Grade 7 | West Virginia College- and Career-Readiness 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

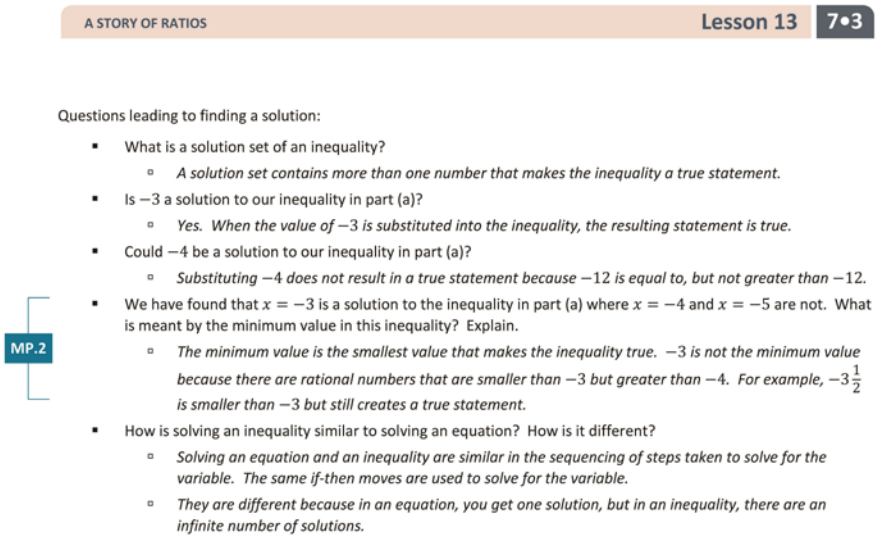
Schools and districts nationwide are experiencing student growth and impressive test scores after using *Eureka Math*. See their stories and data at greatminds.org/data.

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

Mathematical Habits of Mind	Aligned Components of *Eureka Math*
MHM.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: 
MHM.2 Reason abstractly and quantitatively.	
MHM.3 Construct viable arguments and critique the reasoning of others.	
MHM.4 Model with mathematics.	
MHM.5 Use appropriate tools strategically.	
MHM.6 Attend to precision.	
MHM.7 Look for and make use of structure.	
MHM.8 Look for and express regularity in repeated reasoning.	

Ratios and Proportional Relationships

Analyze proportional relationships and use them to solve real-world and mathematical problems.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units (e.g., if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\left(\frac{1}{2}\right)/\left(\frac{1}{4}\right)$ miles per hour, equivalently 2 miles per hour).	G7 M1 Topic B: Unit Rate and the Constant of Proportionality G7 M1 Lesson 11: Ratios of Fractions and Their Unit Rates G7 M1 Lesson 12: Ratios of Fractions and Their Unit Rates
M.7.2 Recognize and represent proportional relationships between quantities.	G7 M1 Topic A: Proportional Relationships G7 M1 Topic B: Unit Rate and Constant of Proportionality G7 M1 Lesson 15: Equations of Graphs of Proportional Relationships Involving Fractions G7 M1 Lesson 16: Relating Scale Drawings to Ratios and Rates G7 M1 Lesson 17: The Unit Rate as the Scale Factor G7 M4 Lesson 1: Percent G7 M4 Lesson 2: Part of a Whole as Percent G7 M4 Lesson 3: Comparing Quantities with Percent G7 M4 Lesson 4: Percent Increase and Decrease G7 M4 Lesson 6: Fluency with Percents G7 M4 Lesson 7: Markup and Markdown Problems G7 M4 Lesson 9: Problem Solving When the Percent Changes G7 M4 Lesson 10: Simple Interest

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.2 ***continued***	G7 M4 Lesson 11: Tax, Commissions, Fees, and Other Real-World Percent Applications G7 M4 Lesson 12: The Scale Factor as a Percent for a Scale Drawing
M.7.2.a Decide whether two quantities are in a proportional relationship (e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin).	G7 M1 Topic A: Proportional Relationships
M.7.2.b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams and verbal descriptions of proportional relationships.	G7 M1 Topic B: Unit Rate and Constant of Proportionality G7 M1 Lesson 16: Relating Scale Drawings to Ratios and Rates G7 M1 Lesson 17: The Unit Rate as the Scale Factor G7 M4 Lesson 12: The Scale Factor as a Percent for a Scale Drawing
M.7.2.c Represent proportional relationships by equations (e.g., if total cost t is proportional to the number n of items purchased at a constant price t, the relationship between the total cost and the number of items can be expressed as $t = pn$).	G7 M1 Lesson 2: Proportional Relationships G7 M1 Lesson 8: Representing Proportional Relationships with Equations G7 M1 Lesson 9: Representing Proportional Relationships with Equations G7 M1 Lesson 10: Interpreting Graphs of Proportional Relationships G7 M4 Lesson 1: Percent G7 M4 Lesson 2: Part of a Whole as Percent G7 M4 Lesson 3: Comparing Quantities with Percent G7 M4 Lesson 4: Percent Increase and Decrease G7 M4 Lesson 6: Fluency with Percents

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.2.c *continued*	G7 M4 Lesson 7: Markup and Markdown Problems G7 M4 Lesson 9: Problem Solving When the Percent Changes G7 M4 Lesson 10: Simple Interest
M.7.2.d Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation. Focus special attention on the points $(0, 0)$ and $(1, r)$ where r is the unit rate.	G7 M1 Lesson 10: Interpreting Graphs of Proportional Relationships
M.7.3 Use proportional relationships to solve multistep ratio and percent problems (e.g., simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, and/or percent error).	G7 M1 Lesson 14: Multi-Step Ratio Problems G7 M4 Lesson 1: Percent G7 M4 Lesson 3: Comparing Quantities with Percent G7 M4 Lesson 4: Percent Increase and Decrease G7 M4 Lesson 5: Find One Hundred Percent Given Another Percent G7 M4 Lesson 6: Fluency with Percents G7 M4 Topic B: Percent Problems Including More than One Whole G7 M4 Topic D: Population, Mixture, and Counting Problems Involving Percents

The Number System

Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.4 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.	G7 M2 Topic A: Addition and Subtraction of Integers and Rational Numbers
M.7.4.a Describe situations in which opposite quantities combine to make 0 (e.g., a hydrogen atom has 0 charge because its two constituents are oppositely charged).	G7 M2 Lesson 1: Opposite Quantities Combine to Make Zero

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.4.b Understand $p + q$ as the number located a distance $\|q\|$ from p, in the positive or negative direction, depending on whether q is positive or negative. (e.g., to add "$p + q$" on the number line, start at "0" and move to "p" then move $\|q\|$ in the positive or negative direction depending on whether "q" is positive or negative). Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.	G7 M2 Lesson 1: Opposite Quantities Combine to Make Zero G7 M2 Lesson 2: Using the Number Line to Model the Addition of Integers G7 M2 Lesson 3: Understanding Addition of Integers G7 M2 Lesson 4: Efficiently Adding Integers and Other Rational Numbers G7 M2 Lesson 7: Addition and Subtraction of Rational Numbers G7 M2 Lesson 8: Applying the Properties of Operations to Add and Subtract Rational Numbers G7 M2 Lesson 9: Applying the Properties of Operations to Add and Subtract Rational Numbers
M.7.4.c Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + -q$. Show that the distance between two rational numbers on the number line is the absolute value of their difference and apply this principle in real-world contexts.	G7 M2 Lesson 5: Understanding Subtraction of Integers and Other Rational Numbers G7 M2 Lesson 6: The Distance Between Two Rational Numbers G7 M2 Lesson 7: Addition and Subtraction of Rational Numbers G7 M2 Lesson 8: Applying the Properties of Operations to Add and Subtract Rational Numbers G7 M2 Lesson 9: Applying the Properties of Operations to Add and Subtract Rational Numbers
M.7.4.d Apply properties of operations as strategies to add and subtract rational numbers.	G7 M2 Lesson 8: Applying the Properties of Operations to Add and Subtract Rational Numbers G7 M2 Lesson 9: Applying the Properties of Operations to Add and Subtract Rational Numbers

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.5 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	G7 M2 Topic B: Multiplication and Division of Integers and Rational Numbers
M.7.5.a Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.	G7 M2 Lesson 10: Understanding Multiplication of Integers G7 M2 Lesson 11: Develop Rules for Multiplying Signed Numbers G7 M2 Lesson 15: Multiplication and Division of Rational Numbers
M.7.5.b Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-\left(\frac{p}{q}\right) = \frac{-p}{q} = \frac{p}{-q}$. Interpret quotients of rational numbers by describing real-world contexts.	G7 M2 Lesson 12: Division of Integers G7 M2 Lesson 15: Multiplication and Division of Rational Numbers

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.5.c Apply properties of operations as strategies to multiply and divide rational numbers.	G7 M2 Lesson 16: Applying the Properties of Operations to Multiply and Divide Rational Numbers
M.7.5.d Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.	G7 M2 Lesson 13: Converting Between Fractions and Decimals Using Equivalent Fractions G7 M2 Lesson 14: Converting Rational Numbers to Decimals Using Long Division
M.7.6 Solve real-world and mathematical problems involving the four operations with rational numbers.	G7 M2 Lesson 18: Writing, Evaluating, and Finding Equivalent Expressions with Rational Numbers G7 M2 Lesson 19: Writing, Evaluating, and Finding Equivalent Expressions with Rational Numbers G7 M2 Lesson 20: Investments—Performing Operations with Rational Numbers G7 M2 Lesson 21: If-Then Moves with Integer Number Cards

Expressions and Equations

Use properties of operations to generate equivalent expressions.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.7 Apply properties of operations as strategies to add, subtract, factor and expand linear expressions with rational coefficients.	G7 M3 Topic A: Use Properties of Operations to Generate Equivalent Expressions
M.7.8 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related (e.g., $a + 0.05a = 1.05a$ means that "increase by 5%" is the same as "multiply by 1.05.").	G7 M2 Lesson 18: Writing, Evaluating, and Finding Equivalent Expressions with Rational Numbers G7 M2 Lesson 19: Writing, Evaluating, and Finding Equivalent Expressions with Rational Numbers G7 M2 Lesson 21: If-Then Moves with Integer Number Cards G7 M3 Lesson 3: Writing Products as Sums and Sums as Products G7 M3 Lesson 4: Writing Products as Sums and Sums as Products

Expressions and Equations

Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.9 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies (e.g., if a woman making $\$25$ an hour gets a 10% raise, she will make an additional $\frac{1}{10}$ of her salary an hour, or $\$2.50$, for a new salary of $\$27.50$; if you want to place a towel bar $9\frac{3}{4}$ inches long in the center of a door that is $27\frac{1}{2}$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation).	G7 M3 Lesson 7: Understanding Equations G7 M3 Lesson 8: Using If-Then Moves in Solving Equations G7 M3 Lesson 9: Using If-Then Moves in Solving Equations G7 M3 Lesson 10: Angle Problems and Solving Equations G7 M3 Lesson 11: Angle Problems and Solving Equations G7 M3 Lesson 13: Inequalities G7 M3 Lesson 14: Solving Inequalities G7 M3 Lesson 15: Graphing Solutions to Inequalities G7 M4 Lesson 7: Markup and Markdown Problems G7 M4 Lesson 8: Percent Error Problems G7 M4 Lesson 9: Problem Solving When the Percent Changes G7 M4 Topic D: Population, Mixture, and Counting Problems Involving Percents

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.10 Use variables to represent quantities in a real-world or mathematical problem and construct simple equations and inequalities to solve problems by reasoning about the quantities.	G7 M2 Lesson 17: Comparing Tape Diagram Solutions to Algebraic Solutions G7 M2 Lesson 21: If-Then Moves with Integer Number Cards G7 M2 Lesson 22: Solving Equations Using Algebra G7 M2 Lesson 23: Solving Equations Using Algebra G7 M3 Topic B: Solve Problems Using Expressions, Equations, and Inequalities G7 M4 Lesson 10: Simple Interest G7 M4 Lesson 11: Tax, Commissions, Fees, and Other Real-World Percent Applications G7 M4 Lesson 17: Mixture Problems
M.7.10.a Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach (e.g., the perimeter of a rectangle is 54 cm; its length is 6 cm; what is its width?; an arithmetic solution similar to "$5 - 6 - 6$ divided by 2" may be compared with the reasoning involved in solving the equation $2w + 12 = 54$; an arithmetic solution similar to "$\frac{54}{2} - 6$" may be compared with the reasoning involved in solving the equation $2(w + 6) = 54$).	G7 M2 Lesson 17: Comparing Tape Diagram Solutions to Algebraic Solutions G7 M2 Lesson 21: If-Then Moves with Integer Number Cards G7 M2 Lesson 22: Solving Equations Using Algebra G7 M2 Lesson 23: Solving Equations Using Algebra G7 M3 Lesson 7: Understanding Equations G7 M3 Lesson 8: Using If-Then Moves in Solving Equations G7 M3 Lesson 9: Using If-Then Moves in Solving Equations G7 M3 Lesson 10: Angle Problems and Solving Equations G7 M3 Lesson 11: Angle Problems and Solving Equations G7 M4 Topic B: Percent Problems Including More than One Whole

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.10.b Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem (e.g., as a salesperson, you are paid $\$50$ per week plus $\$3$ per sale; this week you want your pay to be at least $\$100$; write an inequality for the number of sales you need to make and describe the solutions).	G7 M3 Lesson 12: Properties of Inequalities G7 M3 Lesson 13: Inequalities G7 M3 Lesson 14: Solving Inequalities G7 M3 Lesson 15: Graphing Solutions to Inequalities

Geometry

Draw, construct and describe geometrical figures and describe the relationships between them.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.11 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	G7 M1 Lesson 17: The Unit Rate as the Scale Factor G7 M1 Lesson 18: Computing Actual Lengths from a Scale Drawing G7 M1 Lesson 19: Computing Actual Areas from a Scale Drawing G7 M1 Lesson 20: An Exercise in Creating a Scale Drawing G7 M1 Lesson 21: An Exercise in Changing Scales G7 M1 Lesson 22: An Exercise in Changing Scales G7 M4 Topic C: Scale Drawings

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.12 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine the following:	G7 M6 Topic B: Constructing Triangles
M.7.12.a a unique triangle (e.g., three side measures satisfy the triangle inequality theorem),	G7 M6 Topic B: Constructing Triangles
M.7.12.b more than one triangle (e.g., given three angles whose sum is 180 degrees), or	G7 M6 Topic B: Constructing Triangles
M.7.12.c no triangle (e.g., angle sum is not 180 degrees or sum of the measures of two sides does not exceed the measure of the third side).	G7 M6 Topic B: Constructing Triangles

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.13 Describe the two-dimensional figures (face shapes) that result from slicing three-dimensional figures with cuts made parallel to, perpendicular to, or neither parallel nor perpendicular to the bases of right rectangular prisms and right rectangular pyramids.	G7 M6 Topic C: Slicing Solids

Geometry

Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.14 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	G7 M3 Lesson 16: The Most Famous Ratio of All G7 M3 Lesson 17: The Area of a Circle G7 M3 Lesson 18: More Problems on Area and Circumference G7 M3 Lesson 20: Composite Area Problems
M.7.15 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	G7 M3 Lesson 10: Angle Problems and Solving Equations G7 M3 Lesson 11: Angle Problems and Solving Equations G7 M6 Topic A: Unknown Angles

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.16 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	G7 M3 Lesson 19: Unknown Area Problems on the Coordinate Plane G7 M3 Lesson 20: Composite Area Problems G7 M3 Lesson 21: Surface Area G7 M3 Lesson 22: Surface Area G7 M3 Lesson 23: The Volume of a Right Prism G7 M3 Lesson 24: The Volume of a Right Prism G7 M3 Lesson 25: Volume and Surface Area G7 M3 Lesson 26: Volume and Surface Area G7 M6 Topic D: Problems Involving Area and Surface Area G7 M6 Topic E: Problems Involving Volume

Statistics and Probability

Use random sampling to draw inferences about a population.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.17 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.	G7 M5 Lesson 13: Populations, Samples, and Generalizing from a Sample to a Population G7 M5 Lesson 14: Selecting a Sample G7 M5 Lesson 15: Random Sampling G7 M5 Lesson 18: Sampling Variability and the Effect of Sample Size G7 M5 Lesson 19: Understanding Variability When Estimating a Population Proportion
M.7.18 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions (e.g., estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data; gauge how far off the estimate or prediction might be).	G7 M5 Lesson 14: Selecting a Sample G7 M5 Lesson 15: Random Sampling G7 M5 Lesson 16: Methods for Selecting a Random Sample G7 M5 Lesson 17: Sampling Variability G7 M5 Lesson 18: Sampling Variability and the Effect of Sample Size G7 M5 Lesson 19: Understanding Variability When Estimating a Population Proportion G7 M5 Lesson 20: Estimating a Population Proportion

Statistics and Probability

Draw informal comparative inferences about two populations.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.19 Given two data displays, distinguish measures of center and measures of variation.	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
M.7.20 Compare two numerical data sets in relation to their context, such as by:	G7 M5 Lesson 15: Random Sampling
M.7.20.a Reporting the number of observations.	G7 M5 Lesson 15: Random Sampling
M.7.20.b Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.	G7 M5 Lesson 15: Random Sampling
M.7.20.c Giving quantitative measures of center (median and/or mean) and describing any overall pattern(s).	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

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.20.d Giving quantitative measures of variability (interquartile range (IQR), range, and/or mean absolute deviation (MAD)) and describing any striking deviations from the overall pattern(s).	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
M.7.20.e 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 21: Summarizing a Data Distribution by Describing Center, Variability, and Shape G6 M6 Lesson 22: Presenting a Summary of a Statistical Project
M.7.21 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability (e.g., the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable).	G7 M5 Topic D: Comparing Populations

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.22 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations (e.g., decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book).	G7 M5 Topic D: Comparing Populations

Statistics and Probability

Investigate chance processes and develop, use, and evaluate probability models.

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.23 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around $\frac{1}{2}$ indicates an event that is neither unlikely nor likely and a probability near 1 indicates a likely event.	G7 M5 Lesson 1: Chance Experiments

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.24 Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency and predict the approximate relative frequency given the probability (e.g., when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times).	G7 M5 Lesson 2: Estimating Probabilities by Collecting Data G7 M5 Lesson 3: Chance Experiments with Equally Likely Outcomes G7 M5 Lesson 4: Calculating Probabilities for Chance Experiments with Equally Likely Outcomes G7 M5 Lesson 5: Chance Experiments with Outcomes That Are Not Equally Likely G7 M5 Lesson 8: The Difference Between Theoretical Probabilities and Estimated Probabilities G7 M5 Lesson 12: Applying Probability to Make Informed Decisions
M.7.25 Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.	G7 M5 Lesson 4: Calculating Probabilities for Chance Experiments with Equally Likely Outcomes G7 M5 Lesson 5: Chance Experiments with Outcomes That Are Not Equally Likely G7 M5 Lesson 8: The Difference Between Theoretical Probabilities and Estimated Probabilities G7 M5 Lesson 9: Comparing Estimated Probabilities to Probabilities Predicted by a Model G7 M5 Lesson 12: Applying Probability to Make Informed Decisions
M.7.25.a Develop a uniform probability model by assigning equal probability to all outcomes and use the model to determine probabilities of events (e.g., if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected).	G7 M5 Lesson 4: Calculating Probabilities for Chance Experiments with Equally Likely Outcomes

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.25.b Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process (e.g., find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down; do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?).	G7 M5 Lesson 5: Chance Experiments with Outcomes That Are Not Equally Likely G7 M5 Lesson 12: Applying Probability to Make Informed Decisions
M.7.26 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.	G7 M5 Lesson 6: Using Tree Diagrams to Represent a Sample Space and to Calculate Probabilities G7 M5 Lesson 7: Calculating Probabilities of Compound Events G7 M5 Lesson 10: Conducting a Simulation to Estimate the Probability of an Event G7 M5 Lesson 11: Conducting a Simulation to Estimate the Probability of an Event
M.7.26.a Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.	G7 M5 Lesson 6: Using Tree Diagrams to Represent a Sample Space and to Calculate Probabilities G7 M5 Lesson 7: Calculating Probabilities of Compound Events G7 M5 Lesson 10: Conducting a Simulation to Estimate the Probability of an Event G7 M5 Lesson 11: Conducting a Simulation to Estimate the Probability of an Event

West Virginia College- and Career-Readiness Standards for Mathematics	Aligned Components of *Eureka Math*
M.7.26.b Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.	G7 M5 Lesson 6: Using Tree Diagrams to Represent a Sample Space and to Calculate Probabilities G7 M5 Lesson 7: Calculating Probabilities of Compound Events
M.7.26.c Design and use a simulation to generate frequencies for compound events (e.g., use random digits as a simulation tool to approximate the answer to the question: if 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?).	G7 M5 Lesson 10: Conducting a Simulation to Estimate the Probability of an Event G7 M5 Lesson 11: Conducting a Simulation to Estimate the Probability of an Event