## 7-8 | Nebraska's College and Career Ready Standards for Mathematics Correlation to Eureka Math ${ }^{\text {2® }}$

When the original Eureka Math ${ }^{\circledR}$ curriculum was released, it quickly became the most widely used $\mathrm{K}-5$ mathematics curriculum in the country. Now, the Great Minds ${ }^{\circledR}$ 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 highquality 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 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.

## 7-8 | Nebraska's College and Career Ready Standards for Mathematics Correlation to Eureka Math²

| Nebraska Mathematical Processes | Aligned Components of Eureka Math ${ }^{2}$ |
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| MP. 1 <br> Make sense of problems and persevere in solving them. | Lessons in every module engage students in mathematical processes. <br> These are indicated in margin notes included with every lesson. |
| MP. $\mathbf{2}$ <br> Reason quantitatively and abstractly and consider the reasoning <br> of others. | Lessons in every module engage students in mathematical processes. <br> These are indicated in margin notes included with every lesson. |
| MP. $\mathbf{3}$ | Lessons in every module engage students in mathematical processes. <br> These are indicated in margin notes included with every lesson. <br> mathematical ideas. |
| MP.4 <br> Analyze mathematical relationships to connect mathematical ideas. | Lessons in every module engage students in mathematical processes. <br> These indicated in margin notes included with every lesson. |
| MP. $\mathbf{5}$ <br> Explain and justify mathematical ideas using precise mathematical <br> language in written or oral communication. | Lessons in every module engage students in mathematical processes. <br> 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.
7.N. 2 Operations: Students will compute with rational numbers accurately.

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| 7.N.2.a | $7-8$ M1 Topic A: Add and Subtract Rational Numbers |
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| Add, subtract, multiply, and divide <br> rational numbers (e.g., positive and <br> negative fractions, decimals, and <br> integers). | $7-8$ M1 Lesson 6: Multiplying Integers and Rational Numbers |
| 7.N.2.b | $7-8$ M1 Lesson 7: Exponential Expressions and Relating Multiplication to Division |
| Apply properties of operations <br> (commutative, associative, distributive, <br> identity, inverse, zero) as strategies for Integers and Rational Numbers <br> problem solving with rational numbers. | $7-8$ M1 Topic A: Add and Subtract Rational 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. 1 Numeric Relationships: Students will demonstrate, represent, and show relationships among real numbers within the base-ten number system.

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## 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.

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| 8.N.1.b | 7-8 M1 Lesson 10: Large and Small Positive Numbers |
| :---: | :---: |
| Represent numbers with positive and negative exponents and in scientific notation. | 7-8 M1 Lesson 14: Writing Very Large and Very Small Numbers in Scientific Notation <br> 7-8 M1 Lesson 15: Operations with Numbers Written in Scientific Notation <br> 7-8 M1 Lesson 16: Applications with Numbers Written in Scientific Notation <br> 7-8 M1 Lesson 17: Get to the Point |
| 8.N.1.c <br> Describe the difference between a rational and irrational number. | 7-8 M1 Lesson 22: Rational and Irrational Numbers <br> 7-8 M1 Lesson 23: Revisiting Equations with Squares and Cubes |
| 8.N.1.d <br> Approximate, compare, and order real numbers, both rational and irrational, and locate them on the number line. | 7-8 M1 Lesson 20: Using the Pythagorean Theorem 7-8 M1 Lesson 21: Approximating Values of Roots <br> 7-8 M1 Lesson 22: Rational and 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.

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## 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.

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7-8 M1 Lesson 18: Solving Equations with Squares and Cubes<br>7-8 M1 Lesson 19: The Pythagorean Theorem<br>7-8 M1 Lesson 21: Approximating Values of Roots<br>7-8 M1 Lesson 23: Revisiting Equations with Squares and Cubes

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| 8.N.2.b <br> Simplify numerical expressions involving <br> integer exponents, square roots, and <br> cube roots (e.g., $4^{-2}$ is the same as $\frac{1}{16}$ ). | 7-8 M1 Lesson 11: Products of Exponential Expressions with Positive Whole-Number Exponents <br> 7-8 M1 Lesson 12: More Properties of Exponents <br> 7-8 M1 Lesson 13: Making Sense of Integer Exponents <br> Supplemental material is necessary to address simplifying numerical expressions involving <br> square roots and cube roots. |
| :--- | :--- |
| 8.N.2.c <br> Evaluate numerical expressions involving <br> absolute value. | 6 M3 Lesson 7: Absolute Value |
| 8.N.2.d |  |
| Multiply and divide numbers using |  |
| scientific notation. |  |

## Ratios and Proportions: Students will understand ratio concepts and use ratio reasoning to solve problems.

## 7.R.1 Proportional Relationships: Students will understand the concept of proportions, use language to describe the

 relationship between two quantities, and use proportions to solve authentic situations.Nebraska's College and Career Ready
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## 7.R.1.a

Decide whether two quantities are in a proportional relationship (e.g., by testing for equivalent ratios in a table).

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| 7.R.1.b |
| Represent and solve authentic problems <br> with proportions. |
| $7-8$ M2 Lesson 19: Proportional Reasoning and Percents |
| 7-8 M2 Lesson 20: Commissions, Fees, and Taxes |
| 7.R.1.c |

Algebra: Students will solve problems and reason with algebra using multiple representations, make connections within math and across disciplines, and communicate their ideas.
7.A. 1 Algebraic Processes: Students will apply the operational properties when evaluating expressions, and solving equations and inequalities.

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## 7.A.1.a

Use factoring and properties of operations to create equivalent algebraic expressions (e.g., $2 x+6=2(x+3)$ ).

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7-8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations
7-8 M2 Lesson 21: Discount, Markup, Sales Tax, and Tip
7-8 M2 Lesson 22: Percent Increase and Percent Decrease
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| Nebraska's College and Career Ready Standards for Mathematics | Aligned Components of Eureka Math² |
| :---: | :---: |
| 7.A.1.b <br> Given the value of the variable(s), evaluate algebraic expressions, which may include absolute value. | 6 M4 Lesson 8: Algebraic Expressions with Addition, Subtraction, Multiplication, and Division <br> 6 M4 Lesson 11: Modeling Real-World Situations with Expressions <br> 6 M4 Lesson 12: Applying Properties to Multiplication and Division Expressions <br> 6 M4 Lesson 17: Equations and Solutions <br> 6 M5 Lesson 1: The Area of a Parallelogram <br> 6 M5 Lesson 3: The Area of a Triangle <br> 6 M5 Lesson 12: From Nets to Surface Area <br> 6 M5 Lesson 13: Surface Area in Real-World Situations <br> 6 M5 Lesson 14: Designing a Box <br> 6 M5 Lesson 16: Applying Volume Formulas <br> Supplemental material is necessary to fully address evaluating algebraic expressions with absolute value. |
| 7.A.1.c <br> Solve one- and two-step equations involving rational numbers. | 6 M4 Lesson 17: Equations and Solutions <br> 6 M4 Lesson 19: Solving Equations with Addition and Subtraction <br> 6 M4 Lesson 20: Solving Equations with Multiplication and Division <br> 6 M4 Lesson 21: Solving Problems with Equations <br> 7-8 M2 Lesson 1: Finding Unknown Angle Measures <br> 7-8 M2 Lesson 3: Solving Equations <br> 7-8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities |
| 7.A.1.d <br> Solve equations using the distributive property and combining like terms. | 7-8 M2 Lesson 1: Finding Unknown Angle Measures <br> 7-8 M2 Lesson 3: Solving Equations <br> 7-8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities |

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## 7.A.1.e

Solve one- and two-step inequalities involving integers and represent solutions on a number line.

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

## 7.A. 2 Applications: Students will solve authentic problems with algebraic expressions, equations, and inequalities.

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## Aligned Components of Eureka Math ${ }^{2}$

## 7.A.2.a

Write one- and two-step equations involving rational numbers from words, tables, and authentic situations.

## 7.A.2.b

Write one- and two-step inequalities to represent authentic situations involving integers.

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6 \text { M4 Lesson 18: Inequalities and Solutions}
7-8 M2 Lesson 4: Using Equations to Solve Inequalities
7-8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities
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## 6 M4 Lesson 21: Solving Problems with Equations

7-8 M2 Lesson 1: Finding Unknown Angle Measures
7-8 M2 Lesson 3: Solving Equations
7-8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities
7-8 M2 Lesson 15: Relating Representations of Proportional Relationships
7-8 M2 Lesson 16: Applying Proportional Reasoning
7-8 M2 Lesson 17: Using Proportional Reasoning to Solve Multi-Step Problems
7-8 M2 Lesson 18: Handstand Sprint
Supplemental material is necessary to address writing two-step equations from tables.

6 M4 Lesson 18: Inequalities and Solutions
7-8 M2 Lesson 5: Solving Problems Involving Equations and Inequalities

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.

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## 8.A.1.a

Describe single variable equations as having one solution, no solution, or infinitely many solutions.

## 8.A.1.b

Solve multi-step equations involving rational numbers with the same variable appearing on both sides of the equation.

## 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.

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7-8 M2 Lesson 8: Solving Equations with Rational Coefficients
7-8 M2 Lesson 9: Linear Equations with More Than One Solution
7-8 M2 Lesson 10: Another Possible Number of Solutions
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7-8 M2 Topic B: Multi-Step Equations and Their Solutions
7-8 M1 Lesson 18: Solving Equations with Squares and Cubes
7-8 M1 Lesson 19: The Pythagorean Theorem
7-8 M1 Lesson 20: Using the Pythagorean Theorem
7-8 M1 Lesson 21: Approximating Values of Roots

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.

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## 8.A.2.a

Write multi-step single variable equations from words, tables, and authentic situations.

## 8.A.2.b

Determine and describe the rate of change for given situations through the use of tables and graphs.

## 8.A.2.c

Graph proportional relationships and interpret the rate of change.

7-8 M2 Topic B: Multi-Step Equations and Their Solutions
Supplemental material is necessary to address writing multi-step single variable equations from tables.

7-8 M2 Lesson 13: Exploring Tables of Proportional Relationships
7-8 M2 Lesson 14: Exploring Graphs of Proportional Relationships
7-8 M2 Lesson 15: Relating Representations of Proportional Relationships
7-8 M2 Lesson 16: Applying Proportional Reasoning
7-8 M2 Lesson 14: Exploring Graphs of Proportional Relationships
7-8 M2 Lesson 15: Relating Representations of Proportional Relationships

Geometry: Students will solve problems and reason with geometry using multiple representations, make connections within math and across disciplines, and communicate their ideas. 7.G.1 Attributes: Students will identify angle relationships and apply properties to determine angle measures.

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## Aligned Components of Eureka Math²

## 7.G.1.a

Apply properties of adjacent, complementary, supplementary, linear pair, and vertical angles to find missing angle measures.

[^1]Geometry: Students will solve problems and reason with geometry using multiple representations, make connections within math and across disciplines, and communicate their ideas.
7.G.2 Coordinate Geometry: Students will determine location, orientation, and relationships on the coordinate plane.

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| 7.G.2.a | 6 M5 Lesson 5: Perimeter and Area in the Coordinate Plane |
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| Draw polygons in the coordinate plane <br> given coordinates for the vertices. | 6 M 5 Lesson 6: Problem Solving with Area in the Coordinate Plane |
| 7.G.2.b | 6 M 5 Lesson 5: Perimeter and Area in the Coordinate Plane |
| Calculate vertical and horizontal <br> distances in the coordinate plane <br> to find perimeter and area of rectangles. | 6 M 5 Lesson 6: Problem Solving with Area in the Coordinate Plane |

Geometry: Students will solve problems and reason with geometry using multiple representations, make connections within math and across disciplines, and communicate their ideas.
7.G.3 Measurement: Students will identify geometric attributes that create two- and three-dimensional shapes in order to perform measurements and apply formulas to find area and volume.

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## 7.G.3.a

Solve authentic problems involving perimeter and area of composite shapes made from triangles and quadrilaterals.

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7 M4 Lesson 14: Composite Figures with Circular Regions
7 M4 Lesson 16: Solving Area Problems by Composition and Decomposition
7-8 M3 Lesson 6: Watering a Lawn
7-8 M5 Lesson 11: Surface Areas of Prisms and Pyramids

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## 7.G.3.b

Determine surface area and volume of composite rectangular and triangular prisms.

## 7.G.3.c

Determine the area and circumference of circles both on and off the coordinate plane using 3.14 for the value of Pi .

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7-8 M5 Lesson 11: Surface Areas of Prisms and Pyramids
7-8 M5 Lesson 16: Volume of Prisms
7-8 M5 Lesson 18: Designing a Fish Tank
7-8 M5 Lesson 21: Volume of Composite Solids
7-8 M3 Lesson 3: Exploring and Constructing Circles
7-8 M3 Lesson 4: Area and Circumference of a Circle
7-8 M3 Lesson 5: Area and Circumference of Circular Regions
7-8 M3 Lesson 6: Watering a Lawn
Supplemental material is necessary to address determining the circumference of circles on the
coordinate plane.
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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.

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## 8.G.1.a

Determine and use the relationships of the interior angles of a triangle to solve for missing measures.

7-8 M3 Lesson 13: Angle Sum of a Triangle
7-8 M3 Lesson 14: Exterior Angles of Triangles

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## 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.

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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.

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## 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.

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| Nebraska's College and Career Ready Standards for Mathematics | Aligned Components of Eureka Math² |
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| 8.G.2.b <br> Determine if two-dimensional figures are congruent or similar. | 7-8 M3 Lesson 10: Sequencing the Rigid Motions <br> 7-8 M3 Lesson 11: Showing Figures Are Congruent <br> 7-8 M3 Lesson 12: Lines Cut by a Transversal <br> 7-8 M3 Lesson 27: Similar Figures <br> 7-8 M3 Lesson 28: Exploring Angles in Similar Triangles |
| 8.G.2.c <br> Perform and describe positions and orientations of shapes under a sequence of transformations on and off the coordinate plane. | 7-8 M3 Lesson 10: Sequencing the Rigid Motions 7-8 M3 Lesson 11: Showing Figures Are Congruent 7-8 M3 Lesson 26: Dilations on the Coordinate Plane |

## Geometry: Students will solve problems and reason with geometry using multiple representations, make connections within math and across disciplines, and communicate their ideas. <br> 8.G.3 Measurement: Students will reason with formulas and context to determine and compare length, area, and volume.

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## 8.G.3.a

Explain a model of the
Pythagorean Theorem.

## 8.G.3.b

Apply the Pythagorean Theorem to find side lengths of triangles and to solve authentic problems.

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7-8 M1 Lesson 19: The Pythagorean Theorem
7-8 M3 Lesson 15: Proving the Pythagorean Theorem
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7-8 M1 Lesson 19: The Pythagorean Theorem
7-8 M3 Lesson 16: Proving the Converse of the Pythagorean Theorem
7-8 M3 Lesson 17: Applications of the Pythagorean Theorem
7-8 M3 Lesson 29: Using Similar Figures to Find Unknown Side Lengths
7-8 M5 Lesson 19: Volumes of Pyramids and Cones
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| 8.G.3.c <br> Find the distance between any two <br> points on the coordinate plane using <br> the Pythagorean Theorem. |
| 8.G.3.d <br> Determine the volume of cones, cylinders, <br> and spheres and solve authentic |
| problems using volumes. |
| D-8 M3 Lesson 17: Applications of the Pythagorean Theorem |
| Data: Students will solve problems and reason with data/probability using multiple representations, |
| make connections within math and across disciplines, and communicate their ideas. |
| 7.D.1 Data Collection and Statistical Methods: Students will formulate statistical investigative questions, |
| collect data, and organize data. |
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Data: Students will solve problems and reason with data/probability using multiple representations, make connections within math and across disciplines, and communicate their ideas. 7.D. 3 Probability: Students will interpret and apply concepts of probability.

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| 7.D.3.a | $7-8$ M6 Lesson 4: Multistage Experiments |
| :--- | :--- |
| Find theoretical and experimental <br> probabilities for compound independent <br> and dependent events. | $7-8$ M6 Lesson 8: Probability Simulations |
| $7-8$ M6 Lesson 9: Simulations with Random Number Tables |  |
| Supplemental material is necessary to address independent and dependent events. |  |
| 7.D.3.b |  |
| Identify complementary events and <br> calculate their probabilities. | 7-8 M6 Lesson 5: Outcomes That Are Not Equally Likely |
| Supplemental material is necessary to address the term complementary events. |  |

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.
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## 8.D.2.a

Represent and interpret bivariate data (e.g., ordered pairs) using scatter plots.

7-8 M6 Lesson 18: Scatter Plots
7-8 M6 Lesson 19: Patterns in Scatter Plots

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| 8.D.2.b |
| Describe patterns such as positive <br> or negative association, linear <br> or nonlinear association, clustering, <br> and outliers when bivariate data <br> is represented on a coordinate plane. |
| $7-8 \mathrm{M6}$ Lesson 18: Scatter Plots |
| 8.D.2.c |
| Draw an informal line of best fit based <br> on the closeness of the data points <br> to the line. |
| $7-8$ M6 Lesson 21: Linear Models |
| 8.D.2.d |
| Use a linear model to make predictions in Scatter Plots |
| and interpret the rate of change and |
| y-intercept in context. |


[^0]:    7-8 M1 Lesson 22: Rational and Irrational Numbers
    7-8 M1 Lesson 23: Revisiting Equations with Squares and Cubes
    Supplemental material is necessary to address all the subsets of real numbers.

[^1]:    7-8 M2 Lesson 1: Finding Unknown Angle Measures
    7-8 M2 Lesson 2: Using Equivalent Expressions to Solve Equations
    7-8 M2 Lesson 7: Solving Multi-Step Equations

