In this lesson, students will describe the function of each part of the plant and categorize different plants based on the part we eat.

- Plants have specialized structures that support their ability to grow and reproduce.
- We eat different parts of plants. The parts we eat are specific to each type of plant.
- Fruits and vegetables that grow in our Learning Garden are healthy for me to eat.

Next Generation Science Standards

- MS-LS1-4. Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

Common Core – English Language Arts

- SL.6.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others’ ideas and expressing their own clearly.
- SL.6.4. Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
- SL.7.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others’ ideas and expressing their own clearly.
- SL.7.4. Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
- SL.8.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others’ ideas and expressing their own clearly.
- SL.8.4. Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
**MATERIALS & PREPARATION**

- **Plant Part Cards** – one set, cut
- **Plants We Eat Cards** – one set, cut
- **Plant Part Veggie-gories** playing sheet – one per group
- Pencils – one per student
- Clipboards or hard surfaces for writing – one per student
- Minute timer – one for teacher use
- Review lesson, materials, and preparation
- Review teacher background:
  - Garden Team Communications
  - Plant Parts
- Familiarize yourself with your Learning Garden and what's currently growing.
- **Optional**: supplies for additional Learning Garden activities

Reminder: Garden Educators are always available for additional support via email or by phone call.

**TEACHER BACKGROUND**

This garden lesson should follow *Nutrition Lesson: Fruits and Vegetables* but may be taught anytime during the school year and Learning Garden growing season.

This garden lesson is broken up into two 25-minute sections. The first section is designed to be taught in the classroom and introduces the lesson topic. The second section is designed to be taught in the Learning Garden and provides an opportunity for students to put their knowledge to use experientially. The sections may be taught as one longer lesson, approximately 60 minutes, or the sections may be divided up over two class periods or days.

**INTRODUCTION**

*If time allows, review key understandings from the previous lesson.*

Welcome students to the garden lesson and spend time discussing the following questions:

- What are the different stages of a plant’s lifecycle?
- How many different plant parts can you identify? Do the different parts of plants have different functions?
- Do we eat the same part of every plant? Think about the food we eat that comes from plants, can we name foods that come from every part of a plant?
- Can we find different plant parts that we can eat in the Learning Garden right now?
Make the connection between the nutrition and garden lesson: In a previous nutrition lesson students should be introduced to fruits and vegetable in our diets through either Veggie-gories or the Food Remedy Game. In today’s garden lesson students will be playing 2 games to learn about the parts of plants we eat and all the different plant parts that we call fruits and vegetable that can be found growing in our Learning Garden. Remind your students that all the fruits and vegetable we eat are plant parts and we can find many of them growing in the Learning Garden.

During the classroom portion of today’s lesson students will be learning about the plants we eat based on the plant parts. This classroom activity can easily be played outside in the Learning Garden.

1. Label the plant parts 1 through 6. Use the illustration below for guidance.
2. Ask your students to raise their hands and identify one plant part. Work through the entire plant, offering clues and support as needed.
3. Let your students know that we eat all six of these plant parts. To get your students thinking, ask them to name some fruits we eat, then to name some seeds we eat. Write these responses on the board.
4. Students will be playing a classroom sorting game: ask for 6 volunteers to be your classroom’s plant parts. Pass out the Plant Parts Cards to each of these six volunteers and have them stand at different spots throughout the room.
5. Split up the rest of your students - they may have to work in pairs - and distribute the 18 Plants We Eat cards.
6. Let your students know that there are six plant parts and identify each of the six students who have volunteered as plant parts. The rest of the students have a Plants We Eat card.
7. Give your students 5 minutes to match their plant to the correct plant part; some of the cards may be trickier than others. At the end of the activity there should be three students with Plants We Eat cards matched with each student holding the plant parts cards.
8. Once everyone has finished moving around, review each plant part, its function, and the plants we eat that are associated with it. Ask the students who volunteered as plant parts to read each plant part function. Move students around as needed and discuss any questions that arise. Questions may include clarification about what makes a fruit a fruit
and why a potato is considered a stem. Review the Teacher Background, Plant Parts for more information.

9. Collect the cards.

Break here if this lesson will be taught in two sections.

10. Assemble and welcome your students into the Learning Garden. Address the entire group and establish the expectation that this is a time for learning. If appropriate, review the agenda for the Garden Activity with your students.

11. Ask students if they know what they will be doing in the Learning Garden for the day’s lesson. Let them know they will be playing a round of Veggie-gories using the knowledge they learned about different plant parts in the classroom sorting game.

12. Pass out the Veggie-gories handout and other supplies to each group and remind students how to play Veggie-gories. Students will be listing edible plants for each plant part category.

How to play Veggie-gories:

- Divide students into groups of 2-6 students and explain Veggie-gories to the students.
- At random, call out or display one of the plant part categories listed below and immediately start the timer for 30 - 60 seconds depending on your class and time.
- In the time allotted, each group writes down crops that fit into their selected category.
- Encourage groups to walk around the Learning Garden and look for crops that fit into the selected category.
- All players stop writing when the timer is finished. Following the list, each player, in turn, reads their list.
- Players score zero points for an answer that duplicates another answer in that round, and one point for an answer no other player has given.
- If for some reason a player thinks someone’s answer does not fit the category a player may challenge that answer. When challenged, all players vote on the validity of that answer. If the vote is a tie, the vote of the player who is being challenged is thrown out.
- Repeat for a total of six rounds. The student with the most points in each group is the winner.
At random, call out or display one of the plant parts listed below and immediately start the timer for 1 minute; you can choose more or less time based on what is most suitable for your class.

- Roots
- Fruits
- Seeds
- Leaves
- Stems
- Flowers

**CONCLUSION**

Have students share key parts of the lesson and review the Key Understandings.

Review the following questions:

- Of all the different plant parts, do you have a favorite that you like to eat?
- Is it important to eat all different plant parts? Is it important to grow different plant parts? Why?
- Are there any plants we are growing in the Learning Garden now or in the past that have multiple parts that we can eat?

Students should clean up the Learning Garden as needed.

**ADDITIONAL LEARNING GARDEN ACTIVITIES**

These activities are a great way to extend your time in the Learning Garden:

- Planting
- Watering
- Growing
- Harvesting
Plant Part Cards
(Before the Classroom Lesson, print and cut out these cards.)

<table>
<thead>
<tr>
<th>ROOTS</th>
<th>FRUITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roots take up water and nutrients from the soil and make our plants healthy and strong. Roots also help hold our plants in place, so they don’t blow over.</td>
<td>Fruits hold and protect plants’ seeds. Most of the time the seeds can be found on the inside of the fruit, but sometimes seeds can be on the outside!</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEEDS</th>
<th>LEAVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>A seed grows into a baby plant (or seedling). The inside of every seed has an embryo and endosperm. Seeds are protected by an external seed coat.</td>
<td>Leaves absorb sunlight and turn it into stored energy for the plant. The process is called photosynthesis – which is also what makes our leaves green!</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STEMS</th>
<th>FLOWERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stems transport water, nutrients and food to the entire plant. In addition, they help support (along with the roots) the whole plant.</td>
<td>Flowers turn into fruits and support plant reproduction by making seeds that turn into baby plants.</td>
</tr>
</tbody>
</table>
Plants We Eat Cards
(Before the lesson, print and cut out these cards.)

<table>
<thead>
<tr>
<th>CORN</th>
<th>LETTUCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Corn Image]</td>
<td>![Lettuce Image]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BEAN</th>
<th>KALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Bean Image]</td>
<td>![Kale Image]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PEA</th>
<th>SPINACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Pea Image]</td>
<td>![Spinach Image]</td>
</tr>
</tbody>
</table>
### Plants We Eat Cards

*Before the lesson, print and cut out these cards.*

<table>
<thead>
<tr>
<th>PEPPER</th>
<th>BROCCOLI</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Pepper" /></td>
<td><img src="image" alt="Broccoli" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOMATO</th>
<th>CAULIFLOWER</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Tomato" /></td>
<td><img src="image" alt="Cauliflower" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ZUCCHINI</th>
<th>SQUASH BLOSSOM</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Zucchini" /></td>
<td><img src="image" alt="Squash Blossom" /></td>
</tr>
</tbody>
</table>
Plants We Eat Cards
(Before the lesson, print off and cut out these cards.)

<table>
<thead>
<tr>
<th>CARROT</th>
<th>CELERY</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Carrot" /></td>
<td><img src="image2" alt="Celery" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BEET</th>
<th>ASPARAGUS</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3" alt="Beet" /></td>
<td><img src="image4" alt="Asparagus" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RADISH</th>
<th>POTATO</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image5" alt="Radish" /></td>
<td><img src="image6" alt="Potato" /></td>
</tr>
</tbody>
</table>