

Lesson 1: Parts of a Plant and Their Functions

NGS Standard: SC.3.L.14.1: Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction.

A. GRADE LEVEL: 3rd, 4th, 5th

B. SUBJECT: STEM/Science

C. DATE: [Insert Date]

D. DURATION: 50 minutes

E. LESSON FOCUS: Understanding the structure of plants and their functions in food production, support, water/nutrient transport, and reproduction.

F. MATERIALS: PowerPoint presentation, video on plant parts, labeled plant diagram handouts, celery stalks, food coloring, transparent cups, markers, observation sheets, and access to STEMScholarsHub.net.

G. LESSON OBJECTIVES:

- Identify and label the main parts of a plant.
- Explain the functions of each plant part in relation to survival.
- Observe water movement through plant structures.

H. PROCEDURES:

1. **INTRODUCTION:** (15 minutes)
 - Begin the lesson with a PowerPoint presentation introducing the parts of a plant and their roles. Include visuals and keywords to emphasize key concepts.
 - Play an engaging video that explains the structure and functions of plant parts.
 - Engage students with a real plant or diagram, asking: *"Can you identify these parts? What do you think they do?"*
 - Share the objectives of the lesson and distribute labeled plant diagram handouts.
2. **EXPERIMENT:** (15 minutes)
 - Fill clear cups with water and add a few drops of food coloring.
 - Place celery stalks into the cups and explain the purpose of the experiment: *"This will show how stems help move water through the plant."*
3. **OBSERVATION:** (10 minutes)
 - Have students record their predictions on observation sheets: *"What do you think will happen to the celery?"*
 - Allow time for students to observe changes in the celery stalks during the experiment.
4. **GENERALIZATION:** (5 minutes)
 - Discuss findings: *"What changes did you notice in the celery? How does this help us understand the role of the stem?"*
 - Reinforce how each plant part works together for survival, referring to the diagram and experiment.
5. **ASSESSMENT:** (5 minutes)
 - Guide students to STEMScholarsHub.net to complete the **interactive quiz on Parts of the Plant**.

- Evaluate their understanding based on quiz results and participation during the discussion.

Additional Note:

This lesson can be completed in a self-paced mode or guided by parents at home using the STEMScholarsHub.net platform.

For Parents or Self-Paced Learners:

1. Navigate to STEMScholarsHub.net and locate the interactive quiz on "Parts of the Plant."
2. Gather the listed materials and follow the steps in the "Procedures" section to conduct the experiment.
3. Watch the video and PowerPoint presentation on plant parts before starting the experiment to build foundational knowledge.
4. Encourage learners to record observations and connect findings to real-life examples.
5. Use the quiz as a tool to evaluate understanding and discuss results for reinforcement.

Note 1 (Safety):

Ensure food coloring and materials are handled carefully to avoid spills or stains. Instruct students not to touch their faces during the experiment and to wash their hands afterward. Monitor all activities closely to prevent misuse of materials.

Note 2 (Accommodations):

Provide ELL students with labeled diagrams in their native language alongside English keywords. Pair ESE students with peers for support and use simplified instructions. Allow extra time for tasks, and ensure materials are easily accessible for all students.