

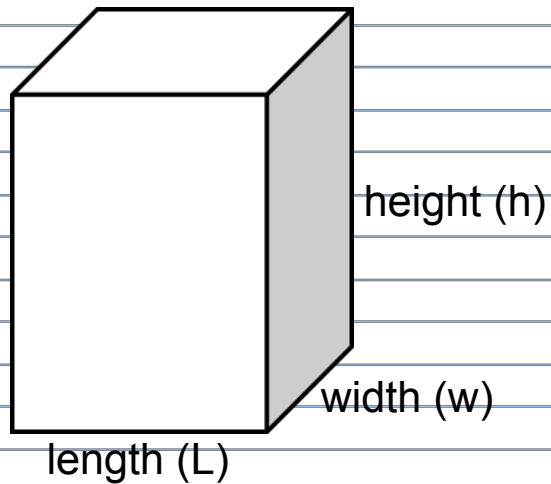
Surface Area and Volume

Date: 1-23-13

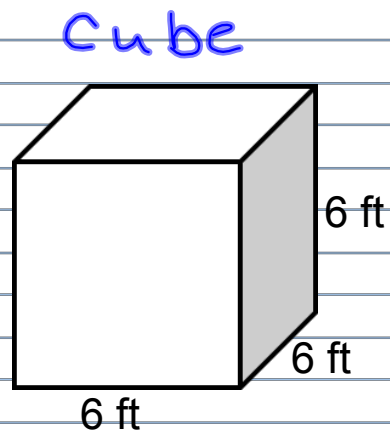
Objective: Today we will apply properties of a rectangular prism in order to calculate surface area and volume.

Notes:

Rectangular Prisms: three dimensional rectangle



What is the special rectangular prism with equal length, width, and height?



Surface Area: sum of the areas of all the faces on a rectangular prism

Example: cardboard for a cereal box

Formula for Surface Area of a Rectangular Prism

$$SA = 2 \cdot L \cdot w + 2 \cdot w \cdot h + 2 \cdot L \cdot h$$

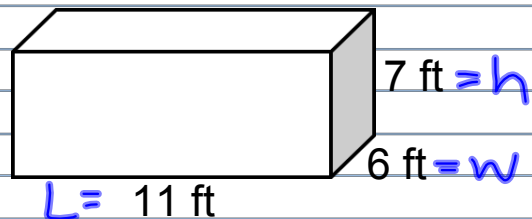
Volume: measure of the space a solid figure takes up

Example: amount of water for an aquarium

Formula for Volume of a Rectangular Prism

$$V = L \cdot w \cdot h$$

Example: Find the Surface Area and Volume of the prism below.



$$SA = 2 \cdot L \cdot w + 2 \cdot w \cdot h + 2 \cdot L \cdot h$$

$$SA = (2 \cdot 11 \cdot 6) + (2 \cdot 6 \cdot 7) + (2 \cdot 11 \cdot 7)$$

$$SA = 132 + 84 + 154$$

$$SA = 370 \text{ ft}^2$$

$$V = L \cdot w \cdot h$$

$$V = 11 \cdot 6 \cdot 7$$

$$V = 462 \text{ ft}^3$$

Exit Ticket

Write the formulas
for SA and Volume
of a rectangular
prism.