Edible Plant Parts
We Eat Different Parts of Different Plants

OVERVIEW

The purpose of this lesson is for students to understand that plants have different parts and that we eat different parts of different plants. Students will work collaboratively to sort plants by which part we eat. In the garden, they will observe and draw plants and identify the different parts of the edible plants.

By the end of class, students will be able to identify the six major plant parts and the edible parts of different plants.

TIME

90-120 minutes, depending on which activities are done. Can be done in one long block, or in 20-30 minute shorter lessons over multiple days by breaking small groups into individual lessons.

GUIDING QUESTIONS

Why do plants have different parts?
Why do we eat different parts of different plants?
How do different parts of plants work together to support the plant’s life and reproduction?

MATERIALS

1. An assortment of edible plants and copy of Plant Secrets for engage/explore
2. A variety of fruits, vegetables, grains, and dry beans for sorting
3. A computer, phone, or speaker to play the Banana Slug String Band song with lyrics printed out
4. Seed catalogs (about 1-2 per student) scissors, glue, and Plant Part Worksheet for photograph sorting activity
5. Clipboards, pencils, colored pencils, and Observational Drawing Worksheet for plant drawings in the garden
6. Pencils, colored pencils, and Plant Part Labeling Worksheet for labeling and circling plant parts we eat activity
7. Recipe ingredients and materials

BOOKS

Plant Secrets by Emily Goodman
Tops and Bottoms by Janet Stevens
The Vegetables We Eat by Gail Gibbons

DEFINITIONS

Root: Underground plant part that absorbs nutrients and water.
Stem: Plant part that supports the rest of the above ground plant.
Leaf: Plant part that gathers energy from the sun to make food for the plant.
Flower: Reproductive plant part; plant part that makes seeds.
Fruit: Plant part that holds and protects the seeds.
Seed: Contains an embryo to grow a new plant.

NOTES

Order seed catalogues in advance so you have them for the lesson. Some places to order them include:
www.botanicalinterests.com
www.rareseeds.com
www.cooksgarden.com
www.burpee.com
www.seedsavers.org
www.groworganic.com
ENLIST / EXPLORE

➢ Read the book *Plant Secrets* by Emily Goodman. This book takes its readers through a plant’s life cycle, and highlights the major phases of plant growth: seed, plant, flower, and fruit. It is a good idea to have an assortment of edible plants to show the different parts of the plant that are described in the book.

Explain that in today’s lesson they will be learning about the different parts of plants and particularly the edible parts, or parts that we eat.

➢ Lead students through a movement activity as you describe the functions of the different plant parts.

**Roots:** Students bend over and wiggle their fingers near the ground. Students can make a slurping noise and move their arms up and down near the ground. This shows the roots slurping up water and nutrients from the ground.

**Leaves:** Students hold their arms horizontally out from their bodies and hold their palms up to the sky and then down to the ground, like leaves turning in the wind. Leaves are the kitchen for the plant. They catch the sun’s light and turn it into food for the plant.

**Fruits:** Students pretend to eat a fruit. The fruit protects the seeds of the plant.

**Stem:** Students stand nice and tall to show that the stem is the backbone of the plant and helps it stand tall. The stem is also the elevator of the plant and helps bring the water and nutrients to all of its different parts.

**Flowers:** Students make a circle with their arms above their head. Flowers are bright colors to attract pollinators to the plant to make seeds.

**Seeds:** Students pretend to hold and plant a tiny seed. The seeds allow for new plants to grow.

➢ Have students sing and dance with the *Banana Slug String Band Plant Parts Song & Dance* (lyrics attached to the end of the lesson) to review the different parts of the plants. Remind students that when we eat fruits, vegetables, grains, and beans we are eating different plant parts!
EXPLAIN / ELABORATE

A variety of different learning activities are listed below. Please choose the activities that fit best with your students, class time, and teaching style.

1. **Classroom - Science: Sorting fruits, vegetables and seeds.** Prepare six empty baskets, bins, or boxes with the labels: roots, stems, leaves, flowers, fruits, seeds as well as one large bin or box filled with fruits, vegetables, grains, and dry beans. You can also set up this activity on a large table as in the photograph below. Students can pick one item from the box and place it into the correct plant part basket. For instance, a student would pick a carrot from the bin, and then place it into the container labeled “roots.” Use the chart below to help you with compiling produce, grains, and dry beans for this activity, and understanding how students should sort them.

<table>
<thead>
<tr>
<th>ROOTS, BULBS AND TUBERS</th>
<th>STEMS</th>
<th>LEAVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrot Garlic Potato Radish Beets Onions</td>
<td>Asparagus Celery</td>
<td>Spinach Cabbage Lettuce Kale Chard Collard Greens</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FLOWERS</th>
<th>FRUITS</th>
<th>SEEDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broccoli Cauliflower Artichoke</td>
<td>Apple Tomato Pepper Eggplant</td>
<td>Rice Beans Corn Oats</td>
</tr>
</tbody>
</table>

2. **Classroom - Science: Identifying examples of each basic plant part that we eat.** Students cut out photographs of different fruits and vegetables from seed catalogs and sort them by plant parts we eat using the *Plant Parts Worksheet* (attached to this lesson). They will glue their photograph in the correct plant part box on their worksheet. For example, if a student cuts out a photograph of a tomato, they will glue the photograph in the box labeled “fruit” because we eat the fruit part of the tomato plant.

3. **Garden - Science: Observational drawings of plants in the garden.** In the garden, students will use the *Observational Drawing Worksheet* (attached to this lesson) to carefully observe and draw plants. At the bottom of their worksheet, students will answer the questions: “What is the name of this plant?” and “What part of this plant do we eat?”
4. Classroom - Science: Using the *Plant Part Labeling Worksheet* attached to this lesson, students will label the different parts of the plants on the worksheet. After labeling all of the plant parts, students will circle the plant part that we eat. This lesson is meant to be an introduction to plant parts for young learners, so, for example, although carrot leaves are edible, we will focus on the root as the main plant part that we eat.

5. Classroom - ELA: Read the book *Tops and Bottoms* by Janet Stevens. This trickster tale tells the story of a lazy bear and a hare who convinces him to share his land and food he grows. When the bear chooses the top half of the crop, the hare plants root vegetables and then reverses it. A Caldecott honor book, the story reinforces the idea that we eat different parts of different plants.

6. Classroom: Cooking: Prepare a recipe using a variety of plant parts (kale, carrots, broccoli, sunflower seeds, apples). See end of lesson for suggested recipes.
EVALUATE / ASSESSMENT

Ask Guiding Questions at the beginning and end of the lesson to compare gains in knowledge.
Review student work for accuracy in terms of labels on plants and which part we eat.

RECIPES

All recipes can be found at http://freshfarm.org/foodprints-recipes.html.

- Colorful Kale Salad
- Crispy Apple and Kohlrabi Salad
- Broccoli Pasta
- Lentil Salad
- Bean & Veggie Chili

UNITS, STANDARDS, CORNERSTONES

<table>
<thead>
<tr>
<th>SCIENCE UNIT</th>
<th>COMMON CORE ELA</th>
<th>ENVIRONMENTAL CONTEXT FOR LEARNING:</th>
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</thead>
<tbody>
<tr>
<td>Plants and Animals: Characteristics of Animals and Plants</td>
<td>W.2.7 Participate in shared research and writing projects. SL.1.1 Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.</td>
<td>Patterns and Growth: How do natural patterns affect living things? How do plants and animals change over the course of their lives?</td>
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### Plant Parts Worksheet

<table>
<thead>
<tr>
<th>Roots</th>
<th>Flowers</th>
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<table>
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<tr>
<th>Stems</th>
<th>Fruits</th>
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<table>
<thead>
<tr>
<th>Leaves</th>
<th>Seeds</th>
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Name: ____________________________
Date: ____________________________

Observational Drawing Worksheet

Draw a detailed picture of a plant in the garden. Label each part of the plant.

This is a picture of a _________________________________.

The part of this plant that we eat is/are the: _________________________________.


Carrot Plant Part Labeling Worksheet

Label each plant part. Circle the plant part that you eat.
Broccoli Plant Part Labeling Worksheet

Label each plant part. Circle the plant part that you eat.
Chard Plant Part Labeling Worksheet

Label each plant part. Circle the plant part that you eat.
Tomato Plant Part Labeling Worksheet

Label each plant part. Circle the plant part that you eat.
ROOTS, STEMS, LEAVES

Chorus:
Roots, stems, leaves, flowers,
Fruits and seeds
Roots, stems, leaves, flowers,
Fruits and seeds
Roots, stems, leaves, flowers,
Fruits and seeds
Roots, stems, leaves, flowers,
Fruits and seeds
That’s six parts, six parts, six plant parts that plants and people need.

The roots hold the plant in the ground.
They gather up the water that falls around.
And there’s a root inside of me, because a carrot is a root that I eat.
That’s six parts, six parts, six plant parts that plants and people need.

A stem is an elevator growing up from the ground.
The water goes up and the sugar back down.
And there’s a stem inside of me because celery is a stem that I eat.

The leaves are the kitchens where the food is done.
They breathe the air and catch rays from the sun.
And there’s a leaf inside of me because lettuce is a leaf that I eat.
Chorus...

The flowers are dressed so colorfully.
They hold the pollen and attract the bees.
And there’s a flower inside of me because cauliflower is a flower I eat.

The fruit gets ripe, then falls on down.
It holds the seeds and feeds the ground.
And there’s a fruit inside of me because an apple is a fruit that I eat.
Chorus...

Now you know what this whole world needs.
It’s roots, stems, leaves, flowers, fruits and seeds.
There’s six plant parts inside of me because a garden salad is what I eat.
Chorus...