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DepED
DEPARTMENT OF EDUCATION

Learning Activity Sheet for Science

Quarter 1

Lesson

2

Learning Activity Sheet for Science Grade 8
Quarter 1: Lesson 2 of 5 (Week 2)
SY 2025-2026

Development Team

Writer:

- Darryl Roy T. Montebon (Philippine Normal University)

Validator:

- Genelita S. Garcia (Philippine Normal University)

Management Team
Philippine Normal University
Research Institute for Teacher Quality
SiMERR National Research Centre

LEARNING ACTIVITY SHEET

Learning Area:	Science 8	**Quarter:**	1st Quarter
Lesson No.:	Lesson 2 Subtopic 1	**Date:**	
Lesson Title/ Topic:	Plant Transport System		
Name:		**Grade & Section:**	

I. Activity No.: Activity #1: Plant parts and their function

II. Objective(s): Describe the different parts of the plants and their function.

III. Materials Needed: Sample parts of the plants, writing materials (ballpen, pencil, etc.)

IV. Procedure: Observe your school garden. Study the plant assigned to you by your teacher. Get samples of its parts and stick them to the appropriate box below. Complete the worksheet by identifying the function of the sample parts you gathered.

Name of the Plant:

Plant Parts	Picture	Function

Guide Questions:

1. What are the different plant parts and their function?

2. How do the parts of the plants help it survive?

LEARNING ACTIVITY SHEET

Learning Area:	Science 8	**Quarter:**	1st Quarter
Lesson No.:	Lesson 2 Subtopic 2	**Date:**	
Lesson Title/ Topic:	Plant Transport System		
Name:		**Grade & Section:**	

I. Activity No.: Activity #2: A Tale of Two Systems: Humans vs Plants
II. Objective(s): Compare the human digestive system with plant transport system
III. Materials Needed: worksheet, writing materials (ballpen, pencil, etc.)
IV. Instructions: Read the following text and complete the table that follows.

A Tale of Two Systems: Humans vs Plants

The digestive system in humans and the transport system in plants are both marvels of nature, each tailored to meet the unique nutritional needs of their respective organisms. While seemingly disparate, these systems share remarkable similarities in their functions and underlying principles. Let's embark on a journey to explore the intricacies of both systems, delving into their structures, processes, and interconnections.

The Human Digestive System:

The human digestive system is a complex network of organs and tissues working seamlessly together to break down food into nutrients that can be absorbed and utilized by the body. It begins in the mouth, where mechanical digestion begins with the chewing of food and chemical digestion commences with the action of saliva containing enzymes like amylase. The chewed food then travels down the esophagus, to the pharynx, then to the stomach, where it is further broken down by gastric juices containing hydrochloric acid and enzymes. From the stomach, partially digested food enters the small intestine, where most nutrient absorption occurs through the villi and microvilli lining its walls. The remaining undigested material moves into the large intestine, where water is reabsorbed, and waste products are formed before being eliminated from the body through the rectum and anus.

The Plant Transport System:

In contrast, plants lack a specialized digestive system but possess a highly efficient transport system responsible for the uptake and distribution of water, nutrients, and other essential substances throughout the plant. This system comprises the roots, stem, and leaves, each playing a distinct role. Water and minerals are absorbed by the roots from the soil through specialized structures such as root hairs and transported upward through the xylem tissue in the stem to the leaves. In the leaves, photosynthesis occurs, producing sugars and other organic molecules that are transported downward through the phloem tissue to various parts of the plant for growth and metabolism. Additionally, plants utilize a process known

as transpiration, wherein water evaporates from the leaves, creating a suction force that helps pull water upward through the plant.

Interconnections Between Systems:

Although humans and plants have distinct digestive and transport systems, they are intricately interconnected in the broader ecosystem. Humans rely on plants for food, obtaining essential nutrients through consumption, digestion, and absorption. In turn, plants benefit from human activities such as cultivation and fertilization, which contribute to their growth and development. Moreover, the waste products produced by both humans and animals serve as valuable nutrients for plants, completing the cycle of nutrient exchange and sustainability within ecosystems.

In summary, the human digestive system and the plant transport system exemplify the remarkable adaptability and efficiency of biological systems. By understanding the similarities and interconnections between these systems, we gain deeper insights into the fundamental processes that sustain life on Earth. Whether humans or plants, each organism's ability to obtain and utilize nutrients is essential for survival and contributes to the intricate web of life that exists in our world.

Process	**Humans**	**Plants**

Guide questions:

1. How are the organ systems of humans and plants similar in terms of processes? How are they different?

2. How do the organ systems of humans and plants rely on each other?

3. Why is it important to take care of plants?

LEARNING ACTIVITY SHEET

Learning Area:	Science 8	**Quarter:**	1st Quarter
Lesson No.:	Lesson 2 Subtopic 3	**Date:**	
Lesson Title/ Topic:	Plant Transport System		
Name:		**Grade & Section:**	

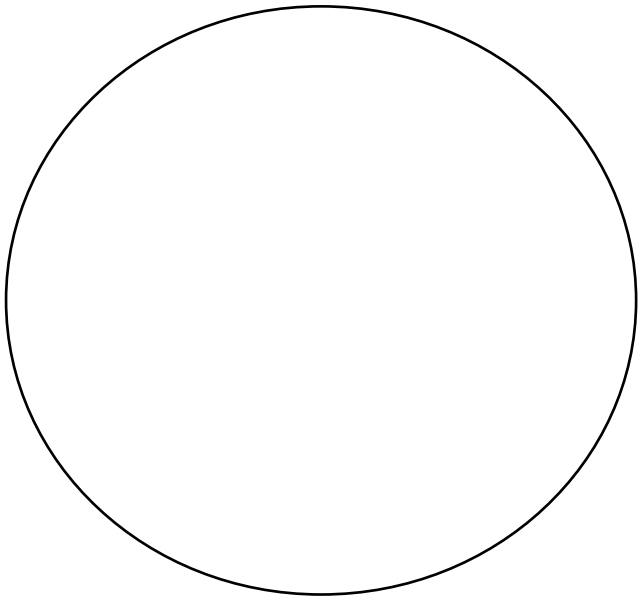
I. Activity No.: Activity #3: Observing Plant Transport System in a Microscope

II. Objective(s): To observe and describe the form and structure of a plant's transport system under a microscope.

III. Materials Needed: worksheet, writing materials (ballpen, pencil, etc.), microscope, plant stem (e.g., from an herbaceous plant), microslides and coverslips, water, razor blade or scalpel, staining solution (optional)

IV. Instructions:

1. Prepare a thin cross-section of the plant stem:
   a. Cut a small section (about 1 cm) of the plant stem using a razor blade or scalpel.
   b. Place the section on a microscope slide.
   c. Add a drop of water (and staining solution, if desired) to the section.
   d. Carefully cover the section with coverslip.
2. Observe the plant section under the microscope:
   a. Start with the lowest magnification and focus on getting a clear view of the section.
   b. Gradually increase the magnification to observe finer details of the plant's transport system.
3. Draw and color what you have observed in the microscope.



Guide Questions:

1. How will you describe the form and structure of the plant's transport system?

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2. How do these structures aid in transporting materials in plants?

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LEARNING ACTIVITY SHEET

Learning Area:	Science 8	**Quarter:**	1st Quarter
Lesson No.:	Lesson 2 Subtopic 3	**Date:**	
Lesson Title/ Topic:	Plant Transport System		
Name:		**Grade & Section:**	

I. Activity No.: Activity #4: Plant transport system in action

II. Objective(s): To observe how water travels through a plant's vascular system using celery stalks and flower absorption water dye.

III. Materials Needed: worksheet, writing materials (ballpen, pencil, etc.), celery stalks, water, flower absorption water dye (liquid or powder form), cup, knife, mixing tool (e.g., spoon), paper towels, gloves (optional)

IV. Instructions:

A. Hypothesis Making:

Think about what you expect will happen to the celery. Will the color travel upwards and reach the top? Will the whole celery stick change color or only parts of it? If your celery has leaves, will they change color?

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B. Instructions:

1. Add a small amount of warm water to a cup (about 3cm). Add flower absorption water dye and mix until completely dissolved. The stronger the color, the more obvious the results will be.
2. Cut off the bottom of the celery to separate the sticks. Take a moment to look closely at the end of the celery and its features. Then place the bottom of the celery stick in the colored water (this would be the wider and less curved end).
3. Leave the cup with the celery in a safe place and note the time. Some water dyes will work in as little as 30 minutes, but sometimes for the best results, it's better to wait overnight.
4. Come back later or the next day to examine your celery. Do you see any obvious color changes in color? Carefully take the celery out of the water and place it on some paper towels. Wipe off any colored water on the outside of the celery.
5. Hold the celery at the bottom with your thumb sitting inside the curve. Carefully bend it backward until it breaks. Pull back the broken bit to reveal the tubes inside the celery. If you pull it carefully, you can remove it all the way to the top!

C. Guide Questions

1. What changes did you observe in the celery?
2. How does this experiment demonstrate the process of water transport in plants?
3. What can you infer about the role of the vascular system in plants based on this experiment?