

Name: _____

Lesson Guide

This lesson guide accompanies the following video lesson:

Volume and Surface Area of a Cube

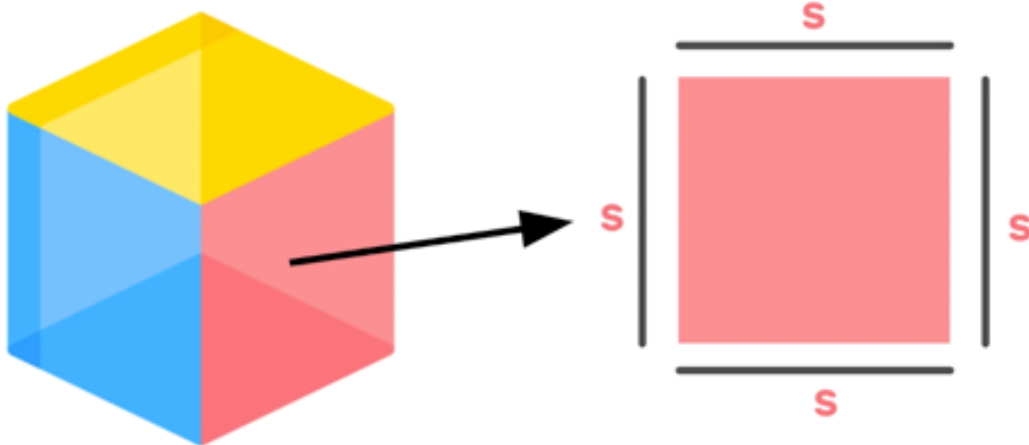
Key Questions

- What are the properties of a cube?
- How can you find the volume of a cube?
- How can you find the surface area of a cube?



Key Vocabulary

A cube is a box-shaped three-dimensional figure that has six identical faces.



All of the sides (also known as) have the same length!

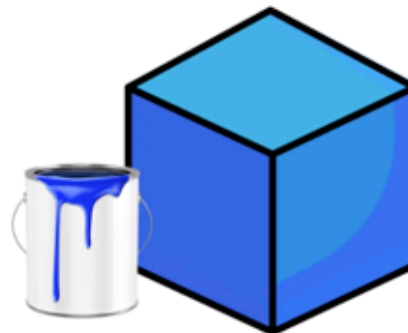
Volume and Surface Area of a Cube

Volume



The number of cubes it would take to completely fill the of the figure.

Surface Area



The total area of all of the faces on the of the figure.

Formula Reference

Volume

$$V = s^3$$

Volume is measured

in



Surface Area

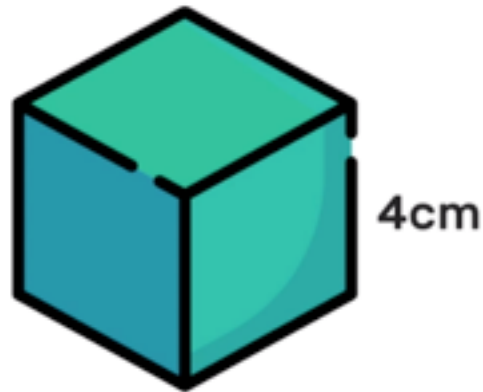
$$SA = 6s^2$$

Surface Area is measured

in

Practice Problem #1

Find the volume and surface area of a cube with a side length of 4cm.



Volume

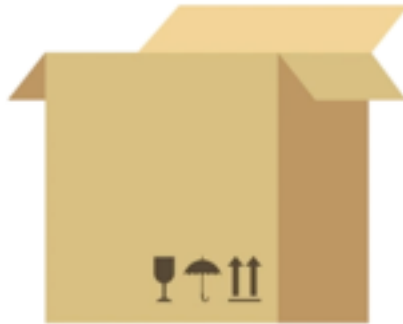
$$V = s^3$$

Surface Area

$$SA = 6s^2$$

Practice Problem #2

Find the volume and surface area of a cube-shaped box with a height of 9 inches.



Volume

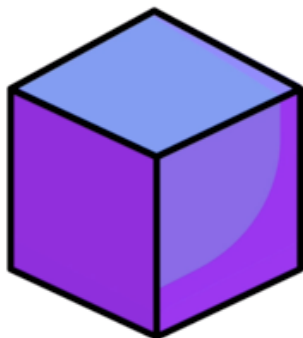
$$V = s^3$$

Surface Area

$$SA = 6s^2$$

Your Turn!

Find the volume and surface area of a cube with an edge length of 12 mm.



Volume

Surface Area

ANSWER KEY

Practice Problem #1: $V = 64\text{cm}^3$, $SA = 96\text{cm}^2$

Practice Problem #2 $V = 729\text{in}^3$, $SA = 486\text{in}^2$

Your Turn: $V = 1728\text{mm}^3$, $SA = 864\text{mm}^2$