InsightMath

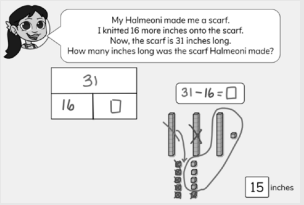
Exploring Addition and Subtraction within 100

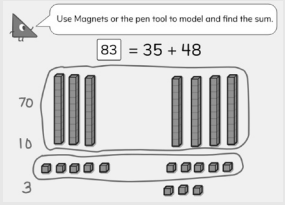
Family Guide | Grade 2 | Unit 3

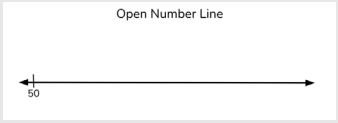
Your student is exploring how fluently solving addition and subtraction problems relies on flexibly selecting models and strategies.

Key Math Ideas

In this unit, students will extend their understanding of adding and subtracting two-digit numbers by exploring various strategies. They use their place value understanding to add and subtract by thinking about the number of tens and ones in each number (see examples on the right).







Students also extend their number line understanding to use open numbers lines and make connections between place value models and number lines in addition and subtraction strategies.

→ In the beginning of the unit, your student will learn to

- add or subtract two-digit numbers by
  - adding the tens and ones separately, then combining;
  - adding or subtracting one of the numbers in parts, such as when subtracting 43 - 25, start with 48, subtract 10 twice, then subtract 5 more;
  - adding or subtracting using nearby numbers, such as to add 19 to 32, add 20 to 32, then subtract the extra 1 that was added;
- use these strategies to solve two-digit addition and subtraction problems mentally or using a place value model or number line.

→ In the middle of the unit, your student will learn to

- describe that, in addition, the numbers can be added in any order and the total will stay the same;
- use estimation to explain why their answer is or is not reasonable (for example, "I estimated 47 + 31 as 50 + 30, which is 80. My answer was 79 and that is close to 80, so my answer is reasonable");
- identify or create models and equations to represent a variety of word problems;
- compare, choose, and use appropriate strategies to solve addition and subtraction problems.

→ By the end of the unit, your student will learn to

- choose and use appropriate models and strategies to solve a variety of two-step addition and subtraction word problems;
- efficiently add and subtract numbers between 0 and 100 using chosen strategies.

Helpful Hint

Sometimes students look for keywords such as "in all" or "how many" in word problems, but these can lead to misconceptions. When supporting your students to solve word problems, avoid asking your student to look for keywords. For example, "how many" can mean "How many more?," which means students need to subtract, or "How many does someone have?" which means students need to add. Instead, support your student's understanding of the word problem by asking them to act out or draw the situation, which helps them understand the bigger picture of the problem. The priority is for students to make sense of a problem holistically so they can be flexible mathematical thinkers.

Tips for Supporting Your Student at Home

Questions to Ask Your Student

→ At the beginning of the unit:

- What strategy did you use to add or subtract? Why?
- How can we add by thinking about the tens and ones?
- How can we subtract using the number line?

→ In the middle of the unit:

- Is your answer reasonable? How can you estimate to decide?
- How can you represent the problem with a model?
- How does the model help you understand what you know and do not know?

→ By the end of the unit:

- What do you do first? What do you do next?
- What is the best way to make sense of the problem?
- What strategy did you use to add or subtract? Why?

If...	Try...
your student switches the order of numbers when subtracting, for example, beginning to solve 54 - 16 by subtracting 50 - 10 and 6 - 4 . . .	asking them to look back at the original problem to see which number is the starting amount and which number is being subtracted. Suggest that they show 54 - 10 and then subtract 6.
your student is confused by equations with a missing addend like in the equation 3 +__ = 8 . . .	having your student describe what is happening in the situation ("A number is added to 3 and you end up with 8").

Student Strengths Spotlight

We make a plan to solve a problem and change our plan if we need to.	Before starting to solve, students consider the best strategy for the addition or subtraction situation based on what they know and what they are trying to find out.
We model our thinking.	Students show their addition and subtraction strategies, then compare strategies to learn from one another.

Try This Together!

- **Take a Walk!** Take a walk with your student, and while you are walking pose different addition or subtraction problems for them to solve. For example, "I see 23 flowers. 4 are pink and the rest are blue. How many blue flowers do I see?" Then ask your student to ask you addition or subtraction problems to answer.
- **Shopping Math!** While out shopping, help your student create or solve a math problem using dollar amounts. For example, you had $35 to start with and bought an item, and now you have $15. How much was the item you bought?
- **Adding Measurements.** Pose some addition questions to your students about the length or height of objects around the house. For example, ask "If we stacked a chair on top of the table, how tall would it be?" Have your student measure the height of the chair and table separately (to the nearest whole inch) and add to find the height. Ask them to explain their addition strategy to you. Consider trying this with more than 2 objects too!