

# Explore: 1st Grade Plant Observation

## Summary

Students grow seeds from an outdoor area, corn seeds, radish seeds and/or bean seeds in a mini terrarium. Comparison of the root systems, stems, leaves, and flowers of the different plants helps students observe and categorize plants as well as understand the basic functions of plant parts.

## Time Frame

10 class periods of 45 minutes each

## Group Size

Pairs

## Materials

art materials; bean, corn, and/or radish seeds, enough for 10/student; seeds found near the outdoor classroom or pond area; one 1 liter or 2 liter CLEAR plastic soda pop container/student; scissors; tape; paper towels or cotton;

## Background for Teachers

Have students gather seeds from an outdoor area. The seeds from the area may not have the correct conditions to germinate in the mini terrarium so it will be important that you also include seeds that will germinate during the time you study plants. You may obtain seeds from lawn and garden stores. Most hardware stores also have seeds. Bean, corn, and radish seeds work very well.

## Intended Learning Outcomes

Students will make observations and develop and use categories to classify observations. Students will know basic science facts appropriate to grade level. Students will construct tables, charts, and/or diagrams to describe and summarize data.

## Instructional Procedures

To make a mini terrarium cut the top of a clear soda pop bottle just at the point where it starts to curve in towards the lid. Fill the bottle with loose cotton or paper towels. Place all the seeds between the the cotton and the clear sides of the bottle. The seeds should be visible through the sides of the mini terrarium. Wet the paper towels each day that you are growing the seeds. After watering the seeds, tape the bottle top back onto the bottle base to reduce evaporation. Take students to an outdoor area and instruct them to draw one plant found there. Help them label the parts of the plant (roots, stems, leaves, flower, and seeds). While in the area, instruct them to gather several seeds that they will use in their mini terrarium. Students place seeds found near the outdoor area in the mini terrarium as described in the introduction above. Also, place the bean, corn, and/or radish seeds in the mini terrarium as described in the introduction. Do not crowd the seeds. All seeds should be visible through the clear plastic side of the bottle. Place the mini terrarium near a light source and water as described in the introduction. Instruct students to observe the seeds as they grow. Watch to see if the seeds get bigger or if a plant starts to grow out of the seed. Ask students to describe how seeds change when they germinate.

Once the seeds germinate, students should draw the plant that is growing. Have them label the stem, roots, and leaves in their drawings.

Discuss with students the function of the stems, roots, leaves, and seeds. Ask them to explain, in their own words, the function of leaves, seeds, roots, and stems. Have students compare the drawing

of their germinating seeds with the drawing of the plant from the outdoor area. Ask them to compare the roots, leaves, and/or seeds of the various plants (corn, bean, radish, outdoor plant). Help students to understand when they classify objects they must first observe them. [Observations are made with the five senses.] When they have observed the objects they can sort the objects according to their similarities and differences. Similar objects would be sorted together, objects with different characteristics would be separated. For example, some plants have one long, main root [taproot] and other plants have a mesh of fine, hairy roots. Plant roots could be separated or classified according to whether they had a taproot or not. Have the students ask the following questions about the plants: What characteristics are the same? How do the plants differ? Help the students sort their plants into different categories. Have the students make drawings showing the similarities and differences.

### Extensions

Students will make drawings of the sequence of the growth of the seedlings from the different seed types.

### Assessment Plan

Fill out a graphic organizer on observation skills as related to what was studied with the plants. Give students a new set of plant parts, leaves for example, and ask them to sort the leaves into different categories. Or give the students an unfamiliar plant and ask them to identify the plant parts and explain, in their own words, the function of each plant part.

### Authors

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