MARCH

Math

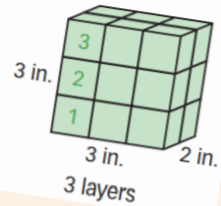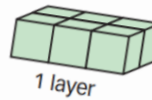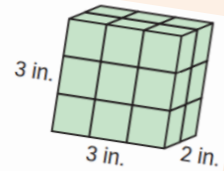## Standard: NC.5.MD.5 Relate volume to the operations of multiplication and division.

A gift box is 3 inches long, 2 inches wide, and 3 inches tall. What is the volume of the box?

You can fill the box with 1-inch cubes. Count the cubes. There are 18 cubes.

You can also count the cubes in 1 layer. There are 6 cubes in 1 layer. The box has 3 layers.

$6 + 6 + 6 = 18$ or $6 \times 3 = 18$

The volume of the box is 18 cubic inches.

3 in.

3 in.   2 in.

1 layer

3
2
1

3 in.   2 in.

3 layers

Vocabulary

attribute
unit cubes
cubic unit
cubic centimeter
cubic inches
square unit
cubic feet
volume

area
formula
face
right rectangular prism
rectangular prism
plane figure
solid figure
base

Activity

Volume Using a Formula Activity

Materials: ruler or tape measure

Play a Rectangular Prism Scavenger Hunt game with your child.

• Each person looks around the home for objects that are shaped like rectangular prisms. The goal is to find one that is small and one that is large.

TISSUES   CEREAL   JUICE BOX

Decide who found the objects with the smallest volume and the largest volume.

• Measure the length, width, and height of each object. Round the measurements to the nearest whole inch or foot. Use the formula (volume = length × width × height) to calculate the volume of each object.

• Discuss whether another object shaped like a rectangular prism could have the same volume as one of your objects, but have a different length, width, or height. (Another object could have the same volume and different dimensions. For example, a box that measures 3 inches × 2 inches × 4 inches has a volume of 24 cubic inches; a different box that measures 6 inches × 2 inches × 2 inches also has a volume of 24 cubic inches.)