



Fourth-grade students begin to develop more advanced problem-solving skills. Using this ability, the South Carolina College- and Career-Ready Standards have students use the four operations to solve problems with an emphasis on multiplying two-digits by two digits and the division of four-digits by one digit. Fourth graders expand their work in several areas to include probability, perimeter and area, fractions, and are introduced to decimals through hundredths. They also expand their knowledge of Geometry, measurement, and data.

Remember, your child must show the steps, one at a time, needed to solve a math problem. This activity requires students to organize their work. It provides a “trail” for checking answers; shows exactly what was done; and allows for intervention exactly at the point where necessary. By showing their work, students are more accurate and avoid habits that could hinder their math progress.

Log on to the [SC Department of Education website](#), for the complete standards.

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 fourth grade
- Suggest activities on how you can help your child at home
- Offer additional resources for information and help

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 College-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. 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.

DATA, PROBABILITY, AND STATISTICAL REASONING

Fourth-grade students will be introduced to collecting and organizing numerical and categorical data based on observations, surveys, and experiments. Students will learn to interpret whole number and fractional data represented in tables, scaled bar graphs, or dot plots by solving one-step problems. Students will also determine the likelihood of an event occurring as impossible, equally likely, or certain, and connect benchmark values to it. These **Steps to Success** include:

- Collect and sort data into two types: groups (categorical) and numbers (numerical).
- Use tables, scaled picture and bar graphs, and/or dot plots to show data.
- Use table/graph titles and labels.
- Solve one-step real-world problems using data shown in the ways listed above.
- Identify the possible results of a simple event such as rolling a number cube, or spinning a spinner, etc.



MEASUREMENT, GEOMETRY, AND SPATIAL REASONING

Fourth-grade students learn to solve real-world problems involving the perimeter and area of rectangles, estimate and measure using multiple different units including money and elapsed time, and classify triangles and quadrilaterals based on attributes. These **Steps to Success** include:

- Use formulas for the perimeter of rectangles to solve real-world problems in which a side or the perimeter is unknown.
- Use formulas for the area of rectangles to solve real-world problems.
- Use square units to label area measurements.
- Solve real-world addition and subtraction elapsed time problems within 60 minutes.
- Measure length to the nearest quarter-inch.
- Measure weight in customary units like ounces and pounds and metric units like grams and kilograms to the nearest whole unit.
- Convert customary measurement from a larger unit to a smaller unit (for example, feet into inches or gallons to cups)
- Group triangles by side length (such as isosceles, equilateral, scalene) and angle measure.
- Group quadrilaterals in a hierarchy by attribute.

NUMERICAL REASONING

Fourth-grade students learn to use relationships within the base ten number system to represent, compare, and order whole numbers, fractions, and decimals. Students will also represent and compare fractions of tenths and hundredths as decimals and decimals of tenths and hundredths in multiple ways. These **Steps to Success** include:

- Read and write whole numbers within 999,999,999 in word, standard, and expanded form
- Use rounding and place value to estimate the reasonableness of real-world problem solutions
- Write an equation for the estimate
- Order whole numbers within 999,999 and record the comparison(s) using symbols
- Represent fractions with denominators of 10 and 100 in words, models, and decimal form
- Use benchmarks and models to compare decimal numbers to the hundredths and record using symbols.
- Use various models to create equivalent fractions, including fractions greater than 1
- Use several representations to show the combination and breaking apart of fractions with the same denominator
- Show and explain how a mixed number is equivalent to a fraction greater than 1 and vice versa
- Use benchmarks to compare fractions and mixed numbers with like and unlike denominators and record the comparison using symbols

PATTERNS, ALGEBRA, AND FUNCTIONAL REASONING

Fourth-grade students will use models to solve problems involving the properties of whole numbers and decimals. Students will also build on their understanding of multiplication and division concepts from third grade to operate with multi-digit problems. They will also work to develop an understanding of operations (addition, subtraction, multiplication, and division) with fractions using models. Finally, fourth grade students will describe and extend number patterns following a given rule. These **Steps to Success** include:

- Add and subtract numbers to 10,000
- Multiply a one-digit number by a multiple of ten such as 2×30
- Break down numbers by place value to multiply up to a 4-digit number by a 1 or 2-digit number
- Use a strategy to divide up to a 4-digit number by a one-digit number
- Use a strategy to add and subtract fractions with the same denominator
- Use fraction and decimal equivalents to add and subtract tenths and hundredths
- Multiply a whole number times a unit fraction using a model
- Understand a fraction as an equal sharing division situation
- Break a number down into its factors, and classify it as prime or composite
- Use function tables and real-world situations to describe and continue a rule for a number pattern
- Solve real-world situations involving comparison with multiplication and record as an equation
- Solve two-step, real-world problems using the four operations and represent it as an equation with a variable

HOW TO SUPPORT YOUR LEARNER AT HOME

Work with your child at home to help him succeed in fourth-grade math. Be informed about what they are working on and know whether they need help with specific skills. Your positive attitude makes all the difference to them. Here are some suggestions for things to do at home to help your child learn:

Save

Have your child determine how long she must save her allowance for a particular game or movie.

Identify Angles

Walk around your house looking for angles. Identify which angles are right angles.

How Far?

How far is it from the kitchen to the street? What is the distance from the front door to the back door?

Play games

Play board games involving cards (Yahtzee) or dice (Aggregation). Monopoly, anyone? Such games help with addition, subtraction, multiplication, and division.

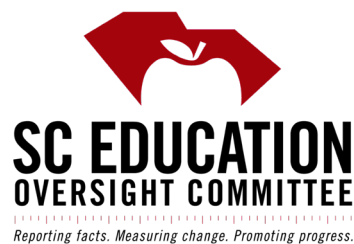
Measure

Have your child measure the distance from the door to his room to the kitchen in inches, feet, and yards.

ADDITIONAL INFORMATION

- Other sites with math games to sharpen fourth-grade skills include www.abcya.com, which also has mobile apps for its games.
- See also www.onlinemathlearning.com/grade-4.html
- The Khan Academy offers tutorials on all aspects of fourth-grade math at www.khanacademy.org/math/cc-fourth-grade-math.

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The South Carolina Education Oversight Committee (EOC) is an independent, nonpartisan group of 18 educators, business people, and elected officials appointed by the legislature and governor. The EOC enacts the South Carolina Education Accountability Act of 1998, which sets standards for improving the state's K-12 educational system. The EOC reviews the state's education improvement process, assesses how schools are doing, and evaluates the standards schools must meet to build the education system needed to compete in this century.