

NAME: _____

How does the volume of a pyramid (or cone) compare to the volume of a prism (or cylinder) with the same base and height?

Directions:

1. With your team mates, make measurements with your ruler and record them. Measure the parts of the object that will help you find its volume.
2. Share your measurements with your neighbor group that has an object with the same base. Discuss how you think the volumes of the two objects compare (for example, do you think that the volume of the prism is 10 times the volume of the pyramid?)
3. Try to make up a formula for the prism or cylinder (and the pyramid or cone if you're brave!) or at least a strategy to calculate it.
4. Rotate to the next set of objects, if your group had the prism last time take the pyramid, and if your group had the pyramid, take the prism.

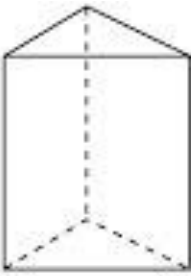
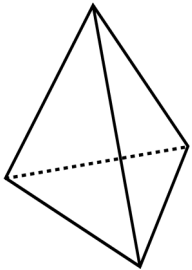
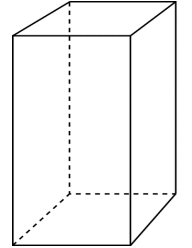
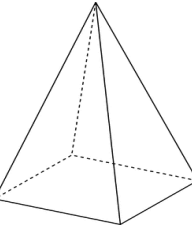
VOCABULARY

DESCRIPTION

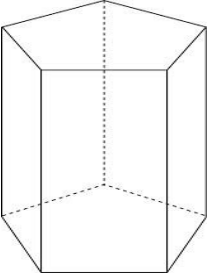
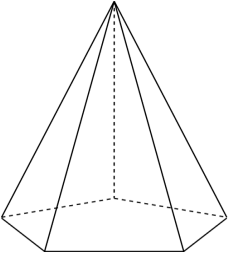
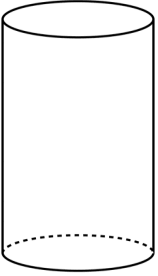
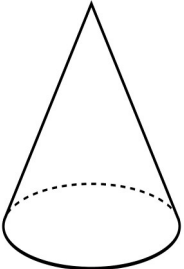
PICTURE

Prism		
Pyramid		
Base		
Vertical Height		

Record your observations and predictions here

OBJECT	MEASUREMENTS (INCLUDE UNITS)	COMPARISON PREDICTION	FORMULA	NOW CALCULATE THE VOLUME! (INCLUDE UNITS)
1. Name: 		THE PRISM'S VOLUME IS <hr style="width: 50%; margin: 5px auto;"/> TIMES LARGER THAN THE PYRAMID	PREDICTION: ACTUAL:	
2. Name: 			PREDICTION: ACTUAL:	
3. Name: 		THE PRISM'S VOLUME IS <hr style="width: 50%; margin: 5px auto;"/> TIMES LARGER THAN THE PYRAMID	PREDICTION: ACTUAL:	
4. Name: 			PREDICTION: ACTUAL:	

Record your observations and predictions here

OBJECT	MEASUREMENTS (INCLUDE UNITS)	COMPARISON PREDICTION	FORMULA	NOW CALCULATE THE VOLUME! (INCLUDE UNITS)
5. Name: 		THE PRISM'S VOLUME IS <hr/> TIMES LARGER THAN THE PYRAMID	PREDICTION: ACTUAL:	
6. Name: 			PREDICTION: ACTUAL:	
7. Name: 		THE CYLINDER'S VOL- UME IS <hr/> TIMES LARGER THAN THE CONE	PREDICTION: ACTUAL:	
8. Name: 			PREDICTION: ACTUAL:	

Summarizing Questions

1. What is the relationship between the volume of a prism and the volume of a pyramid?
2. What dimensions need to be the same between the two for this relationship to be true?
3. Describe how knowing the area of the base of a prism or cylinder can help you find the volume.
4. Why are the units for volume cubed but the units for area are squared?