High School Algebra Playlist: Using Volume Formulas

Aligns with CCSS.Math.Content.HSG.GMD.A.3: Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.

Related Standards

- CCSS.Math.Content.HSG.GMD.A.1: Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments*.

Objectives

In this module, you will learn and practice the following skills:

- apply volume formulas in context

- use appropriate volume formulas to solve problems

Let's get started!

Key Terms

- A **composite solid** can be dissected into two or more solids.

Using Volume Formulas

(CCSS.Math.Content.HSG.GMD.A.3)

Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.

A **composite solid** can be dissected into two or more solids.

If your students…

Don't distinguish between surface area and volume formulas:

Remind them that area involves finding the space covered by these solids are three-dimensional objects, so the formulas involve two dimensions. Volume formulas involve three dimensions, either by cubing a variable or by multiplying a squared variable by another variable.

Have trouble remembering the formulas:

Remind them where the formulas come from.

WATCH: **Volume of Spheres**

http://www.ck12.org/geometry/Volume-of-Sphere/lecture/Volume-of-a-Sphere/?referrer=featured_content

WATCH: **Know and use the formulas for volumes of cones, cylinders, and spheres--Lesson 1 of 3**

https://www.youtube.com/watch?v=jP4P50lA-SE

WATCH: **Know and use the formulas for volumes of cones, cylinders, and spheres--Lesson 2 of 3**

https://www.youtube.com/watch?v=9JbzaI7pu8M