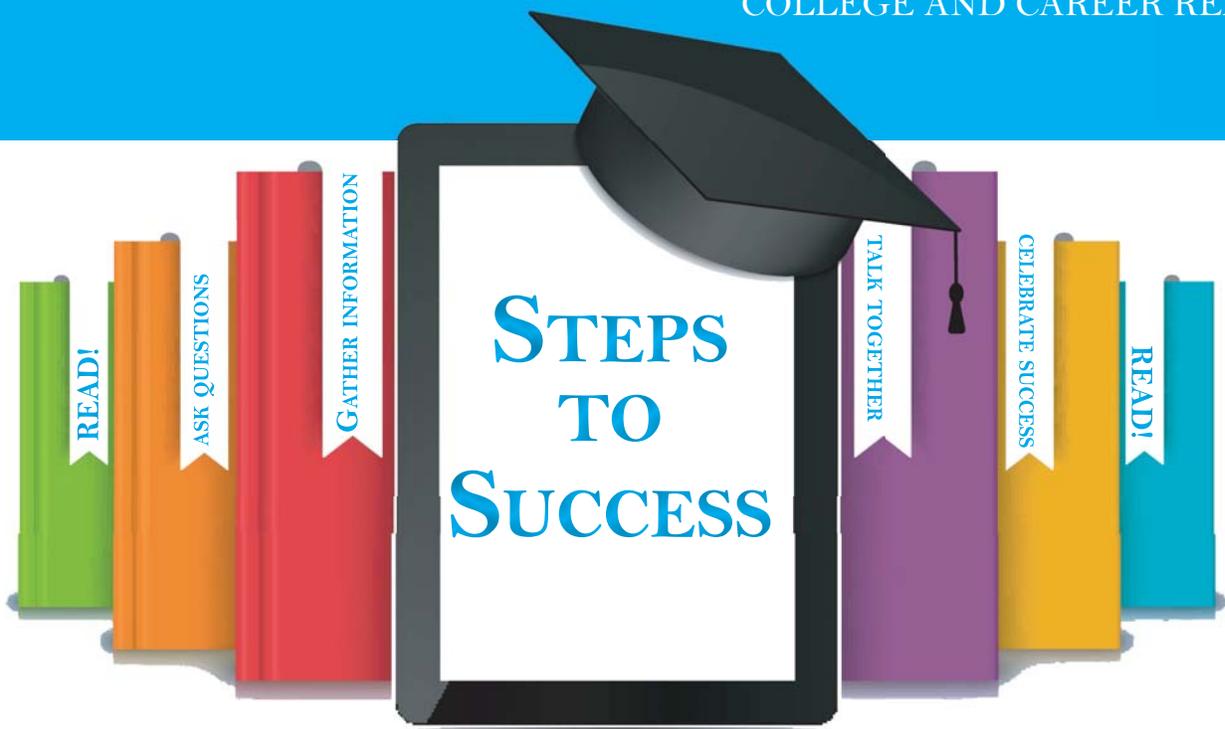


# SOUTH CAROLINA STANDARDS

COLLEGE AND CAREER READY



## Family-Friendly Guide for Second Grade Mathematics



Second-grade students begin to reason logically and organize thoughts coherently. The *South Carolina College- and Career-Ready Standards* takes advantage of these capabilities as students start to learn that number facts are related in a systematic way. This year your child learns more about place value and explores basic fractions. He will practice “skip counting” as a way to prepare him for learning multiplication. She will learn also about money, measurement, and how measures relate to one another. Don’t be surprised if you learn new ways to solve problems.

Remember, your attitude toward math influences your child. Be positive about using math.

## STEPS TO SUCCESS

*This document is designed to:*

- Provide examples of the standards, skills, and knowledge your child will learn in mathematics and should be able to do upon exiting second grade
- Suggest activities on how you can help your child at home
- Offer additional resources for information and help



Log on to the SC Department of Education website, <http://ed.sc.gov/instruction/standards-learning/>, for the complete standards.

## LEARN ABOUT THE STANDARDS

The *South Carolina College- and Career-Ready Standards for Mathematics*:

- Outline the knowledge and skills students must master so that, as high school graduates, they have the expertise needed to be successful in college or careers.
- Provide a set of grade-level standards, “stair steps,” based on the previous grade’s standards which serve as the foundation for the next grade.
- Ensure that no matter where a student lives in South Carolina, the expectations for learning are the same.

Human knowledge now doubles about every three years. Therefore, revision of South Carolina’s standards occurs periodically to respond to this growth of knowledge and increase of needed skills so our students will be ready for college or jobs. *The Col-*

*lege- and Career-Ready Standards* prepare students for dealing with the growing mass of information by not only emphasizing content knowledge but by also stressing the skills of reasoning, analyzing data, and applying information to examine and solve situations.

South Carolinians developed these academic standards for South Carolina’s children. The Mathematics standards are aligned with the *Profile of the South Carolina Graduate*, which summarizes the knowledge, skills, and habits employers expect. (See [http://sc-competes.org/wp-content/uploads/2016/01/Profile-of-the-South-Carolina-Graduate\\_Updated.pdf](http://sc-competes.org/wp-content/uploads/2016/01/Profile-of-the-South-Carolina-Graduate_Updated.pdf)) Developed by business leaders, the *Profile* is approved by the South Carolina Chamber of Commerce and endorsed by the Superintendents’ Roundtable as well as South Carolina’s colleges and universities. The *Profile* demands world-class knowledge and skills, and emphasizes critical thinking and problem solving, communication, and interpersonal skills.

## MATHEMATICS IN SECOND GRADE

### NUMBER SENSE

Second grade students further expand their concept of numbers and place value to 999. They learn to add and subtract numbers to 100. These **Steps to Success** include:

First Grade	Second Grade	Third Grade
<ul style="list-style-type: none"> <li>• Count by ones and tens to 120 and by fives to 100. Start with any number.</li> <li>• Understand that a bundle of ten ones is 10</li> <li>• Understand “place value” up to 99,(for example, 83 is made up of 8 tens and 3 ones)</li> <li>• Understand that two-digit numbers can be broken up in several ways (34 equals 3 tens and 4 ones or 2 tens and 14 ones, etc.)</li> <li>• Compare two-digit numbers up to 99 using <i>more than</i>, <i>less than</i>, and <i>equal to</i>. Explain why.</li> <li>• Add and subtract by tens up to 100 based on place value. Explain the reason for the answer given.</li> </ul>	<ul style="list-style-type: none"> <li>• Count by tens and hundreds to 1,000. Start with any number.</li> <li>• Understand “place value” up to 999 (hundreds, tens, ones)</li> <li>• Recognize that 100 is a bundle of tens</li> <li>• Understand that three-digit numbers can be broken up in several ways (4 hundreds, 12 tens, and 4 ones, etc.)</li> <li>• Add and subtract fluently through 99</li> <li>• Add up to four two-digit numbers. Explain the reason for the answer given.</li> </ul>	<ul style="list-style-type: none"> <li>• Read and write numbers up to 100,000. Start with any number.</li> <li>• Multiply one-digit numbers by multiples of 10</li> <li>• Compare whole numbers using the symbols &gt; (greater than), = (equal to), or &lt; (less than)</li> <li>• Develop an understanding of what a fraction is</li> <li>• Compare the size of two fractions</li> <li>• Understand that whole numbers can be written as fractions (4=4/1 and 1=4/4)</li> </ul>

# MATHEMATICS IN SECOND GRADE

## THINKING AND OPERATIONS

Second-grade students now solve problems that require two steps to find the solution using addition and subtraction. They work on their skills at adding and subtracting mentally so that in the future they can focus on the more difficult math concepts. These **Steps to Success** include:

First Grade	Second Grade	Third Grade
<ul style="list-style-type: none"><li>• Solve real-world problems with addition and subtraction up to 20</li><li>• Solve real-world problems that include up to three numbers with a sum of no more than 20</li><li>• Understand that changing the order or the grouping of numbers to be added does not change the sum. Use up to three numbers.</li><li>• Add and subtract fluently up to 20</li><li>• Determine the missing number in equations within 20</li><li>• Balance both sides of an addition or subtraction problem up to 10 (e.g., <math>6=6</math> [true], <math>5=6</math> [false], <math>1+5=6</math> [true], <math>1+5=5</math> [false], etc.)</li><li>• Extend and explain repeating and growing patterns</li></ul>	<ul style="list-style-type: none"><li>• Solve one- and two-step word problems with addition and subtraction up to 100</li><li>• Determine odd and even numbers, for numbers through 20, by finding two equal numbers to represent the number (<math>3+3=6</math>, <math>5+5=10</math>)</li><li>• Use addition to find the number of squares highlighted in a rectangle with up to 5 rows and 5 columns</li></ul>	<ul style="list-style-type: none"><li>• Use objects, drawings, and numbers to represent multiplication of two single-digit numbers</li><li>• Use objects, drawings, and numbers to represent division of whole numbers</li><li>• Determine the unknown number in a multiplication or division equation</li><li>• Demonstrate fluency with basic multiplication and division through 100</li><li>• Solve two-step, real-world problems using addition, subtraction, multiplication, and/or division</li><li>• Identify the pattern in a sequence of numbers (with 2, 4, 6, 8, the pattern adds 2 to the previous number)</li></ul>

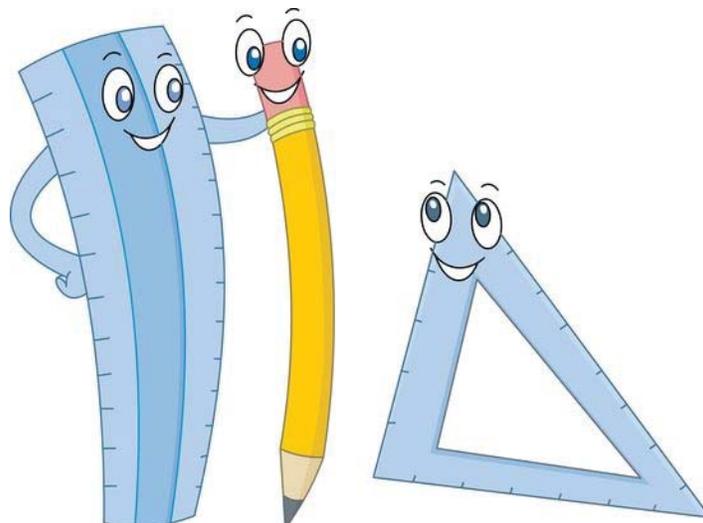


# MATHEMATICS IN SECOND GRADE

## GEOMETRY

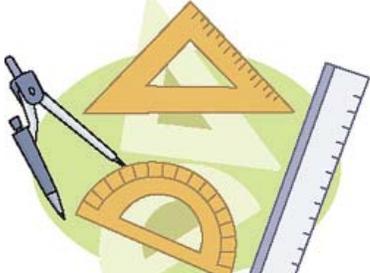
Second-grade students work with shapes and objects, dividing them into parts. Not only does this increase their knowledge of geometry, it establishes a foundation for fractions. These **Steps to Success** include:

First Grade	Second Grade	Third Grade
<ul style="list-style-type: none"> <li>Identify additional shapes like hexagons (stop signs), trapezoids (kites), etc.</li> <li>Know that the number of sides define a shape and that color does not define a shape. This is called defining and non-defining attributes.</li> <li>Combine 2-dimensional shapes or 3-dimensional shapes to make new shapes</li> <li>Divide 2-dimensional shapes into 2 or 4 equal parts</li> </ul>	<ul style="list-style-type: none"> <li>Identify triangles, quadrilaterals, hexagons, and cubes. Draw shapes with a specific number of sides.</li> <li>Divide a rectangle into equal-sized rows and columns. Count to find the total number of the parts.</li> <li>After dividing shapes into equal parts, understand <i>a half</i>, <i>a fourth</i>, <i>a half of</i>, and <i>a fourth of</i></li> <li>Recognize that parts of an object become smaller as the number of parts increases</li> </ul>	<ul style="list-style-type: none"> <li>Understand that shapes can share features and those features can be part of a larger category. Squares and rectangles are both four sided and they are part of the category "quadrilateral.")</li> <li>Partition (separate) two-dimensional shapes into 2, 3, 4, 6, 8 equal parts and understand that the equal parts do not have to have the same shape. Half of a circle and half of a rectangle are equal in size because they are halves even though the shape is different.</li> <li>Identify and draw angles: right (90 degrees), acute (less than 90 degrees), and obtuse (greater than 90 degrees)</li> <li>Identify a three-dimensional object like a pyramid from a two-dimensional object (flat pattern)</li> </ul>



**MEASUREMENT AND DATA ANALYSIS**

Second-grade students estimate and measure lengths. They learn to organize data into bar graphs and line plots in order to reach solutions. This year they learn to tell the difference between *a.m.* and *p.m.* and to use coins. These **Steps to Success** include:

First Grade	Second Grade	Third Grade
<ul style="list-style-type: none"> <li>• Put objects in order by length by comparing them to another, selected object. This is an indirect comparison.</li> <li>• Use units of length to show the total length of an object</li> <li>• Sort and classify items into 3 categories and represent the “data” using graphs and charts</li> <li>• Draw conclusions from graphs and charts</li> <li>• Tell time to the hour and half hour on digital and face clocks</li> <li>• Identify coins by value and use the ¢ symbol</li> </ul>	<ul style="list-style-type: none"> <li>• Use suitable tools to measure the length of an object</li> <li>• Measure an object using various lengths (foot/yard). Explain why the measurements differ.</li> <li>• Estimate and measure in everyday units (inch, foot, yard, centimeter, meter). Determine how much longer one object is from another.</li> <li>• Sort and classify items into 4 categories and represent the “data” using picture and bar graphs</li> <li>• Produce data by measuring objects and organize the data on a horizontal line plot</li> <li>• Tell time to the nearest five minutes and use <i>a.m.</i> and <i>p.m.</i></li> <li>• Solve real-world problems using dollar bills with the \$ symbol and using coins with the ¢ symbol</li> </ul>	<ul style="list-style-type: none"> <li>• Tell and record time to the nearest minute and solve time problems within the hour using addition and subtraction</li> <li>• Estimate and measure liquid volume (for example, pint, gallon, milliliter, liter)</li> <li>• Create and read scaled bar graphs and line graphs to represent collected data</li> <li>• Understand the difference between area and perimeter and how to measurement each</li> <li>• Solve real-world problems involving the perimeter and area of shapes with straight sides</li> </ul> 

## LEARNING AT HOME

Learning doesn't end at the school door. Your child needs support and help from you to succeed in the second grade. Work with your child at home and talk with her teacher to stay up to date on whether she needs help with specific skills. Remember, your positive attitude is important to him. Here are some suggestions for things to do at home to help your child learn:

- Practice addition and subtraction using a pack of playing cards. Have your child pull two or three cards from the deck and add them together, then remove a card from those pulled to practice subtraction.
- Pull a grocery ad and circle different money values (59¢, 2 for \$3). As you go through the store, have your child look to find the amounts you have circled. Have her place an X over each amount she finds.
- Practice identifying the shapes of objects by the number of sides. What shape is a stop sign? How many sides does a triangle have? What is the difference between a square and a cube?
- Print from the Internet or buy "connect-the-dots" puzzles and have your child connect (count) the numbered dots to make the picture.



## ADDITIONAL INFORMATION

- *Scholastic* provides “parent refreshers” of the skills your child is expected to learn in each grade in school: <http://www.scholastic.com/parents/resources/collection/subject-refreshers/parent-primers>.
- *A Family's Guide: Fostering Your Child's Success in School Mathematics*, a publication from the National Council of Teachers of Mathematics, is free at [http://illuminations.nctm.org/uploadedFiles/Activities\\_Home/FamilyGuide\\_FullText.pdf](http://illuminations.nctm.org/uploadedFiles/Activities_Home/FamilyGuide_FullText.pdf).
- This site has games for skip counting, measuring, coins, and more. (See <http://www.mathsisfun.com/games/games-elementary.html>. Also, check out: [www.gameclassroom.com](http://www.gameclassroom.com)).
- *Public Broadcasting* has fun on-line games, puzzles and activities to use at home to teach math: <http://www.pbs.org/parents/education/math/games/first-second-grade/>.
- *Primary Games* has arcade as well as educational games, so be sure to use the “learn” button to get to the math help games: <http://www.primarygames.com/math/grade/grade2-math-games.php>.
- *The Khan Academy* has activities to help master all the kindergarten through second-grade math skills: <https://www.khanacademy.org/mission/early-math>.
- Check the children’s section of your local library for picture books that use sorting and counting as a part of the story. There are also books that focus on math games.



A publication of SC Department of Education  
([www.ed.sc.gov](http://www.ed.sc.gov))

SC Education Oversight Committee  
([www.eoc.sc.gov](http://www.eoc.sc.gov))

