

Indoor Plant Experiments

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| Grade Level | K-2nd |
| Setting | Indoor |
| Subject Area | Science, Gardening |
| Description | The teacher guides students through setting up a class experiment to see what plants need to grow. Small potted plants are placed around the room in various conditions. As a class, a chart is made to record the experiments, make predictions about what will happen, and record results. |
| Objective | Students will have an introductory understanding of what an experiment is, and know the basic needs of plants |
| Overarching Question | How do plants grow? |
| Key Question | What do plants need to grow? |
| Key Words | Sun, soil, water, growth, experiment, prediction, observation, results |
| Curriculum Connections | NGSS: K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive. Common Core: K.MD.A.2: Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. |
| Estimated Prep Time | 10 min |
| Teaching Time | 30-45 min |
| Materials | <ul style="list-style-type: none">● Poster or flip chart● 5 small potted plants● an empty box with a lid (large enough to fit a plant inside)● scissors● 5 pieces of paper and a marker to label each experiment |
| Preparation | <ul style="list-style-type: none">● Cut a hole out of the box● Write the following on the five pieces of paper to label each experiment:<ul style="list-style-type: none">○ #1<ul style="list-style-type: none">■ full light■ regular soil■ regular water○ #2<ul style="list-style-type: none">■ A tiny bit of light■ regular soil |

- #3
 - regular water
 - **NO light**
 - regular soil
 - regular water
- #4
 - full light
 - regular soil
 - **NO water**
- #5
 - full light
 - **NO soil**
 - regular water

Teacher Background

Plants need many things to grow and be healthy, but the main things we are testing for in this experiment are sun, water, and soil.

Class Discussion

What do plants need to grow? (*Sun, water, soil*). What is an experiment? Has anyone ever done their own experiment to find the answer to something? How could we do an experiment to find out what plants need to grow?

Procedure

1. As a class, walk through each experiment, filling out a chart on the poster or flip chart as you go:
 - a. Number 1: Control Experiment. The plant is placed on the windowsill (full light, regular soil, regular water).
 - b. Number 2: To test for sunlight, one plant is placed on the windowsill inside a box with the hole cut out (partial light, regular soil, regular water)
 - c. Number 3: To test for sunlight again, another plant goes in a dark space such as a closet (no light, regular soil, regular water).
 - d. Number 4: To test for water, one plant is on the windowsill and is not watered (full light, regular soil, no water).
 - e. Number 5: To test for soil, a plant is pulled from the soil, the excess soil is shaken off of the roots, and the plant is placed in a cup of water and placed on the windowsill (full light, no soil, regular water)
2. Have students make predictions about what will happen to each plant.
3. Over the course of a few weeks, check in on the plants periodically and make observations as a class
4. At the end of two weeks (or whenever an obvious difference can be seen amongst the experiments), make final observations and draw conclusions. Talk about what may have gone wrong in the experiment.

Wrap Up

What did we learn about plants? Is there any way we could make our experiment better next time? Do you have other ideas for experiments about plants?

Digging Deeper

Suggested Harvest of the Month Food Pairing

Source

Teaching Young Children Using Themes by Marjorie Kostelnik