

Plant Parts Lesson

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Objectives

- To identify and classify the parts of the plant we eat
- To introduce students to different vegetables that they might not eat regularly
- To reinforce the definition/function of various plant parts: roots, stem, leaves, flowers, fruits and seeds
- Students will also determine which plant parts are represented by the vegetables/fruit growing in the school garden and eat a garden snack

Materials:

Paper bags filled with at least six different vegetables that represent different plant parts (root, stem, leaf, flower, fruit, and seed)

▪ Examples:

Roots: radishes, carrots, beets, turnips

Stems: shallot, kohlrabi, potato, celery

Leaves: lettuce, spinach, mustards

Flowers: broccoli, cauliflower

Fruit: pumpkin, eggplant, pepper

Seed: corn, bean, wheat

Observation worksheets (2)

Plant Part Chart*:

Plant Part	Description
Root	Usually forms below ground, acts as an anchor for the plant, absorbs water and minerals and provides physical support and food storage
Stem	Provides support for buds, leaves, and flowers and gives the plant its form. Serves as a conduit for water, minerals, and sugars
Leaf	Part of the plant involved in photosynthesis and transpiration. Leaves include: stoma, guard cells,

	epidermis, cuticles, veins, chlorophyll and chloroplasts.
Flower	Contains organs for sexual reproduction. Also site where pollination occurs.
Fruit	The enlarged ovary surrounding the newly developed seed is the true fruit of the plant. The fruit is produced after fertilization. The fruit holds and protects the seed.
Seed	Fertilized ovules grow and swell to form seeds after pollination has occurred. A seed contains an embryo (which has all the necessary genetic information to create a new plant), an endosperm (the food required to sustain early growth), and a seed coat (which protects the seed from disease).

*Chart from Joseph Kiefer and Martin Kemple, 1998. "Digging Deeper: Integrating Youth Gardens Into Schools and Communities", p. 58.

Lesson:

1. Explain to students that the vegetables/fruits that we eat are all part of a plant. Ask students to name some plants that they eat and if we eat the whole plant or part of it. Have them list the different parts of the plants (roots, stem, leaf, flower, fruit, seed). Ask students if they think we eat all these different parts. Mention that eating meals that feature plants is very important to our health. More than half of our diet should come from plants (fruits and vegetables.) You may ask them what other things we need to eat for a balanced diet (grains, dairy, protein, fat). Tell them that in today's activity we will be looking at different vegetables and will have to figure out which plant part each represents.
2. Divide the class into groups of three or four (depending on size). Each group will have a brown paper bag with six different vegetables. Students will take turns reaching into the bag and pulling out a vegetable. On their worksheets, they should first write down the name of the vegetable. Then, as a group, they should decide which plant part the vegetable represents.
3. After everyone is done, have each group share their results. During this time, students from each group may also tell their classmates their favorite "plant part" and in what way they eat it (e.g. potatoes, mashed, baked, or scalloped; broccoli, steamed or in a stir-fry; etc.)
4. Before moving on, have a "Bonus" item that students have to categorize such as a spice, jar of peanut butter, bread, etc. Have students make guesses.

5. In the second part of the activity, students will take their garden vegetable worksheet through the garden and categorize each vegetable as a plant part.

6. If there's time, students will enjoy a garden snack and re-tell which plant part it represents before being served!

Extensions

1. Write down the vegetable featured in the cafeteria menu every day and have students say whether it is a root, stem, leaf, flower, seed, or fruit.
2. Have students keep a fruits and vegetable diary to record which fruits and vegetables they are eating each day. Use it as an opportunity to talk about good eating habits and nutrition. See attached activity.

Eat Your Plant Parts!

Are the vegetables in your bag **roots, stems, leaves, flowers, fruits, or seeds**? Write down the answer in the column labeled “Plant Part”. Write down a few observations about the vegetable – What color is it? How does it feel? How does it smell? What does it look like?

Name of vegetable	Plant part	Observations

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Garden Detectives!

Look at all the vegetables growing in the school garden and decide which are roots, stems, leaves, flowers, fruits, or seeds.

Vegetables and Fruits in the school garden	Plant part
Cabbage	
Cilantro	
Collards	
Bok Choy	
Strawberries	
Turnips	
Kale	
Lettuce	

Swiss Chard	
Mustard Greens	
Kohlrabi	
Spinach	
Radish	
Beet	
Chives	
Shallots	
Carrots	
Broccoli	