Grade 6 | New Jersey Student Learning Standards for Mathematics Correlation to *Eureka Math*®

About *Eureka Math*

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

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

Aligned

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

Data

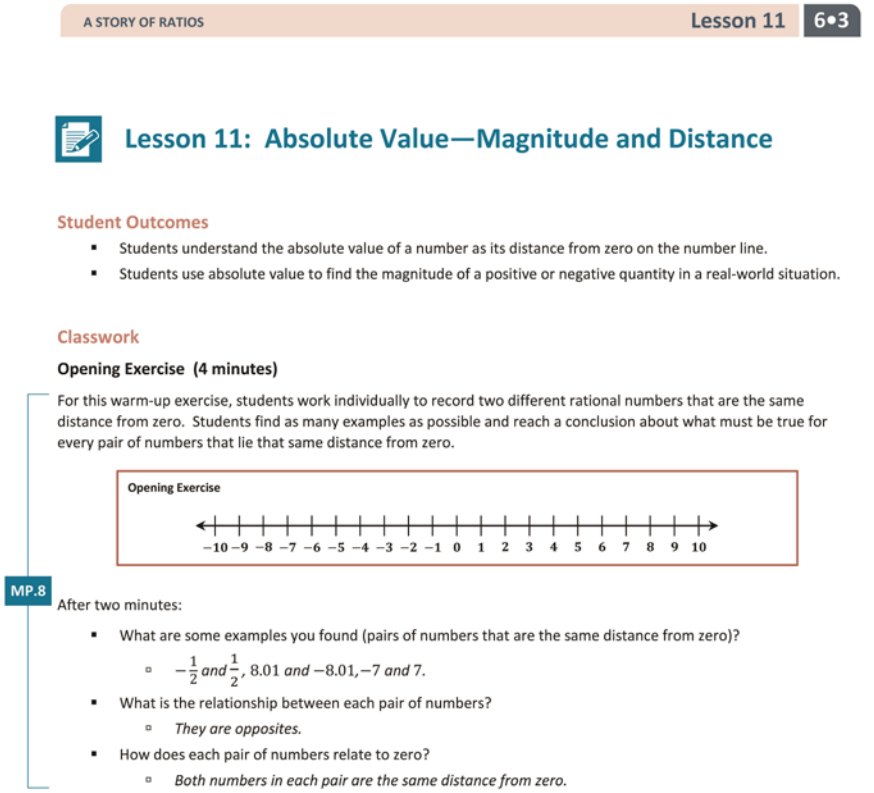
Schools and districts nationwide are experiencing student growth and impressive test scores after using *Eureka Math*. See their stories and data at greatminds.org/data.

Full Suite of Resources

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

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

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

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

Ratios and Proportional Relationships

6.RP.A Understand ratio concepts and use ratio reasoning to solve problems.

New Jersey Student Learning Standards for Mathematics	Aligned Components of *Eureka Math*
6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.	G6 M1 Topic A: Representing and Reasoning About Ratios
6.RP.A.2 Understand the concept of a unit rate $\frac{a}{b}$ associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship.	G6 M1 Topic C: Unit Rates
6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.	G6 M1 Lesson 3: Equivalent Ratios G6 M1 Lesson 4: Equivalent Ratios G6 M1 Lesson 5: Solving Problems by Finding Equivalent Ratios G6 M1 Lesson 6: Solving Problems by Finding Equivalent Ratios G6 M1 Lesson 7: Associated Ratios and the Value of a Ratio G6 M1 Lesson 8: Equivalent Ratios Defined Through the Value of a Ratio G6 M1 Topic B: Collections of Equivalent Ratios G6 M1 Lesson 16: From Ratios to Rates G6 M1 Lesson 17: From Rates to Ratios G6 M1 Lesson 18: Finding a Rate by Dividing Two Quantities G6 M1 Lesson 19: Comparison Shopping—Unit Price and Related Measurement Conversions G6 M1 Lesson 20: Comparison Shopping—Unit Price and Related Measurement Conversions

New Jersey Student Learning Standards for Mathematics	Aligned Components of *Eureka Math*
6.RP.A.3.a Make tables of equivalent ratios relating quantities with whole number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.	G6 M1 Lesson 9: Tables of Equivalent Ratios G6 M1 Lesson 10: The Structure of Ratio Tables—Additive and Multiplicative G6 M1 Lesson 11: Comparing Ratios Using Ratio Tables G6 M1 Lesson 14: From Ratio Tables, Equations, and Double Number Line Diagrams to Plots on the Coordinate Plane
6.RP.A.3.b Solve unit rate problems including those involving unit pricing and constant speed.	G6 M1 Lesson 21: Getting the Job Done—Speed, Work, and Measurement Units G6 M1 Lesson 22: Getting the Job Done—Speed, Work, and Measurement Units G6 M1 Lesson 23: Problem-Solving Using Rates, Unit Rates, and Conversions
6.RP.A.3.c Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means $\frac{30}{100}$ times the quantity); solve problems involving finding the whole, given a part and the percent.	G6 M1 Topic D: Percent
6.RP.A.3.d Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.	G6 M1 Lesson 21: Getting the Job Done—Speed, Work, and Measurement Units G6 M1 Lesson 22: Getting the Job Done—Speed, Work, and Measurement Units G6 M1 Lesson 23: Problem-Solving Using Rates, Unit Rates, and Conversions

The Number System

6.NS.A Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

New Jersey Student Learning Standards for Mathematics	Aligned Components of *Eureka Math*
6.NS.A.1 Interpret and compute quotients of fractions and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.	G6 M2 Topic A: Arithmetic Operations Including Dividing by a Fraction

The Number System

6.NS.B Compute fluently with multi-digit numbers and find common factors and multiples.

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6.NS.B.2 With accuracy and efficiency, divide multi-digit numbers using the standard algorithm.	G6 M2 Topic C: Dividing Whole Numbers and Decimals
6.NS.B.3 With accuracy and efficiency, add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	G6 M2 Topic B: Multi-Digit Decimal Operations—Adding, Subtracting, and Multiplying G6 M2 Lesson 14: The Division Algorithm—Converting Decimal Division into Whole Number Division Using Fractions G6 M2 Lesson 15: The Division Algorithm—Converting Decimal Division to Whole Number Division Using Mental Math

New Jersey Student Learning Standards for Mathematics	Aligned Components of *Eureka Math*
6.NS.B.4 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.	G6 M2 Lesson 17: Divisibility Tests for 3 and 9 G6 M2 Lesson 18: Least Common Multiple and Greatest Common Factor G6 M2 Lesson 19: The Euclidean Algorithm as an Application of the Long Division Algorithm

The Number System

6.NS.C Apply and extend previous understandings of numbers to the system of rational numbers.

New Jersey Student Learning Standards for Mathematics	Aligned Components of *Eureka Math*
6.NS.C.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.	G6 M3 Lesson 2: Real-World Positive and Negative Numbers and Zero G6 M3 Lesson 3: Real-World Positive and Negative Numbers and Zero G6 M3 Lesson 4: The Opposite of a Number G6 M3 Lesson 5: The Opposite of a Number's Opposite G6 M3 Lesson 6: Rational Numbers on the Number Line G6 M3 Lesson 13: Statements of Order in the Real World

New Jersey Student Learning Standards for Mathematics	Aligned Components of *Eureka Math*
6.NS.C.6 Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.	G6 M3 Topic A: Understanding Positive and Negative Numbers on the Number Line G6 M3 Topic C: Rational Numbers and the Coordinate Plane
6.NS.C.6.a Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = 3$, and that 0 is its own opposite.	G6 M3 Topic A: Understanding Positive and Negative Numbers on the Number Line
6.NS.C.6.b Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.	G6 M3 Topic C: Rational Numbers and the Coordinate Plane

New Jersey Student Learning Standards for Mathematics	Aligned Components of *Eureka Math*
6.NS.C.6.c Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.	G6 M3 Topic A: Understanding Positive and Negative Numbers on the Number Line G6 M3 Lesson 14: Ordered Pairs G6 M3 Lesson 15: Locating Ordered Pairs on the Coordinate Plane
6.NS.C.7 Understand ordering and absolute value of rational numbers.	G6 M3 Lesson 8: Ordering Integers and Other Rational Numbers G6 M3 Lesson 11: Absolute Value—Magnitude and Distance G6 M3 Lesson 12: The Relationship Between Absolute Value and Order G6 M3 Lesson 13: Statements of Order in the Real World
6.NS.C.7.a Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.	G6 M3 Lesson 7: Ordering Integers and Other Rational Numbers G6 M3 Lesson 9: Comparing Integers and Other Rational Numbers G6 M3 Lesson 10: Writing and Interpreting Inequality Statements Involving Rational Numbers
6.NS.C.7.b Write, interpret, and explain statements of order for rational numbers in real-world contexts.	G6 M3 Lesson 7: Ordering Integers and Other Rational Numbers G6 M3 Lesson 9: Comparing Integers and Other Rational Numbers G6 M3 Lesson 10: Writing and Interpreting Inequality Statements Involving Rational Numbers

New Jersey Student Learning Standards for Mathematics	Aligned Components of *Eureka Math*
6.NS.C.7.c Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.	G6 M3 Lesson 8: Ordering Integers and Other Rational Numbers G6 M3 Lesson 11: Absolute Value—Magnitude and Distance G6 M3 Lesson 18: Distance on the Coordinate Plane G6 M3 Lesson 19: Problem Solving and the Coordinate Plane
6.NS.C.7.d Distinguish comparisons of absolute value from statements about order.	G6 M3 Lesson 11: Absolute Value—Magnitude and Distance
6.NS.C.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	G6 M3 Topic C: Rational Numbers and the Coordinate Plane

Expressions and Equations

6.EE.A Apply and extend previous understandings of arithmetic to algebraic expressions.

New Jersey Student Learning Standards for Mathematics	Aligned Components of *Eureka Math*
6.EE.A.1 Write and evaluate numerical expressions involving whole-number exponents.	G6 M4 Topic B: Special Notations of Operations G6 M4 Lesson 16: Write Expressions in Which Letters Stand for Numbers
6.EE.A.2 Write, read, and evaluate expressions in which letters stand for numbers.	G6 M4 Topic C: Replacing Letters and Numbers G6 M4 Topic D: Expanding, Factoring, and Distributing Expressions G6 M4 Topic E: Expressing Operations in Algebraic Form G6 M4 Topic F: Writing and Evaluating Expressions and Formulas
6.EE.A.2.a Write expressions that record operations with numbers and with letters standing for numbers.	G6 M4 Topic C: Replacing Letters and Numbers
6.EE.A.2.b Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity.	G6 M4 Topic D: Expanding, Factoring, and Distributing Expressions

New Jersey Student Learning Standards for Mathematics	Aligned Components of *Eureka Math*
6.EE.A.2.c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).	G6 M4 Topic B: Special Notations of Operations
6.EE.A.3 Apply the properties of operations to generate equivalent expressions.	G6 M4 Topic A: Relationships of the Operations G6 M4 Lesson 9: Writing Addition and Subtraction Expressions G6 M4 Lesson 11: Factoring Expressions G6 M4 Lesson 12: Distributing Expressions
6.EE.A.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).	G6 M4 Lesson 8: Replacing Numbers with Letters G6 M4 Lesson 9: Writing Addition and Subtraction Expressions G6 M4 Lesson 10: Writing and Expanding Multiplication Expressions G6 M4 Lesson 11: Factoring Expressions G6 M4 Lesson 12: Distributing Expressions G6 M4 Lesson 13: Writing Division Expressions

Expressions and Equations

6.EE.B Reason about and solve one-variable equations and inequalities.

New Jersey Student Learning Standards for Mathematics	Aligned Components of *Eureka Math*
6.EE.B.5 Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.	G6 M4 Topic G: Solving Equations G6 M4 Topic H: Applications of Equations
6.EE.B.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.	G6 M4 Topic F: Writing and Evaluating Expressions and Formulas G6 M4 Topic G: Solving Equations G6 M4 Topic H: Applications of Equations
6.EE.B.7 Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.	G6 M4 Lesson 26: One-Step Equations—Addition and Subtraction G6 M4 Lesson 27: One-Step Equations—Multiplication and Division G6 M4 Lesson 28: Two-Step Problems—All Operations G6 M4 Lesson 29: Multi-Step Problems—All Operations G6 M4 Lesson 30: One-Step Problems in the Real World G6 M4 Lesson 31: Problems in Mathematical Terms G6 M4 Lesson 32: Multi-Step Problems in the Real World

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6.EE.B.8 Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.	G6 M4 Lesson 33: From Equations to Inequalities G6 M4 Lesson 34: Writing and Graphing Inequalities in Real-World Problems

Expressions and Equations

6.EE.C Represent and analyze quantitative relationships between dependent and independent variables.

New Jersey Student Learning Standards for Mathematics	Aligned Components of *Eureka Math*
6.EE.C.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.	G6 M4 Lesson 31: Problems in Mathematical Terms G6 M4 Lesson 32: Multi-Step Problems in the Real World *Supplemental material is necessary to address dependent and independent variables.*

Geometry

6.G.A Solve real-world and mathematical problems involving area, surface area, and volume.

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6.G.A.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.	G6 M5 Topic A: Area of Triangles, Quadrilaterals, and Polygons G6 M5 Lesson 8: Drawing Polygons in the Coordinate Plane G6 M5 Lesson 9: Determining Perimeter and Area of Polygons on the Coordinate Plane
6.G.A.2 Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = lwh$ and $V = bh$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.	G6 M5 Topic C: Volume of Right Rectangular Prisms G6 M5 Lesson 19: Surface Area and Volume in the Real World G6 M5 Lesson 20: Addendum Lesson for Modeling–Applying Surface Area and Volume to Aquariums

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6.G.A.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.	G6 M5 Topic B: Polygons on the Coordinate Plane
6.G.A.4 Represent three-dimensional figures (e.g., pyramid, triangular prism, rectangular prism) using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.	G6 M5 Topic D: Nets and Surface Area

Statistics and Probability

6.SP.A Develop understanding of statistical variability.

New Jersey Student Learning Standards for Mathematics	Aligned Components of *Eureka Math*
6.SP.A.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.	G6 M6 Lesson 1: Posing Statistical Questions

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6.SP.A.2 Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.	G6 M6 Lesson 2: Displaying a Data Distribution G6 M6 Lesson 3: Creating a Dot Plot G6 M6 Lesson 4: Creating a Histogram G6 M6 Lesson 5: Describing a Distribution Displayed in a Histogram G6 M6 Topic B: Summarizing a Distribution that Is Approximately Symmetric Using the Mean and Mean Absolute Deviation G6 M6 Topic C: Summarizing a Distribution that Is Skewed Using the Median and the Interquartile Range G6 M6 Topic D: Summarizing and Describing Distributions
6.SP.A.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.	G6 M6 Lesson 7: The Mean as a Balance Point G6 M6 Lesson 8: Variability in a Data Distribution G6 M6 Lesson 9: The Mean Absolute Deviation (MAD) G6 M6 Lesson 10: Describing Distributions Using the Mean and MAD G6 M6 Lesson 11: Describing Distributions Using the Mean and MAD G6 M6 Topic C: Summarizing a Distribution that Is Skewed Using the Median and the Interquartile Range G6 M6 Topic D: Summarizing and Describing Distributions

Statistics and Probability

6.SP.B Summarize and describe distributions.

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6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	G6 M6 Lesson 2: Displaying a Data Distribution G6 M6 Lesson 3: Creating a Dot Plot G6 M6 Lesson 4: Creating a Histogram G6 M6 Lesson 5: Describing a Distribution Displayed in a Histogram G6 M6 Lesson 6: Describing the Center of a Distribution Using the Mean G6 M6 Lesson 7: The Mean as a Balance Point G6 M6 Lesson 8: Variability in a Data Distribution G6 M6 Lesson 10: Describing Distributions Using the Mean and MAD G6 M6 Lesson 11: Describing Distributions Using the Mean and MAD G6 M6 Lesson 14: Summarizing a Distribution Using a Box Plot G6 M6 Lesson 15: More Practice with Box Plots G6 M6 Lesson 16: Understanding Box Plots G6 M6 Lesson 17: Developing a Statistical Project G6 M6 Lesson 18: Connecting Graphical Representations and Numerical Summaries G6 M6 Lesson 20: Describing Center, Variability, and Shape of a Data Distribution from a Graphic Representation G6 M6 Lesson 21: Summarizing a Data Distribution by Describing Center, Variability, and Shape G6 M6 Lesson 22: Presenting a Summary of a Statistical Project

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6.SP.B.5 Summarize numerical data sets in relation to their context, such as by:	G6 M6 Lesson 4: Creating a Histogram G6 M6 Lesson 5: Describing a Distribution Displayed in a Histogram G6 M6 Topic B: Summarizing a Distribution that Is Approximately Symmetric Using the Mean and Mean Absolute Deviation G6 M6 Topic C: Summarizing a Distribution that Is Skewed Using the Median and the Interquartile Range G6 M6 Lesson 17: Developing a Statistical Project G6 M6 Lesson 18: Connecting Graphical Representations and Numerical Summaries G6 M6 Lesson 19: Comparing Data Distributions G6 M6 Lesson 20: Describing Center, Variability, and Shape of a Data Distribution from a Graphic Representation
6.SP.B.5.a Reporting the number of observations.	G6 M6 Lesson 2: Displaying a Data Distribution
6.SP.B.5.b Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.	G6 M6 Lesson 2: Displaying a Data Distribution

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6.SP.B.5.c Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	G6 M6 Lesson 20: Describing Center, Variability, and Shape of a Data Distribution from a Graphic Representation G6 M6 Lesson 21: Summarizing a Data Distribution by Describing Center, Variability, and Shape G6 M6 Lesson 22: Presenting a Summary of a Statistical Project
6.SP.B.5.d Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.	G6 M6 Lesson 6: Describing the Center of a Distribution Using the Mean G6 M6 Lesson 7: The Mean as a Balance Point G6 M6 Lesson 8: Variability in a Data Distribution G6 M6 Lesson 12: Describing the Center of a Distribution Using the Median G6 M6 Lesson 13: Describing Variability Using the Interquartile Range (IQR) G6 M6 Lesson 21: Summarizing a Data Distribution by Describing Center, Variability, and Shape G6 M6 Lesson 22: Presenting a Summary of a Statistical Project