



Lesson Plans: Science

Temperature Effects

Grade Level: 3-4

Activity Type: Science

Activity Size: Large

Objective:

The students will observe effects of temperature on plants and will read temperature from a Celsius or Fahrenheit thermometer.

Description:

Rationale:

Some plants grow in warmer places and some plants grow in cooler climates. This experiment will help children see one reason for this, temperature. This experiment is a fun and interesting way for students to experience first-hand the effects of temperature on plants.

Materials:

3 potted plants (if class activity), or 3 plants per group

Refrigerator and freezer

Thermometers

"Temperature and Plants" data sheets

Introduction:

- Many seed packages recommend that the seeds be planted after danger of frost. Why? Talk with students about the importance of appropriate temperatures for plants. Tell them that some plants grow well in cooler temperatures while many will die if it is too cold.
- Introduce or review with students how to read a thermometer.

Class/Group Activity:

- Give each group three plants of the same kind, or use three plants for the entire class. Impatiens are good for this activity, because they are sensitive to temperature changes. With masking tape, label the plants as A, B, and C.
- Have the students place Plant A in the classroom, Plant B in the refrigerator, and Plant C in the freezer.
- The temperature of the classroom, refrigerator, and freezer should be recorded on the data sheet.

Individual/Group Activity:

- Have each student predict what each plant will look like on the following day. The predictions should be recorded on their data sheets.
- On the following day, have students study and compare the plants. Results should be recorded on the data sheet, and the discussion questions should be answered.

Related Activities:

- This same experiment may be done using various kinds of sprouts, mini rosebush plants, small hibiscus, or primroses. Unlike the impatiens, each of these plants should do well in the refrigerator for a day.
- Students can test the effects of varying the soil type, amount of water, and amount of light on plants. Observations for these experiments should be done over a week's time.
- Use the 'Temperature Zones' social studies lesson plan and ideas with this experiment!

Temperature and Plants

Temperatures:

Temperature of classroom: degrees F or C (circle one)

Temperature of refrigerator: degrees F or C (circle one)

Temperature of freezer: degrees F or C (circle one)

Predictions:

Prediction for Plant A (classroom):

Prediction for Plant B (refrigerator)

Prediction for Plant C (freezer):

Results:

Describe the plants after one day.

Plant A:

Plant B:

Plant C:

1. Which plant looked the healthiest after 1 day? Why?
2. Which plant looked least healthy after 1 day? Why?
3. Do you think you would get these same results with all types of plants? Why or why not?
4. If you bought this kind of plant at a greenhouse and were going to give it to someone for a present the next day, where would you keep the plant?
5. Where in the United States do you think this plant would grow? Would it grow there during all seasons? Why or why not?
6. Where in the United States do you think this plant would not grow? Why?

Students' Reactions: