

# First Grade Mathematics

## Key Instructional Activities

In first grade, students focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in “tens and ones”; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes. Activities in these areas will include:

- Quickly and accurately adding numbers together that total up to 10 or less and subtracting from numbers up through 10
- Understanding the rules of addition and subtraction (for example,  $5+2=2+5$ )
- Solving word problems that involve adding or subtracting numbers up through 20
- Understanding what the different digits mean in two-digit numbers (place value)
- Comparing two-digit numbers using the symbols  $>$  (greater than),  $=$  (equal to) and  $<$  (less than)
- Understanding the meaning of the equal sign ( $=$ ) and determining if statements involving addition and subtraction are true or false (for example, which of the following statements are true?  $3+3=6$ ,  $4+1=5+2$ ,  $8=3+5$ )
- Adding one- and two-digit numbers together (sums within 100)
- Measuring the lengths of objects using a shorter object as a unit of length
- Putting objects in order from longest to shortest or shortest to longest
- Organizing objects into categories and comparing the number of objects in different categories
- Partitioning circles and rectangles into halves and quarters



HOUSTON COUNTY  
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What resources are  
available for students  
and parents?

<https://hcbemath.weebly.com/>



[Elementary Math Wakelet](#)  
[Additional Online Resources](#)



# Helping Your Student in First Grade Mathematics

Learning does not end in the classroom. Students need help and support at home to succeed in their studies. Try to create a quiet place for your student to study, and carve out time every day when your student can concentrate uninterrupted by distractions. Sit down with your student at least once a week for 15 to 30 minutes while he or she works on homework. This will keep you informed about what your student is working on, and it will help you be the first to know if your student needs help with specific topics. By taking these small steps, you will be helping your student become successful both in and outside the classroom.

## Partnering with your child's teacher

- Get to know your child's math teacher! Your child will thank you (someday) for being involved in his or her learning. Also – know about the online resources that are available!
- Don't be afraid to reach out to your child's teacher—you are an important part of your child's education. Ask to see a sample of your child's work or bring a sample with you.
- Talk with your child's teacher about difficulties he/she may be experiencing. When teachers and parents work together, children benefit.
- Ask the teacher questions like:
  - Where is my child excelling? How can I support this success?
  - What do you think is giving my child the most trouble? How can I help my child improve in this area?
  - What can I do to help my child with upcoming work?



## Helping your child learn outside of school

- Talk about math in a positive way. A positive attitude about math is infectious. Encourage your child to stick with it whenever a problem seems difficult. This will help your child see that everyone can learn math.
- Look for everyday opportunities to have your child do mathematics. For example, if you open a carton of eggs and take out seven, ask, "How many are left in the carton?"
- Play math games with your child. For example, "I'm thinking of a number. When I add five to it, I get 11. What is the number?"
- Encourage your child to read and write numbers in different ways. For example, what are some ways that you can make the number 15? 15 can be  $10+5$ ,  $7+8$ ,  $20-5$ , or  $5+5+5$ .
- Encourage persistence. Some problems take time to solve. Praise your child when he or she makes an effort, and share in the excitement when he or she solves a problem or understands something for the first time.
- Encourage your child to talk about and show a math problem in a way that makes sense.
- When your child is solving math problems ask questions such as: Why did you...? What can you do next? Do you see any patterns? Does the answer make sense? How do you know? This helps to encourage thinking about mathematics.
- Connect math to everyday life and help your child understand how math influences them (i.e. shapes of traffic signs, walking distance to school, telling time).
- Computers + math = fun! There are great computer math games available on the internet that you can discover with your child.

# First Grade Mathematics System Pacing Overview



This guide provides an overview of what your student will learn in his or her First Grade Mathematics course. It focuses on the key skills your student will learn, which will build a strong foundation for success. This guide is based on the state-adopted Georgia Standards of Excellence.

## August - October

### Unit 1: Exploring Quantities to 99/Addition and Subtraction within 10

**During Unit 1, students will** focus on counting quantities up to 99, reading and writing two digit numbers, and adding and subtracting within 10.

- Count to 100, write numbers to 99, and read numbers to 100.
- Compare two numbers as written numerals or sets of objects.
- Solve addition and subtraction word problems to 10.
- Interpret data on a graph, chart, or table.
- Decompose numbers less than and equal to 10.
- Fluently add and subtract within 5.
- For any number 1-9, find the number that makes 10.
- Add and subtract within 10.

## October - January

### Unit 2: Developing Addition and Subtraction Strategies within 20 and Exploring Quantities to 120

**During Unit 2, students will** develop appropriate strategies to reason about and solve addition and subtraction problems. This unit introduces “compare” problems. Because compare problems are relatively difficult for students to master, this unit should provide students time to grapple with the misleading language and difficult contexts involved in these problem types.

- Count, write, and read numbers 0-120.
- Represent numbers 0-120 in groups of tens & ones.
- Fluently add and subtract up to 10.
- Add and subtract numbers up to 20.
- Solve addition and subtraction word problems to 20.
- Addition of three numbers up to 20.
- Relate subtraction to addition.
- Understand and use math symbols (+, -, =).
- Solve for an unknown number in equations ( $5 + \underline{\quad} = 12$ ;  $\underline{\quad} - 8 = 4$ ).
- Use strategies to add and subtract.

## January - February

### Unit 3: Exploring Geometry and Measurement

**During Unit 3, students will** extend their understanding of attributes – e.g. orientation, size, and number of sides, they learned in Kindergarten to distinguish between defining attributes and non-defining attributes. Students transition from using trial and error to applying their understanding of different attributes in order to draw and compose shapes. Students will also begin to measure objects using non-standard measurements.

- Order three objects by length.
- Measure the length of an object using multiples of the same object (paperclips, toothpicks, beans, cubes, etc.).
- Tell and write time in hours and half-hours.
- Compose a new shape using two-dimensional and three-dimensional shapes.
- Distinguish defining attributes of shapes.
- Partition circles and rectangles into 2 and 4 equal parts (halves, fourths, and quarters).
- Fluently add and subtract numbers within 10.

## March - May

### Unit 4: Developing an Understanding of Place Value and Extending Addition and Subtraction to Larger Numbers

**During Unit 4, students will** develop a more abstract understanding of place value by viewing two-digit numbers as tens and ones. Students will also compare two-digit numbers using place value understanding. This understanding of place value supports counting on and making ten strategies that students use to become more efficient in addition and subtraction situations. Students will build on their understanding of addition and subtraction within 20 to develop strategies for adding larger numbers. Students are expected to relate their strategies for addition and subtraction to written methods and explain their reasoning.

- Understand ten ones as a “ten” and as a group of ten ones.
- Understand a two-digit number in terms of tens and ones.
- Use symbols (> greater than, < less than, or = equal to) to compare two numbers.

- Within 100, add a two-digit number and a single-digit number or another two-digit number using strategies.
- Add within 100, identify the strategy used, and explain your thinking.
- Mentally find 10 more or 10 less when given a two-digit number.
- Subtract multiples of 10 (10-90) from multiples of 10. ( $100 - 40 = \underline{\quad}$ , or  $60 - 20 = \underline{\quad}$ )
- Identify dimes and understand that 10 pennies can be thought of as a dime.
- Organize, represent, and interpret data.
- Fluently add and subtract numbers within 10.

**May**

**Unit 5: Skills to Maintain and Review**

**During Unit 5, students are reviewing, mastering and/or extending their understanding of 1st grade standards.**