Family Friendly Math

GUIDE FOR FIRST GRADE

First-grade students need opportunities to use concrete objects, drawings, and equations to demonstrate that whole numbers can be combined and broken apart in a variety of ways. First-grade students also need experiences dividing shapes into equal parts as a building block for understanding fractions. Additionally, a major focus for students in first grade will include understanding the equal sign and building a strong conceptual foundation for addition and subtraction by exploring the relationship between these operations.

Log on to the SC Department of Education website, for the complete standards.

DATA, PROBABILITY, AND STATISTICAL REASONING

First-grade students will create a question, collect data in response to the question, and sort this data into graphs and charts. They will then draw conclusions from the organized data. Students will also explore the use of various charts and graphs for communicating data. These **Steps to Success** include:

- Create a survey question and collect data with up to three categories.
- Sort and classify items into 3 categories and represent the "data" using graphs and charts.
- Draw conclusions from graphs and charts.

MEASUREMENT, GEOMETRY, AND SPATIAL REASONING

First-grade students learn to identify, describe, and classify 2- and 3-dimensional shapes. They will also learn to identify coins and bills by name and value, and to determine the total value of coins up to one dollar. First-grade students will also learn to tell time to the hour on analog and digital clocks. These **Steps to Success** include:

- Identify and write the values of coins (¢) and bills ($).
- Count a collection of like coins to determine the total value within a dollar.
- Tell and record time to the hour and half hour.
- Put objects in order by length from shortest to longest and longest to shortest.
- Use physical objects to show the total length of an object
- Identify and describe 2-dimensional (flat) and 3-dimensional (solid) shapes, including real-world examples.
- Draw and classify shapes as 2-dimensional (flat) or 3-dimensional (solid), including real-world examples. Explain reasoning used to classify shapes.
- Classify shapes as 2-dimensional (flat) or 3-dimensional (solid) and explain why.
- Analyze and compare two 2-dimensional (flat) shapes or two 3-dimensional (solid) shapes.

NUMERICAL REASONING

First-grade students focus on counting, skip-counting, and identifying patterns in skip counts. They investigate combining and breaking numbers into tens and ones. First-grade students also divide shapes to begin exploring fractions. These **Steps to Success** include:

- Read, write, and model numbers to 100 in different ways.
- Understand that a bundle of ten ones is 10
- Identify one more/one less and ten more/ten less than a number up to 99.
- Understand "place value" up to 99, (for example, 83 is made up of 8 tens and 3 ones)
- Model and explain how to combine and break apart numbers 1 through 99 in several ways (34 equals 3 tens and 4 ones or 2 tens and 14 ones, etc.)
- Count forward and backward by ones and tens to 120. Start with any number.
- Skip count by fives and tens to 100, starting with any multiple of five (5, 10, 15, 20, 25,…).
- Compare two-digit numbers up to 100 using is greater than, is less than, or is equal to (the same value as). Explain why.
- Divide squares, rectangles, and circles into 2 or 4 equal-sized parts. This should be done in multiple ways. Name the pieces as halves and fourths.

PATTERNS, ALGEBRA, AND FUNCTIONAL REASONING

First-grade students study and use multiple models of real-world problems that involve addition and subtraction. Students will use a variety of strategies to add and subtract within 100. They continue to build fluency and an understanding of the relationship between numbers. Students will also use reasoning to create, describe, and continue patterns. These **Steps to Success** include:

- Determine if number sentences (within 10) presented in a variety of ways are true.
- Combine and break apart numbers up to 10 in different ways.
- Solve addition and subtraction equations up to 20 with one number missing.
- Add and subtract number combinations within 10.
- Understand that changing the order or the grouping of numbers to be added does not change the sum. Use up to three numbers.
- Find the missing number in addition and subtraction equations within 10.
- Add and subtract a 2-digit number and a 1-digit number. Explain the answer using multiple strategies.
- Add and subtract a 2-digit number and a multiple of 10 up to 99 (10, 20, 30, etc.). Explain the answer using multiple strategies.
- Create and describe repeating and growing shape patterns.
- Extend and explain repeating and growing shape patterns.

HOW TO SUPPORT YOUR LEARNER AT HOME

Learning doesn't end at the school door. Your child needs support and help from you to succeed in the first grade. Work with your child at home. Be informed about what he is working on and know whether he needs help with specific skills. Remember, your attitude matters to her. Here are some suggestions for things to do at home to help your child learn:

Count

Take every opportunity to count. Count the steps into your house, the blocks to the store, the number of people in line, or the red cars on the road. Then count from the number backwards. Count up to the number by tens and fives.

Measure

Let your first grader measure family members' clothing against her own. How many of his socks make them equal to big brother's? Compare sleeve or pant leg lengths from other family members against hers.

Tell Time

Make a clock face on a paper plate and use a plastic knife for the minute hand and a spoon for the hour hand. Take turns "setting" the clock and telling the time within an hour and half hour.

Do Puzzles

Get "connect-the-dots" puzzles and work with your child to connect the numbered dots to make the picture. Print individual puzzles from online or buy books of puzzles.

Identify Numbers

Take a page from the newspaper and have your child circle all the numbers he can find.

Add Doubles

Have your child add doubles, such as 4+4 and 5+5, from one to 10. Help him remember the sum by drawing a picture of the answer (1+1=2, he might draw two eyes). This activity helps your child more quickly add doubles and will carry over into adding adjacent numbers (2+3) and larger numbers (33+33).

ADDITIONAL INFORMATION

- This site has games for counting, measuring, coins, and more: http://www.mathsisfun.com/games/gameselementary.html.
- Get more fun games to help with first-grade math concepts at http://www.funbrain.com/.
- Public Broadcasting has on-line games, puzzles, and activities to use at home to teach math: https://pbskids.org/games/math
- The KhanAcademy has tutorials on every aspect of first grade math at https://www.khanacademy.org/ math/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.

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