

Common Core Standards - Resource Page

The resources below have been created to assist teachers' understanding and to aid instruction of this standard.

Domain	Standard: 7.G.6-2 - Solve real-world and mathematical problems involving volume and surface area of three-dimensional objects composed of cubes and right prisms.
<p><u>Geometry</u> Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.</p>	<p><u>Questions to Focus Learning</u> How do you determine the volume of a right prism? How would you calculate the surface area?</p> <p>The surface area of three-dimensional figures is determined by calculating the separate areas of each face and using the sum of these values. The volume is determined by calculating the area of the base and multiplying it by the height.</p> <p><u>Student Friendly Objectives</u></p> <p><i>Knowledge Targets</i></p> <p>I know how to calculate the area of a square. I know how to calculate the surface area of a cube by using the sum of the areas of each face. I know how to calculate the area of a quadrilateral. I know how to calculate the surface area of a right prism by using the sum of the areas of each face. I know how to calculate the area of a polygon. I know how to calculate the volume of a cube. I know how to calculate the volume of a right prism. I know how to calculate the volume of figures composed of both a cube and a right prism.</p> <p><i>Reasoning Targets</i></p> <p>I can calculate the area of two-dimensional figures to determine the surface area of a cube or right prism. I can calculate the volume of three-dimensional figures including cubes and right prisms.</p>

Vocabulary

base
cube
edge
face
right prism
volume

Teacher Tips

In previous grades, students have studied angles by type according to size: acute, obtuse and right, and their role as an attribute in polygons. Now angles are considered based upon the special relationships that exist among them: supplementary, complementary, vertical and adjacent angles. Provide students the opportunities to explore these relationships first through measuring and finding the patterns among the angles of intersecting lines or within polygons, then utilize the relationships to write and solve equations for multi-step problems.

Real-world and mathematical multi-step problems that require finding area, perimeter, volume, surface area of figures composed of triangles, quadrilaterals, polygons, cubes and right prisms should reflect situations relevant to seventh graders. The computations should make use of formulas and involve whole numbers, fractions, decimals, ratios and various units of measure with same system conversions.

Vertical Progression

8.G.8 - Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.
8.G.9 - Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

The above information and more can be accessed for free on the [Wiki-Teacher](#) website.
Direct link for this standard: [7.G.6-2](#)