



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.

Students will be able to *categorize* seeds by size, color, and shape. Students will be able to describe visible differences between seeds.

HANDOUTS

- Seed Sorting Worksheet
- Write Your Own Instructions Worksheet

MATERIALS

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

KEY TOPICS

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

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 make 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. Seed Sorting (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 corncob. Rotating a metal bowl around the class.
- b. Collect the harvested popcorn seeds.
- c. Hand out paper plates with popcorn seeds, lima beans, pinto beans, garbanzo beans, and any other seeds you have. Brainstorm descriptive words for each seed as a class before handing out the activity.

- d. Give students the **Seed Sorting Worksheet** and have students categorize and trace their seeds.

3. Popcorn! (20 min)

- a. 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?
 - b. Hand out **Write Your Own Instructions Worksheet**. Explain that students are going to list the ingredients needed for making popcorn. Remind them to think not only about the popcorn seeds, but what they like to eat on their popcorn. Using the pictures on the side, ask student
 - c. While students are finishing the worksheet, pop the popcorn using a hot air popper or pot and lid. Top one with olive oil and salt and another with honey and butter, or your choice. Create a chart for the two types and do a taste test. While asking each student to vote for one of the popcorn types, ask them to use a descriptive word explaining why they liked it. Was it because it was sweet? Was it because it was salty? Somewhere in the middle?
 - d. Hand out paper towels, antibacterial gel and popcorn samples!
4. **Conclusion (5 min)** – Hand out envelopes or bags of un-popped corn and staple them to students' recipes. They may take these envelopes home to make their own popcorn!

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
- Tell a Story: Share a story about popcorn to your class and ask students to identify the flavors and texture of the popcorn they're eating. Then ask for volunteers to share their own story about popcorn using lots of descriptive words. You could create a platform for storytelling and let students eat their popcorn while listening.

Standards

2.LD.Q.3 Provide descriptions with careful attention to sensory detail.

2.W.2 Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

2.W.8 Recall information from experiences or gather information from provided sources to answer a question.



Name _____

Date: _____

Seed Sorting

Big seeds:	Tiny seeds:	Circle-shaped seeds:
Pointy seeds:	Seeds with 2 colors:	My favorite seed:

Write Your Own Instructions

1. Add 2 tablespoons of _____ to a pot and heat for 2-3 minutes. Add 3 popcorn seeds and watch for them to pop.



2. Add ½ cup _____ to the pot and cover it with a lid.



3. Once all popcorn has popped, top with

and

_____.

