Density of Blocks Lab:

Names_____

Density = Mass/ Volume D = M/V

Period_____ Date_____

Block Description	Mass (grams)	Length (cm)	Width (cm)	Height (cm)	Calculated Volume (cm^3)	Measured Volume (mL)	Density (g/cm^3)	Density (g/mL)	Composition of Block	Actual Density

1. Write a brief description of each block in the spaces provided on the chart above.
2. Use a scale or a balance to find the mass of each block and record them in the spaces provided on the chart above.
3. Measure the length, width and height of each block and record them in the spaces provided on the chart above.
4. Use the formula: V = L x W x H to find the calculated volume and record them in the spaces provided on the chart above.
5. Use the water displacement method to find the measured volume and record them in the spaces provided on the chart above.
6. Use the mass and the calculated volume to find the density in g/cm^3 and record them in the spaces provided on the chart above.
7. Use the mass and the measured volume to find the density in g/mL and record them in the spaces provided on the chart above.
8. Use the chart of given densities for various elements and compounds (on the back of this sheet), to predict composition of each block and record them in the spaces provided on the chart above.
9. After predicting the composition of each block, write the actual density in the space provided on the chart above.
10. Use the formula to find the % error between your density (g/cm^3) and the actual density. Show work in the boxes that follow.
11. Answer the questions in the spaces provided. Use complete sentences.

$$\frac{\text{(your density) – (actual density)}}{\text{(actual density)}} \times 100 = \text{\% error}$$

Use the formula above to find your % Error for each of the blocks.

Composition of Block _____

Your Density (g/cm^3)_____Actual Density _____

% Error: (SHOW YOUR WORK! = Formula - Plug - Chug)

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% Error: (SHOW YOUR WORK! = Formula - Plug - Chug)

$$\frac{\text{(your density) – (actual density)}}{\text{(actual density)}} \times 100 = \%\ \text{error}$$

Use the formula above to find your % Error for each of the blocks.

Composition of Block _____

Your Density (g/cm^3)_____Actual Density _____

% Error: (SHOW YOUR WORK! = Formula - Plug - Chug)

Composition of Block _____

Your Density(g/cm^3)_____Actual Density _____

% Error: (SHOW YOUR WORK! = Formula - Plug - Chug)

QUESTIONS: (answer in complete sentences)

1. Which method for finding volume was more precise? Explain why!

2. Liquid mercury has a density of 13.6 g/mL, would the blocks float or sink if they were dropped in liquid mercury? Explain why or why not?

3. If you did not get 0% error, what are some possible sources of your error?