Mystery Canisters - Density Lab

Question: How are mass and volume related to density?

Hypothesis:

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Test:

Materials:

- 1 container of water
- 3 film canisters
- small materials to fill canisters

Steps:

Part A

1) Using the materials at your desk, modify three film canisters so that they will float, sink,or remain suspended in the middle of a tub of tap water.
2) One canister should float (1), another should remain suspended in the middle of the tank (2), and another should sink to the bottom (3).
3) Have your teacher check your canisters before you proceed to the next part.

Part B:

1) Once you have completed Part A, use the equipment provided to find the mass and volume of each canister. Record the information in the chart and calculate the density for each.

Results

Cannister #	Mass (g)	Volume (cm3)	Density (g/cm3)
1			
2			
3			

Conclusions (shortened):

1) What do you notice when you compare the **volumes** of each cannister?

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2) What do you notice when you compare the **masses** of each cannister?

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3) How did the changing mass affect the density?

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4) Create a rule about mass and volume as it relates to density:

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Prediction:

Based on the densities of the canisters,, predict the location of each item below if you dropped them into the SAME tub of tap water. Choose from: float, sink, or suspended.

A. 0.2 g/ml _____ D. 1.0 g/ml _____

B. 2.3 g/ml _____ E. 0.5 g/ml _____

C. 0.99 g/ml ___________________________ F. 1.9 g/ml ___________________________