

Finding the Volume of Irregularly Shaped Objects

Using Water Displacement

Procedure:

1. Add water to the graduated cylinder, approximately 50 mL
2. Record the volume of water (mL)
3. Carefully place the object(s) into the graduated cylinder
4. Record the object(s) placed into the GC and the new level of water (mL)
5. Subtract the final mL from the starting mL to find the volume of the object(s)

Data Table: Volume in mL

Objects	Starting	Final	Volume
<i>example: 2 Marbles & 3 pennies</i>	<i>40 mL</i>	<i>57 mL</i>	<i>17 mL</i>
1.			
2.			
3.			
4.			
5.			
6.			
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9.			
10.			
11.			
12.			
13.			
14.			
15.			

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Analysis Questions - Answer the following in complete sentences.

1. What does the term displace or displacement mean?
2. What is the formula used to find the volume of irregularly shaped objects?
3. Which single item had the smallest volume? Largest volume?
4. Which group of items had the largest volume?
5. What is a meniscus?
6. Why is it important to read the meniscus at eye level while the graduated cylinder is on a flat surface?
7. If you drop an object into the graduated cylinder, and water splashes out of the cylinder, will that affect your data? Explain.
8. Can you find the volume of an object if the object is higher than the final water level, or not completely submerged? Why or why not?
9. Can you find the volume of an object if the final water level passes the highest reading on a graduated cylinder? Why or why not?
10. Draw two graduated cylinders. Show the water levels before and after a marble with a volume of **20 mL** is added.