**Writing up your Hardy Weinberg lab**

**Due March 24 on turnitin.com by 11:59 pm**

**In case you need it: Class ID: 12200146**

 **Password: APBIO2016**

**Lab Report Requirements for AP Biology and AP Environmental Science**

Name:

Period:

Experiment #: Investigation 2: Mathematical Modeling: Hardy Weinberg

Date of Experiment: 3/7/17

Due Date of Lab Report: 3/24/17

**Title (5 pts.)**

Your title should be descriptive. Be certain to include which of the conditions of Hardy-Weinberg you explored

**Abstract (10 pts)**

Provide a concise **summary** of the experiment. It should be a brief paragraph that explains the hypothesis tested, the purpose of the experiment, brief coverage of methods and results, and relevant conclusions.

**Introduction (Background Research) (20 pts)**

1. Provide a summary of the information you have found that relates to the type of lab you are conducting and cite the source(s) using APA style.
	1. You should explain what Hardy Weinberg Equilibrium is and how your model models the tenants of Hardy-Weinberg Equilibrium
2. Give a rational explanation as to why you are conducting this experiment. Include your hypothesis
	1. This should cover which of the conditions of Hardy Weinberg you tested and why you tested it

**Methods (15 pts)**

1. Provide a concise description of the materials that are required to perform the experiment (e.g., chemicals, type of plant seed, etc.) and any specific equipment that was needed to carry out the experiment (e.g., pH meter, dissolved oxygen meter, etc.). **This must be written in paragraph form NOT in a list!!!**
	1. **For this lab: do NOT describe how you made the spreadsheet, that is not part of the experiment!!! You should explain WHAT you changed in the spreadsheet to explore one of the conditions of Hardy Weinberg equilibrium**
2. Give a detailed, step-by-step description of how you conducted this experiment. Remember—another scientist should be able to use your method to perform your lab exactly, so do not leave anything out! However, **this is NOT a lab manual, you are providing information on what YOU did, not writing instructions for someone else so it should be written in PAST tense.**

**Results (20 pts)**

 1. Graphs

Provide any labeled, suitably scaled graphs that show your p and q value changes over generations in the unchanged model and the changed model

 2. Summary of Data Trends

Give a brief explanation of the observable trends in your data

 3. Error Analysis

Did you have any issues with the spreadsheet that you think may affect your results? Mention those here.

**Conclusion (20 pts)**

Give a full explanation of the outcome of your experiment, noting if the purpose was fulfilled using this procedure. Was your hypothesis validated by the collected data? Why or why not? Explain concisely what you achieved by performing this experiment. (Remember: You can NOT “prove” anything using only one experiment. Your data can support or fail to support your hypothesis. WORDING IS VERY IMPORTANT!) **Your conclusion should restate the five conditions of Hardy-Weinberg equilibrium, the fact that you used an Excel spreadsheet model to test the equilibrium, which condition of equilibrium you tested, why you tested it, your results and what you think those results mean.**

**Suggestions for Further Investigation (5 pts)**

Now that you have conducted the lab, reflect on what you or another scientist could do for a follow-up set of experiments that would take the investigation to the next level.

**Sources (5 pts)**

Provide a list of all sources cited in your paper using APA style.