

LABORATORY FORMAT (Rocket Engineering Project)

Laboratory write-ups should be typed. Clearly label each of the six headings, exactly as shown in the format guide.

I. Title

- Create a title page for the write up, include: **lab title, name, date, period, illustration** (This should be on a page by itself)

II. Abstract

- A summary of the laboratory investigation including a short discussion on the results
- **Cannot exceed 100 words**, please provide word count (This should be on page by itself)

III. Introduction

- **Purpose:** *Restate the reason **why** you performed this experiment.*
- **Define the variables** in your experiment:
 - **Dependent Variable** (DV)-Y-axis: the variable for which you collect resulting data. The variable that you trying to see what will happen if you do something to it.
 - **Independent Variable** (IV)-X-axis: The variable you manipulate. The variable you do to the dependent variable to see if it will change.
- **Hypothesis:** Looks at what you expect the relationship to be between the **independent variable** and the **dependent variable “and why”** you expect this relationship to exist. Your hypothesis must be an **If/then/because** statement.

IV. Methods and Materials

- **Materials:** Numbered vertical list of materials used in experiment.
- **Controlled Variables (CV):** Things you have control over and keep the same on purpose
- **Procedure:** Numerical steps in your own words. Include the number of trials for the experiment. Must be able to recreate the experiment by following your procedure.
- **Drawing/diagram/photo** of set up, must be labeled

V. Results

- Input the information from the data that you collected during the launch.
- Be sure to show calculations; if you are having difficulty typing your work into the Google doc, feel free to write it out neatly on a piece of paper and then add it to your final submission.
- Additionally, include a picture or drawing of what the final results of your launch were showing whether or not the egg “survived” impact.

VI. Discussion

This is the section where you should have your reflection on your rocket design. Be sure to incorporate relevant concepts from (i.e. appropriate physics principles). Be sure to respond to the following prompts (questions) while writing your discussion/conclusion.

- Reflect on the performance of your rocket. Did it go as you expected? Why or why not?
- What should you have addressed in your design that you didn't?
- Specifically cite at least one other design aspect of another team's rocket that you thought was effective, and why you thought it was effective.
- How would modify the design if you were to build it again?
- To what extent can you apply what you learned in this challenge to what is known about safety features in car design?