

**Mathematics Standards  
Catalina Foothills School District  
Grade 2**

**Second Grade: Overview**

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More learning time in second grade is devoted to working with whole numbers and place value than any other topic.

1. Extend place value understanding of whole number relationships and place value, including grouping in hundreds, tens and ones.
2. Develop competency of strategies for addition and subtraction.
3. Develop understanding of standard units of measure.
  - (1) Students extend their understanding of place value using the base-ten system. This includes ideas of counting by ones, fives, tens, and hundreds as well as understanding number relationships involving these units, including comparing. Students understand multi-digit numbers through 1000 written in base-ten notation, recognizing that the digits in each place represent amounts of hundreds, tens, or ones.
  - (2) Students use their understanding of addition to develop fluency with addition and subtraction within 20. They demonstrate understanding of addition and subtraction within 1000 with the use of models. They develop, discuss, and use efficient, accurate, and generalizable methods to compute sums and differences of whole number using base-ten notation, understanding of place value, and the properties of operations. They select and accurately apply methods that are appropriate for the context and the numbers involved to mentally calculate sums and differences.
  - (3) Students develop understanding for standard units of measure (centimeter and inch), and they use rulers and other measurement tools with the understanding that linear measurement involves an iteration (repetition) of units. They recognize that the smaller the unit, the more iterations they need to cover a given length.

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the elementary, middle, and high school years.

## Standards for Grade 2 Math

<b>Operations and Algebraic Thinking (OA)</b>	
2.OA.A.1	Use addition and subtraction within 100 to solve one-step word problems. Use addition to solve two-step word problems using single-digit addends. Represent a word problem as an equation with a symbol for the unknown. See Table 1.
2.OA.B.2	Fluently add and subtract within 20. By the end of Grade 2, know from memory all sums of two one-digit numbers.
2.OA.C.3	Determine whether a group of objects (up to 20) has an odd or even number of members (e.g., by pairing objects or counting them by 2's).
2.OA.C.4	Use addition to find the total number of objects arranged in rectangular arrays (with up to 5 rows and 5 columns). Write an equation to express the total as a sum of equal addends.
<b>Number and Operations in Base Ten (NBT)</b>	
2.NBT.A.1	Understand that the three digits of a three-digit number represent groups of hundreds, tens, and ones (e.g., 706 equals 7 hundreds, 0 tens, and 6 ones and also equals 70 tens and 6 ones). Understand the following as special cases: a. 100 can be thought of as a group of ten tens—called a “hundred.” b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
2.NBT.A.2	Count within 1000; skip count by 5's, 10's and 100's.
2.NBT.A.3	Read and write numbers up to 1000 using base-ten numerals, number names, and expanded form.
2.NBT.A.4	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$ , $=$ , and $<$ symbols to record the results of comparisons.
2.NBT.B.5	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
2.NBT.B.6	Add up to three two-digit numbers using strategies based on place value and properties of operations.
2.NBT.B.7	Demonstrate understanding of addition and subtraction within 1000, connecting objects or drawings to strategies based on place value (including multiples of 10), properties of operations, and/or the relationship between addition and subtraction. Relate the strategy to a written form. See Table 1.
2.NBT.B.8	Mentally add 10 or 100 to a given number in the range of 100 and 900, and mentally subtract 10 or 100 from a given number in the range of 100 and 900.
2.NBT.B.9	Explain why addition and subtraction strategies work, using place value and the properties of operations. (Explanations may be supported by drawings or objects.)
<b>Measurement and Data (MD)</b>	
2.MD.A.1	Measure the length of an object by selecting and using appropriate tools (e.g., ruler, meter stick, yardstick, measuring tape).
2.MD.A.2	Measure the length of an object twice, using different standard length units for the two measurements; describe how the two measurements relate to the size of the unit chosen. Understand that depending on the size of the unit, the number of units for the same length varies.
2.MD.A.3	Estimate lengths using units of inches, feet, centimeters, and meters.
2.MD.A.4	Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.
2.MD.B.5	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same unit. See Table 1.
2.MD.B.6	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.
2.MD.C.7	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
2.MD.C.8	Solve word problems involving collections of money, including dollar bills, quarters, dimes, nickels, and pennies. Record the total using \$ and ¢ appropriately. See Table 1.

2.MD.D.9	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.
2.MD.D.10	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in the graph. See Table 1.
<b>Geometry (G)</b>	
2.G.A.1	Identify and describe specified attributes of two-dimensional and three-dimensional shapes, according to the number and shape of faces, number of angles, and the number of sides and/or vertices. Draw two-dimensional shapes based on the specified attributes (e.g., triangles, quadrilaterals, pentagons, and hexagons).
2.G.A.2	Partition a rectangle into rows and columns of same-size rectangles and count to find the total number of rectangles.
2.G.A.3	Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, fourths, half of, third of, fourth of, and describe the whole as two halves, three thirds, or four fourths. Recognize that equal shares of identical wholes need not have the same shape.
<b>Standards for Mathematical Practice</b>	
2.MP.1	Make sense of problems and persevere in solving them.
2.MP.2	Reason abstractly and quantitatively.
2.MP.3	Construct viable arguments and critique the reasoning of others.
2.MP.4	Model with mathematics.
2.MP.5	Use appropriate tools strategically.
2.MP.6	Attend to precision.
2.MP.7	Look for and make use of structure.
2.MP.8	Look for and express regularity in repeated reasoning.