I. Pre Lab Report

Complete and submit this part on an experiment paper.

A. Background of the Experiment

This simple experiment will make you examine the effect of acid rain on seed germination. This is to simulate interdependence and interaction between the living and non-living components of an ecosystem.

Water can become acidic when certain chemicals are mixed into it. In nature, this may occur when chemicals from industrial processes are sent into the air, mix with water vapor, and enter the water supply through rain.

Organisms all need water to function properly, but that water must be within a range as far as its acidity is concerned. The concentration of an acid is measured on the pH scale. Values below 7 are considered acidic; those above 7 are basic (or alkaline). Pure water has a value of 7. Plants are affected by acidic water when their roots take it in. If there is too much acid, the function of the organism may become disrupted.

To write an introduction, do a simple research about the following:

1. A recall of your Grade 8 Bio discussions: What is Ecology? What is an ecosystem? Write about an example of an ecosystem, describe interrelationships among its biotic and abiotic members.

2. Look for a Philippine-based study or research about How Human Activities Affect the Ecosystem. Examples can be: acid rain, air pollution in Metro Manila, flooding, environmental issues related to mining in the country.

B. Statement of the Problem

This simple laboratory experiment is designed to make you investigate how the biotic and abiotic components of an ecosystem interact and affect each other. Specifically, this activity aims to...

(Formulate 2 specific objectives)

C. Hypothesis

Formulate a hypothesis, please refer to the problem: Does the pH of soil or water significantly affect growth of plants?

Materials and Method

D. Materials and Set-up

Sulfuric Acid (diluted) (4 different concentrations)
Filter paper
5 Petri Dishes
Graduated Cylinder/Pipettes
Mongo Seeds (Vegetable)
pH paper
Lab Image Sheet

E. Procedure
1. Get the prepared acid solutions. Label each solution no. 1-4, with increasing concentration.
2. Measure the pH of the four acid solutions with litmus paper or a digital pH meter. Record the pH values.
3. Prepare 5 pieces of filter paper and 5 pieces of Petri dish. Label each dish no. 1-5 to match the acid solutions. For Petri dish no. 5, put drops of tap water until you wet the filter paper. The filter paper should be cut to fit the Petri dish.
4. Place ten seeds into each dish.
5. Add enough of Solution #1, to wet the filter paper, to the Petri dish and cover with the lid. Do the same for the other Petri dish, using the remaining solutions.
6. Observe the seeds daily and record what you see. Add 3 drops of the matching solution to each Petri dish. Take a picture of the set-up everyday, for a week. Update your Image Sheet.

F. Data and Observations
(Please accomplish the attached Digital Image Sheet)

G. Guide Questions
(To be given after the completion of the image sheets)

G. Conclusion

H. Reference/Bibliography