|  |  |  |
| --- | --- | --- |
| **Category** | **Standards** | **Score** |
| **Format** (1 points) | Each section is labeled, neat and organized and typed or written neatly. |  |
| **Purpose** (1 point) | State what you were trying to learn from this lab. |  |
| **Procedure** (3 points) | 1. What needs to be measured to serve the purpose of the lab. 2. List major equipment or tools used in the lab 3. Write step by step procedures( not a paragraph) 4. Write complete sentences |  |
| **Data**  (3 points) | 1. Make 3 labeled data tables ( 2 solids,1 liquid)  2. Measured correctly with proper units/Sig Figs. |  |
| **Graphs** 2 graphs (8 points) | 1. Hand graph 2 solids on the same graph. Labelled 2. Show work for slope calculation for only your solid and liquid . 3. Computer/hand graph 1 liquid. 4. Write the equation for your solid and liquid on graph using the axis and actual value of density |  |
| **Error Evaluation (5** points) | 1. Determine 3 specific reasons for errors:  * How the unknown variable were affected * How this affects your data * Error must reflect in your collected data  1. Calculate the percent error for your solid and liquid |  |
| **Questions (10 points)** | 1. Why is density called a physical property? 2. On a graph, if x=mass and y=volume, then why is the slope not exactly the same as density? 3. There are 5 blocks of different shapes, sizes, and material in water. List the blocks in order from least to most dense and state your reason for why they are in that order. 4. From your graph for the 2 solids, what can be determined about the densities of the solids by comparing the two lines on the graph. Explain. |  |

|  |  |  |
| --- | --- | --- |
| **Conclusion (10** points) | 1. Identify the unknown solid and liquid. 2. What is the relationship between mass and volume? Direct or Inverse. Refer to your graphs/equations as evidence to support your statement 3. Rewrite the linear equation   (y= mx) using only variables (D, V, m)   1. Should the line of best fit pass through the origin? Explain. 2. If a larger amount of solid was used, what affect would that have on the slope? |  |

**Actual Density for Metal**

Magnesium = 1.74 g/mL Nickel = 8.90 g/mL

Unknown

Copper = 8.96 g/mL Silver =10.50 g/mL

Lead =11.35 g/mL Gold =19.30 g/mL

Platinum =21.45 g/mL Aluminum = 2.70 g/mL

Titanium = 4.54 g/mL Zinc = 7.13 g/mL

**Actual Density for Liquids**

Unknown

Hexane = 0.660 g/mL Ethanol = 0.782 g/mL

Water = 0.997 g/mL Benzene = .877 g/mL

Glycerine = 1.27 g/mL