

**mb GOS**

**Lesson 10-4**  
Composite Figures of Prisms

Use the volume of a three-dimensional figure to solve problems involving composite figures. What is the volume of this three-dimensional figure? Label the prisms in the figure.

$V_L = l \times w \times h$   
 $4 \text{ cm} \times 2 \text{ cm} \times 3 \text{ cm}$   
 $8 \text{ cm}^2 \times 3 \text{ cm}$   
 $24 \text{ cm}^3$

$V_R = l \times w \times h$   
 $4 \text{ cm} \times 2 \text{ cm} \times 2 \text{ cm}$   
 $8 \text{ cm}^2 \times 2 \text{ cm}$   
 $16 \text{ cm}^3$

$24 \text{ cm}^3 + 16 \text{ cm}^3 = 40 \text{ cm}^3$

**Look Back!** **Model Reasoning** How did you separate the composite figure into two rectangular prisms?

You can separate the prisms either left and right or top and bottom.

$V_B = l \times w \times h$   
 $4 \text{ cm} \times 2 \text{ cm} \times 2 \text{ cm}$   
 $8 \text{ cm}^2 \times 2 \text{ cm}$   
 $16 \text{ cm}^3$

$V_T = l \times w \times h$   
 $4 \text{ cm} \times 2 \text{ cm} \times 3 \text{ cm}$   
 $8 \text{ cm}^2 \times 3 \text{ cm}$   
 $24 \text{ cm}^3$

$16 \text{ cm}^3 + 24 \text{ cm}^3 = 40 \text{ cm}^3$

**How Can You Find the Volume of a Solid Figure Composed of Two Rectangular Prisms?**

The shape and size of a composite figure can change without changing the volume. The volume of a composite figure is the sum of the volumes of the individual prisms that make up the figure.

The building can be separated into two rectangular prisms. Find the volume of each prism, and find the total volume.

Use the formula  $V = l \times w \times h$  to find the volume of each prism. Add the volumes of the two prisms to find the total volume.

**Look Back!** **Model Reasoning** How is your answer to this problem similar to the answer to the problem in the last lesson?

$V_L = l \times w \times h$   
 $4 \text{ cm} \times 2 \text{ cm} \times 3 \text{ cm}$   
 $24 \text{ cm}^3$

$V_R = l \times w \times h$   
 $4 \text{ cm} \times 2 \text{ cm} \times 2 \text{ cm}$   
 $16 \text{ cm}^3$

$24 \text{ cm}^3 + 16 \text{ cm}^3 = 40 \text{ cm}^3$

**Guided Practice**

**Do Now Understand!**  
1. Draw a rectangular prism with a length of 4 cm, a width of 2 cm, and a height of 3 cm. Label the dimensions. Find the volume of the prism.

**Do Now Reason About!**  
2. Draw a rectangular prism with a length of 4 cm, a width of 2 cm, and a height of 2 cm. Label the dimensions. Find the volume of the prism.

**Independent Practice**

1. Find the volume of the composite figure. Label the dimensions of the prisms.

2. Find the volume of the composite figure. Label the dimensions of the prisms.

3. Find the volume of the composite figure. Label the dimensions of the prisms.

$V_L = l \times w \times h$   
 $4 \text{ cm} \times 2 \text{ cm} \times 3 \text{ cm}$   
 $24 \text{ cm}^3$

$V_R = l \times w \times h$   
 $4 \text{ cm} \times 2 \text{ cm} \times 2 \text{ cm}$   
 $16 \text{ cm}^3$

$24 \text{ cm}^3 + 16 \text{ cm}^3 = 40 \text{ cm}^3$

⑤  $V_L = l \times w \times h$   
 $6 \text{ cm} \times 4 \text{ cm} \times 3 \text{ cm}$   
 $24 \text{ cm}^2 \times 3 \text{ cm}$   
 $72 \text{ cm}^3$

$V_B = l \times w \times h$   
 $8 \text{ cm} \times 4 \text{ cm} \times 7 \text{ cm}$   
 $32 \text{ cm} \times 7 \text{ cm}$   
 $224 \text{ cm}^3$

$72 \text{ cm}^3 + 224 \text{ cm}^3 = 296 \text{ cm}^3$

$V_L = l \times w \times h$   
 $6 \text{ cm} \times 4 \text{ cm} \times 10 \text{ cm}$   
 $24 \text{ cm}^2 \times 10 \text{ cm}$   
 $240 \text{ cm}^3$

$V_R = l \times w \times h$   
 $2 \text{ cm} \times 4 \text{ cm} \times 7 \text{ cm}$   
 $8 \text{ cm}^2 \times 7 \text{ cm}$   
 $56 \text{ cm}^3$

$240 \text{ cm}^3 + 56 \text{ cm}^3 = 296 \text{ cm}^3$

**Math Practice and Problem Solving**

1. Find the volume of the composite figure. Label the dimensions of the prisms.

2. Find the volume of the composite figure. Label the dimensions of the prisms.

3. Find the volume of the composite figure. Label the dimensions of the prisms.

**Common Core Assessment**

1. Find the volume of the composite figure. Label the dimensions of the prisms.

$V_L = l \times w \times h$   
 $(6 \times 10 \times 3) + (4 \times 10 \times 2)$   
 $180 + 80$   
 $260 \text{ cm}^3$