Grade 7 | North Dakota Mathematics K–12 Standards 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.

Math Attributes	Aligned Components of *Eureka Math²*
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.

7.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 Math²*
7.NO.NS.1 Describe the absolute value of a number as its distance from zero on a number line.	6 M3 Topic B: Ordering and Magnitude
7.NO.NS.2 Recognize common fractions and decimal equivalencies up to a denominator of 10. Convert a rational number to a decimal using technology.	7 M2 Lesson 19: Rational Numbers as Decimals, Part 1 7 M2 Lesson 20: Rational Numbers as Decimals, Part 2 7 M2 Lesson 21: Comparing and Ordering Rational Numbers

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.

7.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 Math²*
7.NO.O.1 Add, subtract, multiply, and divide integers using visual models and properties of operations in multi-step problems, including authentic problems.	7 M2 Lesson 1: Combining Opposites 7 M2 Lesson 2: Adding Integers 7 M2 Lesson 3: Adding Integers Efficiently 7 M2 Lesson 4: KAKOOMA®

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
7.NO.O.1 *continued*	7 M2 Lesson 7: What Subtraction Means
	7 M2 Lesson 8: Subtracting Integers, Part 1
	7 M2 Lesson 9: Subtracting Integers, Part 2
	7 M2 Lesson 12: The Integer Game
	7 M2 Lesson 13: Understanding Multiples of Negative Numbers
	7 M2 Lesson 14: Understanding the Product of Two Negative Numbers
	7 M2 Lesson 17: Understanding Negative Dividends
	7 M2 Lesson 18: Understanding Negative Divisors
	Supplemental material is necessary to address using properties of operations in multi-step problems.
7.NO.O.2 Add, subtract, multiply, and divide nonnegative fractions in multi-step problems, including authentic problems.	6 M2 Lesson 12: Fraction Operations in a Real-World Situation
7.NO.O.3 Add, subtract, multiply, and divide nonnegative decimals to the hundredth place in multi-step problems using strategies or procedures, including authentic problems.	6 M2 Topic D: Decimal Addition, Subtraction, and Multiplication 6 M2 Topic F: Decimal Division

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.

7.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 Math²*
7.AR.RP.1 Calculate unit rates associated with ratios of rational numbers, including ratios of lengths, areas, and other quantities measured in like or different units.	7 M1 Lesson 1: An Experiment with Ratios and Rates 7 M1 Lesson 2: Exploring Tables of Proportional Relationships 7 M1 Lesson 3: Identifying Proportional Relationships in Tables
7.AR.RP.2 Analyze the relationship between the dependent and independent variables of a proportional relationship using graphs and tables. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, k)$ where k is the unit rate.	6 M4 Topic E: Relating Variables by Using Tables, Graphs, and Equations 7 M1 Topic A: Understanding Proportional Relationships 7 M1 Lesson 9: Comparing Proportional Relationships 7 M1 Lesson 14: Extreme Bicycles

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
7.AR.RP.3 Identify the constant of proportionality in tables, graphs, equations, diagrams, and descriptions of proportional relationships. Represent proportional relationships by an equation of the form $y = kx$, where k is the constant of proportionality, and describe the meaning of each variable (y, k, x) in the context of the situation.	7 M1 Lesson 2: Exploring Tables of Proportional Relationships 7 M1 Lesson 3: Identifying Proportional Relationships in Tables 7 M1 Lesson 4: Exploring Graphs of Proportional Relationships 7 M1 Lesson 5: Analyzing Graphs of Proportional Relationships 7 M1 Lesson 6: Identifying Proportional Relationships in Written Descriptions 7 M1 Lesson 8: Relating Representations of Proportional Relationships 7 M1 Lesson 9: Comparing Proportional Relationships 7 M1 Lesson 10: Applying Proportional Reasoning 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 M1 Lesson 16: Using a Scale Factor 7 M1 Lesson 18: Relating Areas of Scale Drawings 7 M5 Lesson 1: Proportionality and Scale Factor 7 M5 Lesson 4: Proportion and Percent 7 M5 Lesson 5: Common Denominators or Common Numerators

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
7.AR.RP.4 Use proportional relationships to solve multi-step problems involving ratios, percents, and scale drawings of geometric figures, including authentic problems.	7 M1 Lesson 7: Handstand Sprint 7 M1 Lesson 10: Applying Proportional Reasoning 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 M1 Lesson 15: Scale Drawings 7 M1 Lesson 16: Using a Scale Factor 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 M5 Topic A: Proportion and Percent 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 Topic E: Problems Involving Percent

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.

7.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 Math²*
7.AR.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions involving variables, integers, and/or nonnegative fractions and decimals with an emphasis on writing equivalent expressions.	7 M3 Topic A: Equivalent Expressions
7.AR.EE.2 Write and solve equations of the form $px + q = r$ and $p(x + q) = r$, including authentic problems.	7 M3 Topic B: Unknown Angle Measurements 7 M3 Topic C: Solving Equations 7 M3 Lesson 23: Inequalities vs. Equations
7.AR.EE.3 Write and solve one- or two-step inequalities where coefficients and solutions are integers and/or nonnegative fractions and decimals, including authentic problems. Graph the solution set of the inequality and interpret it in the context of the problem.	7 M3 Topic D: Inequalities

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.

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

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
7.GM.AV.1 Describe the relationship between the circumference and diameter of a circle (pi). Apply given formulas to calculate the area and circumference of a circle, including authentic problems.	7 M4 Topic C: Circumference and Area of Circles
7.GM.AV.2 Calculate areas of polygons by composing and/or decomposing them into rectangles and triangles, including authentic problems. Solve problems involving the surface area of prisms and right pyramids using nets, including authentic problems.	7 M4 Lesson 16: Solving Area Problems by Composition and Decomposition 7 M4 Lesson 17: Surface Area of Right Rectangular and Right Triangular Prisms 7 M4 Lesson 18: Surface Area of Right Prisms 7 M4 Lesson 20: Surface Area of Right Pyramids 7 M4 Lesson 21: Surface Area of Other Solids 7 M4 Lesson 26: Designing a Fish Tank
7.GM.AV.3 Solve problems involving the volume of prisms and composite solids, including authentic problems.	7 M4 Lesson 24: Volume of Prisms 7 M4 Lesson 25: Volume of Composite Solids 7 M4 Lesson 26: Designing a Fish Tank

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.

7.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 Math²*
7.GM.GF.1 Draw triangles from given conditions using appropriate tools. Defend whether a unique triangle, multiple triangles, or no triangle can be constructed when given three measures of angles or sides.	7 M4 Topic A: Constructing Geometric Figures 7 M4 Topic B: Constructing Triangles
7.GM.GF.2 Describe the following angle-pair relationships: supplementary angles, complementary angles, vertical angles, and adjacent angles. Solve for an unknown angle in a figure by applying facts about these angles.	7 M3 Topic B: Unknown Angle Measurements

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.

7.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 Math²*
7.DPS.D.1 Identify the strengths and weaknesses of a population sample including bias in the process of the data collection.	7 M6 Lesson 11: Populations and Samples 7 M6 Lesson 12: Selecting a Sample 7 M6 Lesson 13: Variability Between Samples 7 M6 Lesson 14: Sampling Variability When Estimating a Population Mean
7.DPS.D.2 Analyze and draw inferences about a population using single and multiple random samples by using given measures of center and variability for the numerical data set.	7 M6 Lesson 13: Variability Between Samples 7 M6 Lesson 14: Sampling Variability When Estimating a Population Mean 7 M6 Lesson 15: Sampling Variability and the Effect of Sample Size 7 M6 Lesson 16: Sampling Variability When Estimating a Population Proportion 7 M6 Topic D: Comparing Populations

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.

7.DPS.P Probability: Learners will understand and apply basic concepts of probability.

North Dakota Mathematics K–12 Standards	Aligned Components of *Eureka Math²*
7.DPS.P.1 Develop a probability model to find probabilities of theoretical events and contrast probabilities from an experimental model.	7 M6 Lesson 1: What is Probability? 7 M6 Lesson 2: Empirical Probability 7 M6 Lesson 3: Outcomes of Chance Experiments 7 M6 Lesson 4: Theoretical Probability 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.DPS.P.2 Develop a probability model to find theoretical probabilities of independent compound events.	7 M6 Lesson 5: Multistage Experiments 7 M6 Lesson 9: Probability Simulations 7 M6 Lesson 10: Simulations with Random Number Tables