

Seeing Green

Post-Visit Activity for Kindergarten

Activity 2: Plants Growing

Materials Needed

Computer with internet access to project the video clip.

Printout of the “How Plants Meet Their Needs” card in Attachments.

Overview

The goal of this activity is to help students recognize that plants grow and change over time. It is often difficult for children to recognize that plants move as they grow because it happens so slowly they cannot directly see the movement. The video in this lesson will help children to actually see plants growing.

Procedure

1. Introduce this activity by reviewing the parts of plants: roots, stem, leaves, flowers/seeds. You can use the attached illustration sheet that we used on the Garden tour to also review the functions of these plant parts. You can cover the words on the sheet with sticky notes and prompt the students:
 - a. Who remembers what part of the plant works like a straw, to move water around to all the parts of a plant? (stem)
 - b. Which part of the plant makes seeds for baby plants next year? (flower)
 - c. How does the plant get water? (roots)
 - d. How does the plant make its own food? (leaf)

The “how” questions may need some additional discussion to clear up any misconceptions the children may have. **See Background information.**

2. When we look at a plant, it is hard to observe it grow and change as we watch it because plants do this slower than we can see with our eyes. However, scientists who study how plant change over their lifetime, need to make these careful observations. So, they devised a way/method for being able to “see” plants grow. It is called time-lapse photography where a camera sits in one place and takes a photo every 5 minutes (*or some constant time interval*), then they put them all together into a video to see the plant move.

Grade: Kindergarten

Guiding Question

What changes do you notice to the plant parts as it grows from seed to flower?

Timing 20-30 minutes

MA STE Standards addressed in lesson

K-LS1-1: Observe and communicate that plants need food, water, and air to survive. Plants make their own food and need light to live and grow. Animals get food from plants or other animals.

K-LS1-2(MA): Recognize that all plants grow and change over time.

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3. Watch the [video of seeds to plants](#).
4. You should watch the video a few times, pointing out the plant parts as they emerge and grow—leaves from a bud, flowers from a bud, maple seeds sprouting from the samaras, a vine wrapping around a support. The sunflower towards the end shows the emergence of the root tip, the root hairs developing as they go into the ground then the stem and leaves emerge, with the final flower blooming.
 - a. Have an open discussion of what the children see/observe. Encourage the children to support any conclusions/interpretations on what was presented in the video to encourage the use of evidence since this is a science discussion.

Extension option: Have students make their own time-lapse “video” using flip book technique. You may want the children to work in small groups for this. Identify appropriate images to include in the flip book and print them off. Have the groups sort the images in the correct order and assemble their flip book with staples.

Background Information

A common misconception is that plants get their food from the soil. This misconception likely originates from children’s tendency to look for parallels with their own behavior and that of plants—i.e. eating food. Adults may reinforce this idea through reference to fertilizers applied to soil/roots as “plant food.” To counteract this misconception, it is best to say that plants don’t “eat” like animals, they make their own food using air, water, and light. Once plants make food, they can store it for later use when they can’t make it such as when it is dark outside or when they don’t yet have their leaves in the spring time.

Vocabulary List—developmentally appropriate definitions

Flowers—the part of the plant that makes seeds for new plants.

Leaves—the part of the plant that makes the plant’s food.

Living thing—characteristics include: growth, use energy, reproduce, interact with environment (movement is not a necessary characteristic of living things). Alive, dead, and dormant organisms are all still classified as Living.

Nonliving thing—characteristics include: never living, a lot of man-made objects

Observation—using senses to describe natural objects

Photosynthesis—plant roots take water from the soil up their stems (like a straw) to the leaves. The leaves take in some air (carbon dioxide) where it mixes with the water. Inside the leaf, water and carbon dioxide mix with chlorophyll powered by the sun to make sugar. This sugar is the food that allows the plant grow.

Roots—the part of the plant that takes in water from the soil.

Stem—the part of the plant that helps the plant to stand up and gets water from the roots to the plants other parts, and gets sugars from the leaves to the roots.

Attachment:

How Plants Meet Their Needs on next page.

How Plants Meet Their Needs

