

Let's Explore Plants

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Learning Goals

- Recognize that plants are alive
- Describe different shapes and sizes of plants
- Name ways that plants are useful to people
- Explain the function of seeds
- Discuss the importance to plants of sunlight, soil, air, and water
- Identify leaf, stem, and root parts of plants

Video Summary

Exploration Segment

Children see that plants have countless forms and live everywhere—in water, sand, and soil. People use plants in many ways: as food, recreation, decoration, clothing, and shelter. Animals often use plants in similar ways. The hostess tells a story about Johnny Appleseed, a man who planted apple seeds as he walked through many states.

Concept Development Segment

Children see a variety of seeds and note their differences. Seeds are often carried by wind or animals to new places. Seeds can be planted by nature or people. The children and their teacher discover that plants need water, sunlight, and air to live and grow. Most plants have leaves, roots, and stems.

Application Segment

"You Try It" challenges students to put a plant in a jar that has been placed on its side and predict what will happen as the plant grows.

Key Words

nutrient	a nourishing substance used by plants to make their food
root	the leafless underground part of a plant that stores food and holds the plant in place
seed	a tiny plant "egg" in a protective coat, which develops into a plant like the one that produced it
stem	the main stalk of a plant that supports leaves and usually grows above ground

Let's Do It

- Show students a number of real plants or photographs of plants. Ask them to describe what they see. Record their responses on a chalkboard. Then tell students: *Watch this video to see what you can learn about plants.*
- Begin the tape. Stop/pause it several times so students can answer the hostess's questions: "What do plants look like?" "How are plants used?" Have children describe what they see in the video. Ask them to compare the real plants or photographs shown earlier to plants in the video. Then continue the program.
- During the teacher-and-student activity segment, stop/pause the video after the teacher explains that they will water and give sunlight to the plants for two weeks. Ask your students to guess what will happen to each plant, then continue the tape to see the results.

You Try It

If a plant is potted in a jar and given plenty of sunlight and water, how will the plant grow? If the jar is set on its side, how will the plant grow? Ask children to guess the answers and explain their reasons. Then help them explore to find the result. (Plants always grow toward light, no matter how the jar is positioned.) To extend the concept, ask children to name different places where plants grow (including sidewalk cracks, ponds, under rocks, and on steep cliffs). Discuss how sunlight reaches plants in these places and how the plants grow there.

More Exploring

List the plants shown in the video. Have children name the plants they saw. Then ask them for any other plant names they know and discuss if they have named general categories (such as tree or vegetable) or specific types (such as oak or carrot).

Conduct a plant growth activity as shown in the video. Ask children to devise different ways to test what happens when plants don't get enough soil, air, light, or water.

Make flashcards of plants from magazine photos. Have children identify in each photo the plant's leaves, stem, roots, and seeds.

Have children collect leaves, roots, and stems and bring them to class. Divide children into groups to observe the characteristics of the plant parts. Ask them to group and regroup the parts according to size, color, shape, surface appearance, or other criteria that they choose. Distribute magnifying lenses to the groups and ask students what they can observe with the lenses that they couldn't see before.

Explore seeds. Present a variety of seeds (fruit seeds, peas in a pod, nuts in shells, acorns, pine cones) and have children examine how they are alike and different. Ask students if they can guess what kind of plant the seeds will produce. Use a plant identification guide to show pictures of the mature plants.

What parts do we eat? Make a chart with headings for leaves, stems, seeds, and roots. For each plant part, ask children to name plants that we eat (e.g., stems—aspargus; seeds—sunflowers; roots—carrots). As a safety precaution, stress that children should not eat plants that they do not know, because some are poisonous.

Art—Make seed creatures by gluing and painting cones, pods, beans, and other seeds. **Make plant prints** by lightly brushing plant parts with paint, then arranging them painted side down on top of paper. Gently rub the parts into the paper, then remove them and let the paper dry. Ask children what patterns they see in the plant prints. Have them add decoration with crayons.

Read aloud the following story of Johnny Appleseed (presented in the video), then have children answer the questions below.

Long ago a man named John Chapman lived in Massachusetts, where there were many apple orchards. He enjoyed apples and the orchards very much.

From John's home he could see pioneer wagons on their way to new land in the Ohio Valley. He learned that these pioneers had to plant crops when they arrived at their new homes. They wouldn't have time to plant orchards and grow fruit trees. One day while resting among the apple trees, John took an apple from his pocket and ate it. When he finished he looked in his hand and found a few brown seeds that came from inside that apple. He thought, "If I collected seeds like this and planted them throughout the land, there would soon be many apple trees for everyone to enjoy."

John decided to follow the pioneers. With a large sack of apple seeds on his back, he began his long journey. Each day, as he traveled, he planted apple seeds. Soon everyone called him Johnny Appleseed. He walked on and on, always planting, and soon there were beautiful apple orchards everywhere.

- *What did John Chapman plant?*
- *What kind of plants did the seeds grow into?*
- *Where did he get his seeds?*

Students probably can find apple seeds at home in their own kitchens. What other seeds can be found in the kitchen? Have children work with their parents to make a list of the fruits, vegetables, and spices they have that contain seeds. In class, compare the lists and assign each child a seed item to bring to class for further exploration.

Have children make comic strip drawings of the life of a seed. Each square in the strip can show a new stage of the seed's growth. Encourage children to add words and other objects to their comic strip stories.

Ask students to bring to class photographs of people they know using plants. Have children make large drawings of the plants shown and labels for the plants and people. Then help them arrange the photographs, drawings, and names on a bulletin board. Use the images and words for writing activities.

