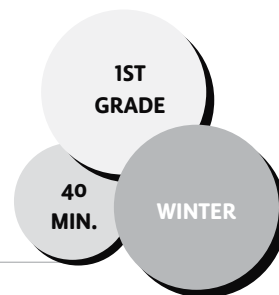


Plant Part Mystery

THEME: EXPLORING THE ECOLOGY OF FOOD



ESSENTIAL QUESTION

Why is each part of the plant important?

LEARNING OBJECTIVE

✓ Students will be able to recognize and name the six plant parts.

CONCEPTS

five senses six plant parts

ENGAGING THE CLASSROOM TEACHER

- Prior to the lesson, ask whether the teacher would be comfortable getting dressed up as a plant by their students. If not, ask if there's another adult or student who might be willing.
- During Action Step 2, suggest that the teacher help students write or draw their guesses during the game.
- During Action Step 4, suggest that the teacher support students while dissecting plants.

LESSON DESCRIPTION

In this lesson, students explore the six plant parts by dressing up a classmate or teacher as a plant, playing a plant part mystery game, and dissecting a plant to identify as many parts as they can. This lesson is designed to be taught in conjunction with

lessons Imaginary Plants, Plant Part Scavenger Hunt, Plant Part Wraps, and Planting a Tops and Bottoms Bed.

MATERIALS

- Bag to hold the props

Materials for dress-up

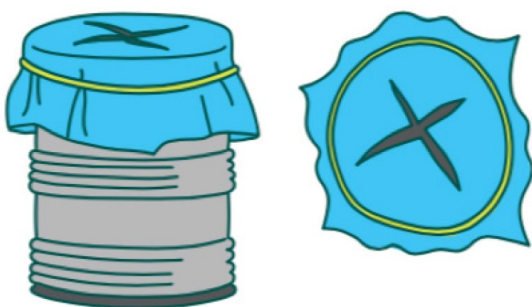
- Roots: Brown pipe cleaners, yarn, or mop head
- Stems: Green knee socks or scarves or large piece of butcher paper to wrap around person
- Leaves: Large leaves from the garden, such as rhubarb, or cut-out felt leaves
- Flowers: Fake flowers attached to a headband or a cardboard cutout flower
- Fruit: Real or plastic piece of fruit
- Seeds: Cardboard cutouts of seeds, small lidded container of seeds (can be used like a maraca)
- 6 mystery canisters (see Preparation below)
- 6 plant parts sheets (roots, stems, leaves, flowers, fruits, and seeds)
- Pencils
- Plant Part Mystery Game Worksheet for each student (p. 167)

PREPARATION

- › Collect and create materials for dress-up.
- › Collect coffee tins, shoeboxes, or large tomato cans (without sharp edges); fabric; and rubber bands to create six mystery canisters. Measure and cut squares of fabric to fit over the openings of each container. Create an X-shaped hole in the fabric (for reaching hands through) by folding the square in half and cutting through the middle but not to the edge. Open and fold in half the other

way and repeat so that you have cut an X. Center the fabric over the opening, and secure it with a rubber band. Number or color-code the canisters so that they can be told apart.

- › Place one plant part into each container. Be sure to pick items with interesting textures, smells, and sounds because students won't be able to rely on their sense of sight. For example, dry pea seeds make a fun percussive sound in a can, and it's nice to have a fragrant flower or a lemon that students can scratch and sniff.
- › To provide students with plants to dissect, harvest plants from the garden that exhibit as many plant parts as possible. Alternatively, buy cheap flowers from the grocery store that include some greenery for students to dissect.
- › Photocopy the Plant Part Mystery Game Worksheet for each student.



ACTION STEPS

1. Dressing Up: Gather students to sit in a circle, and ask for a volunteer to play dress-up and stand in the middle of the circle. You can dress up the classroom teacher or another adult. Tell students, *We're going to make this person look like a plant. What does this person need at their feet? What grows from the bottom of the plant? When students suggest roots, ask for ideas of what they could use to make the person look like they have roots.*

When students suggest roots, ask for ideas of what they could use to make the person look like they have roots. Pull the appropriate prop from your bag after hearing their suggestions, and have the volunteer put it on. Repeat this process with each part of the plant until the volunteer is fully dressed. You might choose to sing and act out the song "Roots, Stems, Leaves" here, so students can see the dress-up plant point to each of their parts during the song. **(15 min.)**

2. Plant Part Mystery Game: Tell students that you've brought a plant part mystery game. Show them one of your canisters, and explain that you've placed a plant part in each one. Say, *There'll be one of these at six different stations in the room. You'll put your hands inside, and use all your senses except sight and taste to figure out which plant part it is. Maybe you can even name the plant!* Ask students to name the senses they can use. Pass out the Plant Part Mystery Game Worksheet and pencils so that they can keep track of their guesses without blurting them out. Place canisters at six stations around the room, and have groups of students visit one at a time. Ring a bell for when they should switch to the next station. **(10 min.)**

3. Explain: Gather students back in a circle. Have a big reveal, taking each plant part out of its canister. For each plant part, ask students, *How did you know it was a root? What clues did you use to know it was a stem?* etc. **(5 min.)**

4. Dissecting Plants: Pass out plants to each group of students to dissect at their tables. Provide students with plant part labels, and have them take apart plants and place them

beside the corresponding label. Circulate through the room, observing students' categorizing and asking questions to keep them on track. **(10 min.)**

REFLECTION

Have students discuss the following questions in small groups, then share with the class: **(5 min.)**

Social and emotional learning

- *Ask yourself: How did I share and take turns with my classmates today?*

Check for understanding

- *Which plant parts are easy for you to find?*
- *What clues do you look for to find a root? A stem? A leaf?*
- *Which plant parts do you like to eat?*
- *Why is each plant part important?*

ADAPTATIONS

Simpler Materials: If you have fewer than eight students, you can do the exercise without the mystery canisters. Place a blanket on the ground, and have students lie on their bellies around it with their hands under it. While they close their eyes, hand one object to a student under the blanket. Now everyone can open their eyes and pass the object around, describing it as they hold it. Once it's made it all the way around, they can guess what it was.

Mystery Box Contestant Variation: Create a mystery box by making a hole in the top of a shoe box or other cardboard box. Cover the hole in fabric with an X-shaped hole, similar to the canisters. Have one side of the box fully open. Have a student volunteer come

up to be the contestant. Place a plant part in the box, with the open side facing the rest of the class, so they can see the object. Then have the contestant stick their hand in. The rest of the class can give clues if the student can't guess the plant part or what the plant is.

Song: Sing "Roots, Stems, Leaves" by the Banana Slug String Band to review the six plant parts, performing the gestures associated with each plant part.

Dissection Extension: Pass out plants to each group of students to dissect at their tables. Provide students with a Plant Part Place Mat, and have them take apart plants and place them on top of the corresponding label. Circulate through the room, observing students' categorizing and asking questions to keep them on track.

Garden Adaptation: Instead of dissecting plants, you can have students search in the garden and gather examples of each plant part. Have them use photocopies of the Plant Part Place Mat as a guide. Before they head out, establish expectations about what is and isn't okay to pick, particularly when looking for roots!

ACADEMIC CONNECTIONS

Next Generation Science Standards, Life Science Disciplinary Core Idea

NGSS LS1.A

Structure and Function—All organisms have external parts . . . Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.

Name: _____ Date: _____

Plant Part Mystery Game Worksheet

Directions: Write your guess for each mystery canister to the right of the number.

Roots		Stems		Leaves	
Flowers		Fruits		Seeds	
#1		#4			
#2		#5			
#3		#6			

Name: _____ Date: _____

Plant Part Mystery Game Worksheet

Directions: Write your guess for each mystery canister to the right of the number.

Roots		Stems		Leaves	
Flowers		Fruits		Seeds	
#1		#4			
#2		#5			
#3		#6			

Teacher Directions: Cut out for each group of students to use to label during plant dissection.

