Bridges in Mathematics Grade 4 Unit 8

Playground Design

In this unit your student will:

• Learn about simple machines such as pendulums, levers, inclined planes, and wheels



- Design and build model playgrounds to meet specific criteria and constraints
- Work with scaled drawings and dimensions
- Research project costs to determine an appropriate budget proposal
- Practice math skills developed earlier this year, especially those involving measurement, money, and geometry

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



PROBLEM	COMMENTS
This rectangle represents the surface of a seesaw at 1:50 scale. What is the length, width, and area of the seesaw at full scale?	Students work with scale as they make plans for a new park. They find the length and width of the surface at full scale by
6 cm × 50 = 300 cm	multiplying each dimension by 50. Students calculate the area of the seesaw
cm × 6 cm = 6 sq. cm 50 cm × 300 cm = 15,000 sq. cm	scale surface.

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

Frequently Asked Questions About Unit 8

Q: Why is there so much review in this unit?

A: At this point in the school year, fourth graders have studied all of the mathematical skills they'll need to progress to fifth grade. Most of the skills introduced in this unit involve data collection and analysis, research and planning, and model design. This unit also gives students the opportunity to apply many of the skills they developed over the course of the year. Applying mathematical skills to novel problems and new contexts is a sophisticated process that challenges students to take their current skills and understandings to a higher level.

Q: My student talks about the "new playground" being developed at school. Is a new playground being built?

A: This project is hypothetical. While students' work in this unit would make a good foundation for an actual construction project, the scope of the work does not include building a real playground.

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:

- » *Pass Go and Collect \$200: The Real Story of How Monopoly Was Invented* by Tanya Lee Stone, illustrated by Steven Salerno
- » Molly and the Mathematical Mysteries by Eugenia Cheng, illustrated by Aleksandra Artymowska
- » Unusual Chickens for the Exceptional Poultry Farmer by Kelly Jones, illustrated by Katie Kath