Activity 3 Assessment
Investigating Volume

Interpreting and Expressing Volume

Explores volume as the amount of space occupied by a 3-D shape.	Recognizes volume of 3-D shapes in familiar contexts.	Models volume using concrete materials (non-standard units).	Expresses volume of 3-D shapes using standard units (cubic metres, cubic centimetres).
1 cm / 1 cm / ←1 cm→ Volume = 1 cm^3 "This cube occupies a space that can be measured. Each edge has a length of 1 cm and it has a volume of 1 cm^3."	"Everyday objects have volume; for example, a loaf of bread and a cereal box."	"The volume of the box is about 12 marbles. Marbles aren't the greatest unit because they leave gaps."	"I filled the box with centimetre cubes. The volume of the box is about 24 cm^3."
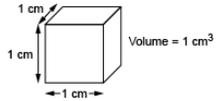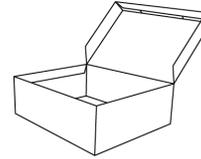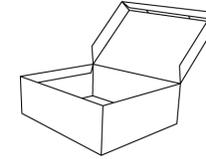
Observations/Documentation

Mathology 6 Alberta
Copyright © 2024 Pearson Canada Inc.

The right to reproduce or modify this page is restricted to purchasing schools.
This page may have been modified from its original.

Activity 3 Assessment
Investigating Volume

Interpreting and Expressing Volume (cont'd)

Models volume of a rectangular prism as a 3-D array of cubic units.	Recognizes that volume remains the same when decomposed or rearranged.	Determines the volume of a rectangular prism using multiplication.	Flexibly solves problems in various contexts that involve the volume of rectangular prisms.
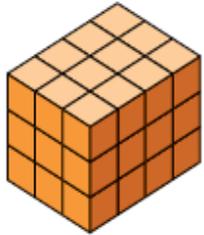
"The prism is a 3-D array of centimetre cubes. There are 12 cubes in each layer and 3 layers: 12 + 12 + 12 = 36. The prism has volume 36 cm³."
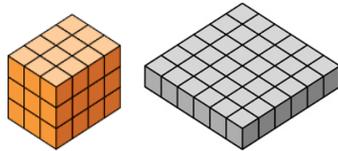
"I rearranged the 36 centimetre cubes to make a different prism. The number of cubes didn't change so, the volume is still 36 cm³."
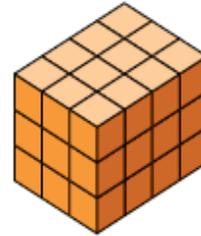
"The prism has length 4 cm, width 3 cm and height 3 cm. The area of the base is 4 cm × 3 cm = 12 cm², and the volume of the prism is:
Area of the base × height
= 12 cm² × 3 cm
= 36 cm³."

A square prism has height 11 cm and volume 539 cm³. Determine the side length of the square base.

"Volume = area of base × height
539 cm³ = Area of the base × 11 cm
539 ÷ 11 = 49
So, the area of the base is 49 cm².
The base is a square, so all sides are equal: 49 cm² = $s \times s$
Since 7 × 7 = 49, the side length of the square base is 7 cm."

Observations/Documentation

Activity 3 Assessment
Investigating Volume