Science 9 Pathways Inquiry Project Proposal Template

*This template includes the headings and information that will need to be included in your proposal. If you would like to include additional information or research, you are welcome to (but it is not required). Please feel free to adapt this template to suit your needs.*

*Sections 1 and 2 are to be completed in pods. Section 3 is to be completed by individual groups.*

*Highlighted sections are additional instructions or comments. They should be removed in your final proposal.*

**Section 1: Overview**

1. Group Members:
2. Plant Species:
3. Dependent Variable(s): *(Same dependent variable(s) used across all experiments. Only one is required, but more may be recommended depending on the type of experiment)*:
4. Supplies Needed from Ms. Au:
5. Supplies Needed to Purchase or Bring from Home (Who is responsible for what?)
6. Optional Miscellaneous Research (about plant or dependent variable(s):

**Section 2: Control Variables**

*Some examples for what I am looking for are shown here (make sure to delete them when writing your own). Note that you do not need research for every single variable, especially if you looked but could not find it. I am mostly looking that you have thought through and planned your experiment thoroughly.*

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| --- | --- | --- |
| Control Variable | Value of Variable or Plan to Control for or Measure it | Summary of Relevant Research (+ citations) |
| *Sunlight* | Record the weather and temperature each day.  Keep plants in windowsill at all times; all plants will be exposed to the same amount of light throughout the experiment. |  |
| *Watering* | Brianna will water each pot slowly with a spritz bottle until some water leaks through the irrigation holes at the bottom. | [www.website](http://www.website) says to water until water leaks through the bottom  [www.otherwebsite](http://www.otherwebsite) says to use drip irrigation, but we do not have this |
| *Soil* | 300 mL of soil in each pot  Soil will be purchased from Home Depot; same soil will be used for all pots. Fallen leaves (collected from outside) will be used to cover up soil in between watering sessions, to mimic mulch. | [www.something](http://www.something) says that plants are ideally grown outside and with mulch. |
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**Section 3: Experiments***(copy and paste for as many experiments as you have in your pod)*

**Experiment #1**

1. Group member(s):
2. Independent variable(s):
3. How will you measure your independent variable? Units? Measuring tools?
4. How will you measure your dependent variable(s)? Units? Measuring tools?

*(Note: you can choose to coordinate with your pod group, or measure the dependent variable differently. Recommend measuring the dependent variable in more than one way.)*

1. **Testable Question** *(What is the effect of [i.v.] on [d.v.]? How is [d.v.] affected by [i.v.]?)*
2. **Experimental Design**
3. Draw a diagram of your experiment, showing the treatment group(s). Label your control group if there is one. Make sure your drawing shows the ‘level’ of the independent variable in each of the groups. *(e.g. if your independent variable is temperature, then different levels could be “5ºC, 15ºC, 25ºC)*
4. How many plants will be in each treatment group (and your control group)? Aim for at least 10 plants (but keep in mind that not all seeds will germinate).
5. **Research**

*Below are some suggested headings. You may use them or make up your own. Make sure to include citations. Any citation format is okay for now.*

Relationship Between \_\_\_\_\_\_\_\_\_\_ (independent variable) and \_\_\_\_\_\_\_\_\_\_ (dependent variable) in Plants

How the Independent Variable Affects \_\_\_\_\_\_\_(plant)

1. **Hypothesis** *(“If…then…because” statement supported by your research and/or logic”)*