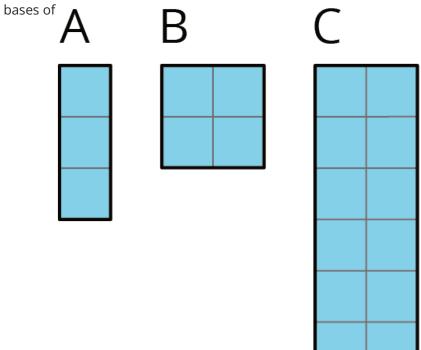
Unit 7 Lesson 12: Volume of Right Prisms

1 Three Prisms with the Same Volume (Warm up)

Student Task Statement

Rectangles A, B, and C represent bases of three prisms.



- 1. If each prism has the same height, which one will have the greatest **volume**, and which will have the least? Explain your reasoning.
- 2. If each prism has the same volume, which one will have the tallest height, and which will have the shortest? Explain your reasoning.

2 Finding Volume with Cubes

Student Task Statement

Your teacher will give you a paper with a shape on it and some snap cubes.

- 1. Using the face of a snap cube as your area unit, what is the area of the shape? Explain or show your reasoning.
- 2. Use snap cubes to build the shape from the paper. Add another layer of cubes on top of the shape you have built. Describe this three-dimensional object.
- 3. What is the volume of your object? Explain your reasoning.
- 4. Right now, your object has a height of 2. What would the volume be:
 - a. if it had a height of 5?
 - b. if it had a height of 8.5?

3 Can You Find the Volume?

Student Task Statement

Your teacher will give you a set of three-dimensional figures.

- 1. For each figure, determine whether the shape is a prism.
- 2. For each prism:
 - a. Find the area of the base of the prism.
 - b. Find the height of the prism.
 - c. Calculate the volume of the prism.

	ls it a prism?	area of prism base (cm ²)	height (cm)	volume (cm ³)
figure A				
figure B				
figure C				
figure D				
figure E				
figure F				

4 What's the Prism's Height? (Optional)

Student Task Statement

There are 4 different prisms that all have the same volume. Here is what the base of each prism looks like.

А				В					С					D		
										$\overline{\ }$						
						/										
					/											

1. Order the prisms from shortest to tallest. Explain your reasoning.

2. If the volume of each prism is 60 units³, what would be the height of each prism?

3. For a volume other than 60 units³, what could be the height of each prism?

4. Discuss your thinking with your partner. If you disagree, work to reach an agreement.