

The Perfect Fit

Just like the Geometrics Stage Crew used volume measurement to fit props in a van, you can apply volume measurement in and around your home. For example, volume can help you make sure you have enough room for all your stuff. Try the exercises below to see how it works.

FEATURED FORMULAS

Volume of 3D Shapes:

Rectangular Prism: $V = l \cdot w \cdot h$

Cylinder: $V = \pi \cdot r^2 \cdot h$



- 1** You have a CD collection and want a CD tower that will hold all of your CDs. If the average CD measures about 6 inches long by 5 inches high by $\frac{1}{4}$ (.25) inches wide, and you have 80 CDs, what should the minimum volume of your CD rack be? You may want to use the conversion chart on Activity 1 to calculate the cubic feet and cubic inches. Note: You'll need a calculator to figure out your answer.

- 2** To experiment more with cubic measurement, find out the volume of your bedroom and closet.

Bedroom volume:

Closet volume:

- 3** Volume is also great for measuring liquid. You may be able to figure out how much water a pool holds by getting its length, width, and depth. The general rule is 1 cubic foot = 7.48 gallons. Assume your neighbors have a big, perfectly round pool with a diameter of 30 feet and a depth of 5 feet. How much water would that pool hold?

NOW TRY THIS:

You have a can of juice and want to find out how tall it is by using its radius and its volume. Assume you pour the juice into a measuring glass and find that the can holds 12.1 ounces of juice. If .55 ounces = 1 cubic inch, then 12.1 ounces = 22 cubic inches. Your can has a volume of 22 cubic inches and a diameter of 2 inches. Using the cylinder formula on this page, calculate the height of the can rounded to the nearest inch. Note: You'll need a calculator to figure out your answer.