



5th Grade Unit 1: Investigating Volume of Solid Figures



Overview:

In this unit, students are introduced to volume as a measurable attribute of solid figures by building on their understandings of area and multiplication. Students begin by first making sense of volume by building objects and counting the cubes, then analyzing images of prisms constructed of unit cubes and analyzing their structure. Students observe that multiplying the number of cubes in one layer by the number of layers of cubes gives the volume. Students recognize that the number of cubes in one layer represents the area of a rectangle. Students then generalize that they can use the product of the area of the base and the height of a rectangular prism to determine its volume and write expressions to represent the volume.

Learning Targets:

In Unit 1, students will:

- Examine properties of polygons and rectangular prisms, classify polygons by their properties, and discover volume of right rectangular prisms.
- Investigate volume of right rectangular prisms by packing them with unit cubes without gaps or overlaps. Then, determine the total volume to solve problems.
- Discover and explain how the volume of a right rectangular prism can be found by multiplying the area of the base times the height to solve real-life, mathematical problems.
- Write, interpret, and evaluate numerical simple numerical expressions within real-life problems.

Key Vocabulary:

Area of base	Length	Volume
Cubic Units	Liquid Volume	Height
Edge Length	Overlap	Unit cube
Equation	Right rectangular prism	Gap
Expression	Solid figure	

Supporting Resources:

<http://ctlslearn.cobbk12.org/>

[Volume of rectangular prisms \(practice\) | Khan Academy](#)

<https://gavirtual.instructure.com/courses/34730#modules>

[Volume of rectangular prism – Review Game \(wordwall.net\)](#)