

Experiment 2

Name _____

Post-Laboratory Problems and Conclusions

1. At 15.0°C, the density of water is 0.9991 g/mL. What % error results from the assumption that the density is 1.0000 g/mL at 15.0°C? Is this value a significant error, explain?
2. Why is it important to determine the % error of calculated results?
3. Significant figures are used to report the calculated results properly. Why are significant figures important to both data and results?
4. Why is it important to understand the precision of the calculated results?
5. Graphing techniques are used extensively in science. Explain how a calibration curve could be used to determine an unknown quantity.
6. Density is an intensive property and is very useful for identification. Explain why density allows us to identify an unknown substance.
7. A conclusion paragraph is how a scientist explains the significance of what was learned in the experiment. A conclusion paragraph should
 - a. briefly summarize the purpose and the discussion topics,
 - b. Briefly describe how the experiment was performed.
 - c. analyze the data and results of the experiment
 - d. explain how “good” these results turned out to be according to calculated or perceived precision and accuracy. Where were possible sources of error other than the individual performing the experiment. Finally,
 - e. conclude with a critical analysis of what you learned and
 - f. why the techniques and theory are important to science.

The RERUNS method of writing a conclusion paragraph is described in the laboratory appendix: How to prepare a formal report and what should be included in the conclusion paragraph. Write a conclusion paragraph using the described RERUNS method in the appendix.