



Formal Lab Report

What do you need to do to get all your points for this lab?

1. Type all the parts of your lab (including your graph in Excel or Google Sheets) with no spelling/grammatical errors and turn it in via google classroom _____ at the start of class.
 - a. Purpose (1 pt)
 - b. Testable Question (1 pt)
 - c. Hypothesis (2 pt)
 - d. Materials List (only the materials you used, not the entire list given to you) (1 pt)
 - e. Procedure (2 pt)
 - f. Data collection in 1 organized table(3 pt)
 - g. Graph (15 pt)
 - i. Labeled axes
 - ii. Title
 - iii. units
 - iv. correctly plotted data points
 - v. best fit line
 - h. Data analysis(10 pt for both graph and data analysis)
 - i. What does your data say?
 - ii. Did you find an average or a best fit line?
 - iii. Do you have any outliers (points that are different than the others)?
 - i. Conclusion (15 pt)
 - i. What happened in your experiment, including the balanced equation?
 - ii. Do you accept or refute the hypothesis?
 1. Use data from the lab to support your choice
 - iii. Written entirely in third person (instead of "We added alka seltzer...", "Alka seltzer was added to...")
 - iv. Address any errors
 1. Why they happened and what could be done to address them?
 2. DO NOT SAY HUMAN OR CALCULATION ERROR...you must elaborate on each error *specifically*
 - v. Address how the lab could be improved if repeated in the future

You can receive up to **50 points** on this lab report.

Labs must be turned in via Google Classroom at the beginning of the school day (8:15 am) to receive full credit. ***Do not make a copy and share it, use the one made specifically for you in Google Classroom (ask Ms. Buchanan for help if you don't know how to do it).***

Late labs will be graded using the following penalties:

- After 8:15 am/before the end of the school day on the 22nd, 5% off
- The next day (Wednesday) before the end of school, 10%
- The day after (Thursday) before the end of school 25%
- No labs will be accepted after Thursday.

Formal Lab Report Template

MAKE SURE YOU DELETE ALL EXCEPT THE TITLES OF EACH SECTION INCLUDING ALL OF PAGE 1 AND 2 ABOVE

Name: Molecule Molly

Period: 6

Class: Chemistry

Title of Lab:

Date: 16 April 2017

I. **Purpose:** To examine how surface area/temperature affects the dissolving rate of alka seltzer (everyone will have the same purpose, so copy this *exactly*).

II. **Testable Question:**

III. **Hypothesis:**

IV. **Materials**

- A. material 1
- B. material 2
- C. etc

V. **Procedure**

- 1. Obtain materials
- 2. Collect 50 mL of water in a 100 mL graduated cylinder
- 3. etc
- 4. etc
- 5.
- 6.
- 7.

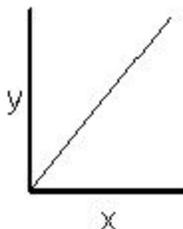
II. **Data Collection**

Constant Data (collected at room temperature by Ms. Buchanan---you must put your own data table and data below)

Temperature	Trial 1	Trial 2	Trial 3	Average time
20°C	3 minutes 45 seconds (225 seconds)	4 minutes 0 seconds (240 seconds)	3 minutes 52 seconds (232 seconds)	Average time goes here
85°C	40 sec	50 sec	45 sec	Average time goes here

III. Data Analysis

1.



IV. Conclusion¹

Based on this lab, the hypothesis was accepted, because in the data portion, there is direct evidence showing that temperature affected the dissolving rate by increase/decreasing. It is also apparent in the graph which shows a direct/indirect relationship between temperature and dissolving rate. It is especially prevalent in trial 2, where there is a large change in time from the previous data point.

The percent error was low, which means the data was precise and accurate. However, there were a few minor errors in the procedure. Water was spilled during the first trial, so it is possible that less water had an affect on the dissolving rate. If the lab were to be repeated, special attention to the collection of water should take place, so as to not to spill any water. Also, the weight of the alka seltzer varied slightly; in the first trial, there was 5 grams of alka seltzer, and in the second trial there was 6.2 grams. Having slightly more alka seltzer could be the reason why it dissolved slower than the previous trial, and this data point should have been collected again; there is no way to determine if the dissolving rate was due to temperature or to the amount of alka seltzer.

Another source of error could be from the lack of significant figures during calculations. Only two significant figures were recorded, but the answer for the percent error is in four significant figures. When the lab is repeated, careful attention to consistency with significant figures must be followed.

DUE DATE, TUESDAY, MAY 22 AT 8:15 am

¹ This is just a sample conclusion. You must write your own conclusion in your own words, *even if you worked with partners*. Do not copy any parts of this conclusion! Some of the things included are not applicable to your lab.