**Lab Report-Bioremediation**

**Research Question**

* What is your group’s research question?
* Why is your group interested in choosing this question?

Suggested Resources: [Practice-Research Question & Hypothesis](https://docs.google.com/a/summitps.org/document/d/1FubfNN4Sitqllo0kVg1KHb-QTSYe9sIr_U1qr4o5l7Q/edit)

**Variables**

 Independent Variable

Dependent Variable

Suggested Resources: [Practice-IV & DV](https://docs.google.com/a/summitps.org/document/d/1cpomyWF-72AVrU-TBAavcr8NFwZlYW_X_C1zgMHm1oY/edit), [Brainstorm-Experiment Design](https://docs.google.com/a/summitps.org/document/d/1TagzsejmYaZW39EIJV-yH-FLd7o6goTGiL3hsKkQv1o/edit)

**Hypothesis**

* What does your group expect to find in your experiment?
* Based on information from the readings or videos, why did you expect to find this?

Suggested Resources: [Practice-Research Question & Hypothesis](https://docs.google.com/a/summitps.org/document/d/1FubfNN4Sitqllo0kVg1KHb-QTSYe9sIr_U1qr4o5l7Q/edit), [Reading-Bioremediation](https://docs.google.com/a/summitps.org/document/d/1aO-Grdqew1fSJZOWfw_l8Gl6s8011mr6_v4tWdiLVt4/edit)

**Procedure**

*Part 1: Planting your Fast Plants*

Materials

* List the equipment you used
*

 Steps

1. List step by step what you did in this part of the procedure
2.
3.
4.
5.

 Reflection

* Write two sentences describing what mistakes or errors you made and how those errors affected your results.

Suggested Resources: [Procedure-Planting your Fast Plants](https://docs.google.com/a/summitps.org/file/d/0B4q3JzBj7sLdNkVxdDl4aWdfTjA/edit), [Practice-Writing a Procedure](https://docs.google.com/a/summitps.org/document/d/1hvcik_GJ5mTqCYKwglvEvhYNmUz1_A6YJtPNh9-ACPI/edit)

*Part 2: Adding Toxins*

Materials

* List the equipment you used
*

 Steps

1. List step by step what you did in this part of the procedure
2.
3.

 Reflection

* Write two sentences describing what mistakes or errors you made and how those errors affected your results.

Suggested Resources: [Procedure-Adding Toxins](https://docs.google.com/a/summitps.org/document/d/1p5tkhNw8t_EZVJF0WiaxHJRFFvPCi4onhq6YuKTULkE/edit), [Practice-Writing a Procedure](https://docs.google.com/a/summitps.org/document/d/1hvcik_GJ5mTqCYKwglvEvhYNmUz1_A6YJtPNh9-ACPI/edit)

*Part 3: Collecting Data*

Materials

* List the equipment you used
*

 Steps

1. List step by step what you did in this part of the procedure
2.
3.

 Reflection

* Write two sentences describing what mistakes or errors you made and how those errors affected your results.

Suggested Resources: [Procedure-Collecting Data](https://docs.google.com/a/summitps.org/document/d/1Mh5L0bIfr1_GEFO73_Sfgni50bjuUobohvay9-90WjM/edit), [Practice-Writing a Procedure](https://docs.google.com/a/summitps.org/document/d/1hvcik_GJ5mTqCYKwglvEvhYNmUz1_A6YJtPNh9-ACPI/edit)

**Observations**

* How did your plant change over time?
	+ Color of leaves?
	+ Spots or patterns on the leaves?
	+ Overall appearance of the plant?
* How did the soil & water change over time?
	+ Dryness of the soil?
	+ Color of the water (w/toxin)?
* Compare these changes between the different types of plants
* Add pictures of your plants showing these changes (Each picture has a description below it)

Suggested Resources: [Tool-Fast Plant Observations](https://docs.google.com/a/summitps.org/spreadsheet/ccc?key=0Aoq3JzBj7sLddFUxTEM1bVRYbnYxZlRrU0ZEdjRKM0E&usp=drive_web)

**Data Table**

* Add a data table for your experiment
* Does your data table have an IV & DV?
* Does your data table have units?
* Does your data table have a title?

Suggested Resources: [Practice-Organizing a Data Table](https://docs.google.com/a/summitps.org/document/d/179xlrwdWcR6Y4-SVnmVJYELO1w2p69cu1uEdNqLJtLg/edit?usp=drive_web)

**Graph (For a Level 6)**

* Add a graph for your experiment
* Does your graph have a title?
* Are the axes of your graph labeled?
* Does your graph have a key?

Suggested Resources: [Practice-Graphing](https://docs.google.com/a/summitsanjose.org/document/d/1mLFlc3babgK90DgDnzgTfhEIZTsFj-iMJhIU3f4A6NE/edit)

**Analysis**

* Describe which plant is the tallest, shortest, greatest number of leaves, etc
* Did you include data (%, averages, and measurements) in your description?
* Compare the different plants. How are they similar? How are they different?
* Use your knowledge of plant cells, toxins, and bioremediation to explain what you think happened in your plants

Suggested Resources: [Practice-Analyzing Data](https://docs.google.com/a/summitps.org/document/d/1d1NfVvXTHW41-FaWDQzE0T7JNdeKQTJMJ7KUY-uCFj4/edit), [Reading-How does Bioremediation Work](https://docs.google.com/a/summitps.org/document/d/1F9Nsn0rButBng-SMZZGSfoTYF9uX-pM-Yrry8OOX5e4/edit)

**Conclusion**

* 2 Paragraphs
* Conclusion
	+ Claim: Was your hypothesis supported or refuted? Explain why.
	+ Evidence: List and describe evidence that supports your claim.
	+ Analysis: Explain how each piece of evidence supports your claim.
* Real-World Application & Reflection
	+ Describe your plan for the Apple & Google executives to clean up the landfills using fast plants
	+ Make sure your plan uses what information you learned from your experiment

Suggested Resources: [Practice-Writing a Conclusion](https://docs.google.com/a/summitps.org/document/d/1hyWd0nSC9L2jBnTR019_Z6_pzM6TqHNPie-M6NxteJQ/edit)