Identifying Proportional Relationships in Written Descriptions
equations and graphs; translate from one representation to another.	7 M1 Lesson 8: Relating Representations of Proportional Relationships
Determine the unit rate (constant	7 M1 Lesson 9: Comparing Proportional Relationships
of proportionality or slope) given any of these representations.	7 M1 Lesson 11: Constant Rates
or these representations.	7 M1 Lesson 12: Multi-Step Ratio Problems, Part 1
	7 M1 Lesson 13: Multi-Step Ratio Problems, Part 2
	7 M1 Lesson 16: Using a Scale Factor
	7 M1 Lesson 18: Relating Areas of Scale Drawings
7.2.2.2	7 M1 Lesson 7: Handstand Sprint
Solve multi-step problems involving	7 M1 Lesson 10: Applying Proportional Reasoning
proportional relationships in numerous contexts.	7 M1 Lesson 11: Constant Rates
	7 M1 Lesson 12: Multi-Step Ratio Problems, Part 1
	7 M1 Lesson 13: Multi-Step Ratio Problems, Part 2
	7 M5 Lesson 2: Racing for Percents
	7 M5 Lesson 3: Percent as a Rate per 100
	7 M5 Lesson 4: Proportion and Percent
	7 M5 Lesson 5: Common Denominators or Common Numerators
	7 M5 Topic B: Part of 100

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of Eureka Math ²
7.2.2.2 continued	7 M5 Lesson 10: Percent Increase
	7 M5 Lesson 11: Percent Decrease
	7 M5 Lesson 12: More Discounts
	7 M5 Lesson 13: What Is the Best Deal?
	7 M5 Topic D: Applications of Percent
	7 M5 Lesson 20: Making Money, Day 1
	7 M5 Lesson 21: Making Money, Day 2
	7 M5 Lesson 22: Making Mixtures
	7 M5 Lesson 23: Percents of Percents
7.2.2.3	Supplemental material is necessary to address this standard.
Use knowledge of proportions to assess the reasonableness of solutions.	
7.2.2.4	7 M3 Lesson 11: Dominoes and Dominoes
Represent real-world or mathematical	7 M3 Lesson 12: Solving Problems Algebraically and Arithmetically
situations using equations and	7 M3 Lesson 13: Solving Equations—Puzzles
inequalities involving variables and positive and negative rational numbers.	7 M3 Lesson 16: Using Equations to Solve Rate Problems
	7 M3 Lesson 17: Using Equations to Solve Problems
	7 M3 Lesson 18: Understanding Inequalities and Their Solutions
	7 M3 Lesson 19: Using Equations to Solve Inequalities
	7 M3 Lesson 21: Solving Two-Step Inequalities
	7 M3 Lesson 22: Solving Problems Involving Inequalities
	7 M3 Lesson 23: Inequalities vs. Equations

7 | Minnesota K-12 Academic Standards in Mathematics Correlation to Eureka Math²

Algebra

Apply understanding of order of operations and algebraic properties to generate equivalent numerical and algebraic expressions containing positive and negative rational numbers and grouping symbols; evaluate such expressions.

Minnesota K–12 Academic Standards in Mathematics

7.2.3.1 Use properties of algebra to generate equivalent numerical and algebraic expressions containing rational numbers, grouping symbols and whole-number exponents. Properties of algebra include associative, commutative and distributive laws.	7 M3 Lesson 2: The Distributive Property and the Tabular Model 7 M3 Lesson 4: Adding and Subtracting Expressions 7 M3 Lesson 5: Factoring Expressions 7 M3 Lesson 6: Comparing Expressions
7.2.3.2 Evaluate algebraic expressions containing rational numbers and whole-number exponents at specified values of their variables.	 7 M3 Lesson 2: The Distributive Property and the Tabular Model 7 M3 Lesson 4: Adding and Subtracting Expressions Supplementary material is necessary to address evaluating algebraic expressions containing whole-number exponents.
7.2.3.3 Apply understanding of order of operations and grouping symbols when using calculators and other technologies.	Supplemental material is necessary to address this standard.

Algebra

Represent real-world and mathematical situations using equations with variables. Solve equations symbolically, using the properties of equality. Also solve equations graphically and numerically. Interpret solutions in the original context.

Minnesota K–12 Academic Standards in Mathematics

7.2.4.1	7 M3 Lesson 7: Angle Relationships and Unknown Angle Measures
Represent relationships in various	7 M3 Lesson 8: Strategies to Determine Unknown Angle Measures
contexts with equations involving variables and positive and negative	7 M3 Lesson 12: Solving Problems Algebraically and Arithmetically
rational numbers. Use the properties	7 M3 Lesson 13: Solving Equations—Puzzles
of equality to solve for the value of a	7 M3 Lesson 14: Solving Equations–Scavenger Hunt
variable. Interpret the solution in the original context.	7 M3 Lesson 15: Solving Equations Fluently
onginal context.	7 M3 Lesson 16: Using Equations to Solve Rate Problems
7.2.4.2	7 M1 Lesson 7: Handstand Sprint
Solve equations resulting from	7 M1 Lesson 10: Applying Proportional Reasoning
proportional relationships	7 M1 Lesson 11: Constant Rates
in various contexts.	7 M1 Lesson 12: Multi-Step Ratio Problems, Part 1
	7 M1 Lesson 13: Multi-Step Ratio Problems, Part 2
	7 M5 Lesson 2: Racing for Percents
	7 M5 Lesson 3: Percent as a Rate per 100
	7 M5 Lesson 4: Proportion and Percent
	7 M5 Lesson 5: Common Denominators or Common Numerators
	7 M5 Topic B: Part of 100
	7 M5 Lesson 10: Percent Increase
	7 M5 Lesson 11: Percent Decrease
	7 M5 Lesson 12: More Discounts
	7 M5 Lesson 13: What Is the Best Deal?

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of <i>Eureka Math</i> ²
7.2.4.2 continued	7 M5 Topic D: Applications of Percent
	7 M5 Lesson 20: Making Money, Day 1
	7 M5 Lesson 21: Making Money, Day 2
	7 M5 Lesson 22: Making Mixtures
	7 M5 Lesson 23: Percents of Percents

Geometry & Measurement

Use reasoning with proportions and ratios to determine measurements, justify formulas and solve real-world and mathematical problems involving circles and related geometric figures.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of <i>Eureka Math</i> ²
7.3.1.1	7 M4 Lesson 10: The Outside of a Circle
Demonstrate an understanding of the proportional relationship between the diameter and circumference of a circle and that the unit rate (constant of proportionality) is π . Calculate the circumference and area of circles and sectors of circles to solve problems in various contexts.	 7 M4 Lesson 11: The Inside of a Circle 7 M4 Lesson 12: Exploring the Area and Circumference of a Circle 7 M4 Lesson 13: Finding Areas of Circular Regions 7 M4 Lesson 14: Composite Figures with Circular Regions 7 M4 Lesson 15: Watering a Lawn
7.3.1.2 Calculate the volume and surface area of cylinders and justify the formulas used.	7 M4 Lesson 19: Surface Area of Cylinders 8 M6 Lesson 22: Volume of Cylinders

7 | Minnesota K-12 Academic Standards in Mathematics Correlation to Eureka Math²

Geometry & Measurement

Analyze the effect of change of scale, translations and reflections on the attributes of two-dimensional figures.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of Eureka Math ²
7.3.2.1	8 M3 Topic C: Similar Figures
Describe the properties of similarity, compare geometric figures for similarity, and determine scale factors.	
7.3.2.2	7 M1 Lesson 16: Using a Scale Factor
Apply scale factors, length ratios and	7 M1 Lesson 17: Finding Actual Distances from a Scale Drawing
area ratios to determine side lengths	7 M1 Lesson 18: Relating Areas of Scale Drawings
and areas of similar geometric figures.	7 M1 Lesson 19: Scale and Scale Factor
	8 M3 Lesson 14: Using Similar Figures to Find Unknown Side Lengths
	8 M3 Lesson 15: Applications of Similar Figures
	8 M3 Lesson 16: Similar Right Triangles
7.3.2.3	7 M1 Lesson 15: Scale Drawings
Use proportions and ratios to solve	7 M1 Lesson 16: Using a Scale Factor
problems involving scale drawings and conversions of measurement units.	7 M1 Lesson 17: Finding Actual Distances from a Scale Drawing
	7 M1 Lesson 18: Relating Areas of Scale Drawings
	7 M1 Lesson 19: Scale and Scale Factor
	7 M1 Lesson 20: Creating Multiple Scale Drawings
	7 M3 Lesson 17: Using Equations to Solve Problems
	7 M5 Lesson 1: Proportionality and Scale Factor
	7 M5 Lesson 14: Scale Factor–Percent Increase and Decrease
	Supplemental material is necessary to address conversions of measurement units.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of Eureka Math ²
7.3.2.4	8 M2 Lesson 4: Translations and Reflections on the Coordinate Plane
Graph and describe translations and reflections of figures on a coordinate grid and determine the coordinates of the vertices of the figure after the transformation.	8 M2 Lesson 9: Ordering Sequences of Rigid Motions

Data Analysis & Probability

Use mean, median and range to draw conclusions about data and make predictions.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of <i>Eureka Math</i> ²
7.4.1.1	6 M6 Lesson 2: Describing a Data Distribution
Design simple experiments and collect data. Determine mean, median and range for quantitative data and from data represented in a display. Use these quantities to draw conclusions about the data, compare different data sets, and make predictions.	 6 M6 Lesson 7: Using the Mean to Describe the Center 6 M6 Lesson 8: The Mean as a Balance Point 6 M6 Lesson 9: Variability in a Data Distribution 6 M6 Lesson 12: Using the Median to Describe the Center 6 M6 Lesson 15: More Practice with Box Plots 6 M6 Lesson 16: Interpreting Box Plots 6 M6 Lesson 19: Comparing Data Distributions 6 M6 Lesson 22: Presenting Statistical Projects

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of <i>Eureka Math</i> ²
7.4.1.2	Supplemental material is necessary to address this standard.
Describe the impact that inserting or deleting a data point has on the mean and the median of a data set. Know how to create data displays using a spreadsheet to examine this impact.	

Data Analysis & Probability

Display and interpret data in a variety of ways, including circle graphs and histograms.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of Eureka Math ²
7.4.2.1	6 M6 Lesson 5: Comparing Data Displays
Use reasoning with proportions to display and interpret data in circle graphs (pie charts) and histograms. Choose the appropriate data display and know how to create the display using a spreadsheet or other graphing technology.	Supplemental material is necessary to address interpreting data in circle graphs and using technology to create a data display.

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Data Analysis & Probability

Minnesota K–12 Academic

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Calculate probabilities and reason about probabilities using proportions to solve real-world and mathematical problems.

Standards in Mathematics	Alighed Components of Eureka Math
7.4.3.1	7 M6 Lesson 9: Probability Simulations
Use random numbers generated by a calculator or a spreadsheet or taken from a table to simulate situations involving randomness, make a histogram to display the results, and compare the results to known probabilities.	7 M6 Lesson 10: Simulations with Random Number Tables
7.4.3.2	7 M6 Lesson 2: Empirical Probability
Calculate probability as a fraction of sample space or as a fraction of area. Express probabilities as percents, decimals and fractions.	7 M6 Lesson 4: Theoretical Probability
	7 M6 Lesson 5: Multistage Experiments
	7 M6 Lesson 6: Outcomes That Are Not Equally Likely
	7 M6 Lesson 7: The Law of Large Numbers
	7 M6 Lesson 8: Picking Blue
7.4.3.3	7 M6 Lesson 2: Empirical Probability
Use proportional reasoning to draw conclusions about and predict relative frequencies of outcomes based on probabilities.	7 M6 Lesson 4: Theoretical Probability

Aligned Components of Eureka Math²

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