Lab #8 Pre-Lab Report
Moles

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5th March 2024

Notice of ADA Accommodation

I have an ADA accommodation to type out my pre-lab report when my disability flares up. This document is a utilization of that accommodation.

1 Question One

> What is the point of this lab? Define the chemical principles we are testing in your own words.

This lab teaches students to do stoichiometric calculations and enforces the validity of the law of conservation of mass and energy, the definite proportion law, and Dalton's atomic theory. Students must explore concepts like molar mass and molar ratios of molecules to determine a molecular empirical formula. Students will learn proper cleaning, usage, and storage of crucibles and Bunsen burners. Students will also explore the hydration of Epsom salt. Nile Red did an interesting video on this topic.

2 Question Two

> What is the logic of this lab? How do the procedures test the hypothesis that the chemical processes are correct?

This lab encourages students to explore the concepts of stoichiometry we are learning in class. Hopefully, this will help us pass the test. These procedures

help students reinforce the basics of stoichiometry by proving the conservation of mass and energy and the law of definite proportions. This lab also may engage students who may not be generally engaged in labs, since there is fire involved.

3 Question Three

> Where are potential problem points in the procedures? Where is it easy to make an error or have something just go wrong?

We are dealing with fire in this lab, and that fact in and of itself is a big red flag for things that *could* go wrong. Students need to follow procedures closely and listen intently to the GTA to ensure that hazards are mitigated and the experiment is done safely. Another thing that could go wrong is students not accurately massing their samples, or doing some bad algebra and getting the empirical formulae wrong. To mitigate this, students will need to double check their maths and ensure they are using massing equipment correctly.

4 Question Four

> What are the health and safety hazards for this lab and how do we minimize them?

We are dealing with magnesium, which burns with a very high luminosity. Students who do not follow instructions could cause permanent damage to their corneas. To mitigate damage to eyeballs, students need to follow the written and verbal instructions closely. Dealing with Bunsen burners is also a safety hazard. To mitigate risks associated with fire, students should ensure they are following GTA instructions and lab safety rules.