Understand Volume

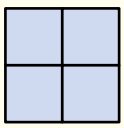
LESSON 1

Dear Family,

This week your child is exploring volume.

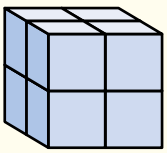
Volume is the amount of space inside a **solid figure**. A **unit cube** is a cube, 1 unit on each edge, used to measure volume.

Your child has already learned to find the area of a **plane figure**, such as a rectangle, by covering it with **unit squares**. Area is the number of square units needed to cover a plane figure.



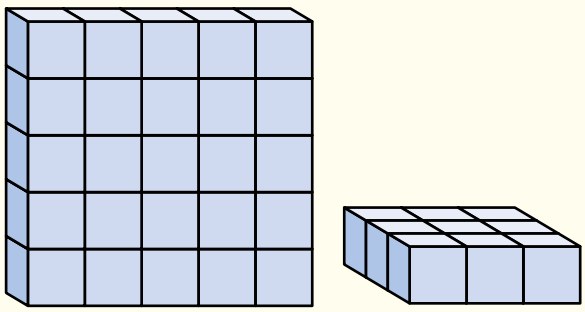
Area = 4 square units

Now your child is learning to find the volume of a solid figure, such as a cube, by filling it with unit cubes. Volume is the number of unit cubes needed to fill a solid figure. The cube at the right has a volume of 8 **cubic units**.



Volume = 8 cubic units

Each unit cube in the solid figures *A* and *B* at the right has a volume of 1 cubic unit.



A ***B***

To find which figure has a greater volume, you can count the unit cubes. Figure *A* has a volume of 25 cubic units. Figure *B* has a volume of 9 cubic units. Figure *A* has a greater volume than Figure *B* because $25 > 9$.

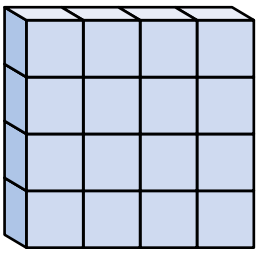
Invite your child to share what they know about volume by doing the following activity together.

ACTIVITY VOLUME OF A RECTANGULAR PRISM

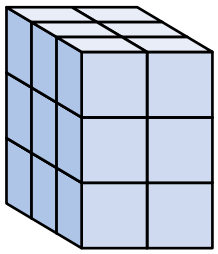
Do this activity with your child to explore volume.

A solid figure with six rectangular flat surfaces, or faces, is called a rectangular prism. Work together with your child to find the volume of the rectangular prisms below.

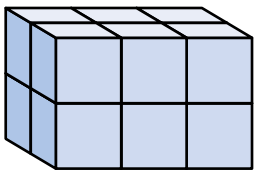
- Each solid figure below is a rectangular prism made of unit cubes. Each unit cube has a volume of 1 cubic unit.
- Ask your child to explain how to find the volume of each rectangular prism. Then write the volume.
- Challenge! Look at all the solid figures below. Which two figures have the same volume? What is the same about those two figures? What is different?



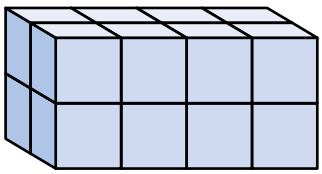
Volume = ... cubic units



Volume = ... cubic units



Volume = ... cubic units



Volume = ... cubic units