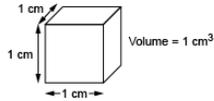


Activity 4 Assessment

Investigating Volume with Rectangular Prisms

Interpreting and Expressing Volume

Explores volume as the amount of space occupied by a 3-D shape.

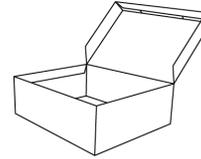


“This cube occupies a space that can be measured. Each edge has a length of 1 cm and it has a volume of 1 cm³.”

Recognizes volume of 3-D shapes in familiar contexts.

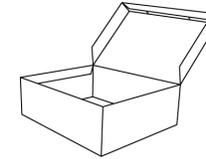
“Everyday objects have volume; for example, a loaf of bread and a cereal box.”

Models volume using concrete materials (non-standard units).



“The volume of the box is about 12 marbles. Marbles aren’t the greatest unit because they leave gaps.”

Expresses volume of 3-D shapes using standard units (cubic metres, cubic centimetres).



“I filled the box with centimetre cubes. The volume of the box is about 24 cm³.”

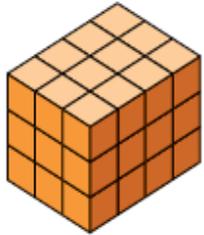
Observations/Documentation

Activity 4 Assessment

Investigating Volume with Rectangular Prisms

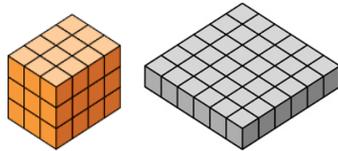
Interpreting and Expressing Volume (cont'd)

Models volume of a rectangular prism as a 3-D array of cubic units.



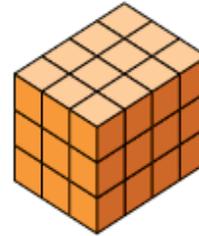
“The prism is a 3-D array of centimetre cubes. There are 12 cubes in each layer and 3 layers:
 $12 + 12 + 12 = 36$.
 The prism has volume 36 cm^3 .”

Recognizes that volume remains the same when decomposed or rearranged.



“I rearranged the 36 centimetre cubes to make a different prism. The number of cubes didn’t change so, the volume is still 36 cm^3 .”

Determines the volume of a rectangular prism using multiplication.



“The prism has length 4 cm, width 3 cm and height 3 cm. The area of the base is $4 \text{ cm} \times 3 \text{ cm} = 12 \text{ cm}^2$, and the volume of the prism is:
 Area of the base \times height
 $= 12 \text{ cm}^2 \times 3 \text{ cm}$
 $= 36 \text{ cm}^3$.”

Flexibly solves problems in various contexts that involve the volume of rectangular prisms.

A square prism has height 11 cm and volume 539 cm^3 . Determine the side length of the square base.

“Volume = area of base \times height
 $539 \text{ cm}^3 = \text{Area of the base} \times 11 \text{ cm}$
 $539 \div 11 = 49$

So, the area of the base is 49 cm^2 . The base is a square, so all sides are equal: $49 \text{ cm}^2 = s \times s$
 Since $7 \times 7 = 49$, the side length of the square base is 7 cm.”

Observations/Documentation