**MP1 7TH GRADE SCIENCE HONORS PROJECT**

This marking period students will be responsible for growing their own seeds (beans) at home and recording **TWO** plants’ daily growth in a 3 week journal, beginning with germination (when the plants break through soil). Students are expected to grow **TWO** separate plant pots, one plant will act as a **control** (a source of data to use as a comparison), while the other plant will have one **variable** changed and monitored for any effect on plant development.

**PURPOSE**

The purpose of this marking period’s honors project is to have students design their own scientific experiment following the components of the scientific method (learned in 6th grade), as well as to become familiar with seed structure and plant development – a topic covered in the first unit, **Diversity of Life.**

**MATERIALS NEEDED**

1. 2 Beans of **the** **Same Kind**
2. 2 Plastic Cups
3. Potting Soil
4. Water
5. Access to Sunlight
6. Metric Ruler

**CREATING YOUR EXPERIMENT**

1. First, choose your **one variable** to test. You may choose from the following list of variables to change to test on the effect of **PLANT HEIGHT**.
2. Light vs. Dark
3. Temperature
4. Amount of Water
5. Fertilizer vs. No Fertilizer
6. Type of Water
7. **YOUR CHOICE – SEE TEACHER FIRST!**
8. Follow the components of the **SCIENTIFIC METHOD** (below) to set up your experiment.
   1. Determine the question you are trying to answer
   2. Predict the outcome of your experiment (**hypothesis**)
   3. List the materials you will need
   4. Record the **controlled** and **responding** **variables**
   5. Write out your **step-by-step procedure** that you will follow
   6. Begin collecting your datain the **DAILY PLANT GROWTH LOG** (below) when your seeds germinate!

**DETERMINING THE EFFECT of on Plant Growth.**

The step-by-step **procedure** is:

My **prediction** is**:**

My **question** is:

**DATA TABLE**

The **measured** (responding) **variable** is**:**

The **variable** I am **changing** is:

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The **materials** I will use are (include measuring tool):

These are the **controlled variables** (things kept the same):

**DAILY PLANT GROWTH LOG**

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| --- | --- | --- | --- |
| **DATE** | **PLANT HEIGHT (cm)** | **OBSERVER NOTES** | **SKETCH PLANT** |
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| --- | --- | --- | --- |
| **DATE** | **PLANT HEIGHT (cm)** | **OBSERVER NOTES** | **SKETCH PLANT** |
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1. **CONCLUSION**
2. What were the overall results of your experiment? Describe in detail!
3. Did your data support your prediction (**hypothesis**)?
4. What were the problems you encountered during your experiment?
5. What might you do to make this a better experiment?
6. **PRESENT YOUR RESULTS**

Now that you have completed your experiment, you must present your results! You may choose any of the formats below to be displayed in class.

1. Poster
2. Tri-fold Board
3. Power-Point Presentation
4. **YOUR CHOICE – SEE TEACHER**

**Your presentation must have the following components:**

* 1. An experiment title/Your name
  2. Your original question
  3. Your original prediction (hypothesis)
  4. The materials you used
  5. Your controlled and responding variables
  6. Your step-by-step procedure that you followed
  7. The datayou recorded in the **DAILY PLANT GROWTH LOG**
  8. Pictures or sketches of your plants
  9. The answers to your conclusion questions

Your presentation must be **NEAT**, **COLORFUL**, and include **ALL OF THE ABOVE COMPONENTS IN ORDER TO RECEIVE FULL CREDIT!**

**If you have any questions please contact your Science teacher! Happy growing!**