



# Plant Parts We Eat

Lesson Plan Adapted by Service Member Kirsten Gerbatsch, Michigan

## Themes:

- Nutrition/Health
- Life Sciences

**Grade Level:** K-2; 3-5

**Subject Area:** Life Sciences, Health & Nutrition



## Learning Objectives:

- Students will learn about plant parts, edible plants and the different parts of the plant we eat. Students will examine the different structures and functions of each plant part, and then sample a variety of healthy foods using edible plant parts.
- Students will develop an “understanding that plants can be characterized by observable traits and physical characteristics.” (K-7, Life Sciences, Organization of Living Things)
- Students will develop an “understanding that plants and animals (including humans) have basic requirements for maintaining life, which include the need for air, water and a source of energy.” (K-7, Life Sciences, Organization of Living Things)
- Students will be able to identify that plants have “structures that serve different functions in growth, survival and reproduction.” (3<sup>rd</sup> grade, Life Sciences 3a)
- Students will understand that “Plants are the primary source of matter and energy entering most food chains.” (4<sup>th</sup> grade, Life Sciences 2a)
- Students will learn about the cultivation and nutrition of several local and seasonal fruits and vegetables.
- Students will learn about and experience healthy fresh foods.

**Prep Time:** 15 minutes (depending on what foods you prepare)

- Purchase a variety of seeds, fruits, and vegetables, mostly well known, and a few unusual.
- Wash and prepare plant parts into bite-size pieces. Save at least 1 whole fruit/vegetable as a visual example for each plant.

**Teaching Time:** 30-45 minutes

## Materials:

- Large poster and/or individual handouts of a plant showing the parts clearly.
- Song lyrics to “Roots, Stems, Leaves” by the Banana Slug String Band.
- A good selection of fruits and vegetables from all parts of the plant, or alternatively, a set of pictures showing various fruits and vegetables.
  - **Some examples of plant parts**
    - **Roots:** beets, carrots, radishes, turnips, rutabagas, ginger, parsnip
    - **Stems:** Asparagus, rhubarb, broccoli stem, bamboo shoots, sugar cane, potato (tuber) (Note: in this activity, celery is presented as a stem, although botanically it is not the stem, but the petiole.
    - **Leaves:** spinach, lettuce, kale, Swiss chard, arugula, etc.

- **Fruits:** apple, pear, grapes, cherries, oranges, plus veggies as the plant's "fruit" (seed container), e.g., peas, beans, zucchini, tomato
- **Edible Flowers:** broccoli heads, artichoke, cauliflower heads, nasturtium, calendula
- **Seeds:** sunflower seeds, corn kernels, other seeds and nuts such as almonds, pumpkin seeds, walnuts

### **Opening:**

1. Introduce the activity to students as a way to discover all of the parts of plant we eat everyday. Ask students, "Did you know that we can eat from all parts of the plant?"
2. Show various fruits and vegetables or pictures of them and ask students to guess which part of the plant they are.

### **Lesson Procedure:**

1. Start with roots, then continue through stems, leaves, seeds, flowers and fruit one by one. Briefly discuss the function of each plant part. Allow students to offer ideas and guesses before explaining.
  - a. Roots – Pull in water and nutrients from the soil; Store the water and nutrients of a plant; Anchor the plant into the ground. Roots that we typically eat are taproots (carrot, parsnips, turnips, radishes).
  - b. Stems – Transfer water and nutrients from the roots into the leaves; Transfer the energy created in the leaves (from the sun) to the roots underground; Hold the plant upright.
  - c. Leaves – Take in energy from the sun to create "food" for itself.
  - d. Flowers – Is the first stage of reproduction for a plant; Attracts pollinators such as bees, insects, birds; will create the fruit after pollination.
  - e. Fruits – Hold the seeds of the plant.
  - f. Seeds – Final stage of a plant's reproduction cycle; allows plant to create another plant. We can eat these seeds or replant them in the soil to grow more food.
2. Explain some confusing concepts for students as you proceed. For example, in the plant, anything that holds the seeds is a fruit. Some of the plants we consider to be vegetables are technically fruit. Give examples. Another example: potatoes are stems of the plant—not roots. Potatoes are technically a "modified stem."
3. Pass out prepared samples of each plant part as you proceed through each one. If you have time, allow for several minutes of reflection for each sampling.

### **Wrap up:**

To wrap up the activity, challenge students to try to identify the parts of plants they eat in the lunchroom or at home with their families.

### **Extensions:**

- Start seeds in a container garden
- Sprout seeds and beans
- Potatoes: Investigate - Roots or Stems?
- Photosynthesis
- Root dissection
- Create a salad or a meal with at least one kind of each plant part



### **Lesson Resources and Credit for Adaption:**

Johns, Marilyn, et al. *TWIGS*. UC Cooperative Extension, San Mateo & San Francisco Counties. "Eat Your Plants Nutrition Activity #3," "Plant Part diagram", pp 69-71.

Morris, Jennifer and Sheri Zidenberg-Cherr. UC Davis Nutrition Dept. *Nutrition to Grow On*. California Department of Education Publication. "Plant Parts We Eat," pp 16-19.

Evers, Connie L. *How to Teach Nutrition to Kids*, 1<sup>st</sup> edn. 24 Carrot Press. "Veggie Plant Parts" and "Plant Part Art Activity." pp. 50-52.