

## Investigation 3.C: Preparing for Your Field Study

**Purpose:** Determine some of the abiotic components of the ecosystems you chose for your field study. Select the tools you will need for the field study and assign tasks required to prepare.

### Materials

Library resources or Internet access (optional).

### Procedure

1. Using print or Internet resources, research some of the abiotic components of the ecosystems you will be investigating, such as climate, soil types, topography, hours of sunlight, and annual temperature and precipitation.
2. As a group, brainstorm three abiotic features of your ecosystems and tools you might use to measure them. For example, what tools will you need to measure soil and air temperature, moisture content in soil, or the depth that light penetrates into a pond? What other tools might aid in your study? (**Hint:** How will the team identify the organisms found in your field study? How will the team record what you see and the data you obtain?)

### Analysis

1. **a)** How do the tools you use to gather information about an ecosystem affect the accuracy or precision of your measurements? For example, how does gathering information on soil moisture content from an Internet database or map compare with completing the measurements yourself? (Refer to Appendix A to review the distinction between scientific accuracy and precision.)

**b)** What are two advantages and two disadvantages of each tool?

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HANDOUT		

2. Is it precise enough to measure an abiotic factor at only one location in an ecosystem? Explain your answer.
  
  
  
  
  
  
  
  
  
  
3. How will you obtain the tools you have selected? Which members of the team will be responsible for using the various tools?

**Extension**

4. Contact a field biologist at a local university or forestry department office to find out what tools they use when conducting a field study.