**Experiment Project**

You will be working with a partner to conduct an experiment over the next several weeks. You will hand in a lab write up written in paragraphs and including any charts necessary to answers the questions below. Your topic will include experimenting on how altering an abiotic factor (not alive) can influence a biotic (alive) factor. This topic must also relate to an environmental issue. For example –

*How much organic waste can worms eat?*

*Can plants stop erosion?*

*How does acid rain affect fish?*

You may create your own project our use one already created. This site has great ideas:

<http://www.sciencebuddies.org/science-fair-projects/Intro-Environmental-Science.shtml>

1. **Question, Research, Hypothesis** *Draft Due:*
2. Create a ***question***.
3. ***Research*** the question.
4. Predict an ***answer*** based on your research (***hypothesis***).
5. Formulate ***explanations***/reasons for your hypothesis.
6. **Plan** *Draft Due:*
7. ***Plan*** an investigation.
8. What ***equipment*** will you use to collect and record data? (Digital technology, microscope etc.)
9. What ***safety***concerns or risks are present?
10. Address ***ethical***, cultural and/or environmental *issues*. Consider First Peoplesperspectives and knowledge gained from other subject areas.

***…Conduct experiment…***

1. **Data** *Draft Due:*
2. Construct ***visuals*** - graphs, models and/or diagrams to represent the data you have collected.

A chart with your numbers *and* a graph of those numbers are common parts of your data. You must include the chart or alternative with your initial data collection and a graph or other representation of that data. The chart must be titled and have both axis labeled.

1. **Analyze** *Draft Due:*
2. Analyze and ***interpret*** the graphs/models/diagrams.
3. Describe the relationship between the variables.
4. Explain any inconsistencies you see.
5. **Conclude** *Draft Due:*
6. Did your findings *support your hypothesis*?
7. Formulate an evidence-based *conclusion* (should be in-step with scientific concepts).
8. Are there alternative explanations and conclusions than the one you presented?
9. *Evaluate the methods* you used and the conditions of the experiment.
10. What were the sources of error or uncertainty?
11. Are there any confusing variables?
12. Describe ways to improve your investigation and the quality of data.