
Grade 5 | South Carolina College- and Career-Ready Mathematics Standards 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 Process Standards

Aligned Components of *Eureka Math*

MPS.PS.1

Make sense of problems and persevere in solving them strategically.

MPS.RC.1

Explain ideas using precise and contextually appropriate mathematical language, tools, and models.

MPS.C.1

Demonstrate a deep and flexible conceptual understanding of mathematical ideas, operations, and relationships while making real-world connections.

MPS.AJ.1

Use critical thinking skills to reason both abstractly and quantitatively.

MPS.SP.1

Identify and apply regularity in repeated reasoning to make generalizations.

Lessons in every module engage students in mathematical processes. These are designated in the Module Overview and labeled in lessons.

For example:

A STORY OF UNITS

Lesson 8 5•3

- T: Student B, what were you saying about the addition problems compared to the subtraction problems?
- S: Addition takes less time and thinking. Just add the whole numbers and write in the fraction. But with subtraction, you have to think harder. First, you subtract the whole numbers, but that won't be your whole number answer. You have to make it one number smaller. In Problem 1(f), for instance, 17 minus 15 equals 2, but the answer won't be 2; it will be between 1 and 2. So, I write down the whole number 1, and then figure out the fraction.
- MP.3** T: Student C, how did you find the fraction that Student B mentioned?
- S: For finding the fraction part of subtraction, I like to count up. For example, in Problem 1(d), I found the whole number and then said $\frac{3}{7}, \frac{4}{7}, \frac{5}{7}, \frac{6}{7}, \frac{7}{7}$. That's 5 groups of sevenths. So, the fraction is $\frac{5}{7}$.
- T: Many of us are finding our own strategies for solving addition and subtraction of whole numbers and fractions. Share with your partner your own strategies. Listen carefully and see if you learn a new strategy to try.
- S: (Discuss.)
- T: (If time permits, ask two students to share what they heard.)

3. Linda planned to spend 9 hours practicing piano this week. By Tuesday, she had spent $2\frac{1}{2}$ hours practicing. How much longer does she need to practice to reach her goal?

Linda needs to spend $6\frac{1}{2}$ hours more to reach her goal.

4. Gary says that $3 - 1\frac{1}{2}$ will be more than 2, since $3 - 1 = 2$. Draw a picture to prove that Gary is wrong.

Gary is wrong! He estimated that $3 - 1\frac{1}{2}$ would be more than 2. He forgot that subtracting $\frac{1}{2}$ more will make the answer less than 2.

Data, Probability, and Statistical Reasoning

5.DPSR.1 Create questions, collect and analyze data, and communicate through multiple representations.

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<p>5.DPSR.1.1</p> <p>Describe data by determining the range and mode, including whole numbers, fractional data, and decimal data. Limit fractions to denominators of 2, 3, 4, 5, 6, 8, and 10, and limit decimals to decimals through the thousandths place.</p>	<p><i>Supplemental material is necessary to address this standard.</i></p>
<p>5.DPSR.1.2</p> <p>Solve two-step, real-world situations using whole number and fractional data represented in tables, line graphs, scaled bar graphs, or dot plots. Limit fractions to denominators of 2, 3, 4, 5, 6, 8, 10, 12, 20, 25, 50, and 100.</p>	<p>G5 M4 Topic A: Line Plots of Fraction Measurements</p> <p><i>Supplemental material is necessary to address line graphs and scaled bar graphs.</i></p>
<p>5.DPSR.1.3</p> <p>Analyze categorical and numerical data in graphical displays to make predictions or draw conclusions. Limit displays to tables, bar graphs, dot plots, line graphs, and circle graphs with scales of whole numbers, halves, fourths, and eighths.</p>	<p>G4 M5 Lesson 28: Solve word problems with line plots.</p> <p>G4 M5 Lesson 40: Solve word problems involving the multiplication of a whole number and a fraction including those involving line plots.</p> <p>G5 M6 Lesson 19: Plot data on line graphs and analyze trends.</p> <p><i>Supplemental material is necessary to address bar graphs and circle graphs.</i></p>

Data, Probability, and Statistical Reasoning

5.DPSR.2 Represent the probability of simple events and determine possible outcomes.

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<p>5.DPSR.2.1</p> <p>Represent the probability of a simple event as 0, a fraction, or 1. Limit fractions to denominators of 2, 3, 4, 5, 6, 8, 10, 20, and 25.</p>	<p><i>Supplemental material is necessary to address this standard.</i></p>

Measurement, Geometry, and Spatial Reasoning

5.MGSR.1 Solve area, perimeter, and volume problems in real-world and mathematical situations.

South Carolina College- and Career-Ready Mathematics Standards	Aligned Components of <i>Eureka Math</i>
<p>5.MGSR.1.1</p> <p>Solve problems involving area and perimeter of composite figures by decomposing with rectangles.</p>	<p>G5 M5 Lesson 12: Measure to find the area of rectangles with fractional side lengths.</p> <p>G5 M5 Lesson 13: Multiply mixed number factors, and relate to the distributive property and the area model.</p> <p>G5 M5 Lesson 14: Solve real-world problems involving area of figures with fractional side lengths using visual models and/or equations.</p> <p><i>Supplemental material is necessary to address perimeter of composite figures.</i></p>
<p>5.MGSR.1.2</p> <p>Estimate and measure the volume of a right rectangular prism with whole-number side lengths by filling it with unit cubes.</p>	<p>G5 M5 Topic A: Concepts of Volume</p> <p>G5 M5 Lesson 4: Use multiplication to calculate volume.</p> <p>G5 M5 Lesson 5: Use multiplication to connect volume as packing with volume as filling.</p>

Measurement, Geometry, and Spatial Reasoning

5.MGSR.2 Convert within a given measurement system and measure length.

<p style="text-align: center;">South Carolina College- and Career-Ready Mathematics Standards</p>	<p style="text-align: center;">Aligned Components of <i>Eureka Math</i></p>
<p>5.MGSR.2.1</p> <p>Given the unit equivalencies, convert within a single system of measurement from larger units to smaller units and smaller units to larger units for length, weight, liquid volume, and time. Use these conversions in solving real-world situations. Limit units to inches, feet, yards, ounces, pounds, fluid ounces, cups, pints, quarts, gallons, seconds, minutes, hours, milli-, centi-, kilo-, and base units (grams, liters, meters).</p>	<p>G5 M1 Lesson 4: Use exponents to denote powers of 10 with application to metric conversions.</p> <p>G5 M2 Topic D: Measurement Word Problems with Whole Number and Decimal Multiplication</p> <p>G5 M4 Lesson 8: Relate a fraction of a set to the repeated addition interpretation of fraction multiplication.</p> <p>G5 M4 Lesson 9: Find a fraction of a measurement, and solve word problems.</p> <p>G5 M4 Lesson 19: Convert measures involving whole numbers, and solve multi-step word problems.</p> <p>G5 M4 Lesson 20: Convert mixed unit measurements, and solve multi-step word problems.</p> <p>G5 M6 Lesson 21: Make sense of complex, multi-step problems, and persevere in solving them. Share and critique peer solutions.</p> <p>G5 M6 Lesson 28: Solidify fluency with Grade 5 skills.</p>
<p>5.MGSR.2.2</p> <p>Estimate and measure lengths to the nearest eighth of an inch or nearest millimeter.</p>	<p><i>Supplemental material is necessary to address this standard.</i></p>

Measurement, Geometry, and Spatial Reasoning

5.MGSR.3 Graph on the coordinate plane.

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<p>5.MGSR.3.1</p> <p>Identify the origin, x-axis, and y-axis in the coordinate system. Write, plot, and label ordered pairs, including values in a function table, in the first quadrant of the coordinate plane.</p>	<p>G5 M6 Topic A: Coordinate Systems</p> <p>G5 M6 Lesson 7: Plot points, use them to draw lines in the plane, and describe patterns within the coordinate pairs.</p> <p>G5 M6 Lesson 14: Construct parallel line segments, and analyze relationships of the coordinate pairs.</p> <p>G5 M6 Lesson 16: Construct perpendicular line segments, and analyze relationships of the coordinate pairs.</p>
<p>5.MGSR.3.2</p> <p>Represent mathematical and real-world situations by graphing, labeling, and interpreting points in the first quadrant of the coordinate plane.</p>	<p>G5 M6 Lesson 14: Construct parallel line segments, and analyze relationships of the coordinate pairs.</p> <p>G5 M6 Lesson 16: Construct perpendicular line segments, and analyze relationships of the coordinate pairs.</p> <p>G5 M6 Lesson 19: Plot data on line graphs and analyze trends.</p> <p>G5 M6 Lesson 20: Use coordinate systems to solve real world problems.</p> <p>G5 M6 Lesson 21: Make sense of complex, multi-step problems, and persevere in solving them. Share and critique peer solutions.</p>

Numerical Reasoning

5.NR.1 Represent and compare numbers using relationships within the base ten number system.

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<p>5.NR.1.1</p> <p>Read, write, and represent multi-digit numbers from 0 to 999 with decimals to the thousandths place. Use pictorial, word, standard, or expanded form with fraction or decimal notation.</p>	<p>G5 M1 Lesson 5: Name decimal fractions in expanded, unit, and word forms by applying place value reasoning.</p> <p>G5 M1 Topic D: Adding and Subtracting Decimals</p> <p>G5 M1 Topic E: Multiplying Decimals</p> <p>G5 M6 Lesson 28: Solidify fluency with Grade 5 skills.</p>
<p>5.NR.1.2</p> <p>Explain how the value of a digit in a multidigit number changes if the digit moves one or more places to the left or right in the base ten system. Include decimals to the thousandths place.</p>	<p>G5 M1 Lesson 1: Reason concretely and pictorially using place value understanding to relate adjacent base ten units from millions to thousandths.</p> <p>G5 M1 Lesson 2: Reason abstractly using place value understanding to relate adjacent base ten units from millions to thousandths.</p> <p>G5 M2 Topic A: Mental Strategies for Multi-Digit Whole Number Multiplication</p> <p>G5 M2 Lesson 16: Use divide by 10 patterns for multi-digit whole number division.</p>
<p>5.NR.1.3</p> <p>Round decimal numbers up to 999 with decimals to the thousandths place to the nearest hundredth, tenth, or whole number.</p>	<p>G5 M1 Topic C: Place Value and Rounding Decimal Fractions</p> <p>G5 M6 Lesson 28: Solidify fluency with Grade 5 skills.</p>
<p>5.NR.1.4</p> <p>Use patterns to explain the exponents when multiplying and dividing by powers of 10, not to exceed the thousandths place.</p>	<p>G5 M1 Lesson 3: Use exponents to name place value units and explain patterns in the placement of the decimal point.</p> <p>G5 M1 Lesson 4: Use exponents to denote powers of 10 with application to metric conversions.</p>

Numerical Reasoning

5.NR.2 Represent and compare fractions in multiple ways.

South Carolina College- and Career-Ready Mathematics Standards	Aligned Components of <i>Eureka Math</i>
<p>5.NR.2.1</p> <p>Compare fractions and mixed numbers with like and unlike denominators of 2, 3, 4, 5, 6, 8, 10, 12, 20, 25, and 100 using equivalence to create a common denominator. Use the symbols for <i>is less than</i> ($<$), <i>is more than</i> ($>$), or <i>is equal to</i> ($=$) to record the comparison.</p>	<p>G4 M5 Topic C: Fraction Comparison</p> <p>G4 M5 Lesson 26: Compare fractions greater than 1 by reasoning using benchmark fractions.</p> <p>G4 M5 Lesson 27: Compare fractions greater than 1 by creating common numerators or denominators.</p> <p>G4 M5 Lesson 28: Solve word problems with line plots.</p>

Patterns, Algebra, and Functional Reasoning

5.PAFR.1 Use multiple representations to reason and solve problems involving operational properties of whole numbers and decimals.

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<p>5.PAFR.1.1</p> <p>Use a strategy to compute the product of a two- or three-digit factor times a two-digit factor to include real-world situations.</p>	<p>G5 M2 Lesson 5: Connect visual models and the distributive property to partial products of the standard algorithm without renaming.</p> <p>G5 M2 Lesson 6: Connect area models and the distributive property to partial products of the standard algorithm with renaming.</p> <p>G5 M2 Lesson 7: Connect area models and the distributive property to partial products of the standard algorithm with renaming.</p> <p>G5 M2 Lesson 8: Fluently multiply multi-digit whole numbers using the standard algorithm and using estimation to check for reasonableness of the product.</p>

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<p>5.PAFR.1.1 <i>continued</i></p>	<p>G5 M2 Lesson 9: Fluently multiply multi-digit whole numbers using the standard algorithm to solve multi-step word problems.</p> <p>G5 M2 Lesson 13: Use whole number multiplication to express equivalent measurements.</p> <p>G5 M2 Lesson 15: Solve two-step word problems involving measurement conversions.</p> <p>G5 M6 Lesson 26: Solidify writing and interpreting numerical expressions.</p>
<p>5.PAFR.1.2</p> <p>Use a strategy to compute the quotient of a multi-digit whole number dividend divided by a two-digit whole number divisor, with and without remainders, to include real-world situations. Limit the dividend to four digits.</p>	<p>G5 M2 Topic E: Mental Strategies for Multi-Digit Whole Number Division</p> <p>G5 M2 Topic F: Partial Quotients and Multi-Digit Whole Number Division</p> <p>G5 M2 Lesson 28: Solve division word problems involving multi-digit division with group size unknown and the number of groups unknown.</p> <p>G5 M6 Lesson 26: Solidify writing and interpreting numerical expressions.</p>
<p>5.PAFR.1.3</p> <p>Use a strategy to compute sums and differences of decimal numbers to the hundredths.</p>	<p>G5 M1 Topic D: Adding and Subtracting Decimals</p> <p>G5 M1 Topic E: Multiplying Decimals</p> <p>G5 M1 Topic F: Dividing Decimals</p> <p>G5 M2 Topic C: Decimal Multi-Digit Multiplication</p> <p>G5 M2 Topic D: Measurement Word Problems with Whole Number and Decimal Multiplication</p> <p>G5 M2 Topic G: Partial Quotients and Multi-Digit Decimal Division</p> <p>G5 M2 Topic H: Measurement Word Problems with Multi-Digit Division</p> <p>G5 M4 Lesson 17: Relate decimal and fraction multiplication.</p> <p>G5 M4 Lesson 18: Relate decimal and fraction multiplication.</p> <p>G5 M4 Lesson 29: Connect division by a unit fraction to division by 1 tenth and 1 hundredth.</p>

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<p>5.PAFR.1.3 <i>continued</i></p>	<p>G5 M4 Lesson 30: Divide decimal dividends by non-unit decimal divisors. G5 M4 Lesson 31: Divide decimal dividends by non-unit decimal divisors. G5 M6 Lesson 26: Solidify writing and interpreting numerical expressions. G5 M6 Lesson 28: Solidify fluency with Grade 5 skills.</p>
<p>5.PAFR.1.4</p> <p>Use a strategy to multiply a one-digit whole number by a decimal to the hundredths and divide a decimal to the hundredths (dividend) by a one-digit whole number (divisor). Justify the calculation.</p>	<p>G5 M1 Topic D: Adding and Subtracting Decimals G5 M1 Topic E: Multiplying Decimals G5 M1 Topic F: Dividing Decimals G5 M2 Topic C: Decimal Multi-Digit Multiplication G5 M2 Topic D: Measurement Word Problems with Whole Number and Decimal Multiplication G5 M2 Topic G: Partial Quotients and Multi-Digit Decimal Division G5 M2 Topic H: Measurement Word Problems with Multi-Digit Division G5 M4 Lesson 17: Relate decimal and fraction multiplication. G5 M4 Lesson 18: Relate decimal and fraction multiplication. G5 M4 Lesson 29: Connect division by a unit fraction to division by 1 tenth and 1 hundredth. G5 M4 Lesson 30: Divide decimal dividends by non-unit decimal divisors. G5 M4 Lesson 31: Divide decimal dividends by non-unit decimal divisors. G5 M6 Lesson 26: Solidify writing and interpreting numerical expressions. G5 M6 Lesson 28: Solidify fluency with Grade 5 skills.</p>

Patterns, Algebra, and Functional Reasoning

5.PAFR.2 Use multiple representations to reason and solve problems involving operational properties of fractions.

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<p>5.PAFR.2.1</p> <p>Use a strategy to compute sums and differences of fractions and mixed numbers with unlike denominators and justify the sum or difference to include real-world situations. Limit denominators to 2, 3, 4, 5, 6, 8, 10, 12, 20, 25, 50, and 100.</p>	<p>G4 M5 Lesson 20: Use visual models to add two fractions with related units using the denominators 2, 3, 4, 5, 6, 8, 10, and 12.</p> <p>G4 M5 Lesson 21: Use visual models to add two fractions with related units using the denominators 2, 3, 4, 5, 6, 8, 10, and 12.</p> <p>G4 M5 Lesson 29: Estimate sums and differences using benchmark numbers.</p> <p>G5 M3 Topic B: Making Like Units Pictorially</p> <p>G5 M3 Topic C: Making Like Units Numerically</p> <p>G5 M3 Topic D: Further Applications</p> <p>G5 M6 Topic E: Multi-Step Word Problems</p> <p>G5 M6 Lesson 26: Solidify writing and interpreting numerical expressions.</p> <p>G5 M6 Lesson 27: Solidify writing and interpreting numerical expressions.</p>
<p>5.PAFR.2.2</p> <p>Use a strategy to multiply a fraction by a fraction or a fraction by a whole to include real-world situations. Limit denominators to 2, 3, 4, 5, 6, 8, 10, and 12.</p>	<p>G5 M4 Lesson 6: Relate fractions as division to fraction of a set.</p> <p>G5 M4 Lesson 7: Multiply any whole number by a fraction using tape diagrams.</p> <p>G5 M4 Lesson 8: Relate a fraction of a set to the repeated addition interpretation of fraction multiplication.</p> <p>G5 M4 Topic D: Fraction Expressions and Word Problems</p> <p>G5 M4 Lesson 13: Multiply unit fractions by unit fractions.</p> <p>G5 M4 Lesson 14: Multiply unit fractions by non-unit fractions.</p> <p>G5 M4 Lesson 15: Multiply non-unit fractions by non-unit fractions.</p> <p>G5 M4 Lesson 16: Solve word problems using tape diagrams and fraction-by-fraction multiplication.</p>

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<p>5.PAFR.2.2 <i>continued</i></p>	<p>G5 M4 Lesson 17: Relate decimal and fraction multiplication.</p> <p>G5 M4 Lesson 18: Relate decimal and fraction multiplication.</p> <p>G5 M4 Lesson 24: Solve word problems using fraction and decimal multiplication.</p> <p>G5 M4 Lesson 33: Create story contexts for numerical expressions and tape diagrams, and solve word problems.</p> <p>G5 M5 Topic C: Area of Rectangular Figures with Fractional Side Lengths</p> <p>G5 M6 Topic E: Multi-Step Word Problems</p> <p>G5 M6 Lesson 26: Solidify writing and interpreting numerical expressions.</p> <p>G5 M6 Lesson 27: Solidify writing and interpreting numerical expressions.</p> <p>G5 M6 Lesson 28: Solidify fluency with Grade 5 skills.</p>
<p>5.PAFR.2.3</p> <p>Interpret and represent division of a whole number dividend by a unit fraction divisor and a unit fraction dividend by a whole number divisor and apply to real-world situations. Limit denominators to 2, 3, 4, 5, 6, 8, 10, and 12.</p>	<p>G5 M4 Lesson 25: Divide a whole number by a unit fraction.</p> <p>G5 M4 Lesson 26: Divide a unit fraction by a whole number.</p> <p>G5 M4 Lesson 27: Solve problems involving fraction division.</p> <p>G5 M4 Lesson 28: Write equations and word problems corresponding to tape and number line diagrams.</p> <p>G5 M4 Lesson 33: Create story contexts for numerical expressions and tape diagrams, and solve word problems.</p> <p>G5 M6 Topic E: Multi-Step Word Problems</p> <p>G5 M6 Lesson 28: Solidify fluency with Grade 5 skills.</p>

Patterns, Algebra, and Functional Reasoning

5.PAFR.3 Use reasoning to represent and solve algebraic and numerical situations.

South Carolina College- and Career-Ready Mathematics Standards	Aligned Components of <i>Eureka Math</i>
<p>5.PAFR.3.1</p> <p>Determine the least common multiple (LCM) to find a common denominator. Limit denominators to 2, 3, 4, 5, 6, 8, 10, 12, 20, 25, 50, and 100.</p>	<p>G6 M2 Lesson 17: Divisibility Tests for 3 and 9</p> <p>G6 M2 Lesson 18: Least Common Multiple and Greatest Common Factor</p> <p>G6 M2 Lesson 19: The Euclidean Algorithm as an Application of the Long Division Algorithm</p> <p><i>Supplemental material is necessary to address using the least common multiple to find a common denominator.</i></p>
<p>5.PAFR.3.2</p> <p>Determine the greatest common factor (GCF) of two numbers both less than or equal to 50 to simplify a fraction into its standard form.</p>	<p>G6 M2 Lesson 17: Divisibility Tests for 3 and 9</p> <p>G6 M2 Lesson 18: Least Common Multiple and Greatest Common Factor</p> <p>G6 M2 Lesson 19: The Euclidean Algorithm as an Application of the Long Division Algorithm</p> <p><i>Supplemental material is necessary to address using the greatest common factor to simplify a fraction.</i></p>
<p>5.PAFR.3.3</p> <p>Identify a rule that can describe the pattern from the data of a function table and write it as an expression.</p>	<p>G5 M6 Topic B: Patterns in the Coordinate Plane and Graphing Number Patterns from Rules</p> <p><i>Supplemental material is necessary for writing the rule that can describe the pattern as an expression.</i></p>

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<p>5.PAFR.3.4</p> <p>Translate a two-step real-world situation into a numerical expression using parentheses as grouping symbols and evaluate the expression.</p>	<p>G5 M2 Lesson 3: Write and interpret numerical expressions, and compare expressions using a visual model.</p> <p>G5 M2 Lesson 4: Convert numerical expressions into unit form as a mental strategy for multi-digit multiplication.</p> <p>G5 M4 Lesson 10: Compare and evaluate expressions with parentheses.</p> <p>G5 M4 Lesson 32: Interpret and evaluate numerical expressions including the language of scaling and fraction division.</p> <p>G5 M6 Lesson 26: Solidify writing and interpreting numerical expressions.</p> <p>G5 M6 Lesson 27: Solidify writing and interpreting numerical expressions.</p>
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