Unit 1, Lesson 11

All Kinds of Prisms

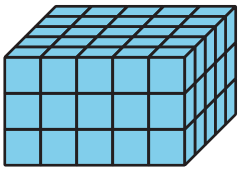
Let's find the volume of all different kinds of prisms.

Warm-up

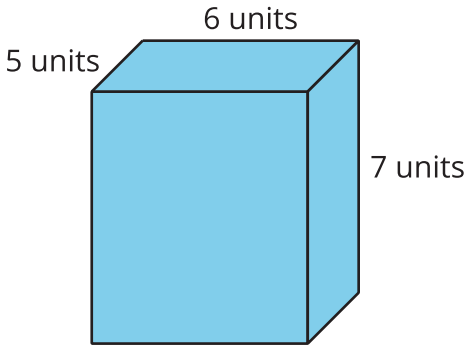
Which Three Go Together: Many Prisms

Which 3 go together?

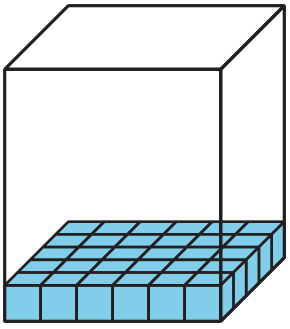
A



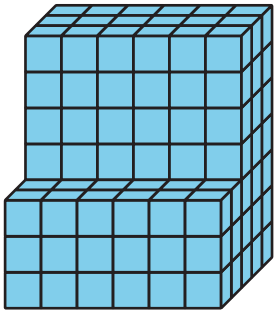
B



C



D

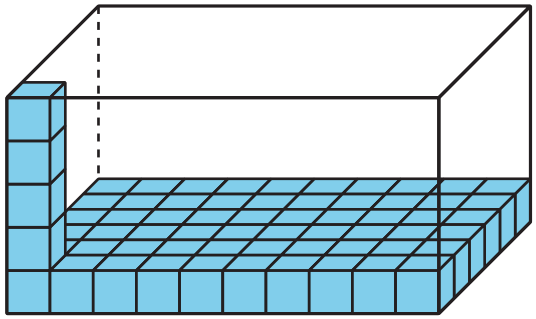


Activity 1

Prism-palooza

For each problem, explain or show your reasoning.

1. Han fills a box with cubes. Below is a diagram of the box. How many cubes can fit in the box if Han completely packs it, without gaps between cubes?



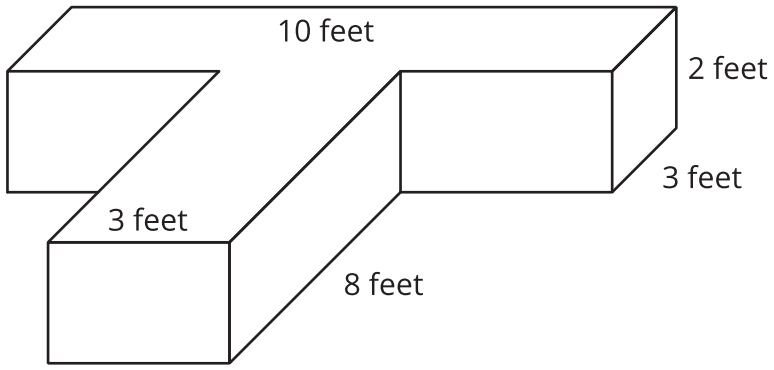
2. Clare buys a storage container for her art supplies. The storage container is 4 feet wide, 9 feet long, and 5 feet high. What is the volume of her container?

3. Mai's new bedroom has a walk-in closet with a floor that measures 30 square feet. Her closet ceiling is 9 feet from the floor. What is the volume of her closet?

Activity 2

Problem Solving with Figures

The elementary school builds a raised bed garden. A raised-bed garden is a box with soil that is higher than the ground around it. Here is a diagram that shows the side lengths of the garden.



1. What is the volume of the garden? Explain or show your reasoning.

2. Write an expression to represent the volume of the garden.

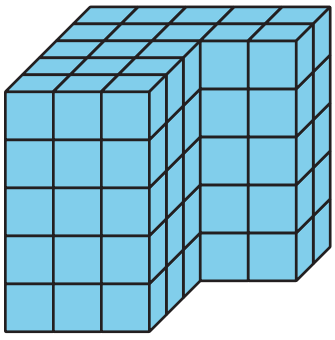


3. Noah designs a garden with the same volume but different side lengths. What could be the side lengths of his garden?

4. Which garden design do you like better? Explain or show your reasoning.

Section C Summary

We learned that some figures are made from two rectangular prisms. We can decompose these figures and find the volume of each prism. Then we add the volumes of the two prisms to find the total volume of the figure.



There is often more than one way to decompose figures made from two rectangular prisms. These expressions can be used to find the volume of the figure.

$$(3 \times 3 \times 5) + (5 \times 2 \times 5)$$

$$(3 \times 5 \times 5) + (2 \times 2 \times 5)$$