

Common Core Math Standards for Second Grade

Numbers and Operations

The standards explain what children should be able to understand and do by the end of each grade. The box on the left lists the standards teachers are using, and the box on the right is what you can do at home to support what children are learning in the classroom.

Number and Operations in Base Ten

2.NBT

Understand place value.

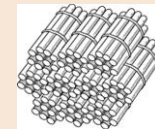
1. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:
 - a. 100 can be thought of as a bundle of ten tens — called a “hundred.”
 - b. The numbers 100, 200, 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. Count within 1000; skip-count by 5s, 10s, and 100s.
3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
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.

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

5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
6. Add up to four two-digit numbers using strategies based on place value and properties of operations.
7. Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
9. Explain why addition and subtraction strategies work, using place value and the properties of operations.³

What does this mean and what can I do at home to help my child develop these skills?

- Explain to your child that 100 is the same as a bundle of 100 “ones” or 10 “tens” and it is called a “hundred”.



- Help your child understand that a three-digit number represents amounts of hundreds, tens, and ones. For example, 706 equals 7 hundreds, 0 tens, and 6 ones

| hundreds | tens | ones |
|----------|------|------|
| 7 | 0 | 56 |

- Count to 1000 with your child using skip counting by 5's : 5, 10, 15, 20..., by 10's: 10, 20, 30, 40..., and by 100's, 100, 200, 300, 400...
- Show your child how to read and write numbers to 1000 using tens, 10, 20, 30... and ten, twenty, thirty....
- Show your child what these symbols mean: $>$ is more than; $<$ is less than, and $+$ means the same as. Compare numbers and use those symbols. For example, which symbol would we use to compare 20 and 30? $20 < 30$; or $30 > 20$ are both correct answers
- Help your child practice adding numbers up to 1000. Add four two digit numbers. Help her to see and understand the place value of the numbers – ones or tens, that we add ones together, and tens together, and that sometimes it is necessary to convert ones into a ten and ones when adding numbers.
- Help your child practice adding 10 or 100 to numbers and subtracting 10 or 100 from numbers in her head, explaining how it changes the number in the tens column by one. For example, adding 10 to 20 changes the 2 (tens) to 3 (tens), and adding 100 to 350 changes the 1 (hundreds) to 4 (hundreds).

Common Core Math Standards for Second Grade

Algebra and Patterns

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Operations and Algebraic Thinking

2.OA

Represent and solve problems involving addition and subtraction.

1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.¹

Add and subtract within 20.

2. Fluently add and subtract within 20 using mental strategies.² By end of Grade 2, know from memory all sums of two one-digit numbers.

Work with equal groups of objects to gain foundations for multiplication.

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 2s; write an equation to express an even number as a sum of two equal addends.
4. Use 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.

| | | | | | |
|---|---|---|---|---|----|
| ■ | ■ | ■ | ■ | ■ | 5 |
| ■ | ■ | ■ | ■ | ■ | 5 |
| ■ | ■ | ■ | ■ | ■ | 5 |
| ■ | ■ | | | | 2 |
| | | | | | 17 |

What does this mean and what can I do at home to help my child develop these skills?

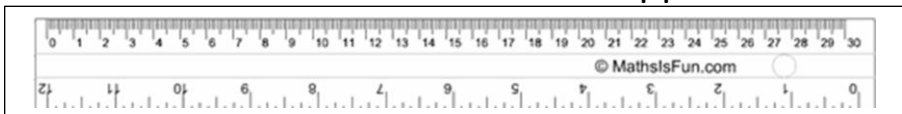
- Work with your child on one and two step word problems, using numbers up to 100. For example, add two numbers together (put two sets of items together); take one number away from another (taking sets of items apart); and compare sets of items to see which has more or less. Using objects like blocks, coins, raisins, or paper dots, or drawing the problem on paper, can help your child see and understand the math problem he is doing.
- Practice with your child adding and counting numbers within 20. The more he practices, the more fluent he will be in adding and subtracting in his head, not needing to see the written numbers. By the end of the year, your child should be fluent in adding any two one-digit numbers – those numbers from 1 to 9 added to one another. You can practice these sums while walking or driving to school or shopping.
- Help your child look at groups of items and tell you whether the total number of items is an odd (1, 3, 5...) or even (2, 4, 6...) number. Have him count the items by 2's (2, 4, 6...), pairing the objects with the number as he counts. Then let him write the equation that represents the numbers. For example, if he has 12 blocks, he can count them out as 2, 4, 6, 8, 10, 12. He may have 4 blocks on one pile and 8 blocks in the other pile, so his equation would be $4 + 8 = 12$. Show your child how to count across rows and columns: up to 5 rows and 5 columns. Show him how to keep going in one direction, counting all the items in one column or row before moving on to the next.



Common Core Math Standards for Second Grade

Measurement

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Measurement and Data

2.MD

Measure and estimate lengths in standard units.

1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
2. Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
3. Estimate lengths using units of inches, feet, centimeters, and meters.
4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

Relate addition and subtraction to length.

5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
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.

Work with time and money.

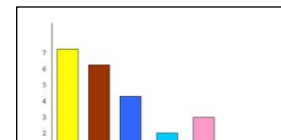
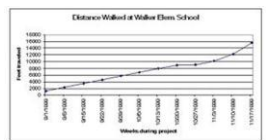
7. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. *Example: If you have 2 dimes and 3 pennies, how many cents do you have?*

Represent and interpret data.

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.
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 problems⁴ using information presented in a bar graph.

What does this mean and what can I do at home to help my child develop these skills?

- Help your child measure items. Use a ruler, a yardstick, or a tape measure, and show her the inch marks, the feet marks (every 12 inches equals 1 foot), and the yards (3 feet equal a yard). Show her the difference between the US system of measuring inches and feet and the metric system by showing her how the marks on each side of a ruler differ.
- Ask your child to estimate how many inches or feet an item is. Ask her why she guessed that number, and then measure together to see how close she came.
- Use a ruler (or several rulers) to show how adding and subtracting lengths in the same unit (inches or feet) can be seen on the ruler.
- Show your child how a number line is similar to a ruler and illustrates number equations.
- Help your child learn to tell time on analog (hands move around the clock) and a digital clock. Show her how to write the time in five minute increments.
- Play money games – ask word problems like “if you have two dimes and three pennies, how many cents do you have. Allow your child to count out the money for purchases under \$1.
- Ask your child to practice measuring several objects, and then to chart the measurements on a line plot.
- Show your child how to make picture graphs and bar graphs.



Speaking and Listening Standards for Second Grade

Geometry and Spatial Sense

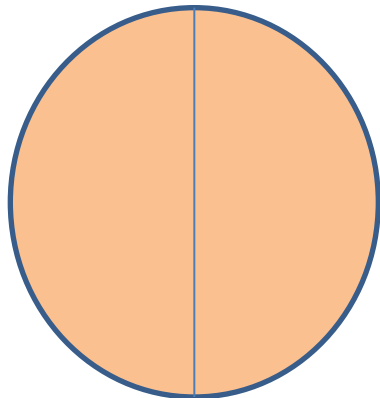
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Geometry

2.G

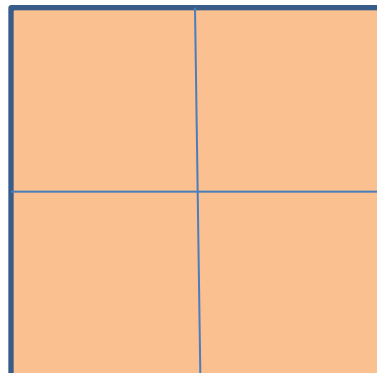
Reason with shapes and their attributes.

1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.⁵ Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
3. Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words *halves*, *thirds*, *half of*, *a third of*, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.



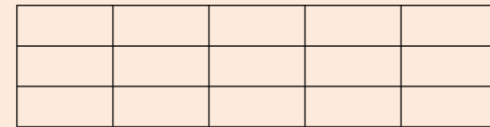
Each section is one half

Each section is one fourth



What does this mean and what can I do at home to help my child develop these skills?

- Help your child become familiar with shapes – triangles (3 sides), quadrilaterals (4 sides), pentagons (fives sides), hexagons (six sides) and cubes (box shaped solid object with six identical square faces). Ask him to find those shapes in books and in your travels around town.
- Play with rectangles. Divide one into rows and columns of same size squares and ask your child to count them



- Partition circles and rectangles in 2, 3, or 4 equal shares. Help your child to understand that if an item is partitioned into 2 equal sections, they are called halves, 3 equal sections are called thirds, and four equal sections are called fourths. Two halves would make a whole, three thirds would make a whole, and four fourths would make a whole.
- Help your child see that he can have half of one item and half of a different item, and they may not be the same size or shape.