

## Formal Lab Report Overview

### Introduction (10 marks)

Include appropriate background information such as

- Introduce the reader to your purpose, what did you hope to determine in this lab?
- Balanced chemical equation for the complete combustion of the following: ethanol (use your organic chemistry skills) and paraffin (this is a polymer,  $C_{20}H_{42}$ )
- Definition for the term heat of combustion, law of conservation of mass, and any other background information your reader may need
- Actual heat of combustion of both ethanol and paraffin

### Materials and Methods (5 marks)

Here you are writing a summary of how you executed the lab. This is different than a procedure as it does not take the form of a numbered list but rather a series of paragraphs. Still write in third person past tense. Include enough detail so that the experiment can be replicated. Also include any necessary diagrams the reader may need.

### Results (12 marks)

In this section you will want to include both data charts that you recorded in your lab, as well as calculations completed during this lab. The end of this section should clearly identify your calculated combustion of ethanol and combustion of paraffin values.

### Discussion (10 marks)

Here you want to:

- Overview your major findings. This is your chance to finally compare your calculated value with your researched value and discuss how accurate your lab was.
- Explain how the Law of Conservation of Energy allows us to measure reaction enthalpies using a calorimeter.
- Discuss potential sources of error during this lab. Why may your results not be totally accurate? Remember to be specific.
- Rectify those sources of error and discuss improvements for next time.
- Future experiments or next steps (how may this data be helpful, what other ways could this procedure be used, next experiment you may want to try)

### Conclusion (3 marks)

In a maximum of three sentences restate the purpose, major findings, and next steps.