

Addition & Subtraction Within 100

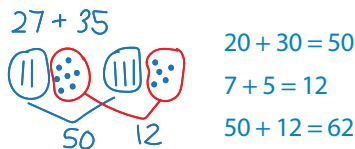
In this unit, your student will:

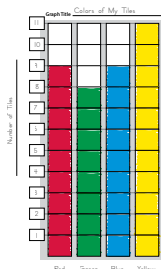
- Make sense of addition and subtraction problem situations within 100
- Use efficient strategies to add and subtract within 100
- Represent addition and subtraction on number lines
- Make bar graphs and answer questions about them
- Skip-count by 10s



Your student will practice these skills by solving problems such as these:

PROBLEM	COMMENTS
$46 + 38 = 84$ Add a Friendly Number Get to a Friendly Number	The open number line is an important tool that students use in a variety of ways to add and subtract. Unlike a closed number line, which includes predetermined markings such as a mark for each 1 or each 10, the open number line begins without any markings on it. The two common addition strategies shown begin by marking one of the addends on the open number line (46, in this case) and then adding the other addend in parts to either add a friendly number or get to a friendly number.
$82 - 39 = 43$ Take Away/Subtract a Friendly Number Find the Difference/Add a Friendly Number	Students can use similar strategies to subtract on the number line. You might also notice students hopping forward on the number line to solve some subtraction problems, as shown in the second example. That is, they add on from the lesser number in the subtraction problem to get to the greater number to determine the difference between the two numbers.

PROBLEM	COMMENTS
$27 + 35 = 62$  $20 + 30 = 50$ $7 + 5 = 12$ $50 + 12 = 62$	Place value splitting is another common strategy for addition. This strategy involves breaking apart each addend by place value and then adding tens to tens and ones to ones, regrouping as needed. You might notice students using base ten number pieces or quick sketches of the pieces as shown.
Write a question about the graph that can be solved using an equation. <i>How many more yellow tiles than blue tiles did you scoop?</i> $11 - 9 = 2$	Students collect data, display it on a bar graph, and share their observations. Then they write questions and solve problems using the information presented on their graphs.



Frequently Asked Questions About Unit 3

Q: Why are students solving addition and subtraction problems in so many ways? Why don't they learn to do it the way I learned to do it in grade school?

A: The way many of us learned to add and subtract in grade school is referred to as the *standard algorithm*. An algorithm is simply a series of steps that you can follow to solve a particular kind of problem. The disadvantage of learning algorithms too soon is that students don't always understand what they are doing and tend to ignore the values of the digits. As a result, they may make mistakes or forget how to carry out the steps correctly. The sessions in this unit encourage students to develop multiple strategies and allow them to solve problems in ways that make sense to them. Research suggests that students who choose their own strategies before learning an algorithm show better understanding of place value concepts and more effectively transfer their knowledge and skills to work involving greater numbers.

Q: How can I support my student's learning?

A: Look for opportunities to practice adding and subtracting 2-digit numbers throughout the day. Instead of simply focusing on the correct answer, spend time discussing your student's strategies for determining the sum or difference. Providing a whiteboard, pencil and paper, or a digital app supports students as they solve addition and subtraction combinations that may be difficult to compute mentally.

To further support your student in learning mathematics, you can:

- Visit mathathome.mathlearningcenter.org and work through some or all of the activities in Grade 2: Set 3 together. These activities complement the learning that takes place in the classroom during Unit 3 and provide fun ways to engage children in mathematical thinking. This set also includes digital versions of familiar games that your student has learned at school, such as Star Power.
- Visit apps.mathlearningcenter.org and invite your student to explore the Number Line, Number Pieces, and Number Chart apps. Throughout Unit 3, students explore these tools in their physical forms in the classroom.
- Read books with your student that focus on skills such as addition and subtraction within 100, number lines, and bar graphs. Some suggestions for this unit include:
 - » *Lemonade for Sale* by Stuart J. Murphy, illustrated by Tricia Tusa
 - » *More Me&M's Brand Chocolate Candies Math* by Barbara Barbieri McGrath, illustrated by Roger Glass
 - » *The Good Neighbors Store an Award: A Cheesy Mouse Tale of Addition with Regrouping* written by Mark Ramsay, illustrated by Susan G. Robinson
 - » *Fair Bear Share* by Stuart J. Murphy, illustrated by John Speirs