

Home Connections

Math Activities

Grade 6

Measurement

Exploring Volume and Surface Area

Measurement in Sports

Exploring Volume and Surface Area

1. Have your child show how to calculate the volume and surface area of a rectangular package in your home. Work with your child to list the different dimensions possible for a package of this volume.
2. Using the list of possible dimensions, help your child investigate other packages in your home.

For example:



$$\begin{aligned}\text{Volume} &= (\text{area of rectangular base}) \times \text{height} \\ &= (20 \times 25) \times 19 \\ &= 9500\text{cm}^3\end{aligned}$$

$$\begin{aligned}\text{Surface Area} &= \text{Area1} + \text{Area2} + \text{Area3} + \\ &\text{Area4} + \text{Area5} + \text{Area6} \\ &= 20 \times 25 + \dots \\ &= 2(20 \times 25) + 2(\dots) + 2(\dots) \\ &= \underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad} \text{cm}^2\end{aligned}$$

Volume is the amount of space occupied by an object. Surface Area is the sum of the areas of the sides.

Let's Talk About It

- What type of package would have the greatest volume and the least surface area? Why?

Measurement In Sports

Help your child find sports statistics with length or time, using a newspaper, sports magazine, or other resource. Ask your child to discuss the degree of precision used in these measurements.



Sporting events provide one context for examining the need for precision.

Let's Talk About It

- What could happen if one number was wrong?
- Why is it important to measure time and length correctly?
- What does precision mean to you?
- How are statistics used to measure sports?