

**Materials Needed:** Eight houseplants (two sets of four plants), planters, grass seed

### Questions for the Scientist:

1. How do plants compete for nutrients?
2. To what extent do plants differ in their needs for sunlight and other nutrients?

### State Your Hypothesis: \_\_\_\_\_

### Procedures:

1. Collect two sets of four different types of houseplants (for a total of eight plants). Each type of houseplant should have the potential to grow to a different height and width.
2. Record what types of plants you are working with, as well as information about each. You should specify the environmental conditions the plant needs for survival.
3. Place one set of the four houseplants in a container. Add grass seed to the container.
4. Place each of the four remaining plants in their own individual containers. Add grass seed to each container.
5. Put some plants in the sunlight and others in the shade and water according to their needs.
6. Monitor your plants every day for two weeks. Record how they are growing and adapting to their new environment.
7. Compare the growth and adaptation of the individually potted plants with the growth and adaptation of the set of four plants in the same container.

### Key Questions:

1. Describe how the four plants potted in one container are competing for sunlight and other nutrients.
2. Compare the growth of the shaded plants with the growth of the plants that receive more sunlight.
3. How are the adaptation characteristics different among the plants individually, as well as different among the two sets of plants?

### Results and Application:

After studying your results, what conclusions can you draw? Do your results support your hypothesis? Explain your reasoning.