

Group #: _____ **Class:** _____

Title of Investigation: Home Sweet Home

Background Information:

To create flowers that produce pollen and nectar, plants need the right home or habitat. Each plant has adapted to a specific environment that is just right for that plant. For example, a cactus can't live in a wetland, and a sunflower won't survive long in the forest. Every organism's habitat or home is part of a larger ecosystem that includes both living (biotic) and nonliving (abiotic) elements that influence or interact with each other. We have already investigated the most important *biotic* element that affects flowering plants—insect pollinators. Now we need to assess the *abiotic* environment of our schoolyard, so that we can choose plants that will be happy in their new home.

Guiding Questions: How do you know which plants will thrive in a particular habitat?

1. What are the most important abiotic elements that influence plant growth?
2. How do you describe the abiotic environment of a specific habitat?

Procedure/Methodology:

- Meet with your team, choose jobs, and gather your supplies:
 - Recorder: clipboard with data sheet, pencil
 - Weather expert: thermometer or PocketLab, soil thermometer
 - Light expert: Sonkir meter or Pocket Lab, measuring tape
- Find the location your group chose, marked by a stake with your class and team number.
- Collect and record your data.

Abiotic Environment Observation Data Sheet

Please collect data standing right next to your flag!

Data

[illegible]

Analyzing and Interpreting Data

Graph your data and then use your graphs to answer the questions. Note: you are graphing the change in conditions over time. What type of graphs works best for time-based data?

1. Describe the weather conditions at your location.

2. Describe the soil conditions at your location.

3. Describe the light conditions at your location.

Constructing Explanations

1. What is the most important abiotic element that influences plant growth at your location? Use examples from your data to explain your answer.

2. Describe the abiotic environment at your location. Use examples from your data to explain your answer.

3. How would the three abiotic elements that you observed change over ten years? 100 years? Why?

Argumentation from Evidence

With your home team, decide: what kinds of plants will thrive at your location?

Claim:

Evidence:

Reasoning:

Communication to other students:

- Create a Google Slides presentation in the class Team Drive. Your presentation should include:
 - a name for your location, that tells us something about the abiotic conditions there
 - a picture of your location
 - all of your graphs
 - your conclusion about what kinds of plants would thrive at your location
- Present your findings to the class.