

Hands-on with Flowers and Seeds

Sample Activity

Theme: Natural History

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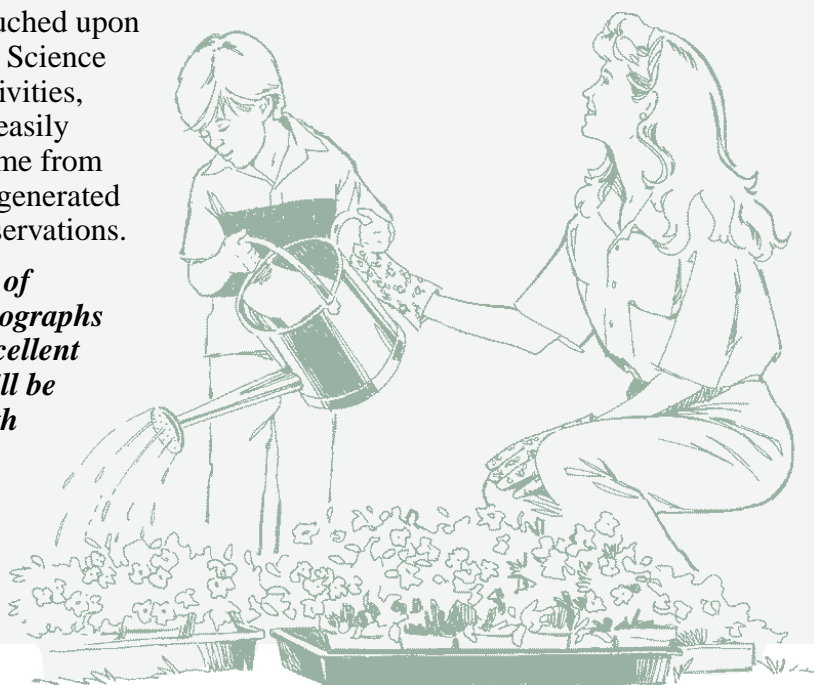
■ Introduction

These lessons originated from third grade classes in a small inner-city school. Being a neighborhood school, it was difficult to find an area conducive to hands-on, environmental lessons. We relied on a small “triangle” of land to produce what has become a learning habitat shared by the entire school body and appreciated by all in the neighborhood and surrounding areas.

The land that was once home of discarded bottles and trash is now the home of beautiful foliage, flowers and other living creatures. The “Triangle Park” plays host to science lessons for all grades, or is simply a nice place to hold mini-concerts or reading groups. Although the park requires a great deal of maintenance, the rewards are long lasting.

Many subject areas can be touched upon during this project. Primarily, Science skills are learned. Writing activities, Health and Math can also be easily integrated. Evaluation can come from teacher-made tests, textbook-generated tests, written journals and observations.

Be sure to capture the stages of development with either photographs or a video. This is also an excellent journal exercise. Children will be amazed how the seeds beneath the dead flowers become the next year’s centerpiece!

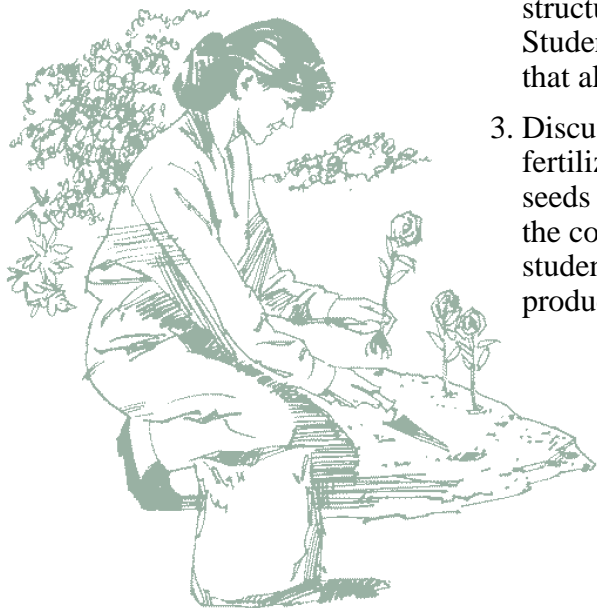


Hands-on with Flowers and Seeds

■ Objective

Students will understand the concept of the life cycle of flowering plants. Students will also experience how the maintenance of plants can build a sense of community service and appreciation for one's environment. This will be accomplished in three distinct phases and require the changing of the seasons to effectively demonstrate the life cycle.

The lessons, or "phases," (as they will require more than one class period), are: Phase 1: A Look at the Flowers; Phase 2: Seed collection and Soil Preparation; and Phase 3: Seed Germination, Planting and Maintenance. The phases were designed to fit the school calendar year. However, they may also be switched to be taught according to the season — whichever best suits your learning environment.



■ Phase 1:

A Look at the Flowers

Vocabulary to be introduced

Pistil, petal, stamen, sepal, pollen, pollination, reproductive

Materials

Various flowers

A flower chart (found in most science books or at a teacher center).

Procedure

1. Display the flower poster.
Call on students to name and locate the parts of the flower. Explain that the primary reproductive organs of flowering plants are located in the flower.
2. Allow students to collect a variety of flowers. (This is most easily done in either late spring or early fall.) Examine them using the flower chart as a guide. Have students locate the different parts of the flower. A magnifying glass will better enable the students to see individual structures of pollen drops. Students will be able to note that all flowers are not alike.
3. Discuss how pollination and fertilization must occur for seeds to form. If possible with the collected flowers, show students how the seeds are produced within the flower.

■ Phase 2:

Seed Collection and Soil Preparation

This includes seed collection and composting of the existing plant materials. This occurs in the fall, after a severe frost.

Pre-existing plants are necessary for this phase.

If the plants are not available, purchased seeds may be used for demonstration purposes as well as for spring sowing. Marigold seeds are easy to grow, are hardy to the elements and are easily identified.

Vocabulary to be introduced

Annuals, seeds, seed gathering, seed pods, compost, frost

Materials

Containers for collecting seeds

Gloves

Newspapers

Storage containers for housing seeds once they've dried.

Procedure

1. Have the students become familiar with the terms. This is best accomplished by having various types of seeds and seed pods for examples. This can be an in-class activity or may take place wherever the plants are located. Explain to students that annual plants live for only one season. The seeds are necessary if the cycle of the given plant is to recur.



2. Have students locate particular seeds by giving them actual examples. (Again, marigolds work well here because of their distinct seed pod.) This is like a Scavenger Hunt for the children. Demonstrate how the seeds are stored in their protective pod, even after the color of the flower has faded. Allow students to collect seeds, reminding them that these same seeds will be next year's harvest.
3. Demonstrate to students how to remove the seeds from their pods (if necessary) and lay the seeds on the newspaper for a few days to ensure they are dry. **If the seeds contain even the slightest bit of moisture when they are stored, they will likely mold and not germinate.** Dried seeds can then be stored in envelopes or other containers until spring.
4. After the seeds are collected, students can help remove dead plant materials and create a compost pile that can be used in the spring for nutrients. Prepare the soil for the winter months by turning the soil and ridding it of any unwanted weeds or debris.

■ Phase 3: Seed Germination, Planting & Maintenance

Vocabulary to be introduced

Germination, seed coat, nutrients

Materials

Seeds collected in the fall
Potting soil
Seed trays
Spray bottles
Light (artificial or sunny window area)

Procedure

1. Introduce the vocabulary to students, reminding them that germination is a term used to describe the fact that a seed

begins to produce a new plant. Also discuss with students that like humans, seeds need warmth, sunlight and necessary food (or nutrients) in order to survive.

2. Have students mix soil and prepare the trays for seed planting. Allow students to sow the seeds and assume responsibility of maintaining the soil. Depending on the seed type, students will be able to observe and record the seed growth in a few days.
3. When the seeds reach the height of four–five inches and there is no danger of frost, students should transplant the seedlings into the flower beds in the park. Again, allow students to assume the responsibility of maintaining the plants: watering and weeding when necessary.

