



Harvesting and Eating Garden-Grown Popcorn

OBJECTIVES

Students will be able to *identify* plant parts by name, and make broad connections between their food and the garden. Students will learn that the vegetables and fruits that we eat come from one or more of the following plant parts: roots, stems, leaves, flower, fruits, and seeds. Furthermore, each plant part has a specific role to play in the life cycle of the plant.

HANDOUTS

- My Popcorn Plant Worksheet

KEY TOPICS

- Plant Parts
- Where Food Comes From
- Food as Energy

MATERIALS

- Fully mature popcorn plants (or store-bought corn plants and popcorn seeds)
- Corn kernels to pop
- Olive Oil
- Salt
- Pot for popping popcorn (or air popper)
- Plug in stove
- Small folding table
- Napkins/cups for popcorn
- Stapler

BACKGROUND INFORMATION

Like all plants, popcorn (*Zea mays everta*) has parts that serve very important biological functions for the plant and provide a source of food for people. The roots anchor the plant and take in water; the stem provides support and channel for plant-food and water; the leaves are the plant's sugar factories, turning light into food for the plant through photosynthesis; the flower reproduces new plants through a variety of ways, often utilizing living animals in pollination; and the seeds carry the embryo and the nutrients it needs to grow into another plant. While people categorize and use these plant parts in many ways, ultimately plants have their parts to create more plants.

LESSON PLAN

1. Looking at Popcorn Plants (20 mins)

- a. Introduce the lesson by singing "Dirt Made My Lunch" by the Banana Slug String Band.
- b. Remind students that seeds and fruit come in all shapes and sizes. Some seeds are little and many, some are big and alone, some are on the inside, others on the outside.
- c. Prior to looking at the popcorn plants, review the basic needs of all plants. Ask students to point out the roots, stems, and leaves. Then ask students to point out the flowers, fruit, and seeds; brainstorming other types of these parts will be helpful to understand why the popcorn flowers, fruit, and seeds look so different. Tell students, while some flowers have petals, corn has two types of flowers: the tassels and the silk. Like a green bean, the corn carries its seed in a pod-like fruit. Instead of a hard-shelled pod, it has husks!
 - i. When talking about each plant part, connect the role it plays to the needs of the plant and humans. For example, when discussing the roots. The root takes up water, which the plant needs to survive. Do humans need water to survive?
- d. Ask students which plant part of popcorn we eat. The answer: the seeds! Ask students for some examples of other seeds we eat.
- e. Explain that you've left the fruit (cob) on the plants to dry, so that they will be ready to pop. Harvest one cob, and peel it open by letting students pull one husk-leaf at a time.
- f. Have any of the kernels been eaten? Ask students who they think ate the kernels. Explain that all animals need food, just like people. The food they've grown in the garden might have been shared with other animals and insects that live around their school. What sorts of animals do they think like popcorn? Some examples are squirrels, caterpillars, and maybe some birds.
- g. Harvest cobs, and then uproot plant from the ground.
- h. Show students roots and review their role.

2. Popcorn! (20 min)

- a. As you set up, introduce the activity. What part of the plant is popcorn? The seed! In order to eat the seeds, we have to separate it from the rest of the plant. Demonstrate how to separate kernels from the cob and have each student separate kernels from a corn cob.
- b. Tell students that they have three options for the seeds they harvested: 1) grind them into cornmeal, 2) plant them, or 3) eat them. Remind them, that if they were to plant the popcorn seed, they would end up with a lot more popcorn! Ask students if they've had popcorn before. If so, where? What do they like to put on their popcorn?
- c. Handout **My Popcorn Plant** worksheet. Have students complete the worksheet.

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- d. While students are finishing the worksheet, pop the popcorn using a hot air popper or pot and lid. Top with olive oil and salt, or your choice.
 - e. Hand out paper towels, antibacterial gel and popcorn samples!
3. **Conclusion (5 min)** – Read “A Fruit is a Suitcase for Seeds” by Jean Richards. Hand out envelopes or bags of un-popped corn. They may take these envelopes home to make their own popcorn!

Standards

K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.

K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live

W.K.2. Use a combination of

drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.

K.5.a. Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent.

AFTER THE LESSON

- Read “Who Will Plant a Tree?” by Jerry Pallotta
- Save popcorn seeds to plant in classroom or in garden during summer
- Compost the remaining parts of the popcorn plants as another lesson
- Students could prepare a flip book about parts of the plant (corn in particular)