

### AP Physics Lab Notebook

- 1<sup>st</sup> page: Table of contents
- Each lab should be entered into the table of contents as they are reported.
- Pages should be numbered, and written in pen
- You should write on only the front pages, leaving a slash blank behind it—for ease of reading
- Mistakes should be neatly lined-out

### Lab Grading:

#### **5 pts. Title**

Should clearly state what relationship is being investigated. (the control/variables)

#### **10 pts. Introduction**

Should be a thorough *general background* of the topic, *not too specific to your lab*. Even if you are investigating a property that is ‘scientifically accepted’

#### **10 pts. Purpose**

(what are you going to learn? What is the reason for doing it?)

This section should be specific topics relating to your lab.

Never use “prove.” Better terms are: test, verify, investigate, confirm, support..

#### **10 pts. Hypothesis**

What you expect the results to be.

Clearly states how the variable will affect the outcome.

It is testable.

The hypothesis is in the format, “The hypothesis states...”

If appropriate, “within a \_\_\_% margin of error” that you consider acceptable

#### **5 pts. Materials list**

#### **10 pt. Procedure**

(step-by-step experiment, including what trial the control is, and what trials are the variables).

Provide diagrams of equipment, where appropriate.

#### **20 pt. Observation & Data**

- Qualitative (narrative) *and* Quantitative observations
- tables
- diagrams, with dimensions, and multiple views of the experiment
- Graphs: find at least one relationship to graph. Must include title, and labeled axes, including scale and units. Use a best-fit line where appropriate (hint: virtually always!)
- Calculations (are shown, including basic equations used)

#### **30 pt. Conclusion**

- Summarize the experiment: what is the relationship/big picture that was discovered?
- must state, ‘supports’ or ‘disproves’ hypothesis
- must include possible sources of experimental error, calculation of percent error
- The implications (slope!) of all graphed data must be discussed
- Suggestions for improving the experiment in the future.  
Not just what you’d like to fix, but how you’d fix it, if you can formulate a way.
- Suggestions for further study, (if you had access to *any* equipment)

- **Use of scientific language will be considered in your grade.**
- **All writing should be objective and 3<sup>rd</sup> person.**
- **You are writing to an audience who has never seen your experiment. You should make clear descriptions; use writing to ‘put them in the room.’**

### Notes to students:

- **AP notebooks are used to determine comparable college credit—you want them to show rigor, high standards for achievement, and authentic lab experience.**
- **You want them marked-up. You want them to show growth over time.**
- **You should not have matching labs with your group members.**  
*Maybe* your hypothesis, materials, procedure, and data will match, but your introduction, purpose, conclusion, should be your *own*.