



Parts of a Plant: Learning in the Garden

Focusing on the Color Garden & The Herb Garden (90 minutes) – Grades K-1

About

During this lesson, students will learn about plant parts, and their function. Students will learn to identify the parts of a plant and use a magnifying glass to find them on the plants we have growing in our Color Garden. Then, students will color their own flower and label the different parts. Students will also learn about the life cycle of a plant, from the seed all the way to the to the fruit. Lastly, students will learn about how plants depend on their environment to survive and complete an observation activity to further understand what happens when plants needs are not met.

Objectives

1. Students will be able to identify the different parts of a plant.
2. Students will be able to identify the function of different plant parts.
3. Students will be able to describe the life cycle of a plant.
4. Students will learn how plants interact and depend on their surroundings and other living things to survive.

History about the Color Garden and The Herb Garden

The Color Garden

The Color Garden was designed by Naud Burnett in 1998. This garden was originally named Robertson-Ellis Color Garden in honor of Eva Joe Ellis.

The color garden is used for bold seasonal color displays, extending the experience of Visitor's Services housed in Botanic Hall. Most likely the first garden that guests see upon their arrival, it is the intention of the Color Garden to represent the current season in the most beautiful, current, and welcoming way possible. It is in the Color Garden that certain horticulture trends are also displayed. It also serves as an open-air classroom for art studies, as a leisurely stroll, and as an ecologically important part of Cheekwood's natural environment. This artfully designed garden is a haven for butterflies, birds, bees, and other pollinators.

It takes a great deal of planning to execute the dynamic displays that are executed 4 times a year.

The Herb Garden

Installed in 1983, the Herb Study Garden is devoted to the study and evaluation of herbal plants to determine those that can be successfully grown year-round in Middle Tennessee. This garden is a project of the Herb Society of Nashville, Unit of the Herb Society of America. The society is devoted

to promoting the knowledge, use, and delight of herbs through educational programs, research and sharing the experience of its members with the community. The Herb Study Garden provides an important connection to the Herb Society of Nashville and its very active volunteer contingent.

There are 7 themed sections within the Herb study Garden.

1. Culinary Herbs
2. Blue Flowered Herbs with Gray & Silver Foliage
3. Annual Display Bed, rotating seasonally
4. Texture and Fragrance
5. Herbs used by Native Americans of Middle Tennessee
6. Herbs Used by Early Colonists of Tennessee.
7. Mediterranean herbs

Vocab

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.

Perennial - this is a plant that is present at all seasons of the year, persisting for several years usually with new growth

Annual - happening once every year, only has one growing season

Seedling - a young tree before it becomes a sapling

Sapling - a young tree, the step before being a tree

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.

Environment - All the physical surroundings on Earth are called the environment. The environment includes everything living and everything nonliving.

Observation - the act of careful watching and listening; the activity of paying close attention to someone or something in order to get information.

Docent - a person who leads guided tours especially through a museum or art gallery

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).

1.LS1 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.

1.LS2 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. During this visit, a few questions about plant parts and lifecycle of a plant will also be asked to gauge students' knowledge before their field trip.

Overview of the Day

1. Students will start off at the Frist Learning Center where they will have just gotten off their bus. As soon as students are off the buses, a movement activity will be lead. Then, there will be a quick overview of the guidelines we ask students to follow while they are here.
2. Teachers will already have students preassigned to 3 different groups. After the movement activity, students will separate off into those assigned groups.
3. One docent will be placed with each group. This docent will be with that group the entire time. (Groups will be ~15 students each)
4. Docents will already be preassigned to different starting points for the field trip. The docents will be assigned to one of the starting points listed below. (each activity will be 15 minutes with 3 minutes for transitions between stations):
 - a. Color Garden (15 minutes)
 - i. During this station, students will be learning all about the different parts of the plant! Students will also be talking about an annual vs perennial plant. They will learn about what the different parts of the plant do, and how they support the plant. Students will also be able to use magnifying glasses to explore the parts of a plant using plants we have growing in our color garden during their visit. Then, students will learn a song all about the plant parts and practice it with their docent!
 - b. The Herb Garden (15 minutes)
 - i. In our herb garden, students will be learning about the lifecycle of a plant! They will learn about the different stages of the plant lifecycle,

and look at the lifecycle of an apple tree and the lifecycle of a tomato plant. Students will also discuss the needs of a plant, and what they think will happen if plants don't have their needs met. Then, students will get a magnifying glass again and try to find all that stages of the lifecycle of a plant in the herb garden.

- ii. There will also be herbs at this station that students can touch and smell.
- c. Hands-on activities on arboretum lawn – Art & Experiment (30 minutes)
 - i. During this 30-minute station, students will be completing two hands-on activities. The first activity, students will be given a worksheet with a picture of a flower on it. Their job will first be to color the flower, and then match all the words for the parts of the flower, to the actual part of the flower on the sheet. If students are confident with their letters, we will also encourage them to write each of the names of the part of the flower beside the part itself. Then, as a group we will review all the different parts. The next activity at this station will be an experiment with the needs of a plant and what happens when plants don't get what they need to survive. Students will be scientists during this station and make observations and draw pictures of each of the different plants and what they look like.

Post Visit: As students are leaving Cheekwood after their field trip, teachers will be given a plant to take back to their classrooms. The day after the field trip, teachers will ask the same questions that were asked by a Cheekwood staff member during the pre-visit. This will help gauge what students learned and took away from their field trip. While the classroom's plant grows, students will be encouraged to measure it's growth and track it over time.

Post Visit Book Suggestions:

From Seed to Plant, By: Gail Gibbons

A Seed Is Sleepy, By: Dianna Hutts Aston and Sylvia Long