Grade 3 | Minnesota K–12 Academic Standards in Mathematics
Correlation to *Eureka Math²*®

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 Math²*®, 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 Math²* 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 Math² employs streamlined materials that allow teachers to plan more efficiently and focus their energy on delivering high-quality 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 Math²* 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 Math²* 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.

Standards for Mathematical Practice	Aligned Components of *Eureka Math²*
MP.1 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 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 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 Model with mathematics.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.5 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 Attend to precision.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.7 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 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.

Data and Probability
Data Sciences: Identify, formulate and investigate statistical questions by collecting data considering cultural perspectives, analyzing and interpreting data and communicating the results.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of *Eureka Math²*
3.1.1.1 Notice and describe patterns in data-rich situations or given data sets. Ask statistical questions that can be answered with data.	3 Data Talk: Wolves in Yellowstone 3 Data Talk: Money Talks 3 Data Talk: The Eye of the Storm 3 Data Talk: Green Power 3 Data Talk: What's in Our Trash 3 Data Talk: Mama Bears 3 Data Talk: How Our Planets Stack Up 3 Data Talk: Terrible Tornadoes 3 Data Talk: Space to Play 3 Data Talk: Sports that Draw a Crowd 3 Data Talk: Basketball Champions 3 Data Talk: How Loud is Too Loud? 3 Data Talk: Breathtaking Animals 3 Data Talk: Ellis Island 3 Data Talk: Disappearing Plants and Animals 3 Data Investigation: Classroom Sound Levels 3 Data Investigation: Bear Characteristics 3 Data Investigation: Spoken Languages

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of *Eureka Math²*
3.1.1.2 Describe how data can be collected, including from surveys, grouping of items and measurement, to answer a statistical investigative question.	3 M2 Lesson 13: Collect and represent data in a scaled bar graph and solve related problems. 3 M5 Lesson 16: Measure lengths and record data on a line plot. 3 M6 Lesson 20: Record measurement data in a line plot. 3 M6 Lesson 22: Generate categorical data and represent it by using a scaled picture graph. *All Grade 3 Data Investigations address this content.*
3.1.1.3 Collect and organize data to answer a statistical question using various tools and addressing missing or incomplete data. Represent data in a variety of ways including technology.	3 M2 Lesson 13: Collect and represent data in a scaled bar graph and solve related problems. 3 M5 Lesson 16: Measure lengths and record data on a line plot. 3 M6 Lesson 20: Record measurement data in a line plot. 3 M6 Lesson 21: Create and analyze a line plot for measurement data to the nearest half unit and quarter unit. 3 M6 Lesson 22: Generate categorical data and represent it by using a scaled picture graph. 3 M6 Lesson 23: Solve word problems by creating scaled picture graphs and scaled bar graphs. *All Grade 3 Data Investigations address this content.*
3.1.1.4 Make predictions and recognize that the amount and source of the data impacts the accuracy of predictions.	*Supplemental material is necessary to address this standard.*

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of *Eureka Math²*
3.1.1.5 Critically analyze data visualizations, including frequency tables, bar graphs, picture graphs or number line plots having a variety of scales, to support a claim and solve situations.	3 M2 Lesson 13: Collect and represent data in a scaled bar graph and solve related problems. 3 M5 Lesson 16: Measure lengths and record data on a line plot. 3 M6 Lesson 20: Record measurement data in a line plot. 3 M6 Lesson 21: Create and analyze a line plot for measurement data to the nearest half unit and quarter unit. 3 M6 Lesson 22: Generate categorical data and represent it by using a scaled picture graph. 3 M6 Lesson 23: Solve word problems by creating scaled picture graphs and scaled bar graphs. *All Grade 3 Data Talks address this content.*

Data and Probability

Chance and Uncertainty: Apply and explain the concepts of probability to interpret data, generate questions, predict and make informed decisions to solve problems and communicate ideas.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of *Eureka Math²*
3.1.2.1 Describe outcomes of events as impossible, certain, likely, unlikely and equally likely.	*Supplemental material is necessary to address this standard.*

Spatial Reasoning

Measurement: Investigate measurement using a variety of tools, units, systems, processes and techniques in various cultures. Explain and reason with attributes, estimations and formulas to communicate measurement(s) and relationships effectively. Justify decisions and consider the reasonableness of the measurement.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of *Eureka Math²*
3.2.3.1 Measure lengths to the nearest fourth when measuring with standard units.	3 M5 Lesson 16: Measure lengths and record data on a line plot. 3 M6 Lesson 19: Measure the perimeter of various circles to the nearest quarter inch by using string.
3.2.3.2 Compare and contrast the relative sizes of measurement units within one system (such as inches, feet, and yards; centimeters and meters; grams and kilograms; ounces and pounds; cups and gallons; quarters and dollars).	3 M2 Lesson 1: Connect the composition of 1 kilogram to the composition of 1 thousand. 3 M2 Lesson 4: Connect the decomposition of 1 liter to the decomposition of 1 thousand. 4 M1 Topic E: Metric Measurement Conversion Tables 4 M2 Lesson 17: Express measurements of length in terms of smaller units. 4 M3 Topic E: Problem Solving with Measurement
3.2.3.3 Calculate the perimeter of a polygon with whole number side lengths.	3 M6 Topic C: Problem Solving with Perimeter
3.2.3.4 Use addition and subtraction with whole numbers, within 100, to calculate change up to one dollar in several different ways, using $ and ¢ symbols appropriately.	2 M5 Topic A: Problem Solving with Coins and Bills 3 M1 Lesson 22: Represent and solve two-step word problems using the properties of multiplication. 3 M6 Lesson 7: Count coins and create money word problems. 3 M6 Lesson 24: Organize, count, and represent a collection of objects.

Spatial Reasoning

Geometry: Analyze characteristics of geometric shapes to make mathematical arguments and justifications about geometric relationships. Use visualization and geometric modeling to compare, solve problems and communicate ideas.

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3.2.4.1 Create representations of regular and irregular polygons with a given number of sides, including triangles, quadrilaterals, pentagons, hexagons and octagons.	3 M4 Lesson 1: Explore attributes of squares, rectangles, and trapezoids. 3 M4 Lesson 2: Recognize area as an attribute of polygons. 3 M4 Lesson 3: Tile polygons to find their areas. 3 M4 Lesson 8: Compare and classify other polygons. 3 M6 Lesson 9: Compare and classify other polygons. 3 M6 Lesson 10: Draw polygons with specified attributes. 3 M6 Lesson 11: Reason about composing polygons by using tetrominoes. 3 M6 Lesson 12: Reason about composing polygons by using tangrams. 4 M6 Lesson 20: Sort polygons based on a given rule.

Patterns and Relationships

Number Relationships: Describe, Interpret and use quantities, relationships between quantities, representations of quantities and number systems. Describe operations and the relationship between operations. Use strategies and procedures accurately, efficiently and flexibly. Assess the reasonableness of the results.

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3.3.5.1 Given a value, mentally find 100 more or 100 less, 1,000 more or 1,000 less and 10,000 more or 10,000 less than the number. Justify reasoning by referencing a model.	3 M6 Lesson 7: Count coins and create money word problems. 3 M6 Lesson 22: Generate categorical data and represent it by using a scaled picture graph. 2 M4 Lesson 1: Organize, count, and represent a collection of objects. 2 M4 Lesson 2: Mentally add and subtract multiples of 10 and 100 with unknowns in various positions. 4 M1 Lesson 11: Find 1, 10, and 100 thousand more than and less than a given number.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of *Eureka Math²*
3.3.5.2 Recognize and describe the place value of numbers between 10 and 100,000 as a relationship of groups of ten, hundreds and thousands plus an amount of a single digit. Know that 10,000 is 100 hundreds, 1,000 is 10 hundreds or 100 tens.	3 M2 Lesson 1: Connect the composition of 1 kilogram to the composition of 1 thousand. 3 M2 Lesson 4: Connect decomposition of 1 liter to the decomposition of 1 thousand. 3 M2 Lesson 5: Estimate and measure liquid volume using a vertical number line and connect composition of 1 liter to composition of 1 thousand. 2 M1 Lesson 23: Organize, count, and record a collection of objects. 2 M1 Lesson 28: Use place value understanding to count and exchange \$1, \$10, and \$100 bills. 2 M1 Lesson 30: Determine how many \$10 bills are equal to \$1,000. 2 M1 Lesson 32: Exchange 10 ones for 1 ten, 10 tens for 1 hundred, and 10 hundreds for 1 thousand. 2 M1 Lesson 34: Problem solve in situations with more than 9 ones or 9 tens. 2 M1 Lesson 24: Count up to 1,000 by using place value units. 2 M1 Lesson 25: Write three-digit numbers in unit form and show the value that each digit represents. 2 M1 Lesson 27: Read, write, and relate base-ten numbers in all forms. 2 M1 Lesson 28: Use place value understanding to count and exchange \$1, \$10, and \$100 bills. 2 M1 Lesson 30: Determine how many \$10 bills are equal to \$1,000. 2 M1 Topic H: Compose and Decompose with Place Value Disks
3.3.5.3 Compare and order whole numbers up to 100,000 justifying with place value language, number lines, and other tools using >, = and < symbols to record the results of comparisons.	3 M2 Lesson 9: Round two-digit numbers to the nearest ten on the vertical number line. 2 M1 Topic I: Compare Two Three-Digit Numbers in Different Forms 4 M1 Lesson 9: Compare numbers within 1,000,000 by using >, =, and <.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of *Eureka Math²*
3.3.5.4 Estimate sums and differences up to 1,000 using strategies based on benchmarks and place value language.	3 M2 Lesson 12: Estimate sums and differences by rounding. 3 M2 Lesson 20: Add measurements using the standard algorithm to compose larger units once. 3 M2 Lesson 21: Add measurements using the standard algorithm to compose larger units twice. 3 M2 Lesson 22: Subtract measurements using the standard algorithm to decompose larger units once. 3 M2 Lesson 23: Subtract measurements using the standard algorithm to decompose larger units twice. 3 M2 Lesson 24: Subtract measurements using the standard algorithm to decompose larger units across two place values. 3 M6 Lesson 26: Fluently multiply and divide within 100 and add and subtract within 1,000.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of *Eureka Math²*
3.3.5.5 Use a range of strategies and algorithms based on knowledge of place value and equality to flexibly add and subtract within 1,000. Strategies may include decomposition, expanded notation and partial sums and differences. Explain how the strategies work using place value and the properties of operations.	3 M2 Lesson 12: Estimate sums and differences by rounding. 3 M2 Lesson 14: Use place value understanding to add and subtract like units. 3 M2 Lesson 15: Use the associative property to make the next ten to add. 3 M2 Lesson 16: Use compensation to add. 3 M2 Lesson 17: Use place value understanding to subtract efficiently using take from a ten. 3 M2 Lesson 18: Use place value understanding to subtract efficiently using take from a hundred. 3 M2 Lesson 19: Use compensation to subtract. 3 M2 Lesson 20: Add measurements using the standard algorithm to compose larger units once. 3 M2 Lesson 21: Add measurements using the standard algorithm to compose larger units twice. 3 M2 Lesson 22: Subtract measurements using the standard algorithm to decompose larger units once. 3 M2 Lesson 23: Subtract measurements using the standard algorithm to decompose larger units twice. 3 M2 Lesson 24: Subtract measurements using the standard algorithm to decompose larger units across two place values. 3 M6 Lesson 26: Fluently multiply and divide within 100 and add and subtract within 1,000.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of *Eureka Math²*
3.3.5.6 Represent and solve contextual situations involving multiplication, measurement division and partitive division with single-digit factors using visual models.	3 M1 Lesson 5: Represent and solve multiplication word problems by using drawings and equations. 3 M1 Lesson 8: Model measurement and partitive division by drawing arrays. 3 M1 Lesson 9: Represent and solve division word problems using drawings and equations. 3 M1 Lesson 16: Model the quotient as the number of groups using units of 2, 3, 4, 5, and 10. 3 M1 Lesson 17: Model the quotient as the size of each group using units of 2, 3, 4, 5, and 10. 3 M1 Lesson 18: Represent and solve measurement and partitive division word problems. 3 M1 Lesson 22: Represent and solve two-step word problems using the properties of multiplication. 3 M1 Lesson 23: Represent and solve two-step word problems using drawings and equations. 3 M3 Lesson 2: Count by units of 6 to multiply and divide by using arrays. 3 M3 Lesson 7: Count by units of 7 to multiply and divide by using arrays and tape diagrams. 3 M3 Lesson 8: Use the break apart and distribute strategy to multiply with units of 7. 3 M3 Lesson 12: Solve one-step word problems involving multiplication and division. 3 M3 Lesson 25: Apply multiplication and division concepts to complete a multi-part task.

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3.3.5.7 Multiply and divide within 144, using strategies such as equal groups, repeated addition, the relationship between multiplication and division or properties of operations. Develop fluency with facts of 2s, 5s, 10s and square products.	3 M1 Lesson 2: Interpret equal groups as multiplication. 3 M1 Lesson 3: Relate multiplication to the array model. 3 M1 Lesson 4: Interpret the meaning of factors as number of groups or number in each group. 3 M1 Topic B: Conceptual Understanding of Division 3 M1 Topic C: Properties of Multiplication 3 M1 Topic D: Two Interpretations of Division 3 M1 Topic E: Application of Multiplication and Division Concepts 3 M3 Topic A: Multiplication and Division Concepts with an Emphasis on Units of 6 and 8 3 M3 Lesson 7: Count by units of 7 to multiply and divide by using arrays and tape diagrams. 3 M3 Lesson 8: Use the break apart and distribute strategy to multiply with units of 7. 3 M3 Lesson 9: Model the associative property as a strategy to multiply. 3 M3 Lesson 10: Use parentheses in expressions with different operations. 3 M3 Lesson 11: Use the break apart and distribute strategy to divide with units of 7. 3 M3 Lesson 13: Count by units of 9 to multiply. 3 M3 Lesson 14: Apply strategies and identify patterns to multiply with units of 9. 3 M3 Lesson 15: Reason about and explain patterns of multiplication and division with units of 1 and 0. 3 M3 Lesson 17: Identify and complete patterns with input-output tables. 3 M3 Lesson 18: Create multiplication and division word problems. 3 M3 Lesson 20: Multiply by multiples of 10 by using the place value chart. 3 M3 Lesson 21: Multiply by multiples of 10 by using place value strategies and the associative property. 3 M3 Lesson 23: Identify patterns and apply strategies to multiply with units of 11 and 12. 3 M3 Lesson 24: Organize, count, and represent a collection of objects. 3 M6 Lesson 26: Fluently multiply and divide within 100 and add and subtract within 1,000.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of *Eureka Math²*
3.3.5.8 Multiply one-digit whole numbers by multiples of 10 and 100 using strategies such as decomposition of factors of ten, place value language, repeated addition and properties of operations.	3 M3 Lesson 20: Multiply by multiples of 10 by using the place value chart. 3 M3 Lesson 21: Multiply by multiples of 10 by using place value strategies and the associative property. 3 M3 Lesson 22: Solve two-step word problems involving multiplication of single-digit factors and multiples of 10.
3.3.5.9 Partition a whole into halves, thirds, fourths and eighths. Wholes can be circles, rectangles and the distance between 0 and 1 on a number line.	3 M5 Topic A: Partition a Whole into Equal Parts 3 M5 Topic B: Unit Fractions and Their Relationship to the Whole 3 M5 Topic C: Fractions on the Number Line
3.3.5.10 Use pictures and symbols to represent non-unit fractions up to 2 as sums of unit fractions using halves, fourths, thirds and eighths.	3 M5 Lesson 6: Build non-unit fractions less than 1 from unit fractions concretely. 3 M5 Lesson 7: Identify and represent a whole as two parts: a unit fraction and a non-unit fraction. 4 M4 Lesson 1: Decompose whole numbers into a sum of unit fractions. 4 M4 Lesson 2: Decompose fractions into a sum of unit fractions.
3.3.5.11 Generate equivalent forms of one-half and 1 using fractions with denominators of 2, 4 and 8 and justify why these forms are equivalent using a visual model.	3 M5 Lesson 13: Identify equivalent fractions from 0 to 1 with tape diagrams and on number lines. 3 M5 Lesson 14: Recognize that equivalent fractions share the same location on a number line. 4 M4 Lesson 8: Generate equivalent fractions with smaller units for unit fractions. 4 M4 Lesson 9: Generate equivalent fractions with smaller units for non-unit fractions. 4 M4 Lesson 10: Generate equivalent fractions with larger units. 4 M4 Lesson 11: Represent equivalent fractions by using tape diagrams, number lines, and multiplication or division.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of *Eureka Math²*
3.3.5.12 Compare and order unit fractions using visual models and describe how the size of the fraction changes as the denominator changes.	3 M5 Lesson 9: Compare unit fractions by reasoning about their size concretely. 4 M4 Topic C: Compare Fractions
3.3.5.13 Use addition and subtraction with estimated whole numbers to create short-term and long-term spending and saving goals based on planned and unplanned financial decisions.	*Supplemental material is necessary to address this standard.*

Patterns and Relationships

Equivalence and Relational Thinking: Use concepts and properties of equivalence and relational thinking to represent and compare numerical expressions, proportional relationships, algebraic expressions and equations.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of *Eureka Math²*
3.3.6.1 Use relational thinking to find a missing value in an open number sentence with up to three-digit whole number addition and subtraction expressions. Determine if the equation is true or false. Justify your reasoning.	2 M2 Lesson 14: Use addition and subtraction strategies to find an unknown part. 2 M2 Lesson 26: Solve *add to* and *take from with start unknown* word problems. 2 M4 Lesson 2: Mentally add and subtract multiples of 10 and 100 with unknowns in various positions.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of *Eureka Math²*
3.3.6.2 Make conjectures and justifications about multiplication and division involving 0 and 1 with true/false and open number equations.	3 M3 Lesson 15: Reason about and explain patterns of multiplication and division with units of 1, and 0.
3.3.6.3 Make conjectures and justifications using the commutative and associative properties of addition and multiplication with true/false and open number equations.	3 M1 Lesson 10: Demonstrate the commutative property of multiplication using a unit of 4 and the array model. 3 M3 Lesson 9: Model the associative property as a strategy to multiply. 3 M3 Lesson 12: Solve one-step word problems involving multiplication and division. 3 M3 Lesson 18: Create multiplication and division word problems. 4 M2 Lesson 1: Multiply multiples of 10 by one-digit numbers by using the associative property of multiplication

Patterns and Relationships

Patterns and Relationships: Represent and connect mathematical patterns and relationships using verbal descriptions, generalizations, tables and graphs. Use representations to generate questions, make predictions and solve mathematical problems.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of *Eureka Math²*
3.3.7.1 Create, describe and apply single-operation input-output rules involving addition, subtraction and multiplication to solve situations in various contexts, including when x and y are 0.	3 M3 Lesson 17: Identify and complete patterns with input-output tables. 3 M5 Lesson 4: Partition a whole into fractional units pictorially and identify the unit fraction. 3 M5 Lesson 5: Partition a whole into fractional units and write fractions in fraction form.

Minnesota K–12 Academic Standards in Mathematics	Aligned Components of *Eureka Math²*
3.3.7.2 Create the next two terms and the previous term in a visual pattern, growing or shrinking, and justify reasoning.	3 M3 Lesson 14: Apply strategies and identify patterns to multiply with units of 9. 3 M3 Lesson 15: Reason about and explain patterns of multiplication and division with units of 1 and 0. 3 M3 Lesson 16: Identify patterns by using the multiplication table. 3 M3 Lesson 17: Identify and complete patterns with input–output tables. 4 M2 Lesson 26: Use relationships within a pattern to find an unknown term in the sequence.