TEACHER PAGE

Lesson: Prisms - Turn Up the Volume
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New Arizona Strand 4 Geometry and Measurement   **Grade 8**
Articulated 4M84-02 Calculate the volumes of three-dimensional geometric figures.
Old Arizona Math Standard 4 Geometry Essential 4   **Grades 6-8**
4ME4PO1 Solve problems using given formulas for … volume of prisms.

Pre-Requisite Information:
•Understand the terms length, width, and height
•Multiplication skills

Learning Objective: The student will be able to:
•Demonstrate using the formula correctly for finding the volume of a prism from its length, width and height.
•Explain the formula and units for calculating volume of prisms

Overview/Content:
The student will find the volume of rectangular prisms. Reinforcement of multiplication skills will take place within the lesson. The teacher may also work with the student on the literacy issue of spelling, using the words included in the lesson. This lesson has English, Navajo and Spanish narrations and scripts.

Engage Students:
Using Unix™ Cubes, build rectangular prisms having given dimensions. Count the number of cubes and refer to this as the volume of the prism. Or using Unix™ Cubes, build prisms that have a given volume. Identify the dimensions of the prism as length, width and height.

Follow-up:
Relate the method used to find the volume of a rectangular prism to the method used to find the volume of other types of prisms. Check out SO WHAT with preparing for the swimming event at the Olympics; DIG DEEPER works with proportional ratios in volume of prisms; and TALK ABOUT IT asks for the amount of water needed for a trough for your horse..

Extensions:
The student can find the volume of a 3-dimensional figure made up of more than one rectangular prism. Also, the student can calculate the operation and construction costs involved with building trades items (e.g., cement driveway, cement steps, air-conditioning needs in a building, capacity of a storage tank.)

Teacher Note:
Talk About It requires the student to use division to find a missing dimension from a given volume.

Assessment