



Grocery Bag Botany

Lesson

Goals

Students will learn to identify foods by their plant part.

Objectives

Students will classify various foods we eat into which part of the plant they come from.

Colorado Academic Standards

Science: Life Science

GR.2-S.2-GLE.2

Total Time – 60 minutes

Materials

- 15-30 fruits and/or vegetables
- Enlarged photo of a plant
- Journals
- Snack (see recipe at end of lesson)

Did you know?

Even though potatoes grow underground, they are not roots. They are specialized stems.

Vocabulary

roots	stems	leaves
flowers	fruits	seeds

Background for Teachers

This lesson is great to use as a precursor for individual lessons on each plant part. The follow-up lessons include: Leaves Make Food, What is a Stem, Introducing the Seed and Rooting for Roots.

Method

Introduction (10 minutes)

1. Begin the class by asking students if they ate any plants for breakfast. List the foods they mention on the board. Brainstorm with the class the six different parts of a plant that people eat: roots, stems, leaves, flowers, fruits and seeds. Tell the class that you had a delicious breakfast of plant parts, explaining that people rarely eat a whole plant. Tell the students you ate a bowl of oval, flattened seeds and dried, brown shriveled fruit with fragrant, crushed bark sprinkled on top. You drank a cup of dried leaves soaked in water with a spoonful of granulated stems and a slice of yellow fruit. Can they guess what you ate? (A bowl of oatmeal with raisins and cinnamon, and a cup of tea with a spoonful of sugar and slice of lemon.) Review the class' list and classify the foods by the part of the plant from which they came.
2. Explain to the class that they will be doing a sorting activity based on the different plant parts that people eat. As a whole group label the plant parts on the enlarged picture of a plant.

Activity (40 minutes)

1. Break the class into groups of four or five students. Hand out 5-10 items to each group.
2. As a group, have the students decide which part of the plant they are eating when they eat each item. Some items may be harder to determine than others. Make sure to have all the plant parts written up on the board (fruit, flower, stem, leaf, root and seed) to remind the class of the possible choices.
3. After the groups have made their decisions, have each group elect a spokesperson to present their findings to the larger class why they chose the plant part that they did.
4. Have each student write up a breakfast, lunch or dinner menu based on the plant parts he or she would eat, similar to the breakfast menu presented at the beginning of the activity. Students will then read their menu to their small groups and the groups will try to guess what foods the menu describes.

Conclusion (5 minutes)

Have the class discuss or write in their journals two different foods for each plant part (roots, stems, leaves, seeds, fruits and flowers).

Snack (5 minutes)

Provide a healthy snack that includes various plant parts, such as ants on a log (celery-stem, peanut butter-seeds, raisins-fruit) or Asian Broccoli Salad (end of lesson). While eating the snack reinforce the different parts of the plants that they are eating.

Assessment Tools

- Participation
- Presentation
- Journal

Modifications

- Give each group the same items and make it a contest to see which group can correctly name the plant part of each item.
- Instead of giving each group food items, have the class decide as a whole. This would mean the teacher would be in front of the class with a grocery bag and pulling out one item at a time. Make sure all students understand why each item was put into its category before moving on. Write the items on the board under each plant part as you go.

Extensions

- Have students examine packaged items and have students discuss which plant part(s) that particular packaged food item came from (i.e. catsup is made from tomatoes, a fruit).
- Give students a recipe of a familiar food item. Have students collaborate on what ingredient comes from what plant. Students will then record their thinking in their journals.

Suggested Products

- Asparagus (stem)
- Broccoli (flower, stem)
- Cabbage (leaf)
- Beans (seed)
- Corn (seed)
- Squash (fruit)
- Potatoes (underground stem)
- Onions (leaves)
- Garlic (stem)
- Raisins or grapes (fruit)
- Nuts (seed)
- Herbs (leaf, stem, seed)
- Parsnip (root)
- Carrots (root)
- Peas (seed)
- Celery (leaf-petioles)
- Ginger (underground stem)
- Cucumber (fruit)

Asian Broccoli Salad

- 4 broccoli heads (flower)
- 1 carrot (root)
- 2 oz. sunflower seeds (seed)
- 4 oz bok choy or savoy cabbage (leaf)
- 1 can mandarin oranges (fruit)
- 1 tsp sesame oil (seed)
- 2 tsp olive oil
- 1 Tbsp honey
- 1 Tbsp rice wine vinegar
- 1 Tbsp low sodium soy sauce
- 1 garlic clove (stem)
- 1 Tbsp grated ginger (stem)

Preparation (20 minutes): Cut broccoli into bite sized pieces and blanch in salted hot water and then shock in cold water. Grate carrot and julienne bok choy (or cabbage). Combine with the broccoli. Drain the liquid from oranges and then mix with the vegetables and sunflower seeds. Mince garlic clove and grate ginger. In a bowl mix sesame oil, rice wine vinegar, soy sauce, garlic and ginger. Whisk together. Combine dressing with the other ingredients, mix well and serve.

Source

Recipe courtesy of Corey Ferguson

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