

Grade 4 | North Dakota Mathematics K–12 Standards 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* aha 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 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 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.

Math Attributes	Aligned Components of <i>Eureka Math</i> ²
<p>3–5.MA.P</p> <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.</p>	<p>Lessons in every module engage students in math attributes. These are indicated in margin notes included with every lesson.</p>
<p>3–5.MA.C</p> <p>Learners can make connections and summarize related ideas using supporting evidence.</p>	<p>Lessons in every module engage students in math attributes. These are indicated in margin notes included with every lesson.</p>
<p>3–5.MA.R</p> <p>Learners can reason logically based on experience and knowledge, citing evidence to support their reasoning and conclusions.</p>	<p>Lessons in every module engage students in math attributes. These are indicated in margin notes included with every lesson.</p>

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.

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

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<p>4.NO.CC.1</p> <p>Read numbers to the millions place, including word, standard, and expanded form. Write numbers to the millions place, including standard and expanded form.</p>	<p>4 M1 Lesson 5: Organize, count, and represent a collection of objects.</p> <p>4 M1 Lesson 7: Write numbers to 1,000,000 in unit form and expanded form by using place value structure.</p> <p>4 M1 Lesson 8: Write numbers to 1,000,000 in standard form and word form.</p> <p>4 M1 Lesson 10: Name numbers by using place value understanding.</p> <p>4 M1 Lesson 11: Find 1, 10, and 100 thousand more than and less than a given number.</p>

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.

4.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.

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<p>4.NO.NBT.1</p> <p>Understand that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.</p>	<p>4 M1 Lesson 6: Demonstrate that a digit represents 10 times the value of what it represents in the place to its right.</p>

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<p>4.NO.NBT.2</p> <p>Compare two numbers to the millions place and decimals to the hundredths place, using symbols $>$, $<$, and $=$. Justify comparisons based on the value of the digits.</p>	<p>4 M1 Lesson 9: Compare numbers within 1,000,000 by using $>$, $=$, and $<$.</p> <p>4 M5 Topic C: Comparison of Decimal Numbers</p>
<p>4.NO.NBT.3</p> <p>Apply place value understanding to round multi-digit whole numbers to any place.</p>	<p>4 M1 Lesson 12: Round to the nearest thousand.</p> <p>4 M1 Lesson 13: Round to the nearest ten thousand and hundred thousand.</p> <p>4 M1 Lesson 14: Round multi-digit numbers to any place.</p> <p>4 M1 Lesson 15: Apply estimation to real-world situations by using rounding.</p>
<p>4.NO.NBT.4</p> <p>Add and subtract multi-digit whole numbers to the one millions place using strategies, including the algorithm.</p>	<p>4 M1 Topic D: Multi-Digit Whole Number Addition and Subtraction</p>
<p>4.NO.NBT.5</p> <p>Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers. Show and justify the calculation using equations, rectangular arrays, and models.</p>	<p>4 M2 Lesson 1: Multiply multiples of 10 by one-digit numbers by using the associative property of multiplication.</p> <p>4 M2 Topic B: Multiplication of Tens and Ones by One-Digit Numbers</p> <p>4 M3 Lesson 2: Multiply by multiples of 100 and 1,000.</p> <p>4 M3 Lesson 3: Multiply a two-digit multiple of 10 by a two-digit multiple of 10.</p> <p>4 M3 Topic C: Multiplication of up to Four-Digit Numbers by One-Digit Numbers</p> <p>4 M3 Topic D: Multiplication of Two-Digit Numbers by Two-Digit Numbers</p>

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<p>4.NO.NBT.6</p> <p>Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors using place value strategies. Show and justify the calculation using equations, rectangular arrays, and models.</p>	<p>4 M2 Lesson 2: Divide two- and three-digit multiples of 10 by one-digit numbers.</p> <p>4 M2 Topic C: Division of Tens and Ones by One-Digit Numbers</p> <p>4 M3 Lesson 1: Divide multiples of 100 and 1,000.</p> <p>4 M3 Topic B: Division of Thousands, Hundreds, Tens, and Ones</p> <p>4 M3 Lesson 21: Find whole-number quotients and remainders.</p> <p>4 M3 Lesson 22: Represent, estimate, and solve division word problems.</p>
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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.

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

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<p>4.NO.NF.1</p> <p>Express equivalent fractions with a denominator of 10 and a denominator of 100 to generate a decimal notation.</p>	<p>4 M5 Topic A: Exploration of Tenths</p> <p>4 M5 Topic B: Tenths and Hundredths</p>
<p>4.NO.NF.2</p> <p>Explain and demonstrate how a mixed number is equivalent to a fraction greater than one and how a fraction greater than one is equal to a mixed number using visual fraction models and reasoning strategies (proper and improper fractions limited to denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100).</p>	<p>4 M4 Lesson 5: Rename fractions greater than 1 as mixed numbers.</p> <p>4 M4 Lesson 6: Rename mixed numbers as fractions greater than 1.</p>

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<p>4.NO.NF.3</p> <p>Generate equivalent fractions using numerical representations, visual representations, and number lines (proper and improper fractions limited to denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100).</p>	<p>4 M4 Lesson 8: Generate equivalent fractions with smaller units for unit fractions.</p> <p>4 M4 Lesson 9: Generate equivalent fractions with smaller units for non-unit fractions.</p> <p>4 M4 Lesson 10: Generate equivalent fractions with larger units.</p> <p>4 M4 Lesson 11: Represent equivalent fractions by using tape diagrams, number lines, and multiplication or division.</p> <p>4 M4 Lesson 12: Generate equivalent fractions for fractions greater than 1 and generate equivalent mixed numbers.</p>
<p>4.NO.NF.4</p> <p>Demonstrate how equivalent fractions are generated by multiplying a fraction equivalent to 1 or the properties of multiplication (proper and improper fractions limited to denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100).</p>	<p>4 M4 Lesson 8: Generate equivalent fractions with smaller units for unit fractions.</p> <p>4 M4 Lesson 9: Generate equivalent fractions with smaller units for non-unit fractions.</p> <p>4 M4 Lesson 10: Generate equivalent fractions with larger units.</p> <p>4 M4 Lesson 11: Represent equivalent fractions by using tape diagrams, number lines, and multiplication or division.</p> <p>4 M4 Lesson 12: Generate equivalent fractions for fractions greater than 1 and generate equivalent mixed numbers.</p>
<p>4.NO.NF.5</p> <p>Compare and order fractions having unlike numerators or denominators. Record comparisons using the symbols $>$, $<$, and $=$. Justify using a visual fraction model (proper and improper fractions limited to denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100).</p>	<p>4 M4 Topic C: Compare Fractions</p>

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<p>4.NO.NF.6</p> <p>Solve authentic word problems by adding and subtracting fractions and mixed numbers with like denominators (proper and improper fractions limited to denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100).</p>	<p>4 M4 Lesson 18: Estimate sums and differences of fractions by using benchmarks.</p> <p>4 M4 Lesson 20: Subtract a fraction from a whole number.</p> <p>4 M4 Lesson 21: Solve addition and subtraction word problems and estimate the reasonableness of the answers.</p> <p>4 M4 Lesson 23: Add a fraction to a mixed number.</p> <p>4 M4 Lesson 24: Add a mixed number to a mixed number.</p> <p>4 M4 Lesson 25: Subtract a fraction from a mixed number, part 1.</p> <p>4 M4 Lesson 26: Subtract a fraction from a mixed number, part 2.</p> <p>4 M4 Lesson 27: Subtract a mixed number from a mixed number.</p> <p>4 M4 Lesson 28: Represent and solve word problems with mixed numbers by using drawings and equations.</p>
<p>4.NO.NF.7</p> <p>Solve problems by multiplying fractions and whole numbers using visual fraction models (proper and improper fractions limited to denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100).</p>	<p>4 M4 Topic F: Repeated Addition of Fractions as Multiplication</p>

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.

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

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<p>4.AR.OA.1 Automatically multiply and divide through 10×10.</p>	<p><i>Supplemental material is necessary to address this standard.</i></p>
<p>4.AR.OA.2 Identify and apply the properties of operations for addition, subtraction, multiplication, and division and justify thinking.</p>	<p>4 M2 Lesson 1: Multiply multiples of 10 by one-digit numbers by using the associative property of multiplication.</p> <p>4 M2 Lesson 5: Multiply by using place value strategies and the distributive property.</p> <p>4 M2 Lesson 6: Multiply with regrouping by using place value strategies and the distributive property.</p> <p>4 M2 Lesson 7: Multiply by using an area model and the distributive property.</p> <p>4 M2 Lesson 8: Multiply by applying the distributive property and write equations.</p> <p>4 M2 Lesson 12: Divide two-digit numbers by one-digit numbers by using an area model.</p> <p>4 M2 Lesson 13: Divide three-digit numbers by one-digit numbers by using an area model.</p> <p>4 M2 Lesson 14: Divide two-digit numbers by one-digit numbers by using place value strategies.</p> <p>4 M2 Lesson 15: Divide three-digit numbers by one-digit numbers by using place value strategies.</p> <p>4 M2 Lesson 16: Divide by using the break apart and distribute strategy.</p> <p>4 M2 Lesson 22: Use division and the associative property of multiplication to find factors.</p> <p>4 M3 Lesson 2: Multiply by multiples of 100 and 1,000.</p> <p>4 M3 Lesson 11: Represent multiplication by using partial products.</p> <p>4 M3 Lesson 13: Multiply two-digit numbers by two-digit multiples of 10.</p> <p>4 M3 Lesson 14: Apply place value strategies to multiply two-digit numbers by two-digit numbers.</p>

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<p>4.AR.OA.2 <i>continued</i></p>	<p>4 M3 Lesson 17: Apply the distributive property to multiply.</p> <p>4 M4 Lesson 32: Multiply a fraction by a whole number by using the associative property.</p> <p>4 M4 Lesson 34: Multiply a mixed number by a whole number by using the distributive property.</p>
<p>4.AR.OA.3</p> <p>Solve multi-step authentic word problems using the four operations, including problems with interpreted remainders. Represent problems using equations, including a symbol as an unknown.</p>	<p>4 M1 Lesson 15: Apply estimation to real-world situations by using rounding.</p> <p>4 M1 Lesson 16: Add by using the standard algorithm.</p> <p>4 M1 Lesson 17: Solve multi-step addition word problems by using the standard algorithm.</p> <p>4 M1 Lesson 21: Solve two-step word problems by using addition and subtraction.</p> <p>4 M1 Lesson 22: Solve multi-step word problems by using addition and subtraction.</p> <p>4 M3 Topic F: Remainders, Estimating, and Problem Solving</p>
<p>4.AR.OA.4</p> <p>Find factor pairs and multiples within the range of 1–36 while classifying numbers as prime or composite.</p>	<p>4 M2 Lesson 21: Find factor pairs for numbers up to 100 and use factors to identify numbers as prime or composite.</p> <p>4 M2 Lesson 22: Use division and the associative property of multiplication to find factors.</p> <p>4 M2 Lesson 23: Determine whether a whole number is a multiple of another number.</p> <p>4 M2 Lesson 24: Recognize that a number is a multiple of each of its factors.</p> <p>4 M2 Lesson 25: Explore properties of prime and composite numbers up to 100 by using multiples.</p>
<p>4.AR.OA.5</p> <p>Interpret multiplication equations as a comparison. Represent multiplicative comparisons as multiplication equations.</p>	<p>4 M1 Topic A: Multiplication as Multiplicative Comparison</p> <p>4 M1 Lesson 6: Demonstrate that a digit represents 10 times the value of what it represents in the place to its right.</p> <p>4 M2 Lesson 9: Solve multiplication word problems.</p> <p>4 M2 Lesson 20: Solve word problems involving additive and multiplicative comparisons.</p>

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<p>4.AR.OA.6</p> <p>Generate a number or shape pattern that follows a given rule while identifying apparent features of the pattern that were not explicit in the rule itself.</p>	<p>4 M2 Lesson 26: Use relationships within a pattern to find an unknown term in the sequence.</p>
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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.

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

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<p>4.GM.G.1</p> <p>Identify, label, and draw points, lines, line segments, rays, and angles (right, acute, obtuse).</p>	<p>4 M6 Topic A: Lines and Angles</p> <p>4 M6 Lesson 10: Use 180° protractors to measure angles.</p> <p>4 M6 Lesson 11: Estimate and measure angles with a 180° protractor.</p> <p>4 M6 Lesson 12: Use a protractor to draw angles up to 180°.</p>
<p>4.GM.G.2</p> <p>Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of specified size.</p>	<p>4 M6 Lesson 18: Analyze and classify triangles based on side length, angle measures, or both.</p> <p>4 M6 Lesson 19: Construct and classify triangles based on given attributes.</p> <p>4 M6 Lesson 20: Sort polygons based on a given rule.</p>
<p>4.GM.G.3</p> <p>Draw lines of symmetry in two-dimensional figures.</p>	<p>4 M6 Lesson 17: Recognize, identify, and draw lines of symmetry.</p>

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.

4.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.

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<p>4.GM.M.1</p> <p>Know the relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb., oz.; l, ml; hr., min., sec. Record measurement equivalents in a two-column table.</p>	<p>4 M1 Topic E: Metric Measurement Conversion Tables</p> <p>4 M2 Lesson 17: Express measurements of length in terms of smaller units.</p> <p>4 M3 Topic E: Problem Solving with Measurement</p>
<p>4.GM.M.2</p> <p>Generate simple conversions from a larger unit to a smaller unit to solve authentic problems within a single system of measurement, both customary and metric systems.</p>	<p>4 M1 Topic E: Metric Measurement Conversion Tables</p> <p>4 M2 Lesson 17: Express measurements of length in terms of smaller units.</p> <p>4 M3 Topic E: Problem Solving with Measurement</p>
<p>4.GM.M.3</p> <p>Identify and use the appropriate tools, operations, and units of measurement, both customary and metric, to solve problems involving time, length, weight, mass, and capacity.</p>	<p>4 M2 Lesson 17: Express measurements of length in terms of smaller units.</p> <p>4 M2 Lesson 20: Solve word problems involving additive and multiplicative comparisons.</p> <p>4 M3 Topic E: Problem Solving with Measurement</p> <p>4 M4 Lesson 18: Estimate sums and differences of fractions by using benchmarks.</p> <p>4 M4 Lesson 20: Subtract a fraction from a whole number.</p> <p>4 M4 Lesson 21: Solve addition and subtraction word problems and estimate the reasonableness of the answers.</p> <p>4 M4 Lesson 24: Add a mixed number to a mixed number.</p> <p>4 M4 Lesson 27: Subtract a mixed number from a mixed number.</p>

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<p>4.GM.M.3 <i>continued</i></p>	<p>4 M4 Lesson 28: Represent and solve word problems with mixed numbers by using drawings and equations.</p> <p>4 M4 Lesson 33: Solve word problems involving multiplication of a fraction by a whole number.</p> <p>4 M5 Lesson 14: Solve word problems with tenths and hundredths.</p>
<p>4.GM.M.4</p> <p>Solve authentic word problems involving dollar bills, quarters, dimes, nickels, and pennies using \$ and ¢ symbols and decimal notation appropriately.</p>	<p>4 M5 Lesson 1: Organize, count, and represent a collection of money.</p> <p><i>Supplemental material is necessary to address this standard.</i></p>
<p>4.GM.M.5</p> <p>Apply the area and perimeter formulas for rectangles, including connected rectangular figures, in problems.</p>	<p>4 M2 Lesson 3: Investigate and use a formula for the area of a rectangle.</p> <p>4 M2 Lesson 7: Multiply by using an area model and the distributive property.</p> <p>4 M2 Lesson 18: Investigate and use formulas for the perimeter of a rectangle.</p> <p>4 M2 Lesson 19: Apply area and perimeter formulas to solve problems.</p> <p>4 M2 Lesson 20: Solve word problems involving additive and multiplicative comparisons.</p>
<p>4.GM.M.6</p> <p>Measure angles in whole-number degrees using a protractor. Using a protractor and ruler, draw angles of a specified measure.</p>	<p>4 M6 Lesson 8: Use a circular protractor to recognize a 1° angle as a turn through $\frac{1}{360}$ of a circle.</p> <p>4 M6 Lesson 10: Use 180° protractors to measure angles.</p> <p>4 M6 Lesson 11: Estimate and measure angles with a 180° protractor.</p> <p>4 M6 Lesson 12: Use a protractor to draw angles up to 180°.</p>
<p>4.GM.M.7</p> <p>Recognize angle measures as additive and solve addition and subtraction problems to find unknown angles on a diagram.</p>	<p>4 M6 Topic C: Determine Unknown Angle Measures</p>

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.

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

<p style="text-align: center;">North Dakota Mathematics K–12 Standards</p>	<p style="text-align: center;">Aligned Components of <i>Eureka Math</i>²</p>
<p>4.DPS.D.1</p> <p>Formulate questions to collect, organize, and represent data to reason with math and across disciplines.</p>	<p><i>Supplemental material is necessary to address this standard.</i></p>
<p>4.DPS.D.2</p> <p>Generate data and create line plots to display a data set of unit fractions ($\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots.</p>	<p>4 M4 Lesson 29: Solve problems by using data from a line plot.</p> <p>4 M4 Lesson 30: Represent data on a line plot.</p>
<p>4.DPS.D.3</p> <p>Utilize graphs and diagrams to represent and solve authentic word problems using the four operations involving whole numbers, benchmark fractions, and decimals.</p>	<p><i>Supplemental material is necessary to address this standard.</i></p>