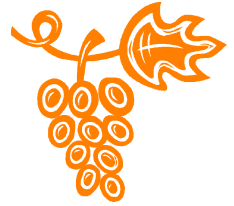




The Scientific Method

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Period 5



Introduction A species of bean plant that had accidentally been placed in the shade after planting showed very little growth, and a grey, faded pigment. A similar plant, in a sunny area showed increasing growth over the other, with a full and rich color and texture.

Problem Do plants grow differently in the shade then they do in direct sunlight?

Hypothesis Plants will grow fuller, with a better green pigment, and to a taller height if they are planted in direct sunlight.

Materials 2 identical alphalpa plant seeds, 2 identical clay pots, soil, water, sunny windowsill, dark closet, sheet for results.

Procedure

1. Place 2½ cups of identical soil into each pot.
2. Plant both alphalpa plant seeds about 2 cm down in the center, one for each pot.
3. Add 1 cup of water to each and
4. Put one pot in direct sunlight, and one into a dark closet.
5. Add an additional 1 cup of water to each every day.
6. Record height in centimeters each day at watering, while paying attention to pigment, and quality of the plant.
7. After 7 days, take the pots out of their positions and observe finally.

Results Pot A (In sunlight) was very green and produced a thick, bushy alphalpa plant with a fresh look. The plant grew about 4 cm taller than Pot B (In closet). Pot B was whitish-greenish and had a minimal amount of plant growth, 2 cm as opposed to Pot A's 6cm. It also did not stand up, but "slumped."

Conclusions Plants need sunlight indefinitely to grow and perform their normal life functions. The sunlight enables photosynthesis, a process in which plants acquire food through autotrophic nutrition. Also in this process, the green pigment chlorophyll is produced, giving the fresh, healthy green appearance. So, if sunlight is removed, it cannot produce food to grow tall, or chlorophyll to appear green.