Bridges in Mathematics Grade 4 Unit 4

Addition, Subtraction & Measurement

In this unit your student will:

- Compare multidigit numbers and identify the value of the digits
- Use the standard algorithms for addition and subtraction
- Solve word problems involving length, distance, liquid volume, time, mass, and weight
- Convert measurements from a larger unit to a smaller unit within the same system of measurement (for example, kilometers to meters but not meters to inches)

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





PROBLEM	COMMENTS
Lance used the standard algorithm to solve this problem: 564 <u>+ 837</u> 13,911 Did he use the algorithm correctly? Explain. No he didn't. He didn't regroup when he added 4 and 7. He wrote 11 on one line and that messed up the place values. 11 He should have done it like this. 564 <u>+ 837</u> 1,401	Students are expected to be able to fluently use the standard algorithms for addition and subtraction. Part of developing that fluency is understanding when and how the algorithm has been used incorrectly. Students can explain in a variety of ways how they know Lance used the algorithm incorrectly. Some might see that his answer is incorrect and, therefore, that he did not use the algorithm correctly. These students might have estimated a reasonable answer (about 1,400) and could see that Lance's final answer is quite unreasonable. Others might apply the standard algorithm and then compare their own work to Lance's.

For additional support, you can use the Math Vocabulary Cards app at apps.mathlearningcenter.org.

Frequently Asked Questions About Unit 4

Q: If they need to become proficient with the standard algorithms for adding and subtracting greater numbers, why do students use other methods, including the number line?

A: The standard algorithms are reliable, and often efficient, methods for adding and subtracting multidigit numbers. Using models (such as the open number line) and other methods helps students see why different strategies, including the standard algorithms work. Many of these strategies begin with the greatest place value of a number, which can help students make better estimates. Most adults continue to use different strategies for mental calculations. Students who are proficient with foundational facts, have a strong awareness of the magnitude of numbers, and have a strong awareness of place value can learn to use the standard algorithms accurately and with understanding.

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

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

• Ask your student to help you solve addition and subtraction problems that come up daily. Share with your student the strategies you use for solving, and encourage them to show you strategies they are learning in class.

Other ways to support your student include:

- Visit <u>mathathome.mathlearningcenter.org</u> and work together through some or all of the activities in Grade 4: Set 4. These activities complement the learning taking place in the classroom during Unit 4 and provide fun ways to engage everyone at home in mathematical thinking. This set also includes digital versions of games that your student learned at school, such as Target 1,000 and Roll & Subtract 1,000. Your student might be excited to teach you how to play these games.
- If your student would enjoy learning about math concepts through literature, consider looking for math-related books at your local library. Encourage your student to read to you and point out the mathematical relationships they see. Some suggestions include:
 - » How Many Jelly Beans? by Andrea Menotti, illustrated by Yancey Labat
 - » *Hidden Figures: The True Story of Four Black Women and the Space Race* by Margot Lee Shetterly with Winifred Conkling, illustrated by Laura Freeman (Encourage your student to solve problems involving time using the timelines near the end of the book.)