

Name:

Date:

CHEM 1110 Experiment #2. Density Determination of Solids Pre-Lab Questions

Part 1:

1) Define the following terms:

a. Density

b. Mass

c. Volume

d. Accuracy

e. Precision

2) What are the two methods in this experiment that will be used to determine the density of the unknown sample? What are the density units for each?

3) Is density an intensive or an extensive property?

Part 2:

1. How do you think the density varies with an increasing concentration of a solute?
2. Assume you place the egg in a beaker with water. Based on the soap making procedure, do you think the egg will float on the surface, sink, or float in the middle?
3. If you think it is not floating, using table salt (lye is caustic and hazardous), propose a way to make the egg float.
4. Assume that you not only made the egg float but it ended floating on the surface. Why do you think that happened? How can you rectify this situation?
5. How does the density of the egg (d_{egg}) compare to the density of the solution (d_{sol}) in the situation in the previous question? Circle your answer.

$$\begin{array}{c} > \\ d_{egg} & = & d_{sol} \\ < \end{array}$$

6. Assume that the egg floats in the middle of the liquid. How does the density of the solution compare to the density of the egg in this situation? Circle your answer.

$$\begin{array}{c} > \\ d_{egg} & = & d_{sol} \\ < \end{array}$$

7. Assume you have an older egg as well. How do you think the density of the older egg compare to the density of the fresh egg (more, less, the same)? Explain your reasoning.