Grade 2 | Tennessee Academic 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.	

For example:

A STORY OF UNITS   Lesson 18   2•5

T: (Write 2 above the arrow, then 280.)
T: How many more do we need now to get to the next hundred? (Record student responses.)
S: 20. → 2 tens.
T: How many more do we need to get to our whole?
S: 100.
T: We wrote 2, then 20, then 100. Put them altogether, and what do we get?
S: 122.
T: So, $400 - 278$ is …?
S: 122.

Problem 3: $605 - 498$

T: Now, let's subtract from a number with a zero in the tens place. Which strategies could we use to solve this problem?
S: We could use the arrow way to solve it with addition because it's easy to make 500 and then get to 605. → We could take 6 off both numbers to make $599 - 492$, which means we don't have to do any renaming. → We could just use vertical form.

MP.3

Take students through the process of solving the problem by relating the chip model to vertical form, renaming 605 as 5 hundreds, 9 tens, 15 ones in one step. When finished, engage students in a discussion about which methods they prefer.

Instruct students to work in pairs through the following problems, discussing which strategy they think would work best for each problem: $500 - 257$, $702 - 195$, and $600 - 314$. As students demonstrate proficiency renaming in one step, instruct them to work on the Problem Set.

NOTES ON MULTIPLE MEANS OF REPRESENTATION:

There is no right answer as to which strategy is the best or most efficient for a given problem type. Different students may find certain strategies easier than others. Allow for creativity in modeling, expressing, and critiquing different solution strategies; however, acknowledge that some students may feel most comfortable and capable using a particular method.

Operations and Algebraic Thinking
2.OA.A Represent and solve problems involving addition and subtraction.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
2.OA.A.1 Add and subtract within 100 to solve one- and two-step contextual problems, with unknowns in all positions, involving situations of add to, take from, put together/take apart, and compare. Use objects, drawings, and equations with a symbol for the unknown number to represent the problem.	G2 M1 Lesson 2: Practice making the next ten and adding to a multiple of ten. G2 M1 Lesson 5: Make a ten to add within 100. G2 M1 Lesson 8: Take from ten within 100. G2 M4 Lesson 5: Solve one- and two-step word problems within 100 using strategies based on place value. G2 M4 Lesson 16: Solve one- and two-step word problems within 100 using strategies based on place value. G2 M4 Lesson 31: Solve two-step word problems within 100. G2 M6 Lesson 9: Solve word problems involving addition of equal groups in rows and columns.

Operations and Algebraic Thinking
2.OA.B Add and subtract within 30.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
2.OA.B.2 Fluently add and subtract within 30 using mental strategies. By the end of 2nd grade, know all sums of two one-digit numbers and related subtraction facts.	G2 M1 Topic A: Foundations for Fluency with Sums and Differences Within 100 G2 M1 Lesson 3: Add and subtract like units. G2 M1 Lesson 4: Make a ten to add within 20. G2 M1 Lesson 5: Make a ten to add within 100. *Supplemental material is necessary to address fluently adding and subtracting within 30.*

Operations and Algebraic Thinking
2.OA.C Work with equal groups of objects to gain foundations for multiplication.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
2.OA.C.3 Determine whether a group of objects (up to 20) has an odd or even number of members by pairing objects or counting them by 2s. Write an equation to express an even number as a sum of two equal addends.	G2 M6 Topic D: The Meaning of Even and Odd Numbers
2.OA.C.4 Use repeated addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.	G2 M6 Topic A: Formation of Equal Groups G2 M6 Topic B: Arrays and Equal Groups G2 M6 Lesson 10: Use square tiles to compose a rectangle, and relate to the array model. G2 M6 Lesson 11: Use square tiles to compose a rectangle, and relate to the array model. G2 M6 Lesson 13: Use square tiles to decompose a rectangle. G2 M6 Lesson 15: Use math drawings to partition a rectangle with square tiles, and relate to repeated addition.

Operations and Algebraic Thinking

2.OA.D Solve problems involving addition and subtraction and identify and explain patterns in arithmetic.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
2.OA.D.1 Identify arithmetic patterns in an addition or hundreds chart and explain them using properties of operations.	G1 M1 Lesson 23: Look for and make use of structure on the addition chart by looking for and coloring problems with the same total. G1 M1 Lesson 38: Look for and make use of repeated reasoning and structure, using the addition chart to solve subtraction problems. G1 M1 Lesson 39: Analyze the addition chart to create sets of related addition and subtraction facts. *Supplemental material is necessary to fully address this standard.*

Number and Operations in Base Ten

2.NBT.A Understand place value.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
2.NBT.A.1 Know that the three digits of a three-digit number represent amounts of hundreds, tens, and ones (e.g., 706 can be represented in multiple ways as 7 hundreds, 0 tens, and 6 ones; 706 ones; or 70 tens and 6 ones).	G2 M3 Topic A: Forming Base Ten Units of Ten, a Hundred, and a Thousand G2 M3 Lesson 4: Count up to 1,000 on the place value chart. G2 M3 Lesson 5: Write base ten three-digit numbers in unit form; show the value of each digit. G2 M3 Lesson 7: Write, read, and relate base ten numbers in all forms. G2 M3 Topic D: Modeling Base Ten Numbers Within 1,000 with Money G2 M3 Topic E: Modeling Numbers Within 1,000 with Place Value Disks G2 M3 Topic G: Finding 1, 10, and 100 More or Less Than a Number

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
2.NBT.A.2 Recognize, describe, extend, and create patterns when counting by ones, twos, fives, tens, and hundreds and use those patterns to predict the next number in the counting sequence up to 1,000 through counting.	G2 M3 Lesson 21: Complete a pattern counting up and down. G2 M4 Lesson 1: Relate 1 more, 1 less, 10 more, and 10 less to addition and subtraction of 1 and 10. G2 M6 Lesson 19: Investigate the pattern of even numbers: 0, 2, 4, 6, and 8 in the ones place, and relate to odd numbers. *Supplemental material is necessary to fully address this standard.*
2.NBT.A.3 Read and write numbers to 1,000 using standard form, word form, and expanded form.	G2 M3 Lesson 5: Write base ten three-digit numbers in unit form; show the value of each digit. G2 M3 Lesson 6: Write base ten numbers in expanded form. G2 M3 Lesson 7: Write, read, and relate base ten numbers in all forms. G2 M3 Lesson 11: Count the total value of ones, tens, and hundreds with place value disks. G2 M3 Lesson 13: Read and write numbers within 1,000 after modeling with place value disks. G2 M3 Lesson 14: Model numbers with more than 9 ones or 9 tens; write in expanded, unit, standard, and word forms. G2 M3 Lesson 15: Explore a situation with more than 9 groups of ten. G2 M3 Topic F: Comparing Two Three-Digit Numbers
2.NBT.A.4 Compare two three-digit numbers based on the meanings of the digits in each place and use the symbols >, =, and < to show the relationship.	G2 M3 Topic F: Comparing Two Three-Digit Numbers

Number and Operations in Base Ten

2.NBT.B Use place value understanding and properties of operations to add and subtract.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
2.NBT.B.5 Fluently add and subtract within 100 using properties of operations, strategies based on place value, and/or the relationship between addition and subtraction.	G2 M1 Lesson 6: Subtract single-digit numbers from multiples of 10 within 100. G2 M1 Lesson 7: Take from ten within 20. G2 M1 Lesson 8: Take from ten within 100. G2 M4 Topic A: Sums and Differences Within 100 G2 M7 Topic B: Problem Solving with Coins and Bills
2.NBT.B.6 Add up to four two-digit numbers using properties of operations and strategies based on place value.	G2 M4 Lesson 22: Solve additions with up to four addends with totals within 200 with and without two compositions of larger units.

Number and Operations in Base Ten

2.NBT.C Use place value understanding and properties of operations to add and subtract.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
2.NBT.C.7 Add and subtract within 1,000 using concrete models, drawings, strategies based on place value, properties of operations, and/or the relationship between addition and subtraction to explain the reasoning used.	G2 M4 Topic B: Strategies for Composing a Ten G2 M4 Topic C: Strategies for Decomposing a Ten G2 M4 Lesson 17: Use mental strategies to relate compositions of 10 tens as 1 hundred to 10 ones as 1 ten. G2 M4 Lesson 18: Use manipulatives to represent additions with two compositions. G2 M4 Lesson 19: Relate manipulative representations to a written method. G2 M4 Lesson 20: Use math drawings to represent additions with up to two compositions and relate drawings to a written method. G2 M4 Lesson 21: Use math drawings to represent additions with up to two compositions and relate drawings to a written method. G2 M4 Topic E: Strategies for Decomposing Tens and Hundreds G2 M4 Topic F: Student Explanations of Written Methods G2 M5 Topic A: Strategies for Adding and Subtracting Within 1,000 G2 M5 Topic B: Strategies for Composing Tens and Hundreds Within 1,000 G2 M5 Topic C: Strategies for Decomposing Tens and Hundreds Within 1,000 G2 M5 Topic D: Student Explanations for Choice of Solution Methods

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
2.NBT.C.8 Mentally add or subtract 10 or 100 to/from any given number within 1,000.	G2 M3 Lesson 19: Model and use language to tell about 1 more and 1 less, 10 more and 10 less, and 100 more and 100 less. G2 M3 Lesson 21: Complete a pattern counting up and down. G2 M4 Lesson 1: Relate 1 more, 1 less, 10 more, and 10 less to addition and subtraction of 1 and 10. G2 M4 Lesson 2: Add and subtract multiples of 10 including counting on to subtract. G2 M4 Lesson 3: Add and subtract multiples of 10 and some ones within 100. G2 M4 Lesson 4: Add and subtract multiples of 10 and some ones within 100. G2 M4 Lesson 17: Use mental strategies to relate compositions of 10 tens as 1 hundred to 10 ones as 1 ten. G2 M5 Lesson 1: Relate 10 more, 10 less, 100 more, and 100 less to addition and subtraction of 10 and 100. G2 M5 Lesson 2: Add and subtract multiples of 100, including counting on to subtract. G2 M5 Lesson 3: Add multiples of 100 and some tens within 1,000. G2 M5 Lesson 4: Subtract multiples of 100 and some tens within 1,000. G2 M5 Lesson 5: Use the associative property to make a hundred in one addend.

Measurement and Data

2.MD.A Measure and estimate lengths in standard units.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
2.MD.A.1 Measure the length of an object in whole number units by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	G2 M2 Topic A: Understand Concepts About the Ruler G2 M2 Lesson 4: Measure various objects using centimeter rulers and meter sticks. G2 M2 Lesson 6: Measure and compare lengths using centimeters and meters. G2 M7 Topic C: Creating an Inch Ruler G2 M7 Lesson 16: Measure various objects using inch rulers and yardsticks. G2 M7 Lesson 17: Develop estimation strategies by applying prior knowledge of length and using mental benchmarks. G2 M7 Lesson 19: Measure to compare the differences in length using inches, feet, and yards.
2.MD.A.2 Measure the length of an object using two different whole number units of measure and describe how the two measurements relate to the size of the unit chosen.	G2 M2 Lesson 7: Measure and compare lengths using standard metric length units and non-standard length units; relate measurement to unit size. G2 M7 Lesson 18: Measure an object twice using different length units and compare; relate measurement to unit size.
2.MD.A.3 Estimate lengths using whole number units of inches, feet, yards, centimeters, and meters.	G2 M2 Lesson 5: Develop estimation strategies by applying prior knowledge of length and using mental benchmarks. G2 M7 Lesson 16: Measure various objects using inch rulers and yardsticks. G2 M7 Lesson 17: Develop estimation strategies by applying prior knowledge of length and using mental benchmarks.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
2.MD.A.4 Measure, using whole number lengths, to determine how much longer one object is than another and express the difference in terms of a standard unit of length.	G2 M2 Lesson 6: Measure and compare lengths using centimeters and meters. G2 M2 Lesson 9: Measure lengths of string using measurement tools, and use tape diagrams to represent and compare the lengths. G2 M7 Lesson 19: Measure to compare the differences in length using inches, feet, and yards.

Measurement and Data
2.MD.B Relate addition and subtraction to length.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
2.MD.B.5 Add and subtract within 100 to solve contextual problems, with the unknown in any position, involving lengths that are given in the same units by using drawings and equations with a symbol for the unknown to represent the problem.	G2 M2 Topic D: Relate Addition and Subtraction to Length G2 M7 Lesson 20: Solve two-digit addition and subtraction word problems involving length by using tape diagrams and writing equations to represent the problem.
2.MD.B.6 Represent whole numbers as lengths from 0 on a number line and know that the points corresponding to the numbers on the number line are equally spaced. Use a number line to represent whole number sums and differences of lengths within 100.	G2 M2 Lesson 8: Solve addition and subtraction word problems using the ruler as a number line. G2 M7 Lesson 21: Identify unknown numbers on a number line diagram by using the distance between numbers and reference points. G2 M7 Lesson 22: Represent two-digit sums and differences involving length by using the ruler as a number line. G2 M7 Lesson 24: Draw a line plot to represent the measurement data; relate the measurement scale to the number line.

Measurement and Data
2.MD.C Work with time and money.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
2.MD.C.7 Tell and write time in quarter hours and to the nearest five minutes (in a.m. and p.m.) using analog and digital clocks.	G2 M8 Topic D: Application of Fractions to Tell Time
2.MD.C.8 Solve contextual problems involving amounts less than one dollar including quarters, dimes, nickels, and pennies using the ¢ symbol appropriately. Solve contextual problems involving whole number dollar amounts up to $100 using the $ symbol appropriately.	G2 M7 Topic B: Problem Solving with Coins and Bills

Measurement and Data
2.MD.D Represent and interpret data.

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2.MD.D.9 Given a set of data, create a line plot, where the horizontal scale is marked off in whole-number units.	G2 M7 Topic F: Displaying Measurement Data

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
2.MD.D.10 Draw a pictograph (with a key of values of 1, 2, 5, or 10) and a bar graph (with intervals of one) to represent a data set with up to four categories. Solve addition and subtraction problems related to the data in a graph.	G2 M7 Topic A: Problem Solving with Categorical Data G3 M6 Lesson 1: Generate and organize data. *Supplemental material is necessary to fully address drawing a pictograph with key values of 5 or 10.*

Geometry

2.G.A Reason about shapes and their attributes.

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
2.G.A.1 Identify triangles, quadrilaterals, pentagons, and hexagons. Draw two-dimensional shapes having specified attributes (as determined directly or visually, not by measuring), such as a given number of angles/vertices or a given number of sides of equal length.	G2 M8 Topic A: Attributes of Geometric Shapes G2 M8 Lesson 6: Combine shapes to create a composite shape; create a new shape from composite shapes.
2.G.A.2 Partition a rectangle into rows and columns of same-sized squares and find the total number of squares.	G2 M6 Topic C: Rectangular Arrays as a Foundation for Multiplication and Division

Tennessee Academic Standards for Mathematics	Aligned Components of *Eureka Math*
2.G.A.3 Partition circles and rectangles into two, three, and four equal shares. Describe the shares using the words halves, thirds, fourths, half of, a third of, and a fourth of, and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	G2 M8 Topic B: Composite Shapes and Fraction Concepts G2 M8 Topic C: Halves, Thirds, and Fourths of Circles and Rectangles G2 M8 Lesson 13: Construct a paper clock by partitioning a circle into halves and quarters, and tell time to the half hour or quarter hour.