Grade 6 | North Dakota Mathematics K–12 Standards Correlation to *Eureka Math*®

About *Eureka Math*

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

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

Aligned

Great Minds offers detailed analyses that demonstrate how each grade of *Eureka Math* aligns with specific state standards. Access these free alignment studies at greatminds.org/state-studies.

Data

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

Full Suite of Resources

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

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

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

Math Attributes	Aligned Components of *Eureka Math*
6–8.MA.P Learners can analyze information and formulate a flexible, systematic plan to problem-solve authentic situations and reflect on the reasonableness of the solution, making revisions when necessary.	Lessons in every module engage students in math attributes. These are indicated in margin notes included with every lesson.
6–8.MA.C Learners can create connections within and across concepts and provide examples of how they relate to other learning and ideas using supporting evidence.	Lessons in every module engage students in math attributes. These are indicated in margin notes included with every lesson.
6–8.MA.R Learners can reason logically, citing evidence to evaluate and explain what they see, think, and conclude through exploration and justification.	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.

6.NO.NS Number Systems: Learners will expand their knowledge of the number system to create connections and solve problems within and across concepts.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math*
6.NO.NS.1 Explain and show the relationship between non-zero rational numbers and their opposites using horizontal and vertical number lines, including authentic problems. Use rational numbers to represent quantities in authentic contexts and explain the meaning of 0 in certain situations.	G6 M3 Lesson 2: Real-World Positive and Negative Numbers and Zero G6 M3 Lesson 3: Real-World Positive and Negative Numbers and Zero G6 M3 Lesson 4: The Opposite of a Number G6 M3 Lesson 5: The Opposite of a Number's Opposite G6 M3 Lesson 6: Rational Numbers on the Number Line G6 M3 Lesson 7: Ordering Integers and Other Rational Numbers G6 M3 Lesson 9: Comparing Integers and Other Rational Numbers G6 M3 Lesson 10: Writing and Interpreting Inequality Statements Involving Rational Numbers G6 M3 Lesson 11: Absolute Value—Magnitude and Distance G6 M3 Lesson 13: Statements of Order in the Real World G6 M3 Lesson 18: Distance on the Coordinate Plane G6 M3 Lesson 19: Problem Solving and the Coordinate Plane
6.NO.NS.2 Write, interpret, and explain statements of order for rational numbers on a number line and in authentic contexts.	G6 M3 Topic A: Understanding Positive and Negative Numbers on the Number Line G6 M3 Topic B: Order and Absolute Value

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.

6.NO.O Operations: Learners will expand their computational fluency to create connections and solve problems within and across concepts.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math*
6.NO.O.1 Divide multi-digit whole numbers up to four-digit dividends and two-digit divisors using strategies or procedures.	G6 M2 Topic C: Dividing Whole Numbers and Decimals
6.NO.O.2 Add and subtract fractions and decimals up to the hundredths place, including authentic problems.	G5 M3 Topic B: Making Like Units Pictorially G5 M3 Topic C: Making Like Units Numerically G5 M3 Topic D: Further Applications G6 M2 Lesson 9: Sums and Differences of Decimals
6.NO.O.3 Apply multiplication and division of fractions and decimals to solve and interpret problems using visual models, including authentic problems.	G5 M4 Topic B: Fractions as Division G5 M4 Lesson 25: Divide a whole number by a unit fraction. G5 M4 Lesson 26: Divide a unit fraction by a whole number. G5 M4 Lesson 27: Solve problems involving fraction division. G5 M4 Lesson 28: Write equations and word problems corresponding to tape and number line diagrams. G5 M4 Lesson 33: Create story contexts for numerical expressions and tape diagrams, and solve word problems. G5 M6 Topic E: Multi-Step Word Problems G5 M6 Lesson 28: Solidify fluency with Grade 5 skills. G6 M2 Topic A: Arithmetic Operations Including Dividing by a Fraction

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math*
6.NO.O.3 ***continued***	G6 M2 Topic B: Multi-Digit Decimal Operations—Adding, Subtracting, and Multiplying G6 M2 Lesson 14: The Division Algorithm—Converting Decimal Division into Whole Number Division Using Fractions G6 M2 Lesson 15: The Division Algorithm—Converting Decimal Division to Whole Number Division Using Mental Math
6.NO.O.4 Determine the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.	G6 M2 Lesson 17: Divisibility Tests for 3 and 9 G6 M2 Lesson 18: Least Common Multiple and Greatest Common Factor G6 M2 Lesson 19: The Euclidean Algorithm as an Application of the Long Division Algorithm

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.

6.AR.RP Ratios and Proportional Relationships: Learners will use ratios, rates, and proportions to model relationships and solve problems.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math*
6.AR.RP.1 Describe the concept of a ratio relationship between two quantities using ratio language and visual models.	G6 M1 Topic A: Representing and Reasoning About Ratios G6 M1 Topic B: Collections of Equivalent Ratios G6 M1 Topic C: Unit Rates G6 M1 Lesson 24: Percent and Rates per 100 G6 M1 Lesson 25: A Fraction as a Percent

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math*
6.AR.RP.2 Describe and calculate a unit rate when given a ratio relationship between two quantities using rate language and visual models.	G6 M1 Topic C: Unit Rates
6.AR.RP.3 Make and use tables of equivalent ratios, tape diagrams, double number line diagrams, and equations to solve problems involving ratios, rates, and unit rates, including authentic problems.	G6 M1 Lesson 3: Equivalent Ratios G6 M1 Lesson 4: Equivalent Ratios G6 M1 Lesson 5: Solving Problems by Finding Equivalent Ratios G6 M1 Lesson 6: Solving Problems by Finding Equivalent Ratios G6 M1 Lesson 7: Associated Ratios and the Value of a Ratio G6 M1 Lesson 8: Equivalent Ratios Defined Through the Value of a Ratio G6 M1 Topic B: Collections of Equivalent Ratios G6 M1 Topic C: Unit Rates
6.AR.RP.4 Calculate a percent of a quantity as a rate per 100. Solve problems using ratio reasoning involving finding the whole when given a part and the percent.	G6 M1 Topic D: Percent
6.AR.RP.5 Convert measurement units within and between measurement systems using ratio reasoning given conversion factors.	G6 M1 Lesson 21: Getting the Job Done—Speed, Work, and Measurement Units G6 M1 Lesson 22: Getting the Job Done—Speed, Work, and Measurement Units G6 M1 Lesson 23: Problem-Solving Using Rates, Unit Rates, and Conversions

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.

6.AR.EE Expressions and Equations: Learners will look for, generate, and make sense of patterns, relationships, and algebraic symbols to represent mathematical models while adapting approaches in novel situations.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math*
6.AR.EE.1 Read, write, and evaluate numerical expressions including expressions with whole number exponents and grouping symbols.	G6 M4 Topic B: Special Notations of Operations G6 M4 Lesson 16: Write Expressions in Which Letters Stand for Numbers
6.AR.EE.2 Read and evaluate algebraic expressions, including expressions with whole number exponents and grouping symbols. Write algebraic expressions to represent simple and authentic situations.	G6 M4 Lesson 6: The Order of Operations G6 M4 Topic C: Replacing Letters and Numbers G6 M4 Topic D: Expanding, Factoring, and Distributing Expressions G6 M4 Topic E: Expressing Operations in Algebraic Form G6 M4 Topic F: Writing and Evaluating Expressions and Formulas
6.AR.EE.3 Identify when two expressions are equivalent. Apply the properties of operations to generate equivalent expressions.	G6 M4 Topic A: Relationships of the Operations G6 M4 Lesson 8: Replacing Numbers with Letters G6 M4 Lesson 9: Writing Addition and Subtraction Expressions G6 M4 Lesson 10: Writing and Expanding Multiplication Expressions G6 M4 Lesson 11: Factoring Expressions G6 M4 Lesson 12: Distributing Expressions G6 M4 Lesson 13: Writing Division Expressions

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math*
6.AR.EE.4 Describe the concept of a solution of an equation and an inequality. Determine whether a given number is a solution to an equation or an inequality.	G6 M4 Topic G: Solving Equations G6 M4 Topic H: Applications of Equations
6.AR.EE.5 Write and solve equations of the form $x + p = q$ and $px = q$ for cases in which p and q are non-negative whole numbers or decimals, including authentic problems.	G6 M4 Lesson 26: One-Step Equations—Addition and Subtraction G6 M4 Lesson 27: One-Step Equations—Multiplication and Division G6 M4 Lesson 28: Two-Step Problems—All Operations G6 M4 Lesson 29: Multi-Step Problems—All Operations G6 M4 Lesson 30: One-Step Problems in the Real World G6 M4 Lesson 31: Problems in Mathematical Terms G6 M4 Lesson 32: Multi-Step Problems in the Real World
6.AR.EE.6 Write a statement of inequality of the form $x > c$ or the form $x < c$ to represent a constraint or condition. Recognize that inequalities of the form $x > c$ or the form $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.	G6 M4 Lesson 33: From Equations to Inequalities G6 M4 Lesson 34: Writing and Graphing Inequalities in Real-World Problems

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.

6.GM.AV Area and Volume: Learners will use visualization and spatial reasoning to solve problems involving the area, surface area, and volume of geometric figures.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math*
6.GM.AV.1 Derive the relationship of the areas of triangles using the area of rectangles. Calculate the areas of triangles and quadrilaterals by composing and/or decomposing them into rectangles and triangles, including authentic problems.	G6 M5 Topic A: Area of Triangles, Quadrilaterals, and Polygons G6 M5 Lesson 8: Drawing Polygons in the Coordinate Plane G6 M5 Lesson 9: Determining Perimeter and Area of Polygons on the Coordinate Plane
6.GM.AV.2 Describe the concept of volume of a right rectangular prism. Apply given formulas to calculate the volume of right rectangular prisms, including fractional edge lengths, including authentic problems.	G5 M5 Lesson 3: Compose and decompose right rectangular prisms using layers. G5 M5 Topic B: Volume and the Operations of Multiplication and Addition G5 M6 Lesson 21: Make sense of complex, multi-step problems, and persevere in solving them. Share and critique peer solutions. G5 M6 Lesson 28: Solidify fluency with Grade 5 skills. G5 M6 Lesson 33: Design and construct boxes to house materials for summer use. G5 M6 Lesson 34: Design and construct boxes to house materials for summer use. G6 M5 Topic C: Volume of Right Rectangular Prisms G6 M5 Lesson 19: Surface Area and Volume in the Real World G6 M5 Lesson 20: Addendum Lesson for Modeling–Applying Surface Area and Volume to Aquariums

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.

6.GM.GF Geometric Figures: Learners will use visualization, spatial reasoning, and geometric modeling to investigate the characteristics of figures, perform transformations, and construct logical arguments.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math*
6.GM.GF.1 Identify and position ordered pairs of rational numbers in all four quadrants of a coordinate plane.	G6 M3 Topic A: Understanding Positive and Negative Numbers on the Number Line G6 M3 Topic C: Rational Numbers and the Coordinate Plane
6.GM.GF.2 Draw polygons in the coordinate plane given coordinates for the vertices. Determine the length of a side joining points with the same first or second coordinate, including authentic problems.	G6 M5 Topic B: Polygons on the Coordinate Plane
6.GM.GF.3 Represent three-dimensional figures using nets made up of rectangles and triangles (right prisms and pyramids whose bases are triangles and rectangles). Calculate the surface area of prisms with rectangular and triangular bases using nets, including authentic problems.	G6 M5 Topic D: Nets and Surface Area

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.

6.DPS.D Data Analysis: Learners will ask and answer questions by collecting, organizing, and displaying relevant data, drawing inferences and conclusions, and making predictions.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math*
6.DPS.D.1 Write a statistical question that can be answered using measures of center or variability of a data set.	G6 M6 Lesson 1: Posing Statistical Questions
6.DPS.D.2 Calculate measures of center (median and mean) and variability (range and mean absolute deviation) to answer a statistical question. Identify mode(s) if they exist.	G6 M6 Lesson 7: The Mean as a Balance Point G6 M6 Lesson 8: Variability in a Data Distribution G6 M6 Lesson 9: The Mean Absolute Deviation (MAD) G6 M6 Lesson 10: Describing Distributions Using the Mean and MAD G6 M6 Lesson 11: Describing Distributions Using the Mean and MAD G6 M6 Topic C: Summarizing a Distribution that is Skewed Using the Median and the Interquartile Range G6 M6 Topic D: Summarizing and Describing Distributions *Supplemental material is necessary to address mode.*

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math*
6.DPS.D.3 Identify outliers by observation and describe their effect on measures of center and variability. Justify which measures would be appropriate to answer a statistical question.	G6 M6 Lesson 2: Displaying a Data Distribution G6 M6 Lesson 3: Creating a Dot Plot G6 M6 Lesson 4: Creating a Histogram G6 M6 Lesson 5: Describing a Distribution Displayed in a Histogram G6 M6 Topic B: Summarizing a Distribution that Is Approximately Symmetric Using the Mean and Mean Absolute Deviation G6 M6 Topic C: Summarizing a Distribution that is Skewed Using the Median and the Interquartile Range G6 M6 Topic D: Summarizing and Describing Distributions
6.DPS.D.4 Display numerical data in plots on a number line, including dot plots and histograms. Describe any overall patterns in data, such as gaps, clusters, and skews.	G6 M6 Lesson 2: Displaying a Data Distribution G6 M6 Lesson 3: Creating a Dot Plot G6 M6 Lesson 4: Creating a Histogram G6 M6 Lesson 5: Describing a Distribution Displayed in a Histogram G6 M6 Topic B: Summarizing a Distribution that Is Approximately Symmetric Using the Mean and Mean Absolute Deviation G6 M6 Topic C: Summarizing a Distribution that is Skewed Using the Median and the Interquartile Range G6 M6 Topic D: Summarizing and Describing Distributions