

Outdoor Science Inquiry

Scientists ask questions about the world around them in order to help them develop ways to make sense of the world around them. The first step is to make good observations. Based on those observations, start asking questions about your observation. Using background knowledge (of your own and others), try to answer the question. This is the first stage of developing a hypothesis. Remember, a hypothesis is a testable prediction so when you suggest a possible answer to your research question, you are making a hypothesis. Finally, you design a study to see if your hypothesis is accurate.

Part 1: Observations and Questions:

Take some time to make some observations about the world around you. Find a quiet place and write down what you see, hear or feel in your slice of the ecosystem. Then write a question or two about your observation:

	Location of observation	Observation	Question
	<i>Next to stream</i>	<i>There is a large plant growing along the stream bank</i>	<i>Why does this plant grow along the stream, but not in the forest?</i>
1			
2			
3			
4			
5			

Part 2: Examining Your Questions:

With your class, talk about the types of questions you asked

1. How many questions were asking about information you could find in a library?
2. How many questions could only be answered by experimentation and study?

Choose your favorite two questions and write them below. Then, write at least two hypotheses for each question. Any question has at least two hypotheses. For example, for the question "Does more moss grow on one side of a tree than other sides?" we have hypothesis 1: "More moss grows on the north side of the tree than the other sides." Or, hypothesis 2: "Moss growth is not different on different sides of trees."

Question 1:

- a. Hypothesis 1:

- b. Hypothesis 2:

Question 2:

- a. Hypothesis 1:

- b. Hypothesis 2:

Part 3: Design a study:

Set up an experiment that would test your hypothesis. Remember all of the ingredients for a good controlled study. Be sure to include:

- Population studied
- Hypothesis
- Independent variable
- Type of data you will collect
- How the control and experimental groups will be treated differently

Write your answer on a separate sheet of paper.