

# 3-5 Science Edible Plant Parts



Jenna Mobley

## 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*



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**Elementary School**

**GA Standards**

**70 min**

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# 3-5 Science Edible Plant Parts



## 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!



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# 3-5 Science Edible Plant Parts



- 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.



# 3-5 Science Edible Plant Parts \_\_\_\_\_



- 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



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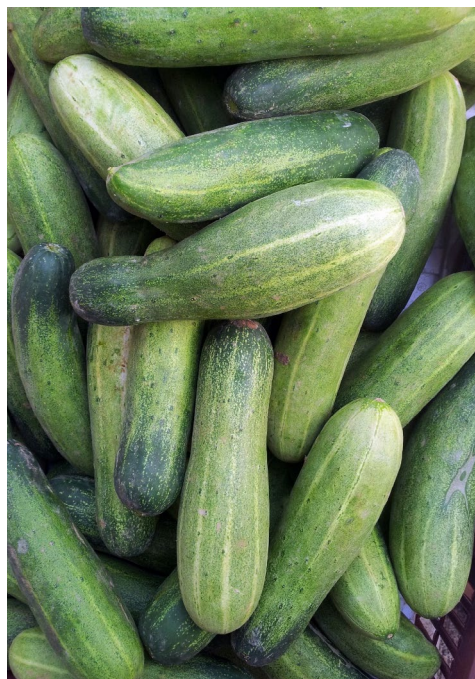
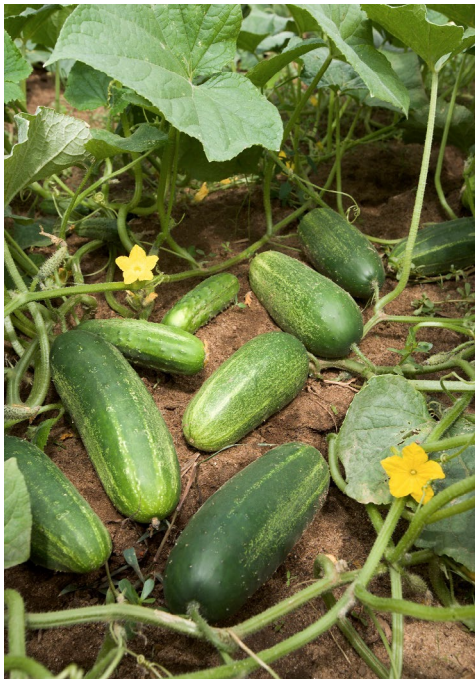
🕒 70 min

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# Plant Cards Set 1





# Plant Cards Set 1





# Plant Cards Set 1



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# Plant Cards Set 1



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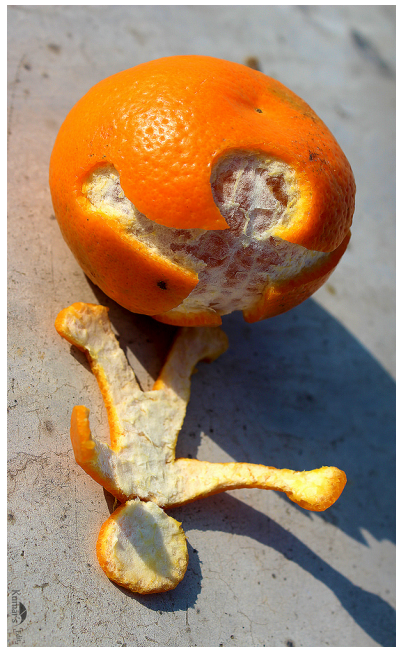
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# Plant Cards Set 1



# Plant Cards Set 1





# Plant Cards Set 1





# Plant Cards Set 1





# Plant Cards Set 1





# Plant Cards Set 2





# Plant Cards Set 2



# Plant Cards Set 2





# Plant Parts Poster



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 plant parts, six parts, six plant parts that people need.

# Plant Parts Poster



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.

# Plant Parts Poster



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.



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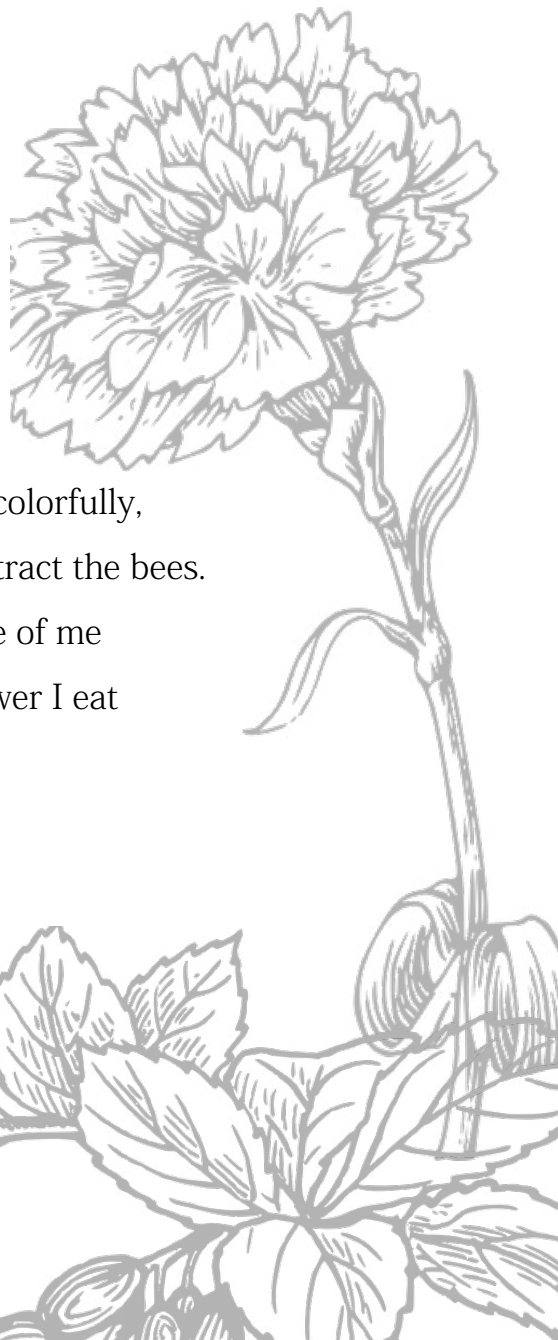
GA Standards

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# Plant Parts Poster



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



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# Plant Parts Poster



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.



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# Plant Parts Poster



The seeds get buried in the earth,  
And the cycle starts again with a new plant's birth.  
And there are seeds inside of me  
Because a garden salad is what I eat.



# Plant Parts

## Cheat Sheet



Plant Part	Descriptions/Definition	Examples
<b>Seeds</b>	Fertilized ovules grow and swell to form seeds after pollination has occurred. A seeds contain an embryo (which has all the necessary genetic information to create a new plant) and endosperm (the food required to sustain early growth) and a seed coat (which protects the seed from disease)	Shell peas, peanut butter, coffee, oats, wheat product, cashews, blueberries, strawberries, blackberries, green beans, grapes, corn
<b>Roots</b>	Usually forms below ground, acts as an anchor for the plant, absorbs water and minerals, and provides physical support and food storage. Bulbs, such as onions, are another type of underground stem.	Carrots, radish, beets, parsnips, sweet potatoes, rutabaga, onion
<b>Stems</b>	Provides support for the buds and leaves, and gives the plant its form. Serves as a conduit for water, minerals, gases and sugars. Tubers” are the swollen part of the underground stem. Roots sprout of the tuber and tubers have nodes and “eyes.”	Potatoes, Celery, asparagus, onions, kohlrabi
<b>Flowers</b>	The structure that contains the organs for sexual production. Also, the site where pollination occurs.	Broccoli, cauliflower, artichokes, nasturtiums, chamomile, hibiscus, squash blossoms
<b>Fruits</b>	The enlarged ovary surrounding the newly developed seed is the true fruit of the plant. The fruit holds and protects the seed.	Pumpkins, tomato, snap peas, green beans, avocados, peaches, grapes, cantaloupe, cucumber, butternut squash, orange, pumpkin, zucchini, persimmons, peppers, eggplant, pineapple
<b>Leaves</b>	The part of the plant involved in photosynthesis and transpiration. Leaves include: stoma, guard cells, epidermis, cuticles, veins, chlorophyll, and chloroplasts.	Parsley, onions, lettuce, mint, chives, garlic, tea, kale, Brussel sprouts, spinach

*\*\* Some publications also include “bud” as a separate plant part. This is an undeveloped shoot from which leaves or flowers grow. Examples: Broccoli, Brussel sprouts, artichokes.*



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