Grade 8 | Nebraska's College and Career Ready Standards for Mathematics (2022) 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.

Nebraska Mathematical Processes	Aligned Components of *Eureka Math²*
MP.1 Make sense of problems and persevere in solving them.	Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.
MP.2 Reason quantitatively and abstractly and consider the reasoning of others.	Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.
MP.3 Create and use representations to organize, record, and communicate mathematical ideas.	Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.
MP.4 Analyze mathematical relationships to connect mathematical ideas.	Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.
MP.5 Explain and justify mathematical ideas using precise mathematical language in written or oral communication.	Lessons in every module engage students in mathematical processes. These are indicated in margin notes included with every lesson.

Number: Students will solve problems and reason with number concepts using multiple representations, make connections within math and across disciplines, and communicate their ideas.

8.N.1 Numeric Relationships: Students will demonstrate, represent, and show relationships among real numbers within the base-ten number system.

Nebraska's College and Career Ready Standards for Mathematics	Aligned Components of *Eureka Math²*
8.N.1.a Determine subsets of numbers as natural, whole, integer, rational, irrational, or real based on the definitions of these sets of numbers.	8 M1 Lesson 22: Familiar and Not So Familiar Numbers 8 M4 Lesson 5: An Interesting Application of Linear Equations, Part 1 8 M4 Lesson 6: An Interesting Application of Linear Equations, Part 2 *Supplemental material is necessary to address this standard.*
8.N.1.b Represent numbers with positive and negative exponents and in scientific notation.	8 M1 Lesson 1: Large and Small Positive Numbers 8 M1 Lesson 2: Comparing Large Numbers 8 M1 Lesson 3: Time to Be More Precise—Scientific Notation 8 M1 Lesson 7: Making Sense of the Exponent of 0 8 M1 Lesson 11: Small Positive Numbers in Scientific Notation
8.N.1.c Describe the difference between a rational and irrational number.	8 M1 Lesson 22: Familiar and Not So Familiar Numbers 8 M4 Lesson 5: An Interesting Application of Linear Equations, Part 1 8 M4 Lesson 6: An Interesting Application of Linear Equations, Part 2
8.N.1.d Approximate, compare, and order real numbers, both rational and irrational, and locate them on the number line.	8 M1 Lesson 21: Approximating Values of Roots and π^2 8 M1 Lesson 23: Ordering Irrational Numbers

Number: Students will solve problems and reason with number concepts using multiple representations, make connections within math and across disciplines, and communicate their ideas.

8.N.2 Operations: Students will compute with exponents and roots.

Nebraska's College and Career Ready Standards for Mathematics	Aligned Components of *Eureka Math²*
8.N.2.a Evaluate the square roots of perfect squares less than or equal to 400 and cube roots of perfect cubes less than or equal to 125.	8 M1 Lesson 16: Perfect Squares and Perfect Cubes 8 M1 Lesson 20: Square Roots
8.N.2.b Simplify numerical expressions involving integer exponents, square roots, and cube roots (e.g., 4^{-2} is the same as $\frac{1}{16}$).	8 M1 Lesson 5: Products of Exponential Expressions with Whole Number Exponents 8 M1 Lesson 6: More Properties of Exponents 8 M1 Lesson 7: Making Sense of the Exponent of 0 8 M1 Lesson 8: Making Sense of Integer Exponents 8 M1 Lesson 9: Writing Equivalent Expressions 8 M1 Lesson 10: Evaluating Numerical Expressions by Using Properties of Exponents
8.N.2.c Evaluate numerical expressions involving absolute value.	*Supplemental material is necessary to address this standard.*
8.N.2.d Multiply and divide numbers using scientific notation.	8 M1 Lesson 12: Operations with Numbers in Scientific Notation 8 M1 Lesson 13: Applications with Numbers in Scientific Notation 8 M1 Lesson 14: Choosing Units of Measurement 8 M1 Lesson 15: Get to the Point

Algebra: Students will solve problems and reason with algebra using multiple representations, make connections within math and across disciplines, and communicate their ideas.

8.A.1 Algebraic Processes: Students will apply the operational properties when evaluating expressions and solving equations.

Nebraska's College and Career Ready Standards for Mathematics	Aligned Components of *Eureka Math²*
8.A.1.a Describe single variable equations as having one solution, no solution, or infinitely many solutions.	8 M4 Lesson 7: Linear Equations with More Than One Solution 8 M4 Lesson 8: Another Possible Number of Solutions 8 M4 Lesson 9: Writing Linear Equations 8 M4 Lesson 10: Using Linear Equations to Solve Real-World Problems
8.A.1.b Solve multi-step equations involving rational numbers with the same variable appearing on both sides of the equation.	8 M4 Lesson 1: Equations 8 M4 Lesson 2: Solving Linear Equations 8 M4 Lesson 3: Solving Linear Equations with Rational Coefficients 8 M4 Lesson 5: An Interesting Application of Linear Equations, Part 1 8 M4 Lesson 6: An Interesting Application of Linear Equations, Part 2 8 M4 Lesson 7: Linear Equations with More Than One Solution 8 M4 Lesson 8: Another Possible Number of Solutions 8 M4 Lesson 10: Using Linear Equations to Solve Real-World Problems 8 M4 Lesson 11: Planning a Trip
8.A.1.c Solve equations of the form $x^2 = k$ ($k \leq 400$) and $x^3 = k$ ($k \leq 125$), where k is a positive rational number, using square root and cube root symbols.	8 M1 Lesson 17: Solving Equations with Squares and Cubes 8 M1 Lesson 20: Square Roots 8 M1 Lesson 24: Revisiting Equations with Squares and Cubes

Algebra: Students will solve problems and reason with algebra using multiple representations, make connections within math and across disciplines, and communicate their ideas.

8.A.2 Applications: Students will solve authentic problems involving multi-step equations.

Nebraska's College and Career Ready Standards for Mathematics	Aligned Components of *Eureka Math²*
8.A.2.a Write multi-step single variable equations from words, tables, and authentic situations.	8 M4 Lesson 1: Equations 8 M4 Lesson 2: Solving Linear Equations 8 M4 Lesson 3: Solving Linear Equations with Rational Coefficients 8 M4 Lesson 5: An Interesting Application of Linear Equations, Part 1 8 M4 Lesson 6: An Interesting Application of Linear Equations, Part 2 8 M4 Lesson 7: Linear Equations with More Than One Solution 8 M4 Lesson 8: Another Possible Number of Solutions 8 M4 Lesson 10: Using Linear Equations to Solve Real-World Problems 8 M4 Lesson 11: Planning a Trip
8.A.2.b Determine and describe the rate of change for given situations through the use of tables and graphs.	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 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

Nebraska's College and Career Ready Standards for Mathematics	Aligned Components of *Eureka Math²*
8.A.2.b *continued*	A1 M5 Lesson 15: Calculating Interest A1 M5 Lesson 18: Modeling Populations A1 M5 Lesson 21: World Population Prediction A1 M5 Lesson 22: A Closer Look at Populations A1 M5 Lesson 24: Modeling an Invasive Species Population
8.A.2.c Graph proportional relationships and interpret the rate of change.	7 M1 Lesson 4: Exploring Graphs of Proportional Relationships 7 M1 Lesson 5: Analyzing Graphs of Proportional Relationships 7 M1 Lesson 9: Comparing Proportional Relationships A1 M5 Lesson 15: Calculating Interest A1 M5 Lesson 18: Modeling Populations A1 M5 Lesson 21: World Population Prediction A1 M5 Lesson 22: A Closer Look at Populations A1 M5 Lesson 24: Modeling an Invasive Species Population

Geometry: Students will solve problems and reason with geometry using multiple representations, make connections within math and across disciplines, and communicate their ideas.

8.G.1 Attributes: Students will apply properties of angle relationships in triangles and with lines to determine angle measures.

Nebraska's College and Career Ready Standards for Mathematics	Aligned Components of *Eureka Math²*
8.G.1.a Determine and use the relationships of the interior angles of a triangle to solve for missing measures.	8 M2 Lesson 13: Angle Sum of a Triangle 8 M2 Lesson 15: Exterior Angles of Triangles 8 M2 Lesson 16: Find Unknown Angle Measures 8 M3 Lesson 12: Exploring Angles in Similar Triangles 8 M3 Lesson 13: Similar Triangles 8 M3 Lesson 14: Using Similar Figures to Find Unknown Side Lengths 8 M3 Lesson 15: Applications of Similar Figures 8 M3 Lesson 16: Similar Right Triangles
8.G.1.b Identify and apply geometric properties of parallel lines cut by a transversal and the resulting corresponding same side interior, alternate interior, and alternate exterior angles to find missing measures.	8 M2 Lesson 12: Lines Cut by a Transversal 8 M2 Lesson 14: Showing Lines Are Parallel 8 M2 Lesson 16: Find Unknown Angle Measures 8 M3 Lesson 12: Exploring Angles in Similar Triangles 8 M3 Lesson 14: Using Similar Figures to Find Unknown Side Lengths 8 M3 Lesson 15: Applications of Similar Figures 8 M3 Lesson 16: Similar Right Triangles

Geometry: Students will solve problems and reason with geometry using multiple representations, make connections within math and across disciplines, and communicate their ideas.

8.G.2 Coordinate Geometry: Students will determine location, orientation, and relationships on the coordinate plane.

Nebraska's College and Career Ready Standards for Mathematics	Aligned Components of *Eureka Math²*
8.G.2.a Perform and describe positions and orientations of shapes under single transformations including rotations in multiples of 90 degrees about the origin, translations, reflections, and dilations on and off the coordinate plane.	8 M2 Lesson 1: Motions of the Plane 8 M2 Lesson 2: Translations 8 M2 Lesson 3: Reflections 8 M2 Lesson 4: Translations and Reflections on the Coordinate Plane 8 M2 Lesson 5: Rotations 8 M2 Lesson 6: Rotations on the Coordinate Plane 8 M2 Lesson 7: Working Backward 8 M3 Lesson 1: Exploring Dilations 8 M3 Lesson 2: Enlargements 8 M3 Lesson 3: Reductions and More Enlargements 8 M3 Lesson 4: Using Lined Paper to Explore Dilations 8 M3 Lesson 5: Figures and Dilations 8 M3 Lesson 6: The Shadowy Hand 8 M3 Lesson 7: Dilations on a Grid 8 M3 Lesson 8: Dilations on the Coordinate Plane 8 M3 Lesson 9: Describing Dilations

Nebraska's College and Career Ready Standards for Mathematics	Aligned Components of *Eureka Math²*
8.G.2.b Determine if two-dimensional figures are congruent or similar.	8 M2 Lesson 7: Working Backward 8 M2 Lesson 8: Sequencing the Rigid Motions 8 M2 Lesson 9: Ordering Sequences of Rigid Motions 8 M2 Lesson 10: Congruent Figures 8 M2 Lesson 11: Showing Figures Are Congruent 8 M2 Lesson 12: Lines Cut by a Transversal 8 M3 Lesson 11: Similar Figures 8 M3 Lesson 12: Exploring Angles in Similar Triangles 8 M3 Lesson 13: Similar Triangles 8 M3 Lesson 17: Similar Triangles on a Line
8.G.2.c Perform and describe positions and orientations of shapes under a sequence of transformations on and off the coordinate plane.	8 M2 Lesson 8: Sequencing the Rigid Motions 8 M2 Lesson 9: Ordering Sequences of Rigid Motions 8 M3 Lesson 10: Sequencing Transformations 8 M3 Lesson 16: Similar Right Triangles

Geometry: Students will solve problems and reason with geometry using multiple representations, make connections within math and across disciplines, and communicate their ideas.

8.G.3 Measurement: Students will reason with formulas and context to determine and compare length, area, and volume.

Nebraska's College and Career Ready Standards for Mathematics	Aligned Components of *Eureka Math²*
8.G.3.a Explain a model of the Pythagorean Theorem.	8 M2 Lesson 17: Proving the Pythagorean Theorem 8 M2 Lesson 18: Proving the Converse of the Pythagorean Theorem 8 M2 Lesson 19: Using the Pythagorean Theorem and Its Converse
8.G.3.b Apply the Pythagorean Theorem to find side lengths of triangles and to solve authentic problems.	8 M1 Lesson 18: The Pythagorean Theorem 8 M1 Lesson 19: Using the Pythagorean Theorem 8 M1 Lesson 20: Square Roots 8 M2 Lesson 19: Using the Pythagorean Theorem and Its Converse 8 M2 Lesson 21: Applying the Pythagorean Theorem 8 M2 Lesson 22: On the Right Path 8 M3 Lesson 16: Similar Right Triangles
8.G.3.c Find the distance between any two points on the coordinate plane using the Pythagorean Theorem.	8 M2 Lesson 20: Distance in the Coordinate Plane 8 M2 Lesson 22: On the Right Path
8.G.3.d Determine the volume of cones, cylinders, and spheres and solve authentic problems using volumes.	8 M6 Lesson 21: Volumes of Prisms and Pyramids 8 M6 Lesson 22: Volume of Cylinders 8 M6 Lesson 23: Volume of Cones 8 M6 Lesson 24: Volume of Spheres 8 M6 Lesson 25: Applications of Volume

Data: Students will solve problems and reason with data/probability using multiple representations, make connections within math and across disciplines, and communicate their ideas.

8.D.2 Analyze Data and Interpret Results: Students will represent and analyze the data and interpret the results.

Nebraska's College and Career Ready Standards for Mathematics	Aligned Components of *Eureka Math²*
8.D.2.a Represent and interpret bivariate data (e.g., ordered pairs) using scatter plots.	8 M6 Lesson 11: Scatter Plots 8 M6 Lesson 12: Patterns in Scatter Plots
8.D.2.b Describe patterns such as positive or negative association, linear or nonlinear association, clustering, and outliers when bivariate data is represented on a coordinate plane.	8 M6 Lesson 11: Scatter Plots 8 M6 Lesson 12: Patterns in Scatter Plots
8.D.2.c Draw an informal line of best fit based on the closeness of the data points to the line.	8 M6 Lesson 13: Informally Fitting a Line to Data 8 M6 Lesson 15: Linear Models 8 M6 Lesson 16: Using the Investigative Process 8 M6 Lesson 17: Analyzing the Model
8.D.2.d Use a linear model to make predictions and interpret the rate of change and y-intercept in context.	8 M6 Lesson 6: Linear Functions and Rate of Change 8 M6 Lesson 7: Interpreting Rate of Change and Initial Value 8 M6 Lesson 14: Determining an Equation of a Line Fit to Data 8 M6 Lesson 15: Linear Models 8 M6 Lesson 16: Using the Investigative Process 8 M6 Lesson 17: Analyzing the Model