Grade 5 | North Dakota Mathematics K–12 Standards (2018) Correlation to *Eureka Math²® (2027)*

Eureka Math² is a research-proven math curriculum that empowers teachers to center instructional techniques on student success. Teachers can foster more "aha!" learning moments by providing the support needed for all learners to build a more confident math mindset.

This *Eureka Math²* edition builds on a strong foundation of effective instruction. It provides teachers with guidance on delivering rigorous instruction that honors student choice and encourages confident problem-solving.

Eureka Math² carefully sequences mathematical content to maximize vertical alignment from kindergarten through high school. This kind of sequencing has proven to be essential in students' mastery of math.

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 into the teacher materials.

Accessibility

Eureka Math² incorporates Universal Design for Learning (UDL) principles so all learners can access the mathematics and take on challenging math concepts. UDL, Differentiation, and Multilingual Learner supports are built into the instructional design and are clearly identified in the *Teach* book.

The curriculum also carries a focus on readability. By eliminating unnecessary words and using 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.

Math Confidence

Eureka Math² fosters a classroom culture of learning by encouraging student-led discourse and cognitive engagement that results in confident learners. By leveraging consistent models, routines, and progressions, teachers can remove barriers and allow all students an avenue to success. Within the digital platform, each grade includes wordless videos and digital interactives that spark students' curiosity and help them make conceptual connections. Using the *Learn* books, students wonder, explore, and make sense of mathematics, which helps them develop a strong, positive mathematical identity.

Math Attributes	Aligned Components of *Eureka Math²*
3–5.MA.P Learners can develop and carry out a logical plan to problem-solve situations, reflect on the reasonableness of solutions, and explore alternate strategies with guidance.	Lessons in every module engage students in math attributes. These are indicated in margin notes included with every lesson.
3–5.MA.C Learners can make connections and summarize related ideas using supporting evidence.	Lessons in every module engage students in math attributes. These are indicated in margin notes included with every lesson.
3–5.MA.R Learners can reason logically based on experience and knowledge, citing evidence to support their reasoning and conclusions.	Lessons in every module engage students in math attributes. These are indicated in margin notes included with every lesson.

Number and Operations: Learners will develop a foundational understanding of the number system, operations, and computational fluency to create connections and solve problems within and across concepts.

5.NO.CC Counting and Cardinality: Learners will understand the relationship between numerical symbols, names, quantities, and counting sequences.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.NO.CC.1 Read and write decimals to the thousandths including standard, word, and expanded forms.	5 M4 Lesson 1: Model and relate decimal place value units to thousandths. 5 M4 Lesson 2: Represent thousandths as a place value unit. 5 M4 Lesson 3: Represent decimal numbers to the thousandths place in different forms.

Number and Operations: Learners will develop a foundational understanding of the number system, operations, and computational fluency to create connections and solve problems within and across concepts.

5.NO.NBT Base Ten: Learners will understand the place value structure of the base-ten number system and represent, compare, and perform operations with multi-digit whole numbers and decimals.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.NO.NBT.1 Understand that in a multi-digit whole number, a digit in one place represents ten times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left.	5 M1 Lesson 1: Relate adjacent place value units by using place value understanding. 5 M1 Lesson 2: Multiply and divide by 10, 100, and $1{,}000$ and identify patterns in the products and quotients. 5 M4 Lesson 1: Model and relate decimal place value units to thousandths. 5 M4 Lesson 2: Represent thousandths as a place value unit. 5 M4 Lesson 3: Represent decimal numbers to the thousandths place in different forms. 5 M4 Lesson 4: Relate the values of digits in a decimal number by using place value understanding.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.NO.NBT.2 Compare two decimals to the thousandths place using symbols >, <, and =. Justify comparisons based on the value of the digits.	5 M4 Lesson 6: Compare decimal numbers to the thousandths place.
5.NO.NBT.3 Apply place value understanding to round decimals to any place.	5 M4 Lesson 7: Round decimal numbers to the nearest one, tenth, or hundredth. 5 M4 Lesson 8: Round decimal numbers to any place value unit.
5.NO.NBT.4 Multiply multi-digit whole numbers using strategies flexibly, including the algorithm.	5 M1 Lesson 7: Multiply by using familiar methods. 5 M1 Lesson 8: Multiply two- and three-digit numbers by two-digit numbers by using the distributive property. 5 M1 Lesson 9: Multiply two- and three-digit numbers by two-digit numbers by using the standard algorithm. 5 M1 Lesson 10: Multiply three- and four-digit numbers by three-digit numbers by using the standard algorithm. 5 M1 Lesson 11: Multiply two multi-digit numbers by using the standard algorithm.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.NO.NBT.5 Use concrete models, drawings, place value strategies, properties of operations and/or relationships to add, subtract, and multiply decimals to hundredths.	5 M4 Lesson 9: Add decimal numbers by using different methods. 5 M4 Lesson 10: Add decimal numbers by using place value understanding. 5 M4 Lesson 11: Subtract decimal numbers by using different methods. 5 M4 Lesson 12: Subtract decimal numbers by using place value understanding. 5 M4 Lesson 14: Multiply decimal numbers to hundredths by one-digit whole numbers by using different models. 5 M4 Lesson 15: Multiply decimal numbers to hundredths by one-digit whole numbers and multiples of 10, 100, or $1{,}000$ by using different written methods. 5 M4 Lesson 16: Multiply decimal numbers to hundredths by two-digit whole numbers by using area models and vertical form. 5 M4 Lesson 17: Multiply decimal numbers to hundredths by two-digit whole numbers by using different methods. 5 M4 Lesson 18: Relate decimal number multiplication to fraction multiplication. 5 M4 Lesson 19: Multiply a decimal number by a decimal number.
5.NO.NBT.6 Find whole-number quotients and remainders with up to four-digit dividends and two-digit divisors using place value strategies. Show and justify the calculation by using equations, rectangular arrays, and/or area models.	5 M1 Lesson 12: Divide two- and three-digit numbers by multiples of 10. 5 M1 Lesson 13: Divide two-digit numbers by two-digit numbers in problems that result in one-digit quotients. 5 M1 Lesson 14: Divide three-digit numbers by two-digit numbers in problems that result in one-digit quotients. 5 M1 Lesson 15: Divide three-digit numbers by two-digit numbers in problems that result in two-digit quotients. 5 M1 Lesson 16: Divide four-digit numbers by two-digit numbers.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.NO.NBT.7 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10. Explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.	5 M1 Lesson 2: Multiply and divide by 10, 100, and 1,000 and identify patterns in the products and quotients. 5 M1 Lesson 3: Use exponents to multiply and divide by powers of 10. 5 M1 Lesson 4: Estimate products and quotients by using powers of 10 and their multiples. 5 M4 Lesson 5: Multiply and divide decimal numbers by powers of 10.

Number and Operations: Learners will develop a foundational understanding of the number system, operations, and computational fluency to create connections and solve problems within and across concepts.

5.NO.NF Fractions: Learners will understand fractions and equivalency to represent, compare, and perform operations of fractions and decimals.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.NO.NF.1 Generate equivalent forms of commonly used fractions and decimals (e.g., halves, fourths, fifths, tenths).	5 M4 Lesson 13: Solve word problems involving addition and subtraction of decimal numbers and fractions. *Supplemental material is necessary to fully address this standard.*

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.NO.NF.2 Explain why multiplying a given number by a fraction greater than one results in a product greater than the given number and explain why multiplying a given number by a fraction less than one results in a product smaller than the given number.	5 M3 Lesson 1: Find fractions of a set with arrays. 5 M3 Lesson 2: Interpret fractions as division to find fractions of a set with tape diagrams and number lines. 5 M3 Lesson 3: Multiply a whole number by a fraction less than 1. 5 M3 Lesson 4: Multiply a whole number by a fraction. 5 M3 Lesson 5: Convert larger customary measurement units to smaller measurement units. 5 M3 Lesson 6: Convert smaller customary measurement units to larger measurement units. 5 M3 Lesson 7: Multiply fractions less than 1 by unit fractions pictorially. 5 M3 Lesson 8: Multiply fractions less than 1 pictorially. 5 M3 Lesson 9: Multiply fractions by unit fractions by making simpler problems. 5 M3 Lesson 10: Multiply fractions greater than 1 by fractions. 5 M3 Lesson 11: Multiply fractions.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.NO.NF.3 Solve authentic word problems by adding and subtracting fractions and mixed numbers with unlike denominators using visual fraction models and equations.	5 M2 Lesson 5: Add and subtract fractions with related units by using pictorial models. 5 M2 Lesson 6: Add and subtract fractions with related units by using area models to rename fractions. 5 M2 Lesson 7: Add and subtract fractions with related units by finding equivalent fractions numerically. 5 M2 Lesson 8: Add and subtract fractions with unrelated units by finding equivalent fractions pictorially. 5 M2 Lesson 9: Add and subtract fractions with unrelated units by finding equivalent fractions numerically. 5 M2 Lesson 10: Add whole numbers and mixed numbers and add mixed numbers with related units. 5 M2 Lesson 11: Add mixed numbers with unrelated units. 5 M2 Lesson 12: Subtract whole numbers from mixed numbers and mixed numbers from whole numbers. 5 M2 Lesson 13: Subtract mixed numbers from mixed numbers with related units. 5 M2 Lesson 14: Subtract mixed numbers from mixed numbers with unrelated units. 5 M2 Lesson 17: Solve problems by equally redistributing a total amount.
5.NO.NF.4 Solve authentic word problems by multiplying fractions and mixed numbers using visual fraction models and equations.	5 M3 Lesson 17: Solve word problems involving fractions with multiplication and division. 5 M3 Lesson 21: Solve multi-step word problems involving fractions. 5 M5 Lesson 14: Solve real-world problems involving areas of composite figures with mixed-number side lengths. 5 M5 Lesson 15: Solve multi-step word problems involving multiplication of mixed numbers.

Algebraic Reasoning: Learners will look for, generate, and make sense of patterns, relationships, and algebraic symbols to represent mathematical models while adopting approaches and solutions in novel situations.

5.AR.OA Operations and Algebraic Thinking: Learners will analyze patterns and relationships to generate and interpret numerical expressions.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.AR.OA.1 Automatically multiply and divide through 12×12.	*Supplemental material is necessary to address this standard.*
5.AR.OA.2 Analyze problems using the order of operations to solve and evaluate expressions while justifying thinking.	5 M1 Lesson 7: Multiply by using familiar methods. 5 M1 Lesson 8: Multiply two- and three-digit numbers by two-digit numbers by using the distributive property. 5 M1 Lesson 17: Write, interpret, and compare numerical expressions. 5 M1 Lesson 18: Create and solve real-world problems for given numerical expressions. 5 M1 Lesson 19: Solve multi-step word problems involving multiplication and division. 5 M1 Lesson 20: Solve multi-step word problems involving the four operations. 5 M1 Lesson 21: Express a composite number to 50 as a product of its prime factors. 5 M3 Lesson 12: Divide a nonzero whole number by a unit fraction to find the number of groups. 5 M3 Lesson 16: Reason about the size of quotients of whole numbers and unit fractions and quotients of unit fractions and whole numbers. 5 M3 Lesson 18: Compare and evaluate expressions with parentheses. 5 M3 Lesson 22: Evaluate expressions involving nested grouping symbols. 5 M4 Lesson 29: Interpret, evaluate, and compare numerical expressions involving decimals. 5 M4 Lesson 30: Create and solve real-world problems for given numerical expressions involving decimals. *Supplemental material is necessary to fully address using the order of operations.*

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.AR.OA.3 Write simple expressions that record calculations with numbers. Interpret numerical expressions without evaluating them.	5 M1 Lesson 17: Write, interpret, and compare numerical expressions. 5 M1 Lesson 18: Create and solve real-world problems for given numerical expressions. 5 M1 Lesson 19: Solve multi-step word problems involving multiplication and division. 5 M1 Lesson 20: Solve multi-step word problems involving the four operations. 5 M1 Lesson 21: Express a composite number to 50 as a product of its prime factors. 5 M3 Lesson 12: Divide a nonzero whole number by a unit fraction to find the number of groups. 5 M3 Lesson 16: Reason about the size of quotients of whole numbers and unit fractions and quotients of unit fractions and whole numbers. 5 M3 Lesson 18: Compare and evaluate expressions with parentheses. 5 M4 Lesson 29: Interpret, evaluate, and compare numerical expressions involving decimals. 5 M4 Lesson 30: Create and solve real-world problems for given numerical expressions involving decimals.
5.AR.OA.4 Find factor pairs and multiples within the range of 1–100 while classifying numbers as prime or composite.	4 M2 Lesson 21: Find factor pairs for numbers up to 100 and use factors to identify numbers as prime or composite. 4 M2 Lesson 22: Use division and the associative property of multiplication to find factors. 4 M2 Lesson 23: Determine whether a whole number is a multiple of another number. 4 M2 Lesson 24: Recognize that a number is a multiple of each of its factors. 4 M2 Lesson 25: Explore properties of prime and composite numbers up to 100 by using multiples. 5 M1 Lesson 21: Express a composite number to 50 as a product of its prime factors.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.AR.OA.5 Generate two numerical patterns using two given rules and form ordered pairs consisting of corresponding terms from the two patterns. (Graphing on a coordinate plane).	5 M6 Lesson 7: Generate number patterns to form ordered pairs. 5 M6 Lesson 8: Identify addition and subtraction relationships between corresponding terms in number patterns. 5 M6 Lesson 9: Identify multiplication and division relationships between corresponding terms in number patterns. 5 M6 Lesson 11: Draw lines in the coordinate plane and identify points on the lines. 5 M6 Lesson 20: Reason about patterns in real-world situations.

Geometry and Measurement: Learners will use visualization, spatial reasoning, geometric modeling, and measurement to investigate the characteristics of figures, perform transformations, and construct logical arguments.

5.GM.G Geometry: Learners will compose and classify figures and shapes based on attributes and properties; represent and solve problems using a coordinate plane.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.GM.G.1 Classify two-dimensional figures in a hierarchy based on properties.	5 M5 Lesson 1: Analyze hierarchies and identify properties of quadrilaterals. 5 M5 Lesson 2: Classify trapezoids based on their properties. 5 M5 Lesson 3: Classify parallelograms based on their properties. 5 M5 Lesson 4: Classify rectangles and rhombuses based on their properties. 5 M5 Lesson 5: Classify kites and squares based on their properties. 5 M5 Lesson 6: Identify quadrilaterals from given properties. 5 M5 Lesson 7: Classify quadrilaterals in a hierarchy based on properties. 5 M6 Lesson 12: Graph and classify quadrilaterals in the coordinate plane.
5.GM.G.2 Identify the x-coordinate and y-coordinate to graph and name points in the first quadrant of the coordinate plane.	5 M6 Lesson 1: Construct a coordinate system on a line. 5 M6 Lesson 2: Construct a coordinate system in a plane. 5 M6 Lesson 3: Identify and plot points by using ordered pairs.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.GM.G.3 Form ordered pairs and graph points in the first quadrant on the coordinate plane to solve authentic word problems.	5 M6 Lesson 4: Describe the distance and direction between points in the coordinate plane. 5 M6 Lesson 5: Identify properties of horizontal and vertical lines. 5 M6 Lesson 6: Use properties of horizontal and vertical lines to solve problems. 5 M6 Lesson 7: Generate number patterns to form ordered pairs. 5 M6 Lesson 8: Identify addition and subtraction relationships between corresponding terms in number patterns. 5 M6 Lesson 9: Identify multiplication and division relationships between corresponding terms in number patterns. 5 M6 Lesson 11: Draw lines in the coordinate plane and identify points on the lines. 5 M6 Lesson 12: Graph and classify quadrilaterals in the coordinate plane. 5 M6 Lesson 13: Draw symmetric figures in the coordinate plane. 5 M6 Lesson 14: Solve mathematical problems with rectangles in the coordinate plane. 5 M6 Lesson 15: Use the coordinate plane to reason about perimeters and areas of rectangles. 5 M6 Lesson 16: Interpret graphs that represent real-world situations. 5 M6 Lesson 17: Plot data in the coordinate plane and analyze relationships. 5 M6 Lesson 18: Interpret line graphs. 5 M6 Lesson 20: Reason about patterns in real-world situations.

Geometry and Measurement: Learners will use visualization, spatial reasoning, geometric modeling, and measurement to investigate the characteristics of figures, perform transformations, and construct logical arguments.

5.GM.M Measurement: Learners will represent and calculate measurement data, including time, money, and geometric measurement, and convert like measurement units within a given system.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.GM.M.1 Generate conversions among different-sized standard measurement units within a given measurement system, both customary and metric systems. Use these conversions in solving multi-step, authentic word problems.	5 M1 Lesson 5: Convert measurements and describe relationships between metric units. 5 M1 Lesson 6: Solve multi-step word problems by using metric measurement conversion. 5 M3 Lesson 5: Convert larger customary measurement units to smaller measurement units. 5 M3 Lesson 6: Convert smaller customary measurement units to larger measurement units. 5 M4 Lesson 26: Solve a real-world problem involving metric measurements. 5 M4 Lesson 27: Convert metric measurements involving decimals. 5 M4 Lesson 28: Convert customary measurements involving decimals.
5.GM.M.2 Find the area and perimeter of a rectangle, including connected rectangular figures, with fractional side lengths.	5 M5 Lesson 8: Find areas of square tiles with fraction side lengths by relating the tile to a unit square. 5 M5 Lesson 9: Organize, count, and represent a collection of square tiles. 5 M5 Lesson 10: Find the area of a rectangle with fraction side lengths by relating the rectangle to a unit square. 5 M5 Lesson 11: Find areas of rectangles with fraction side lengths by using multiplication. 5 M5 Lesson 12: Multiply mixed numbers. 5 M5 Lesson 13: Solve mathematical problems involving areas of composite figures with mixed-number side lengths. 5 M5 Lesson 14: Solve real-world problems involving areas of composite figures with mixed-number side lengths. 5 M6 Lesson 15: Use the coordinate plane to reason about perimeters and areas of rectangles. *Supplemental material is necessary to fully address finding the perimeter of rectangles and connected rectangular figures with fractional side lengths.*

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.GM.M.3 Recognize volume as an attribute of rectangular prisms and measure volume by counting unit cubes.	5 M5 Lesson 16: Identify attributes and properties of right rectangular prisms. 5 M5 Lesson 17: Find the volume of right rectangular prisms by packing with unit cubes and counting. 5 M5 Lesson 18: Find the volume of right rectangular prisms by packing with improvised units. 5 M5 Lesson 19: Compose and decompose right rectangular prisms to find their volume by using layers. 5 M5 Lesson 20: Interpret volume as filling. 5 M5 Lesson 21: Relate volumes of solids and liquid volume.

Data, Probability, and Statistics: Learners will ask and answer questions by collecting, organizing, and displaying relevant data, drawing inferences and conclusions, making predictions, and understanding and applying basic concepts of probability.

5.DPS.D Data: Learners will represent and interpret data.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.DPS.D.1 Generate data and create line plots to display a data set of unit fractions ($\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$). Use grade-level operations for fractions to solve problems involving information presented in line plots.	5 M2 Lesson 15: Represent data on a line plot. 5 M2 Lesson 16: Solve problems by using data from a line plot. 5 M2 Lesson 17: Solve problems by equally redistributing a total amount.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
5.DPS.D.2 Utilize graphs and diagrams to represent, analyze, and solve authentic word problems using information presented in one or more tables or line plots including whole numbers, fractions, and decimals.	4 Data Investigation: Ramp Heights 5 Data Investigation: A Typical Night of Sleep 5 Data Investigation: Wind-Power Capacity 5 M2 Lesson 15: Represent data on a line plot. 5 M2 Lesson 16: Solve problems by using data from a line plot. 5 M2 Lesson 17: Solve problems by equally redistributing a total amount. *Supplemental material is necessary to address using line plots with whole number or decimal data.*