

**SAU 50  
Grade 6  
Mathematics  
Geometry**

**Geometry:** solving problems with [area](#), [surface area](#), and [volume](#).

**SAU 50 District Competency:**

Students will independently use their learning to design and create a visual representation using spatial relationships and measurement.

**Essential Questions**

- How can you use the area to help you find volume of a prism?
- How can a coordinate system be used to find the length of a two dimensional object?
- Why do we use formulas?

**Acquisition**

*Students will demonstrate the following to meet the standards.*

- I can find the area of triangles, quadrilaterals, and polygons by decomposing them into triangles or composing them into rectangles when appropriate in order to solve real-world problems.
- I can find the volume of a right rectangular prism using the formula  $V = B \times h$  and  $V = l \times w \times h$  and demonstrate that the volume of the figure is represented by the total number of cubes that will fill the figures.
- I can draw polygons in the coordinate plane when given a set of coordinates and find horizontal and vertical side lengths of the polygon to solve real-world and mathematical problems.
- I can create a net from a three-dimensional solid (made up of rectangles and triangles) in order to find its surface area to solve real-world and mathematical problems.

## Standards

### NH College and Career Ready Standards

#### ***Key to Standard Notation:***

**6.G.1: 6** (*grade level*) **G** (*domain: Geometry*) **1** (*number of the standard*)

#### **Geometry**

**Solve real-world and mathematical problems involving area, surface area, and volume.**

**6.G.1:** Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

**6.G.2:** Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas  $V = l w h$  and  $V = B h$  to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.

**6.G.3:** Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.

**6.G.4:** Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

[New Hampshire College and Career Ready Standards](#)

#### **References:**

National Governors Association Center for Best Practices, Council of Chief State School Officers. (2010). *Common Core Standards for Mathematics* (United States, National Governors Association Center for Best Practices, Council of Chief State School Officers). Retrieved August 10, 2016, from [http://www.corestandards.org/assets/CCSSI\\_Math%20Standards.pdf](http://www.corestandards.org/assets/CCSSI_Math%20Standards.pdf)

Math is fun/definitions. (n.d.). Retrieved April 17, 2017, from <http://www.mathisfun.com/definitions>