Density of Solids Post Lab Questions

Directions: Answer the following in COMPLETE SENTENCES in your post lab. The density of water is 1.00 g/mL or 1.00 g/cm^3.

1. Place the objects in order from least dense to most dense.

2. The density of water is 1.00 g/mL or 1.00 g/cm^3. Are there any objects that will float? Which ones will sink? Make a table showing which ones will float and which ones will sink.

3. Are any of the objects made of the same material? Which ones? How do you know?

4. Which of the two variables, mass or volume, do you think has a greater impact on an object's density? Explain your answer.

5. What is density a measure of?

6. Does the density of an object or substance depend on the amount of the object or substance that you have? Explain.

7. Cruise ships are made out of metals that would sink in water. However, cruise ships do not sink. Why do cruise ships not sink? (Remember the density equation!)

8. The following table represents the accepted density values of 4 of the objects

Object	Accepted Density Value
Metal Prism	2.838 g/cm^3
Dice (Die)	1.65 g/cm^3
Rubber Stopper	1.66 g/cm^3
50 g Weight	8.33 g/cm^3

Calculate the % error of your density calculation using the accepted density values and the following equation. The % error tells you how close you were to the true value.

$$\% \text{ Error} = \frac{|\text{accepted value} - \text{experimental value}|}{\text{accepted value}} \times 100$$

9. What are 3 sources of error for this experiment? Explain your 3 choices.