

Life Science 7

(Copy the following lab activity set up in your science notebook.)

**Title:** Activity 6 Population Dynamics/Investigate an Abiotic Limiting Factor

**Challenge Question:** How can an abiotic factor affect the growth of organisms/plants?

**Background:**

Factors that affect the population size and health of living things in an ecosystem are called limiting factors.

**Hypothesis/Claim:** (See Procedure Step #6 & Data/Results section.)

**Vocabulary:**

Term	Definition	Picture or Example
carrying capacity		
limiting factor		
competition		
cooperation		

**Materials:**

"Ecology and the Environment" book  
(2) 8 oz cups  
seeds, bean

1 cup potting soil  
water

**Procedures:**

1. Read pages 30 - 39 in Ecology book. Answer questions 5 - 9; 11, 12, 16 - 18.
2. Follow the directions in steps 3 - 10 to set up your experiment for this lab.
3. Fill two 8 oz paper cups with potting soil to within 1 cm of the top of each cup. Gently tap the cups on the lab table to settle the soil.
4. Identify an *abiotic factor* present in the classroom that could affect the growth of plants. Record in Data/Results section.
5. Using only the materials listed, plan an experiment to test how the factor you chose affects the growth of plants. What will the *variables* be in your experiment? Record in Data/Results section.
6. Write a hypothesis for your experiment. Record in Data/Results section.
7. Describe the steps of the procedure for your experiment, including safety rules. Write your procedures in numbered steps.
8. Get teacher's approval to set up your experiment.
9. Set up your experiment. Observe the cups daily and record data.
10. Make a data table in Data/Results section to record your results in it.
11. Answer Analysis Questions and write your conclusion.

