

Laboratory Assignment for Handout 2-Purpose Evaluations

After reading Handout 2, **How to write a purpose**, read **Experiment 2 Instructions** and the **pre-lab sheet for Experiment 2**. (These are found on my website in the Laboratory section). Base on the information in the handouts, you should be able to evaluate the following purposes. None of the purposes listed below are introductions. They should reflect only the purpose of the lab. **What is the student hoping to accomplish at the end of the lab?**

Although it is easy to go overboard correcting and evaluating, remember to **KISS**-keep it simple sweetie. Look for obvious errors first. Each critique should be no more than two or three sentences long and explain your choice for the given grade for that purpose. Use the guidelines below to help you grade the purposes. I have also given you an example. You are evaluating the purposes online in Canvas. So, make some notes about the purposes listed below, and use good judgment to answer the questions.

Guidelines that I use to grade lab purposes: This is what I use to help me grade; you get a chance to be me! Grade the purposes listed below using these guidelines.

- 100-90% Excellent, the student wrote a perfect purpose. There is care and ownership in the execution of the purpose. Student clearly read the lab before class at least once and reviewed the pre-lab handout.
- 90-80% Meets expectations. The purpose was okay; it adequately reflected the focus of the lab with minor grammar and syntax problems. Minor procedural information was included.
- 79-70% Good effort. The purpose was too long and wordy or too short to be helpful. The purpose was weak but reflected the focus of the lab. Minor grammar and syntax problems abound. Minor procedural points were included in the purpose.
- 69-60% Poor: The purpose was too long and wordy or too short to be helpful. The purpose was weak and did not fully reflect the focus of the lab. Major grammar and syntax problems abound. Major procedural points were included in the purpose.
- 59% Unacceptable. The purpose was combined with the introduction and the method. The student did not give an adequate statement. The purpose was copied. The wrong statement was asked or it was stated in a confusing manner. Grammar and syntax errors controlled the purpose. The procedure was infused as a major part of the purpose. (YUCK!)

You should be able to answer the following questions as, YES!, if the purpose is good, but don't stop there. You need to give a reason WHY the purpose is good:

1. Was the information in the purpose appropriate and address the parts of the lab that were to be studied?
2. Did the writer use good grammar and sentence structure in composing the purpose?
3. Upon reading the purpose, did it seem evident that the writer read the pre-lab, the lab, any formatting handouts, the text book, etc before writing the pre-lab?
4. How would you guide the student to a better purpose (i.e. give a fix or two)

WATCH OUT! IF THE STUDENT COPIED FROM THE LAB, IT COUNTS AS A ZERO! So read the lab instructions and the pre-lab carefully before doing this exercise.

Example: In this experience, I will prove that density is heavy.

The student did not give the appropriate statement. It is clear to me that the student did not read the pre-lab and the lab ahead because the purpose of the lab is to determine the density of aluminum, among other topics. The student did not check the grammar or sentence structure of the purpose. Also, the student confused the word experience and experiment. Overall grade: 40% (and I am being kind!)

The purposes you are to evaluate:

1. This experiment is an introduction to several kinds of measurements that are commonly made in the laboratory: mass, length, and volume. In addition, the "derived quantity", density, will be studied.
2. In this experiment I will attempt to prove metals are dense.
3. To understand how to use a balance. I will also understand glassware and how to use a caliper.
4. I will learn the metric system and how to convert the English system to the metric system.
5. In this lab, I will experimentally determine a density for a sample of aluminum and water.
6. In this lab, I will learn how to use a centigram balance, and a graduated cylinder. Then I will learn how to calculate the density of an object by dividing the mass of the object by the volume I read from a graduated cylinder. Once I do that, I will get another sample of Al and measure its mass. Then I will use the density from part 4 in the lab to calculate the volume of the new piece of aluminum. Then I see the error in the measurement. Also I will calculate the density of water. After that I will see how the English system compares to the metric system and I will use a test tube to determine the volumes of water in it.
7. In this lab, I will answer the questions, "What is an experimental value of the density of aluminum?", "Is density an intensive property?", and "What is the experimental value of the density of water at room temperature?"
8. This experience will show me the concept of density. In this experience, I will calculate the density of a metal. I will also do water. I will understand the metric system.
9. I will experimentally determine the density of a sample of aluminum. I will explore the intensive nature of density by comparing the volume of a second sample of aluminum to a calculated value. Finally, I will determine the density of a sample of water at a known temperature.
10. In this experiment, I will determine density, a lot of densities actually.
11. In this lab, I will get the mass of a metal sample, take a linear measurement, do the volume by displacement, find the density of a metal, find the density of water, calculate a % error, predict a volume, relate metric volume to old-fashion volume, estimate volumes, and answer questions.
12. I guess I will find some measurements, wear safety goggles, and explore sig figs.