

Activity 6 “Investigate an Abiotic Limiting Factor” Post-Lab Work

1. What question does the lab try to answer?

2. What scientific concept is the lab about?

Your science lab will help you learn about a **scientific concept**. A **scientific concept** is a scientific theory, rule or law that explains why or how something occurs. Examples are the *principle of conservation of mass* and the *law of gravity*.

What scientific concept did you investigate in this lab? What did you learn about?

3. Brainstorm what you know about the topic you just studied. Write as much as you can - everything you have learned about the scientific concept. It is important to see what you have learned.

4. What is your hypothesis for the lab experiment?

Your hypothesis is a prediction of the outcome of the lab. Your prediction is based on your understanding of the scientific concept. What is your prediction based on the scientific concept and the variables you are testing?

Before you can make your prediction you must first find out what are you measuring or manipulating. The term **variable** describes what you are measuring. There are usually two variables.

An independent variable is the variable you are controlling or manipulating.

A dependent variable is what you measure in the experiment. The dependent variable changes because of the independent variable. It 'depends' on the independent variable.

Example: You are interested in how sprinting 100 meters affects heart rate in humans. Your **independent variable** would be sprinting 100 meters. The **dependent variable** would be heart rate. You can manipulate the independent variable by having people run 100 meters. You can measure the dependent variable by measuring heart rate.

Write down the independent and dependent variables in the “Investigate an Abiotic Limiting Factor” lab experiment.

Independent Variable:

Dependent Variable:

Write your hypothesis:

In Lab: the lab experiment

Setting up the lab

5. Write down all the materials and the amounts of each you used in the lab (cups, seeds, soil, amounts, etc.) Make a list.

Data Collection and Analysis

8. Recreate the data table that you used to collect data on the **LAST PAGE** of this packet; data table should include your data.

9. WRITE ONE SENTENCE summarizing the overall findings of your experiment. This will help you to understand the findings and will be helpful when you write the results section of your lab report.

10. Compare your experiment data with other group's data that used the same abiotic limiting factor. Write down any differences. What are possible reasons for the differences?

Discussion: Interpreting the results of the lab

11. State in one sentence or two whether the results from the lab support your hypothesis.

12. Identify data from your lab that led you to either support or reject your hypothesis. Refer to the visual representations of your data (graphs, data tables, etc.) as evidence to back up your judgment about the hypothesis.

13. Additional discussion – answer one or all of the following: (1) problems or errors in lab procedure; (2) how your findings compare to other students'; (3) suggestions for improving the lab; (4) other questions that come up now that you have learned something from this lab.

Space for data table here.