

Parts of a Plant: Learning in the Garden

Various Gardens (45 minutes) - Grades K-1

About

During this field trip, students will learn about plant parts and their function. Students will learn to identify the parts of a plant, they will dissect seeds and seedlings, and they will use magnifying glasses to get a close look at the various plant parts. Students will learn about the plant life cycle, from the seed all the way to the fruit. Students will also learn about what plants need to grow and survive in their environment.

Objectives

1. Students will leave being able to identify the different parts of the plant and their functions including root, stem, leaf, flower, and fruit.
2. Students will leave being able to describe the life cycle of a plant.
3. Students will leave being able to describe what plants need to grow and survive.

Background on the Japanese Garden

In 1970 a small Japanese-style Tea Garden was created near Botanic Hall. Seven years later Betty Weesher, former president of Ikebana International (Ikebana is a Japanese art form of flower arrangements that follows strict rules) generously gifted towards the creation of a Japanese Garden. Groundbreaking for the garden was August 14, 1977, which included a Japanese tea ceremony, with the garden opening to the public in 1990.

David Harris Engel was chosen to design the garden, which he named Shōmu-en, which translates to pine mist forest. The garden was designed as a meditative journey with different areas, all of which leads the visitor into the peaceful center of the garden, a mountain retreat. At the start of the path leading to the garden is a gate that leads to a roji, which means transition zone. This is a narrow path that includes uneven steppingstones. The unevenness of the stones is designed to force the visitor to focus on their footsteps, and to start leaving the outside world behind.

Vocabulary

Roots - a root is a part of a plant that is usually hidden underground. Roots have several purposes. They hold the plant in the ground and keep it upright. They take water and nutrients from the soil.

Stems - the main part of a plant that grows up from the ground and supports the branches, leaves, flowers, or fruits that may grow from it. This part of the plant also helps bring water and other nutrients from the soil up to the top of the plant.

Flowers - the part of a plant that has petals and that makes fruit or seeds

Leaves - one of the usually green, flat parts of a plant or tree that grows from the stem or branch

Petals –the petals are the bright colorful leaves of the flower. Flower petals are normally bright and colorful to help attract insects that help with pollination.

Seeds – what grow into baby plants when given soil, water, sunlight, and air.

Fruits - a fruit is the part of a flowering plant that contains the seeds. The skin of a fruit may be thin, tough, or hard. Its insides are often sweet and juicy. But some fruits, including nuts, are dry. Fruits develop from a plant's flowers. Some foods that people call vegetables are actually fruits.

Seedling - a young plant grown from a seed

Life cycle - A life cycle is a series of stages a living thing goes through during its life. All plants and animals go through life cycles. It is helpful to use diagrams to show the stages, which often include starting as a seed, egg, or live birth, then growing up and reproducing. Life cycles repeat again and again.

Standards Covered

K.ETS2

1. Use appropriate tools (magnifying glass, rain gauge, basic balance scale) to make observations and answer testable scientific questions.

1.LS1

1. Recognize the structure of plants (roots, stems, leaves, flowers, fruits) and describe the function of the parts (taking in water and air, producing food, making new plants).
2. Illustrate and summarize the life cycle of plants.

1.LS2

- 2. Conduct an experiment to show how plants depend on air, water, minerals from soil, and light to grow and thrive.
- 3. Recognize how plants depend on their surroundings and other living things to meet their needs in the places they live.

1.ETS2

1. Use appropriate tools (magnifying glass, basic balance scale) to make observations and answer testable scientific questions.

Pre-Visit

For the pre-visit, there will be a virtual meeting that will happen between a Cheekwood staff member and the class. There will be a PowerPoint that is shared about Cheekwood's history, and a brief introduction on what student's will be learning during their Cheekwood visit.

Overview of the Day

1. Students will start off at the Frist Learning Center. Students will be greeted by an educator. The educator will give an overview of the guideline's students should follow while at the garden and briefly review the material covered during the pre-visit activity.
2. Teachers will already have students preassigned to 3-4 different groups. One educator will be placed with each group and remain with that group the entire time. (Groups will be ~20 students each)
3. The guided portion of the field trip will last approximately 45 minutes. Students will walk through various gardens at Cheekwood with their Educator while completing activities to help them learn about plants.
4. Students will start off their visit by dissecting a lima bean and identify the parts of a seed and what they do. They will learn how they transition into plants.
5. Students will observe a variety of trees growing at Cheekwood as they walk and identify their roots and what they do.
6. Educators will introduce stems and leaves. Follow it up with students then dissecting lima bean seedlings and investigate each part they've learned about so far (roots, stems, leaves). They will use magnifying glasses to get a close look at each of those parts.
7. As students continue their walk, they will identify plants that are in bloom and investigate their flowers. They will also search for pollinators in the garden.
8. The walk will conclude with learning about fruits and a part of a plant song to solidify the life cycle and the plant parts they identified throughout their time at Cheekwood.

Post-Visit Book Suggestions

[If You Plant a Seed](#) by Kadir Nelson

[The Tiny Seed](#) by Eric Carle

[It Starts with a Seed](#) by Laura Knowles and Jennie Webber

