

**Plant Parts Are Tasty**

<b>Grade(s): 2-5</b>	<b>Topic: Plant Parts, Plant Life Cycle, Food Origins</b>	<b>Season: Any, but especially good as culmination of all Plant Part lessons</b>
<b>Timing:</b> 60 minutes, including 5 minute RPK, 10 minute introduction, 30 minute plant part matching activity and discussion, 5 minute processed foods guessing game, and 10 minute conclusion		
<b>Objectives:</b> <ul style="list-style-type: none"><li>• Students can explain that all of the foods we eat are either parts of plants, contain plant parts as their main ingredient, or are from animals who rely on plants to survive. When given the contents of a meal, students can categorize it into plant parts and list what specific part some of them are.</li><li>• Students can list and name the functions of different plant parts we eat: roots, stems, leaves, flowers, fruits and seeds. We also eat some kinds of bark, such as cinnamon. Students can distinguish between the function of the plant part for the plant and its use to humans and animals as a food source.</li></ul>		
<b>Materials:</b> <ul style="list-style-type: none"><li>• Poster or diagram showing plant parts</li><li>• Leaves such as spinach or lettuce</li><li>• Seed such as peas, corn, or sunflower seeds</li><li>• Stems such as asparagus, celery, or sprouts</li><li>• Flowers such as cauliflower, broccoli (buds), or saffron (stamens)</li><li>• Roots such as carrots (with tops), radishes, or potatoes</li><li>• Fruits such as berries or apples</li><li>• <i>Plant Parts are Tasty</i> worksheet</li></ul> <u>Optional Materials, for Plant Part Function Demos:</u> <ul style="list-style-type: none"><li>• Food coloring</li><li>• Jar</li><li>• Ziploc bag</li><li>• Paper towel</li><li>• Clear plastic container</li><li>• Soil</li><li>• Extra leaves</li><li>• Brown paper bag</li><li>• Dissected fruit</li><li>• Time lapse photos of a blossom and the fruit it turns into</li></ul>		
<b>Prep Needed:</b> <ul style="list-style-type: none"><li>• Cut up plant part samples for class to try, and set out mystery plant parts on tables with numbers for students to guess.</li><li>• If doing Plant Part Function Demos, germinate seeds, set up stem experiment, “plant” root vegetable, and cut cross section of fruit</li></ul>		
<b>Degree of need for extra teacher or parent helper?</b> Low		
<b>Journal Prompt:</b> What plant parts do you eat? Name the plant part and the types of fruit or		

vegetable that are that part of a plant.

**Reactivate Prior Knowledge (5 minutes)**

Ask students how important they think plant parts are in their diet. Do they eat plant parts every day? They might not think they do, but take a survey of what the class ate for breakfast or for lunch and demonstrate how everything they ate either comes from plant parts or from animals that eat plant parts.

**Introduction (10 minutes)**

Have students draw the diagram of plant parts either from your diagram if the concepts are new to them, or from memory if they have done the Plant Part lessons in the curriculum. Then either as a class or individually, have them guess what the function of each part of the plant is. Explain that today they are going to see some mystery plant parts and try to figure out what part of the plant they are.

**Matching Plant Parts (30 minutes)**

Have students prepare a sheet of paper with 3 columns. In the left hand column, have them number from 1 down to whatever number of plant part options you have (i.e. would be 1 to 5 if you have leaves, roots, flowers, bark, and stems). In the second column, have the students try to guess the specific name of the fruit or vegetable, and on the far right column have them draw a sketch of the fruit or vegetable. Once their papers are prepared, table clusters or teams of four should go up to examine plant parts, or, if you prefer to have students in their seats, you can set plant parts on their desks and switch them when they are ready.

Once students are finished, go through each part, referencing your plant parts diagram as you go. For each part, brainstorm what other fruits, vegetables or spices we eat that are also that part of the plant. Bring out the sample that represents that part for each student to try. If you have prepared the Function Demos, introduce the prop that helps explain that parts' function. Ask the students, "How do we know this is really ....?"

**Roots:** radishes, carrots, turnips, potatoes

Review Roots Function: Show them a clear plastic container with a root plant sticking out the top, such as a carrot. In an exaggerated way, pull out the plant. Explain that the roots of a plant (point to root hairs) absorb water from the soil, allowing a plant to take up nutrients.

**Stem:** celery, leeks, scallions, sprouts

Review Stem Function: Show them a jar of colored water. How do we know if celery is really a stem? Stems carry the water up to the other parts of the plant. So if celery is really a stem it will do just that. Let's see what happens when put this celery stem in a jar of colored water. Let it sit as an example for the next class. Show this class an example made previously, in which the colored water has traveled up the stem and dyed it red. \*\*\* Note: this is identical to an experiment done in the stems lesson. It is better to use celery that still has leaves attached and is fresh. \*\*\*

**Leaves:** spinach, lettuce, arugula, kale, collards

Review Leaf Function: Leaves help a plant make its' own food. It does this by taking sunlight and turning into sugar. Leaves have a pigment inside called chlorophyll. Chlorophyll makes a leaf green. Look at these leaves that have been inside this paper bag. The leaves have

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turned yellow. That is because the leaves could not get any light and the chlorophyll inside the leaf died. \*\*\* This is identical to a photosynthesis experiment done in the leaves lesson. \*\*\*

**Flowers:** broccoli (buds), cauliflower, nasturtiums

Review flower function: flowers are pollinated and become fruit. If you have time you can show a picture of a blossom and the fruit it turns into, or show the images of fruit development included in the Background Information section of this curriculum guide.

**Fruit:** apples, pears, berries, tomatoes, cucumbers, eggplants, peppers

Show students different cross sections of fruit. Review that as scientist we call tomatoes fruit because they contain seeds. Stress that “vegetable” is a term we use when we talk about food we eat, but when we talk about parts of plants, we use words like fruits, leaves, etc. Look at all these vegetables that are the fruit part of the plant...cucumber, eggplant, pepper...because they contain seeds. Cross cut fruit to demonstrate fully

**Seeds:** peas, corn (popcorn), sunflower seeds, rice, beans

Baby plants, or seedlings, grow from seeds. Seeds can be found in the fruit part of a plant. How do we know this will sprout into a new plant? Let’s look at what happened when we tried to grow these seeds. Show them germinated seeds you have soaked and stapled on the top of a zip lock bag (see Plastic Bag Greenhouse lesson on how to do this, or you can also try putting seeds in your classroom worm bin and seeing if they sprout!)

**Guessing Game for Processed Foods (5 minutes)**

Give each table one or more of the more complex, processed foods that are common in lunches (a cracker, string cheese, tapioca pudding, fruit roll up, etc.) and ask them to guess what part of a plant it might come from. Figure out the right answer with the whole class.

**Discussion/Conclusion (10 minutes)**

Review the parts of a plant. What was their favorite part of the plant to eat? Who here eats roots? Leaves? Stems? Etc.? Have students finish their diagram, writing down the functions of the plant parts they weren’t sure of before.

**Vocabulary**

Bark  
Flower  
Fruit  
Function  
Leaf  
Root  
Seed  
Stem  
Vegetable

**Vocabulario**

Corteza  
Flor  
Fruta  
Función

Hoja  
Raíz  
Semilla  
Tallo  
Vegetal

**Teacher Extensions / Possible Homework Assignments:**

- Have students keep a daily diary of what plant parts they eat and what part of the plant they are. Or do this as a class after lunch every day. Is there anything they eat that *cannot* be traced back to a plant?
- Have students look in their home food pantry and find one item to match each plant part: roots, stems, seeds, leaves, fruits, flowers. You can also have them bring them in for show and tell.
- Have students write a “life story” from the perspective of one of the “plant part” foods they ate that day. The life story should begin when the plant was just a seed and should end when they eat the plant part. Have them think about what might have happened to that plant in order for it to get to them (especially if it comes from another part of the world).