

Name: \_\_\_\_\_ Group \_\_\_\_\_ Date: \_\_\_\_\_ Class: \_\_\_\_\_ Seat: \_\_\_\_\_

Title: **Mass and Volume Lab Report**

1. Purpose: The purpose of this investigation was to \_\_\_\_\_

2. Variables:

IV:

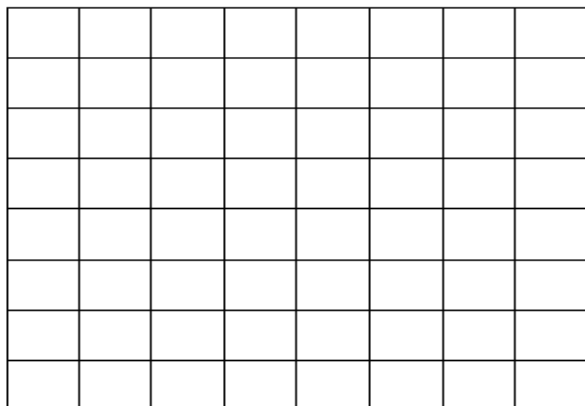
DV

Calculated Value:

Constant (s):

4 State any errors you observed during the experiment.

5. Graph (show red and silver metal lines) and correctly label the x & y axes including units in parenthesis.



3.Data Table

Sample	Mass (g)	Volume of sample (mL)	Density (g/mL)
Red 1			
Red 2			
Red 3			
		Average:	
Sliver 1			
Sliver 2			
Sliver 3			
		Average:	

6. Math model equations – report slopes & y-intercepts as a numbers with units in the form of  $y = mx + b$

Red metal:

Silver metal:

7. Does the y-intercept make sense for the red metal? Explain

8. Does the y-intercept make sense for the silver metal? Explain

9. What is the physical meaning of the slope for this graph?

10. According to **your experimental values** for density and the accepted values given in the handout, the red metal is \_\_\_\_\_. Does this agree with the class value for density? Explain

11. According to **your experimental values for density** and the accepted values given in the handout, the silver metal is \_\_\_\_\_. Does this agree with the class value for density? Explain

12. Use the following equation to calculate the percent error in your measurement for the average density value you calculated and the accepted value provided. Report your percent error to three significant figures. The percent error measures the accuracy of your results. **Consider your results accurate if the percent error is equal or less than 10%. Show your work.**

$$\text{Percent error} = \frac{|\text{accepted value} - \text{measured value}|}{\text{Accepted value}} \times 100$$

Red metal:

Silver metal:

13. Red: Were your results accurate? (Yes?/no?) \_\_\_\_\_. Why?

14. Silver: Were your results accurate? (Yes?/no?) \_\_\_\_\_. Why?

15. Use the formula below to calculate the range of **your values** for density. **Show your work. Consider your values precise if the range is less than or equal to 20%.** Report three significant figures.

$$\% \text{ range} = \frac{|\text{highest value} - \text{lowest value}|}{\text{lowest value}} \times 100$$

Red metal:

|  
|  
|  
|

Silver Metal:

16. Red metal: Were **your results** precise? (Yes?/no?) \_\_\_\_\_. Why?

17. Silver metal: **Were your results** precise? (Yes?/no?) \_\_\_\_\_. Why?

18. Did the mass of the sample significantly change the density or was the density about the same for all samples?

19. The density of the red metal is different than the density of the silver metal. Why?

20. Should the density value for the three samples of red metal or the three samples of the silver metal be approximately the same or different? Why?

21. **Short** conclusion. (Hint: What is the purpose of the experiment? Address each purpose in your answer.)