



Make Room for LEGUMES

October Farm to School Month | #MakeRoomforLegumes

3-5 / Science: Edible Plant Parts

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Overview:

This lessons extends students' knowledge about the plant parts to the fruits and vegetables that they eat. Students will be challenged to match an image of a familiar fruit or vegetable to how it grows on the full plant. They will then sort the plants by the plant part that we eat and discover the function of those parts, recognizing the unique features of plants that allow them to live and thrive. The lessons is extended by creating a plant parts salad to demonstrate the flow of energy from the sunlight to the producers to the consumers and/or by playing a plant parts relay game. *(Time Needed: 45 minutes)*

Georgia Performance Standards:

- Life Science:
 - 3rd Grade
 - S3L1b. Students will identify features of green plants that allow them to live and thrive in different regions of Georgia.
 - 4th Grade
 - S4L1b. Students will demonstrate the flow of energy through a food chain beginning with sunlight and including producers, consumers, and decomposers.
 - S4L2a. Students will identify external features of organisms that allow them to survive or reproduce better than organisms that do not have these features.
 - 5th Grade
 - S5L1b. Students will demonstrate how plants are sorted into groups.

Objectives:

- Students will be able to sort plants into groups by the plant parts that humans consume.
- Students will be able to identify features of green plants that allow them to live, thrive, and reproduce.
- Students will be able to demonstrate the flow of energy through a food chain from sunlight to producers to consumers.

Materials:

From Kitchen:

- Large salad bowl
- Tongs
- Bowls and forks (1 for each student)
- *Other items dependent on teaching method*

From Grocery Store:

- Root—Carrots or Radishes
- Stem—Celery
- Leaf—Spinach
- Flower—Broccoli
- Fruit—Legumes, Tomatoes, Cucumbers, Bell Peppers, Oranges, or Berries
- Seed—Corn, Peas, Sunflower Seeds, or Chickpeas

Reproducibles:

- 1 set of Fruit and Vegetable cards (set 1 & 2)
- 1 set of Full Plant cards (set 1 & 2)
- 1 Plant Parts Cheat Sheet
- [1 set of Plant Part Purpose posters](#)

Outline:

- Engage: Match edible plant parts to the full plants
- Explore: Sort edible plant part / full plant matches by plant part name
- Explain: Brainstorm plant part purpose for plant, Sing “Roots, Stems, and Leaves”
- Extend: Make plant parts salad and/or play plant parts relay

Lesson Plan:

- Engage (whole group / moving throughout room) - 5 minutes
 - Activate students’ prior knowledge by distributing a card from the Fruit and Vegetable deck to each student. Then scatter the cards from the Full Plants deck across the tabletops. When instructed, students are tasked with finding the image of the full plant that matches their edible plant part.
 - When students have found their matches, share cards that show the images of the edible plant part and the matching full plant throughout the class to ensure accuracy.
- Explore (independently / moving throughout room) - 5 minutes
 - Challenge students to use what they know about the plant parts (root, stem, leaf, flower, fruit, and seed) to determine how to classify their edible plant part.
 - Allow students to move around the room to find other students whose plants have the same edible plant part. This will allow them to compare and contrast against each other and to self check.

- Explain (small group / throughout room) - 10 minutes
 - When students have organized themselves by edible plant part, allow the small groups to think independently, discuss with their small group, then share with the class how they think this plant part helps the plant live and thrive (before we eat it and it helps us live and thrive!)
 - After the small groups share their answers, the teacher can provide them with their Plant Part Purpose poster so they can sing their verse of the song “Roots, Stems, and Leaves” and see if they were correct!
- Extend
 - Make and Taste a Plant Parts Salad (whole group / in seats) - 25 minutes
 - Ingredients (one of each):
 - Root—Carrots, Radishes, Beets
 - Stem—Celery, Asparagus, Broccoli
 - Leaf—Lettuce, Spinach, Baby Chard, Baby Kale, Arugula
 - Flower—Broccoli, Cauliflower
 - Fruit—Legumes, Tomatoes, Cucumbers, Bell Peppers, Oranges, Berries
 - Seed—Corn, Peas, Sunflower Seeds, Chickpeas
 - Resources:
 - Legumes Recipes for Classrooms (including Plant Parts Salad)
 - Dressing Recipes for Classrooms
 - Taste Test Best Practices for the Classroom
 - Discussion:

As students enjoy tasting their plant parts salad, discuss how plants have the unique power to turn the energy from the sun into food that animals can consume that will then give them that energy. As a step further, if another animal eats that animal, it will also receive the energy that the consumer received from the producer that created the energy from the sun.
 - Plant Parts Relay (whole group / outside) - 25 minutes
 - Place the Plant Part Name cards in a line across the field.
 - Divide the class in half and instruct each team of students to form a line across the field from the Plant Part Name cards.
 - Distribute the Fruit and Vegetable cards - half to one group of students, half to the other group of students and when instructed the first student in the line can run across the field with the first card of the deck to place the card on the Plant Part Name that corresponds to the fruit or vegetable shown on their card.
 - When they return back to their team, they hand over the deck to the second student in line and then move to the end of the line so the game can continue until one team runs out of cards.

- Evaluate

Example Participation Evaluation

Engage / Explore (S5L1b.)	Student participated in matching their individual Fruit or Vegetable card with their Full Plant card and in working with classmates to group the plants by the edible plant parts.	___/20
Explain (S3L1b. S4L2a.)	Student actively participated in discussion of how each plant part helps the plant live, thrive, or reproduce and in the singing “Roots, Stems, and Leaves” to confirm hypothesis.	___/35
Extend (S4L1b.)	Student was actively engaged in the creation of the plant parts salad and the discussion around the flow of energy in the food chain.	___/35
	TOTAL:	___/100