Mathematics I | South Dakota State Standards for Mathematics 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.

Standards for Mathematical Practice	Aligned Components of *Eureka Math²*
MP.1 Make sense of problems and persevere in solving them.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.2 Reason abstractly and quantitatively.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.3 Construct viable arguments and critique the reasoning of others.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.4 Model with mathematics.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.5 Use appropriate tools strategically.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.6 Attend to precision.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.7 Look for and make use of structure.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.
MP.8 Look for and express regularity in repeated reasoning.	Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson.

The Real Number System

N.RN.A Extend the properties of exponents to rational exponents.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
N.RN.A.1 Explain how the definition of rational exponents follows from extending the properties of integer exponents, allowing for a notation for radicals in terms of rational exponents.	*Supplemental material is necessary to address this standard.*
N.RN.A.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents.	*Supplemental material is necessary to address this standard.*

Quantities

N.Q.A Reason quantitatively and use units to solve problems.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
N.Q.A.1 Use unit analysis to understand and guide the process of solving multi-step problems; choose and interpret units consistently in formulas; and choose and interpret the scale and origin in graphs and data displays.	Math 1 M1 Lesson 1: A Powerful Trio Math 1 M3 Lesson 14: Comparing Models for Situations Math 1 M6 Lesson 9: Solar System Models Math 1 M6 Lesson 10: Designing a Fundraiser Math 1 M6 Lesson 11: A Vanishing Sea

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.	Math 1 M1 Lesson 1: A Powerful Trio Math 1 M3 Lesson 14: Comparing Models for Situations Math 1 M6 Lesson 3: Analyzing Paint Splatters Math 1 M6 Lesson 9: Solar System Models Math 1 M6 Lesson 10: Designing a Fundraiser
N.Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	Math 1 M6 Lesson 9: Solar System Models Math 1 M6 Lesson 11: A Vanishing Sea

Seeing Structure in Expressions

A.SSE.A Interpret the structure of expressions.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.SSE.A.1 Interpret expressions that represent a quantity in terms of its context.	*This standard is fully addressed by the lessons aligned to its subsections.*
A.SSE.A.1.a Interpret parts of an expression, such as terms, factors, and coefficients.	Math 1 M1 Lesson 4: Interpreting Linear Expressions

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.SSE.A.1.b Interpret complicated expressions by viewing one or more of their parts as a single entity in context.	Math 1 M5 Lesson 7: Exponential Functions Math 1 M5 Lesson 14: Exponential Growth Math 1 M5 Lesson 15: Exponential Decay Math 1 M5 Lesson 16: Modeling Populations Math 1 M5 Lesson 22: Modeling the Temperature of Objects Cooling Over Time
A.SSE.A.2 Recognize and use the structure of an expression to identify ways to rewrite it.	*Supplemental material is necessary to address this standard.*

Seeing Structure in Expressions

A.SSE.B Write expressions in equivalent forms to solve problems.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.SSE.B.3 Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.	*Supplemental material is necessary to address this standard.*
A.SSE.B.3.c Use the properties of exponents to write equivalent expressions for exponential functions.	*Supplemental material is necessary to address this standard.*

Creating Equations

A.CED.A Create equations that describe numbers or relationships.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.CED.A.1 Create equations and inequalities in one variable arising from situations in which linear, quadratic, and exponential functions are appropriate and use them to solve problems.	Math 1 M1 Lesson 5: Printing Presses Math 1 M1 Lesson 9: Writing and Solving Equations in One Variable Math 1 M1 Lesson 11: Solving Linear Inequalities in One Variable Math 1 M1 Lesson 16: Applying Absolute Value Math 1 M5 Lesson 11: Solving Equations Containing Exponential Expressions *Supplemental material is necessary to address quadratic equations and inequalities and exponential inequalities for this standard.*
A.CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	Math 1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables Math 1 M2 Lesson 2: Graphing Linear Equations in Two Variables Math 1 M2 Lesson 3: Creating Linear Equations in Two Variables Math 1 M2 Lesson 4: Proving Conditional Statements Math 1 M2 Lesson 5: Proving Biconditional Statements Math 1 M2 Lesson 8: Low-Flow Showerhead Math 1 M2 Lesson 12: Applications of Systems of Equations Math 1 M4 Lesson 5: Proving the Perpendicular Criterion

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.CED.A.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.	Math 1 M1 Lesson 9: Writing and Solving Equations in One Variable Math 1 M1 Lesson 12: Solution Sets of Compound Statements Math 1 M1 Lesson 13: Solving and Graphing Compound Inequalities Math 1 M1 Lesson 16: Applying Absolute Value Math 1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables Math 1 M2 Lesson 15: Applications of Linear Inequalities Math 1 M2 Lesson 18: Applications of Systems of Linear Inequalities Math 1 M6 Lesson 10: Designing a Fundraiser
A.CED.A.4 Rewrite formulas to highlight a quantity of interest, using the same reasoning as in solving equations.	Math 1 M1 Lesson 10: Rearranging Formulas

Reasoning with Equations and Inequalities

A.REI.A Understand solving equations as a process of reasoning and explain the reasoning.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.REI.A.1 Explain each step in solving an equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	Math 1 M1 Lesson 3: The Commutative, Associative, and Distributive Properties Math 1 M1 Lesson 7: Solving Linear Equations in One Variable Math 1 M1 Lesson 8: Some Potential Dangers When Solving Equations Math 1 M1 Lesson 9: Writing and Solving Equations in One Variable

Reasoning with Equations and Inequalities

A.REI.B Solve equations and inequalities in one variable.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.REI.B.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	Math 1 M1 Lesson 5: Printing Presses Math 1 M1 Lesson 6: Solution Sets of Equations and Inequalities in One Variable Math 1 M1 Lesson 7: Solving Linear Equations in One Variable Math 1 M1 Lesson 8: Some Potential Dangers When Solving Equations Math 1 M1 Lesson 9: Writing and Solving Equations in One Variable Math 1 M1 Lesson 11: Solving Linear Inequalities in One Variable Math 1 M1 Lesson 13: Solving and Graphing Compound Inequalities Math 1 M1 Lesson 14: Solving Absolute Value Equations Math 1 M1 Lesson 15: Solving Absolute Value Inequalities

Reasoning with Equations and Inequalities

A.REI.C Solve systems of equations.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.REI.C.5 Understand the principles of the elimination method.	Math 1 M2 Lesson 10: A New Way to Solve Systems
A.REI.C.6 Solve systems of linear equations exactly and approximately by graphing, focusing on pairs of linear equations in two variables.	Math 1 M2 Topic B: Systems of Linear Equations in Two Variables

Reasoning with Equations and Inequalities

A.REI.D Represent and solve equations and inequalities graphically.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
A.REI.D.10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).	Math 1 M2 Lesson 1: Solution Sets of Linear Equations in Two Variables Math 1 M2 Lesson 2: Graphing Linear Equations in Two Variables
A.REI.D.11 Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, including but not limited to using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, quadratic and exponential.	Math 1 M3 Lesson 10: Using Graphs to Solve Equations Math 1 M5 Lesson 11: Solving Equations Containing Exponential Expressions Math 1 M5 Lesson 19: Comparing Growth of Functions *Supplemental material is necessary to fully address quadratic functions for this standard.*
A.REI.D.12 Graph a linear inequality (strict or inclusive) in two variables; graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	Math 1 M2 Lesson 13: Solution Sets of Linear Inequalities in Two Variables Math 1 M2 Lesson 14: Graphing Linear Inequalities in Two Variables Math 1 M2 Lesson 16: Solution Sets of Systems of Linear Inequalities Math 1 M2 Lesson 17: Graphing Solution Sets of Systems of Linear Inequalities Math 1 M2 Lesson 18: Applications of Systems of Linear Inequalities Math 1 M6 Lesson 10: Designing a Fundraiser

Interpreting Functions

F.IF.A Understand the concept of a function and use function notation.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
F.IF.A.1 Understand that a function maps each element of the domain to exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.	Math 1 M3 Topic A: Functions and Their Graphs
F.IF.A.2 Use function notation, evaluate functions, and interpret statements that use function notation in terms of a context.	Math 1 M3 Lesson 2: Interpreting and Using Function Notation Math 1 M3 Lesson 3: Representing, Naming, and Evaluating Functions Math 1 M3 Lesson 7: Representations of Functions Math 1 M5 Lesson 1: Exploring Patterns Math 1 M5 Lesson 2: The Recursive Challenge Math 1 M5 Lesson 3: Recursive Formulas for Sequences Math 1 M5 Lesson 4: Explicit Formulas for Sequences
F.IF.A.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.	Math 1 M5 Topic A: Arithmetic and Geometric Sequences

Interpreting Functions

F.IF.B Interpret functions that arise in applications in terms of the context.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
F.IF.B.4 For functions, including linear, quadratic, and exponential, that model a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing or decreasing, including using interval notation; maximums and minimums; symmetries.	Math 1 M3 Lesson 8: Exploring Key Features of a Function and Its Graph Math 1 M3 Lesson 9: Identifying Key Features of a Function and Its Graph Math 1 M3 Lesson 11: Comparing Functions Math 1 M3 Lesson 12: Sketching Graphs of Functions from Verbal Descriptions Math 1 M3 Lesson 13: Modeling Elevation as a Function of Time Math 1 M3 Lesson 15: Mars Curiosity Rover Math 1 M5 Lesson 8: Graphing Exponential Functions Math 1 M5 Lesson 9: Using Transformations to Graph Exponential Functions (Bases Greater Than 1) Math 1 M5 Lesson 10: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1) *Supplemental material is necessary to address quadratic functions and interval notation for this standard.*
F.IF.B.5 Relate the domain of a function to its graph and find an appropriate domain in the context of the problem.	Math 1 M3 Lesson 3: Representing, Naming, and Evaluating Functions Math 1 M3 Lesson 4: The Graph of a Function Math 1 M3 Lesson 13: Modeling Elevation as a Function of Time Math 1 M3 Lesson 15: Mars Curiosity Rover
F.IF.B.6 Calculate and interpret the average rate of change of a function, both symbolically and from a table over a specified interval. Estimate the rate of change from a graph.	Math 1 M5 Lesson 17: Average Rate of Change Math 1 M5 Lesson 18: Analyzing Exponential Growth Math 1 M5 Lesson 19: Comparing Growth of Functions Math 1 M5 Lesson 23: Modeling an Invasive Species Population

Interpreting Functions

F.IF.C Analyze functions using different representations.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
F.IF.C.7 Graph parent functions and their transformations expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.	*This standard is addressed by the lessons aligned to its subsection.*
F.IF.C.7.a Graph linear, exponential, and quadratic functions and show intercepts, maxima, and minima.	Math 1 M3 Lesson 5: The Graph of the Equation $y = f(x)$ Math 1 M3 Lesson 6: Using Pseudocode to Compare Graphs of Functions and Graphs of Equations Math 1 M3 Lesson 7: Representations of Functions Math 1 M5 Lesson 8: Graphing Exponential Functions Math 1 M5 Lesson 9: Using Transformations to Graph Exponential Functions (Bases Greater Than 1) Math 1 M5 Lesson 10: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1) *Supplemental material is necessary to address quadratic functions for this standard.*
F.IF.C.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.	*Supplemental material is necessary to address this standard.*
F.IF.C.9 Interpret expressions for exponential growth and decay.	Math 1 M5 Lesson 14: Exponential Growth Math 1 M5 Lesson 15: Exponential Decay Math 1 M5 Lesson 16: Modeling Populations

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
M1.F.IF.C.10 Compare properties of two functions (linear, quadratic and exponential) each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	Math 1 M3 Lesson 11: Comparing Functions *Supplemental material is necessary to address quadratic functions for this standard.*

Building Functions

F.BF.A Build a function that models a relationship between two quantities.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
F.BF.A.1 Write a function (linear, quadratic, and exponential) that describes a relationship between two quantities.	Math 1 M6 Lesson 3: Analyzing Paint Splatters Math 1 M6 Lesson 9: Solar System Models *Supplemental material is necessary to address quadratic functions for this standard.*
F.BF.A.1.a Determine an explicit expression, a recursive process, or steps for calculation from a context.	Math 1 M1 Lesson 2: Looking for Patterns Math 1 M5 Topic A: Arithmetic and Geometric Sequences Math 1 M5 Lesson 7: Exponential Functions Math 1 M5 Lesson 13: Calculating Interest Math 1 M6 Lesson 3: Analyzing Paint Splatters Math 1 M6 Lesson 8: The Deal Math 1 M6 Lesson 9: Solar System Models

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
F.BF.A.1.b Determine an explicit expression from a graph.	Math 1 M5 Lesson 6: Representations of Arithmetic and Geometric Sequences
F.BF.A.1.c Combine standard function types using arithmetic operations.	Math 1 M6 Lesson 8: The Deal
F.BF.A.2 Write arithmetic and geometric sequences both recursively and with an explicit formula and use them to model situations.	Math 1 M5 Lesson 5: Arithmetic and Geometric Sequences Math 1 M5 Lesson 6: Representations of Arithmetic and Geometric Sequences Math 1 M6 Lesson 8: The Deal

Building Functions

F.BF.B Build new functions from existing functions.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
F.BF.B.3 Identify the effect on the graph of $f(x)$ (linear, exponential, quadratic) replaced with $f(x) + k$, $kf(x)$, $f(kx)$, and $f(k + x)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with contrasting cases and illustrate an explanation of the effects on the graph using technology.	Math 1 M3 Topic D: Transformations of Functions Math 1 M5 Lesson 9: Using Transformations to Graph Exponential Functions (Bases Greater Than 1) Math 1 M5 Lesson 10: Using Transformations to Graph Exponential Functions (Bases Between 0 and 1) Math 1 M5 Lesson 12: Writing Equations for Exponential Functions from Tables or Graphs *Supplemental material is necessary to fully address quadratic functions for this standard.*

Linear, Quadratic and Exponential Models

F.LE.A Construct and compare linear and exponential models and solve problems.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
F.LE.A.1 Distinguish between situations that can be modeled with linear functions and with exponential functions.	Math 1 M5 Lesson 13: Calculating Interest Math 1 M5 Lesson 16: Modeling Populations Math 1 M5 Lesson 20: World Population Prediction Math 1 M5 Lesson 21: A Closer Look at Populations Math 1 M5 Lesson 23: Modeling an Invasive Species Population Math 1 M6 Lesson 2: Using Residual Plots to Select Models for Data Math 1 M6 Lesson 3: Analyzing Paint Splatters Math 1 M6 Lesson 11: A Vanishing Sea
F.LE.A.1.a Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.	Math 1 M5 Lesson 18: Analyzing Exponential Growth
F.LE.A.1.b Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.	Math 1 M5 Lesson 20: World Population Prediction Math 1 M5 Lesson 21: A Closer Look at Populations
F.LE.A.1.c Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	Math 1 M5 Lesson 20: World Population Prediction Math 1 M5 Lesson 21: A Closer Look at Populations

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
F.LE.A.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).	Math 1 M5 Lesson 7: Exponential Functions Math 1 M5 Lesson 12: Writing Equations for Exponential Functions from Tables or Graphs Math 1 M5 Lesson 14: Exponential Growth Math 1 M5 Lesson 15: Exponential Decay Math 1 M5 Topic D: Comparing Linear and Exponential Models Math 1 M6 Lesson 3: Analyzing Paint Splatters Math 1 M6 Lesson 8: The Deal Math 1 M6 Lesson 9: Solar System Models
F.LE.A.3 Recognize, using graphs and tables, that a quantity increasing exponentially eventually exceeds a quantity increasing linearly or quadratically.	Math 1 M5 Lesson 19: Comparing Growth of Functions *Supplemental material is necessary to address quadratic functions for this standard.*

Linear, Quadratic and Exponential Models

F.LE.B Interpret expressions for functions in terms of the situation they model.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
F.LE.B.5 Interpret the parameters in a linear or exponential function in terms of a context.	Math 1 M5 Lesson 16: Modeling Populations Math 1 M5 Lesson 18: Analyzing Exponential Growth Math 1 M5 Lesson 22: Modeling the Temperature of Objects Cooling Over Time Math 1 M5 Lesson 23: Modeling an Invasive Species Population

Congruence

G.CO.A Experiment with transformations in the plane.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
G.CO.A.1 State and apply precise definitions of angle, circle, perpendicular, parallel, ray, line segment, and distance based on the undefined notions of point, line, and plane.	Math 1 M4 Lesson 2: Translations of the Coordinate Plane Math 1 M4 Lesson 3: Rotations of the Coordinate Plane Math 1 M4 Lesson 5: Proving the Perpendicular Criterion
G.CO.A.2 Represent transformations in the plane (e.g., using transparencies and/or geometry software).	Math 1 M4 Lesson 1: Geometric Transformations
G.CO.A.2.a Describe transformations as functions that take points in the plane as inputs and give other points as outputs.	Math 1 M4 Lesson 1: Geometric Transformations
G.CO.A.2.b Compare transformations that preserve distance and angle to those that do not (e.g., translation versus dilation).	Math 1 M4 Lesson 1: Geometric Transformations
G.CO.A.3 Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and/or reflections that map the figure onto itself.	Math 1 M4 Lesson 12: Reflective Symmetry and Rotational Symmetry

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
G.CO.A.4 Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.	Math 1 M4 Lesson 2: Translations of the Coordinate Plane Math 1 M4 Lesson 3: Rotations of the Coordinate Plane Math 1 M4 Lesson 4: Reflections of the Coordinate Plane Math 1 M4 Lesson 5: Proving the Perpendicular Criterion Math 1 M4 Lesson 8: Reflections of the Plane Math 1 M4 Lesson 9: Rotations of the Plane Math 1 M4 Lesson 10: Rotations of the Plane with Bisected and Copied Angles Math 1 M4 Lesson 11: Translations of the Plane
G.CO.A.5 Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure (e.g., using graph paper, tracing paper, or geometry software). Specify a sequence of transformations that will map a given figure onto another.	Math 1 M4 Lesson 2: Translations of the Coordinate Plane Math 1 M4 Lesson 3: Rotations of the Coordinate Plane Math 1 M4 Lesson 4: Reflections of the Coordinate Plane Math 1 M4 Lesson 5: Proving the Perpendicular Criterion Math 1 M4 Lesson 13: Sequences of Basic Rigid Motions Math 1 M4 Lesson 14: Transformations of the Coordinate Plane Math 1 M4 Lesson 15: Designs with Rigid Motions Math 1 M4 Lesson 16: Congruent Figures

Congruence

G.CO.B Understand congruence in terms of rigid motions.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
G.CO.B.6 Use geometric descriptions of rigid motions to transform figures.	Math 1 M4 Lesson 14: Transformations of the Coordinate Plane Math 1 M4 Lesson 16: Congruent Figures
G.CO.B.6.a Predict the effect of a given rigid motion on a given figure.	Math 1 M4 Lesson 14: Transformations of the Coordinate Plane
G.CO.B.6.b Given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.	Math 1 M4 Lesson 16: Congruent Figures
G.CO.B.7 Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.	Math 1 M4 Lesson 17: Congruent Triangles
G.CO.B.8 Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.	Math 1 M4 Lesson 18: Side–Angle–Side Math 1 M4 Lesson 19: Angle–Angle–Angle and Side–Side–Side Math 1 M4 Lesson 20: Angle–Side–Angle Math 1 M4 Lesson 21: Side–Side–Angle and Hypotenuse–Leg

Congruence

G.CO.D Make geometric constructions.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
G.CO.D.12 Perform geometric constructions with a compass and straightedge, including copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines/segments; and constructing a line parallel to a given line through a point not on the line.	Math 1 M4 Lesson 6: Compass and Straightedge Constructions Math 1 M4 Lesson 7: Constructing Perpendicular Lines Math 1 M4 Lesson 8: Reflections of the Plane Math 1 M4 Lesson 10: Rotations of the Plane with Bisected and Copied Angles Math 1 M4 Lesson 11: Translations of the Plane Math 1 M4 Lesson 22: Validating Triangle and Angle Constructions Math 1 M4 Lesson 23: Validating Perpendicular Line Constructions Math 1 M4 Lesson 26: Sierpinski Triangle
G.CO.D.13 Construct an equilateral triangle, a square, and a regular hexagon.	Math 1 M4 Lesson 9: Rotations of the Plane Math 1 M4 Lesson 24: Squares Inscribed in Circles Math 1 M4 Lesson 25: Regular Hexagons and Equilateral Triangles Inscribed in Circles

Expressing Geometric Properties with Equations

G.GPE.B Use coordinates to prove simple geometric theorems algebraically.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
G.GPE.B.4 Use coordinates to prove geometric relationships algebraically.	Math 1 M2 Lesson 4: Proving Conditional Statements Math 1 M2 Lesson 5: Proving Biconditional Statements Math 1 M2 Lesson 6: Proving the Parallel Criterion Math 1 M2 Lesson 19: The Distance Formula Math 1 M2 Lesson 20: Proving Geometric Theorems Algebraically

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
G.GPE.B.5 Define and use the slope criteria for parallel and perpendicular lines (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).	Math 1 M2 Lesson 6: Proving the Parallel Criterion Math 1 M2 Lesson 7: Equations of Parallel and Perpendicular Lines Math 1 M2 Lesson 20: Proving Geometric Theorems Algebraically Math 1 M4 Lesson 5: Proving the Perpendicular Criterion
G.GPE.B.7 Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.	Math 1 M2 Lesson 21: Using Coordinates to Determine Perimeters and Areas of Figures Math 1 M6 Lesson 11: A Vanishing Sea

Interpreting Categorical and Quantitative Data

S.ID.A Summarize, represent and interpret data on a single count or measurement variable.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
S.ID.A.1 Represent data with plots on the real number line (dot plots, histograms, and box plots).	Math 1 M1 Lesson 17: Distributions and Their Shapes Math 1 M1 Lesson 18: Describing the Center of a Distribution Math 1 M1 Lesson 19: Using Center to Compare Data Distributions Math 1 M6 Lesson 1: Using Data to Edit Digital Photography

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
S.ID.A.2 Use statistics appropriate to the shape and context of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.	Math 1 M1 Topic D: Univariate Data Math 1 M6 Lesson 1: Using Data to Edit Digital Photography
S.ID.A.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	Math 1 M1 Topic D: Univariate Data

Interpreting Categorical and Quantitative Data

S.ID.B Summarize, represent and interpret data on two categorical and quantitative variables.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
S.ID.B.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.	Math 1 M6 Topic B: Modeling with Categorical Data

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
S.ID.B.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.	Math 1 M2 Lesson 22: Relationships Between Quantitative Variables Math 1 M2 Lesson 28: Analyzing Bivariate Quantitative Data
S.ID.B.6.a Determine the function (linear, quadratic, or exponential model) that best fits a set of data and use that function fitted to data to solve problems within context.	Math 1 M2 Lesson 23: Using Lines to Model Bivariate Quantitative Data Math 1 M6 Lesson 2: Using Residual Plots to Select Models for Data Math 1 M6 Lesson 3: Analyzing Paint Splatters Math 1 M6 Lesson 11: A Vanishing Sea *Supplemental material is necessary to address quadratic models for this standard.*
S.ID.B.6.b Informally and using technology assess the fit of a function by plotting and analyzing residuals.	Math 1 M2 Lesson 25: Calculating and Analyzing Residuals Math 1 M2 Lesson 26: Analyzing Residuals Math 1 M6 Lesson 2: Using Residual Plots to Select Models for Data Math 1 M6 Lesson 3: Analyzing Paint Splatters
S.ID.B.6.c Fit a linear function for a scatter plot that suggests a linear association.	Math 1 M2 Lesson 23: Using Lines to Model Bivariate Quantitative Data Math 1 M2 Lesson 24: Modeling Relationships with a Line Math 1 M2 Lesson 25: Calculating and Analyzing Residuals Math 1 M2 Lesson 27: Interpreting Correlation Math 1 M6 Lesson 2: Using Residual Plots to Select Models for Data Math 1 M6 Lesson 3: Analyzing Paint Splatters Math 1 M6 Lesson 11: A Vanishing Sea

Interpreting Categorical and Quantitative Data

S.ID.C Interpret linear models.

South Dakota State Standards for Mathematics	Aligned Components of *Eureka Math²*
S.ID.C.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	Math 1 M2 Lesson 23: Using Lines to Model Bivariate Quantitative Data Math 1 M2 Lesson 24: Modeling Relationships with a Line Math 1 M2 Lesson 28: Analyzing Bivariate Quantitative Data
S.ID.C.8 Compute (using technology) and interpret the correlation coefficient of a linear fit.	Math 1 M2 Lesson 27: Interpreting Correlation Math 1 M2 Lesson 28: Analyzing Bivariate Quantitative Data
S.ID.C.9 Distinguish between correlation and causation.	Math 1 M2 Lesson 27: Interpreting Correlation Math 1 M2 Lesson 28: Analyzing Bivariate Quantitative Data