



Math 5

UNIT 6 - Measurement System and Volume

6 - 5 Volume of a Right Rectangular Prism

Name:

Date:

Common Core Standards

[CCSS.MATH.CONTENT.5.MD.C.5.A](#)

Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.

[CCSS.MATH.CONTENT.5.MD.C.5.B](#)

Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.

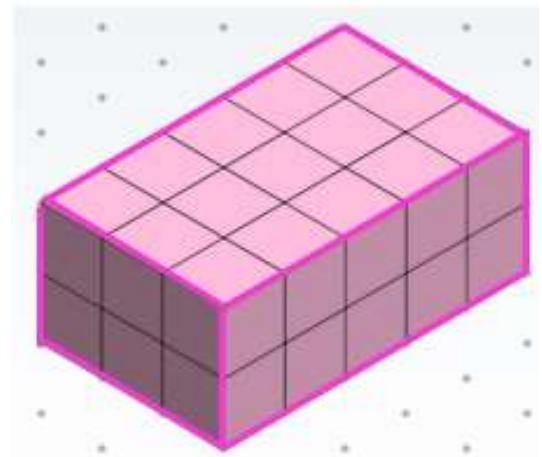
6 - 5 Volume of a Right Rectangular Prism

Volume of Rectangular Prisms (Counting Cubes)



$$1 \text{ cube} = 1 \text{ in}^3$$

This means that

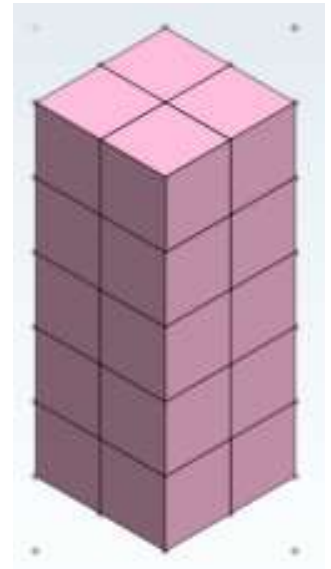
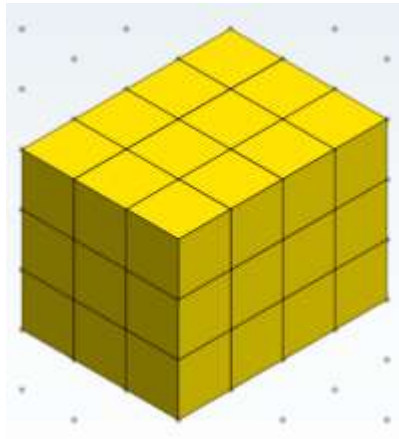
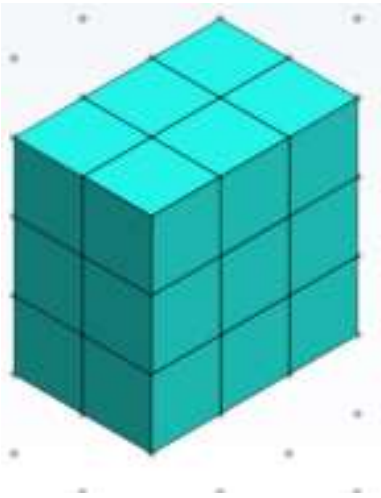


$$30 \text{ cubes} = 30 \text{ in}^3$$

Count the unit cubes.

Volume equals total count with units.

Connect the prisms to the medals below based on their volumes, arranged in descending order.



FIRST

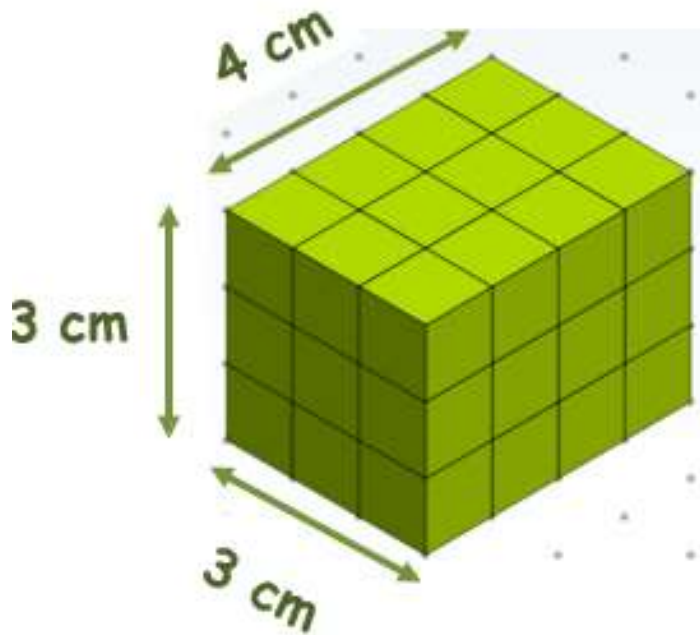
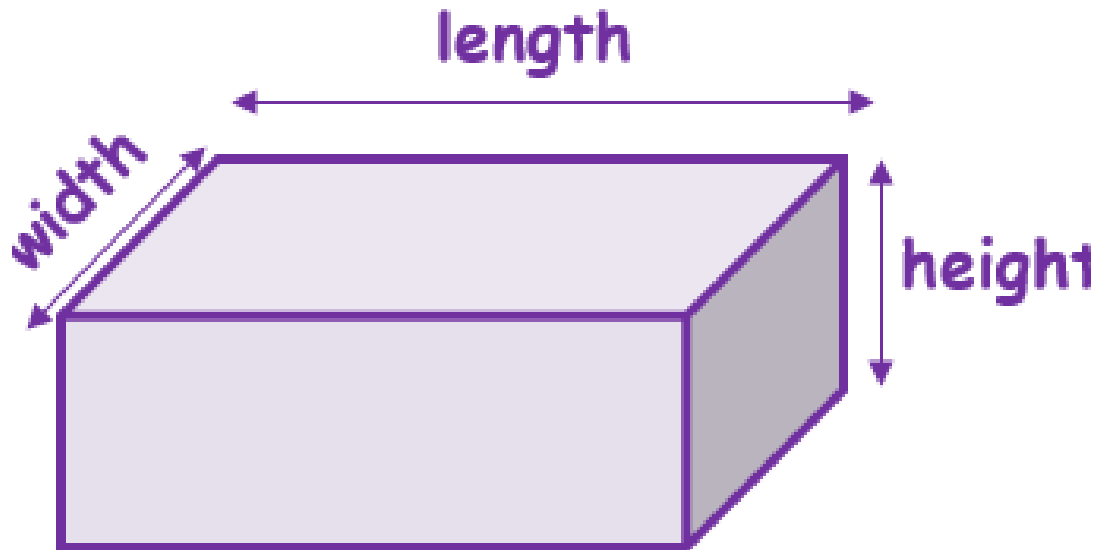


SECOND



THIRD

Dimensions of Rectangular Prisms

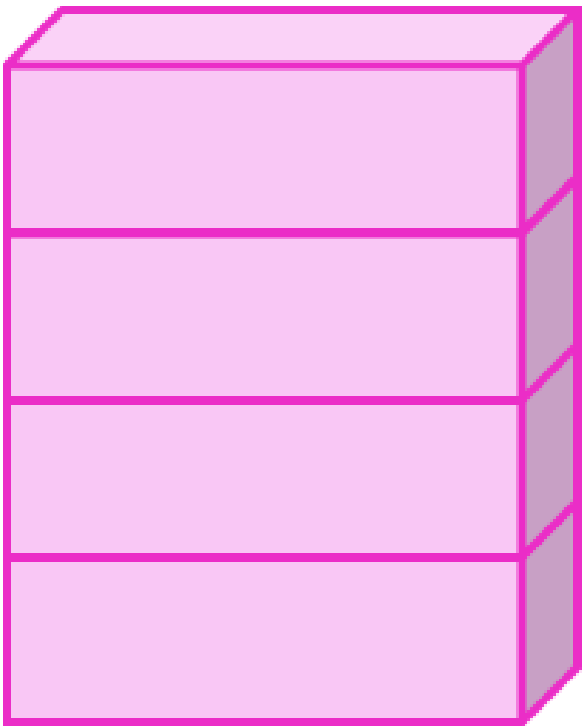


width = 3 cm
length = 3 cm
height = 4 cm

Volume of Rectangular Prisms (Area x Height)

$$\text{Volume} = \text{Base Area} \times \text{Height}$$

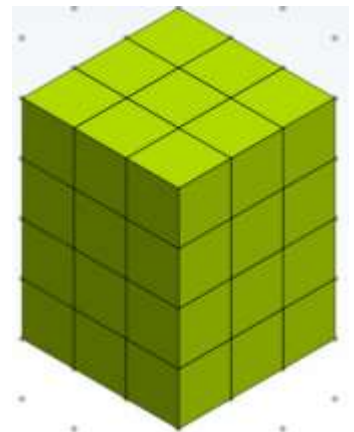
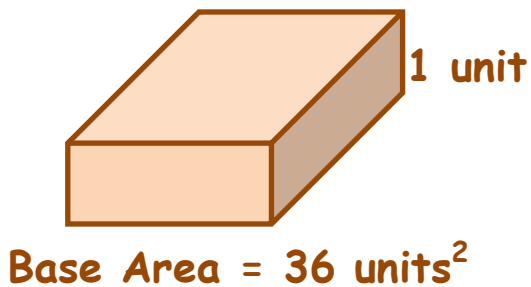
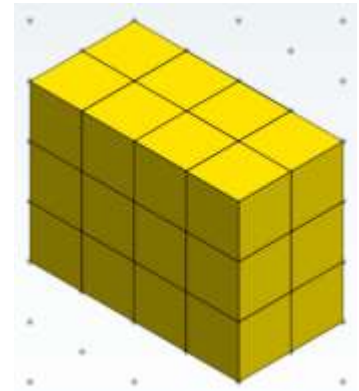
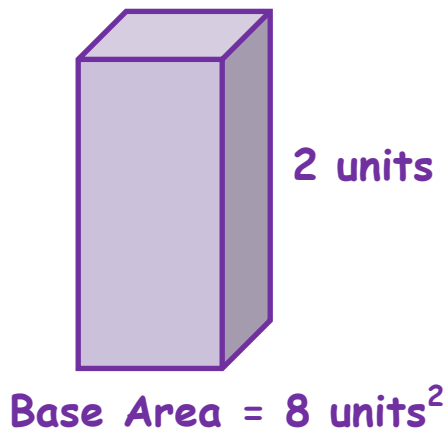
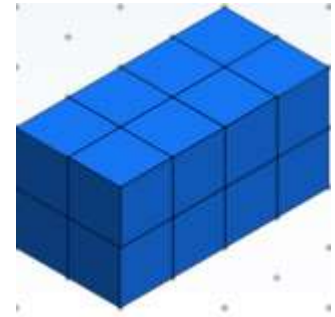
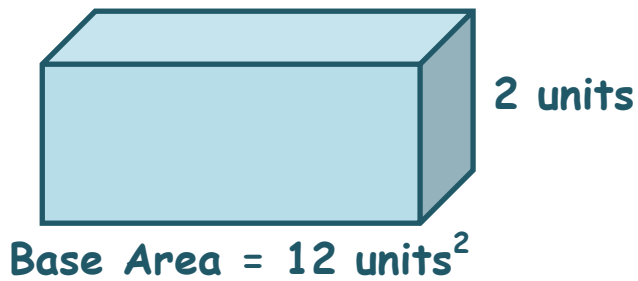
Base Area = 16 cm^2



Height = 4 cm

$$\begin{aligned}\text{Volume} &= 16 \text{ cm}^2 \times 4 \text{ cm} \\ &= 64 \text{ cm}^3\end{aligned}$$

Match the two columns below by connecting the prisms with the same volume.

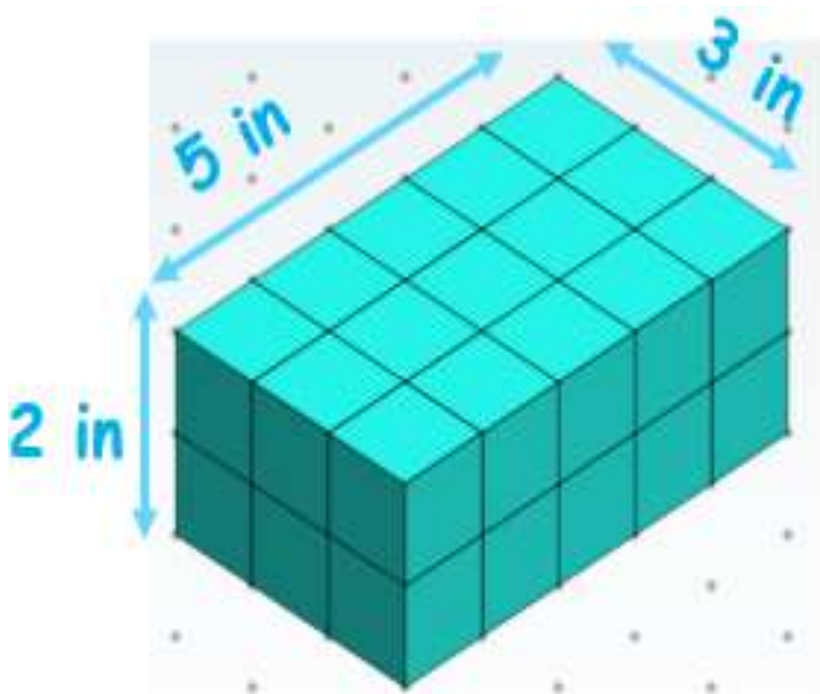


Volume of Rectangular Prisms

$$(L \times W \times H)$$

Volume = Length \times Width \times Height

$$V = L \times W \times H$$



$$\begin{aligned} \text{Volume} &= 2 \times 5 \times 3 \\ &= 30 \text{ in}^3 \end{aligned}$$

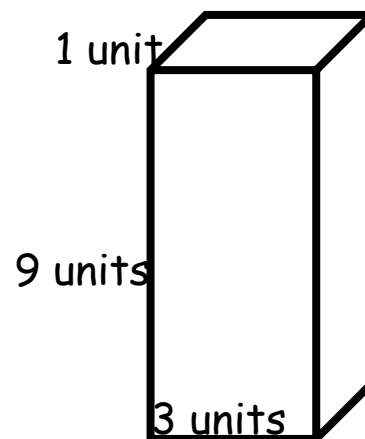
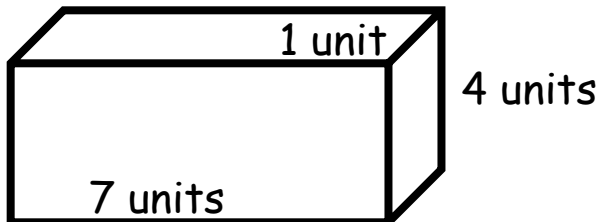
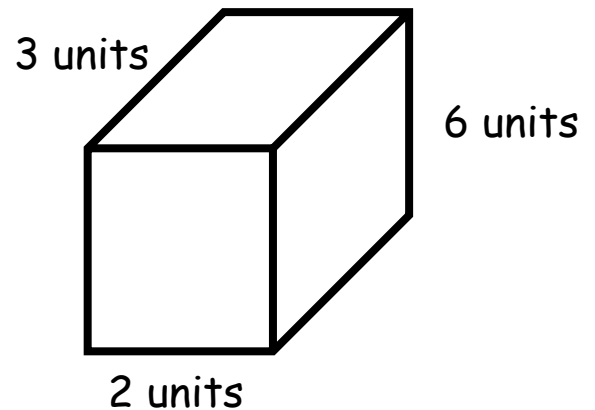
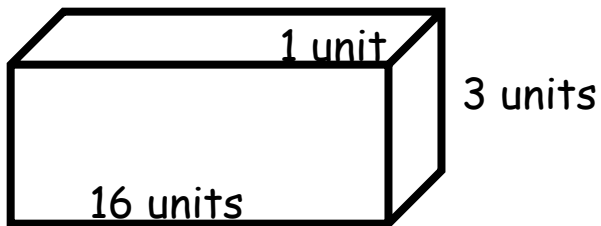
Shade the prisms below based on the given clues.

Green for the prism with a volume of 28 cubic units.

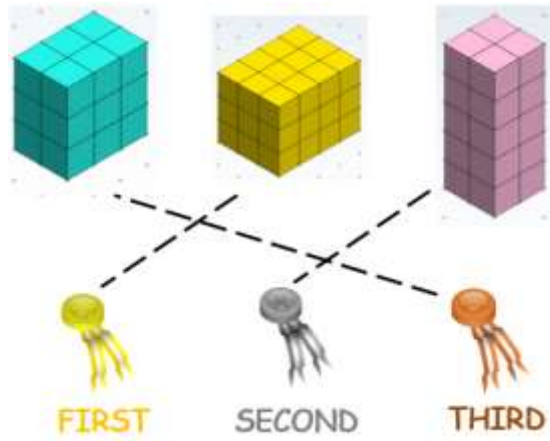
Orange for the prism with a volume of 48 cubic units.

Red for the prism with a volume of 27 cubic units.

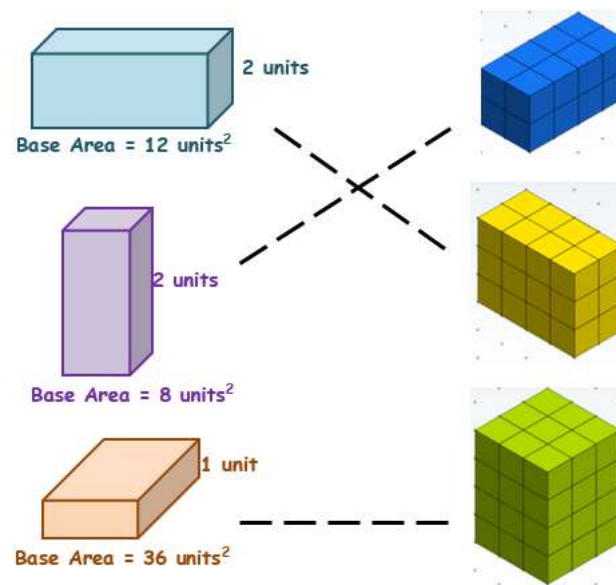
Blue for the prism with a volume of 36 cubic units.



Connect the prisms to the medal below based on their volumes arranged in descending order.



Match the two columns below by connecting the prisms with the same volume.



Shade the prisms below based on the given clues.

