|  |  |  |
| --- | --- | --- |
| Name: | Class: | Date: |

**4.6 Density Investigation**

Question: Which blocks will sink or float in water? Based on your observations and calculations, what material is each block made of?

Predictions: Refer to chart 1 in Data and Observations

Materials:

Procedure:

Part 1

1. Consider each block and predict whether it will float or sink in water
2. Record your prediction in the appropriate data table
3. Place each block in a beaker half filled with water and observe the reaction
4. Make note of your observations in the appropriate data table

Part 2

1. Calculate the mass and volume of each block
2. Record your measurements in the appropriate data table
3. Calculate the density of each block
4. Using density chart, identify the material each block is made of

Data and Observations:

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|  |  |  |
| --- | --- | --- |
| Density Block | Prediction (Sink or float?) | Observation |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| 6 |  |  |
| 7 |  |  |
| 8 |  |  |
| 9 |  |  |

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|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Block | Mass (g) | Volume (cm3) | Density (g/cm3) | Block Identification |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
| 5 |  |  |  |  |
| 6 |  |  |  |  |
| 7 |  |  |  |  |
| 8 |  |  |  |  |
| 9 |  |  |  |  |

Analyze and Apply:

1. Summarize your results. (List each block from lowest to greatest density.)

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1. Explain how you can used density to predict whether or not one substance will float on another substance.

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1. Compare the volume of each block. What do you notice? Is this same pattern evident for the density you calculated?

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1. How could mistakes in your measurements or calculations have affected the accuracy of your results?

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