Water Displacement Lab

Name: _____ **Period:** _____ **Date:** _____

Purpose:
Today you will learn to determine the volume of irregular-shaped objects. We will use a procedure called **water displacement.**

Materials:
- graduated cylinder
- bottle or beaker of water
- collection of irregular shaped objects
- Pencil or Pen
- Calculator
- your brain

Instructions:

1. Look at objects in bins at your lab station. Make a hypothesis about the volume. Which items do you think will have the largest volume and which will have the smallest volume? Record your answer below.

Name of Item	Volume Hypothesis
1.	
2.	
3.	
4.	
Item with the LARGEST Volume	
Item with the SMALLEST Volume	

2. **(MEASURE)** Using water bottles or pitcher, fill graduated cylinder to 50mL (get as close as possible). Record this as your <u>initial volume</u> in the table below.
3. **(DROP)** Carefully drop object into the graduated cylinder. Wait for water the settle.
4. **(MEASURE)** Read the new volume reading. Record this as your <u>final volume</u>.
5. **(SUBTRACT)** Calculate the difference of the two volume readings. [<u>Remember</u>: (Final) - (First)]. This number will be the <u>volume of the object</u>. Record this reading on the table below.
6. Repeat steps #2 through #5 for all objects in bin.
7. Answer **Lab Conclusion** questions on next page.

Name of Object	Mass (g) (Don't forget units)	Initial Volume (mL)	Final Volume (mL)	Volume of Object (Final-initial)	Density (D=Mass/Volume)
1.					
2.					
3.					
4.					

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Lab Conclusion Questions:

1. Which object has the largest volume?

2. Which object the smallest volume?

3. Was your hypothesis supported or not?

4. Which item had the largest density?

5. List some real world situations where you see water displacement.

6. How does the density of a large piece of aluminum compare to a small piece?

7. According to what you've learned in class and your experiment today, does the size of an object determine what the density will be? WHY or WHY NOT?