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DepED
DEPARTMENT OF EDUCATION

Lesson Exemplar for Science

Quarter 2
Lesson 1
Week
1

Lesson Exemplar for Science Grade 5
Quarter 2: Week 1
SY 2023-2024

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Every care has been taken to ensure the accuracy of the information provided in this material. For inquiries or feedback, please write or call the Office of the Director of the Bureau of Learning Resources via telephone numbers (02) 8634-1072 and 8631-6922 or by email at blr.od@deped.gov.ph.

LESSON EXEMPLAR

SCIENCE/SECOND QUARTER/ GRADE FIVE

I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES	
A. **Content Standards**	Animals have systems that help them grow, respond, and reproduce.
B. Performance Standards	By the end of the quarter, learners describe and create models of the body systems whose function is to help humans grow, develop, and reproduce.
C. Learning Competencies and Objectives	Identify from pictures and labeled diagrams the parts of the digestive system as mouth, gullet, stomach, small intestine, and large intestine, and describe how they work; *Lesson Objective 1.* Identify the parts of the digestive system in pictures and labeled diagram *Lesson Objective 2.* Describe the functions of each part of the digestive system *Lesson Objective 3.* Trace the path of food through the parts of the digestive system *Lesson Objective 4.* Create a model or presentation that demonstrates the journey of food through the digestive system.
C. Content	Digestive System
D. Integration	Health and Wellness, Environmental Sustainability

II. LEARNING RESOURCES
● Department of Education. MATATAG Curriculum in Science. DepEd Complex, Meralco Avenue, Pasig City, Philippines. ● Dotimas, C.S. (2016). The amazing world of science 6. SalesianaBooks by Don Bosco Press, Inc. ● Moralejo, M.C. (2019). The amazing world of science 6. SalesianaBooks by Don Bosco Press, Inc. ● Grade 6 Science Quarter 2 Self-Learning Module: Digestive System. Department of Education. https://depedtambayan.net/

III. TEACHING AND LEARNING PROCEDURE		NOTES TO TEACHERS
A. **Activating Prior Knowledge**	**Day 1** Start the class with an activity that will activate their prior knowledge about digestive system when they were in grade 4. **Short Review- 2 TRUTHS AND A LIE** Read the following statements. Identify the two truths and one lie about digestive system. 1. Food enters the body through the mouth 2. The chewed food travels down a muscular tube called the esophagus 3. The large intestine stores and breaks down food with stomach acid. 1. Esophagus connect the mouth to the stomach. 2. Large intestine is the largest organ in the digestive system. 3. Waste products leave the body through the anus.	ANSWER KEYs: Box 1 2- Truths 1. Food enters the body through the mouth 2. The chewed food travels down a muscular tube called the esophagus 1- Lie 3. The large intestine stores and breaks down food with stomach acid. *(The purpose of the large intestine is to absorb water and salts from the material that has not been digested as food, and get rid of any waste products left over. By the time food mixed with digestive juices reaches your large intestine, most digestion and absorption has already taken place)* Box 2 2- Truths 1. Esophagus connect the mouth to the stomach. 3. Waste products leave the body through the anus. 1-Lie 2. Large intestine is the largest organ in the digestive system. *(The liver is the largest organ in the digestive system while the intestines as longest)*

<table>
<tr>
<td>B. Establishing Lesson Purpose</td>
<td>
1. Lesson Purpose
Ask the class the following questions:
Have you eaten already class?”
Have you ever wondered what happened to the food you have eaten?
Where do you think that food goes after you swallow it?

Does the food just disappear? Or does it go on a secret adventure inside your body?
"Believe it or not, there's a whole amazing factory inside you called the digestive system that takes care of your food! Today, we'll explore this fascinating journey and discover what happens to the food you eat to give you energy!"

2. Unlocking Content Area Vocabulary
Match column A with column B
<table>
<tr><th>Column A</th><th>Column B</th></tr>
<tr><td>1. Ingestion
2. Propulsion
3. Digestion
4. Absorption
5. Defecation</td><td>A. the taking in of nutrients from the digested food into the cells of the body
B. the breakdown of food
C. the excretion or release of waste materials that are not absorbed by the body
D. the taking in of food through the mouth
E. the movement of food throughout the alimentary canal</td></tr>
</table>
</td>
<td>
ANSWER KEY:

1. Ingestion- D. the taking in of food through the mouth

2. Propulsion- E. the movement of food throughout the alimentary canal

3. Digestion- B. the breakdown of food

4. Absorption- A. the taking in of nutrients from the digested food into the cells of the body

5. Defecation- C. the excretion or release of waste materials that are not absorbed by the body
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<tr>
<td>C. Developing and Deepening Understanding</td>
<td>
SUB-TOPIC 1: Parts of the Digestive System
1.1 Explicitation
Gallery Walk
</td>
<td>
1.1. Explicitation

1.2. Worked Example
</td>
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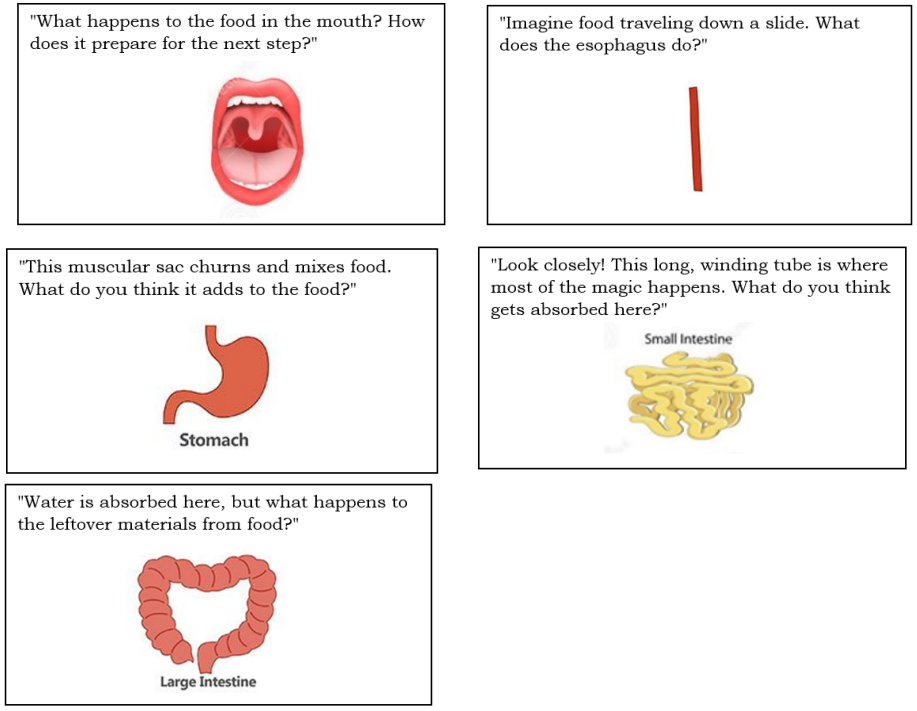
	Gather pictures of the major digestive system organs (mouth, esophagus, stomach, small intestine, large intestine, rectum, anus Set up the pictures around the classroom like a gallery exhibit. Make sure they are spaced out and easily visible for students in small groups. Create prompt cards for each organ picture. These cards should pose thought-provoking questions that encourage students to think about the function of that specific organ in the digestive process. Here are some examples:  Divide the class into small groups (ideally 3-4 students per group).	If zip-lock bags are not available, teachers may use re-sealable containers or small bowls or cups. If small bowls or cups are use, use a spoon to gently mix the mixture Then if baking soda is not available, use a vinegar or lemon juice but dilute it with water (1:5 ratio) to create a slightly acidic solution. Briefly explain to students that real stomach acid is much stronger than the diluted vinegar solution they'll be using. The worksheet contains: Activity 1-EXPLICITATION- Gallery Walk (Day 1) Activity 2-WORKED EXAMPLES-Simulating Digestion (Day 2) Activity 3- LESSON ACTIVITY (Day 3) A. Tracing the Path of Food B. Digestive System Labeling Activity **C.** Situational Question **Day 4-Creating a model representation of the digestive system is part of the Formative Assessment*

	Each group will rotate to each picture station, spending a few minutes (around 3-5 minutes) at each one. At each station, students should discuss the prompt card question related to the organ picture. Encourage them to share their ideas, use prior knowledge, and jot down key points on a worksheet or their notebooks. After the designated time at each station, signal the groups to rotate to the next picture and prompt card. This ensures all groups visit every station. Once all groups have completed the gallery walk, come together as a class for a discussion. Invite each group to share their ideas and what they learned about the function of each organ based on the prompt and their discussion. **Clarification and Explanation:** Use this opportunity to clarify any misconceptions and provide the correct explanations for the functions of each digestive system organ. You can connect their observations to the scientific concepts of mechanical and chemical breakdown, absorption, and waste elimination. • If we lined up all these organs in the order food travels through them, what would the sequence be? • Imagine food is on a journey through your body. Can you describe the different stages it goes through based on what you learned at the stations? • Why do you think it's important for each of these organs to do its specific job? What would happen if one of them wasn't working properly? You can also use an analogy like a factory assembly line where each step is crucial for the final product (energy for the body). **Day 2** **1.2. Worked Example**	

	Before you give the activity to the students, display first a large, labeled diagram of the human digestive system on a whiteboard or blackboard. Briefly ask students to recall the main organs of the digestive system they learned about during the Day 1 gallery walk. Point to each organ on the diagram as they mention it. Also ask the functions of each part. Once they gave the functions of all the parts of the digestive system, tell the purpose of today's activity. Explain to students that today's activity will simulate the breakdown of food as it travels through these organs. Mention how the materials they will use will represent different stages of digestion. Refer to the worksheet for the instructions, Activity No. 2 (WORKED EXAMPLES) Eliciting questions: Connecting the Simulation to the Real Digestive System: 1. What did the crackers in the bag represent in our activity? How did breaking them up resemble what happens in the mouth? 2. What do you think the baking soda represents in this activity? Why do you think our bodies need stomach acid to help digest food? (Focus on breaking down complex molecules) 3. In the activity, we used separate bags for the stomach and small intestine. In reality, these organs are connected. How do you think food actually moves from the stomach to the small intestine? (Highlight muscular contractions) 4. After we poured out some of the water from the second bag, what did it represent? How do you think nutrients from food get into our bloodstream? (Focus on absorption) 5. What did the leftover solid material in the bag represent? Where do you think these undigested materials go after leaving the small intestine? (Highlight large intestine and waste elimination that includes rectum and anus)	

6. We focused on the organs directly involved in the food pathway. Are there any other organs that help with digestion? (Introduce accessory organs). What do you think these organs contribute to the digestive process?

Encouraging Deeper Understanding:

1. Think about the foods you eat. How might the size and texture of food affect how easily it's broken down in your digestive system?
2. We used warm water in the small intestine. Why do you think it's important to stay hydrated for proper digestion? (Focus on dissolving nutrients)
3. Imagine we didn't chew our food properly before swallowing. How might this affect the digestive process in our simulation and in our bodies?
4. Can you think of any other ways our bodies might help break down food besides chewing and stomach acid? (Introduce enzymes from the pancreas)

You may refer to this table to assist you in your discussion.

Functions of the Digestive System	
Organ	**Major Functions**
Mouth	• Prepares the food for digestion • Has salivary glands that produce saliva which lubricates the food and softens it. • Mechanical digestion and chemical digestion start here • Mechanical digestion takes place with the help of the teeth and tongue. The teeth cut the food into smaller pieces while the tongue helps you chew and swallow the food. • Chemical digestion takes place with the help of an enzyme called amylase that chemically breaks down the starch in the food eaten
Esophagus	• A tube that carries food from the mouth to the stomach (the food that has been chewed and mixed in the mouth becomes a soft, mashed mass called **bolus**) • The bolus passes into the esophagus down to the stomach through a muscle contraction called **peristalsis**
Stomach	• A muscular J-shaped organ found on the left side of the abdominal cavity • Mixes and churns food with gastric juices to form chyme (semi-fluid, partly-digested substance) • Begins chemical breakdown of proteins found in the food we eat through **pepsin (enzyme)** • Releases food into the duodenum (first part of small intestine) • Absorbs some fat-soluble substances (for example, alcohol, aspirin)
Small intestine	• A narrow, winding tube where food is mixed with digestive juices • Final digestion and absorption of food happens here • Has numerous small projections or folds called villi and very small ones called microvilli • Made up of three regions: duodenum, jejunum, and the ileum • Absorbs breakdown products of carbohydrates, proteins, lipids, and nucleic acids, along with vitamins, minerals, and water Performs physical digestion via segmentation
Accessory organs	• **Liver**: produces bile which breaks down fats • Gallbladder: a pea-shaped sac under the liver which stores bile • Pancreas: a fish-shaped organ behind the stomach which produces pancreatic juice that helps break down fats, proteins, and starch
Large	• A wider tube where undigested food or food waste passes.

DAY 3
1.3. Lesson Activity (Refer to the worksheet for the details)
A. Tracing the Path of Food

Follow the journey of a bite of your favorite food as it travels through the digestive system. Write down the order of events that happens during the digestion of the food. Indicate all the structures that are involved.

B. Digestive System Labeling Activity

Study the diagram of the digestive system below. Identify each organ by writing its correct name in the box.

C. Read the situation below and answer the question.

Mia is at a birthday party and excitedly grabs a handful of birthday cake. She quickly munches on the cake without properly chewing it, eager to join the games with her friends. Shortly after, Mia starts to feel a dull ache in her stomach and has less energy to play. What do you think is happening to Mia's body? Use your knowledge of the digestive system to explain how chewing her food properly might have helped avoid her discomfort.

D. Making Generalizations

1.Learners' Takeaways

"I Learned, I Wonder, I Still Want to Know" Chart

I Learned (key concepts or facts they learned about the digestive system)	**I Wonder** (questions or curiosities that arose during the lesson)	**I Still Want to Know** (specific topics you'd like to learn more about)

2. Reflection on Learning

Digestive Health Habits Checklist:

QUESTIONS	**YES**	**NO**
1. Do I take the time to chew my food thoroughly before swallowing?		
2. Do I include plenty of fruits and vegetables in my daily diet?		
3. Do I choose whole grains and fiber-rich foods regularly?		
4. Do I drink enough water throughout the day (aim for 8 glasses)?		

	Do I generally feel good after eating, or do I experience frequent discomfort (bloating, gas, constipation)?			

IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION		NOTES TO TEACHERS
A. Evaluating Learning	**Day 4** **Formative Assessment** A. Matching Type	

Descriptions	Organs

1. The muscular tube that connects the mouth to the stomach. 2. A long, winding tube where most nutrient absorption happens. 3. Absorbs water from the food waste turning it into feces. 4. A muscular sac that churns and breaks down food with digestive juices. 5. It is where food enters the body and is mechanically broken down by teeth	A. small intestine B. large intestine C. mouth D. stomach E. esophagus

B. The following statements are the processes of digestion and absorption in the body. Number each of the steps according to the sequence it occurs.

_____Water is absorbed back into the bloodstream.
_____ Food is broken into small pieces (mechanically and chemically).
_____ Nutrients pass through the intestinal wall into the bloodstream.
_____ Waste products are removed from the body through the anus.
_____ Food is liquefied and digested into forms that cells can absorb

2. Create a model or presentation that demonstrates the journey of food through the digestive system. It can be a 3D model or a digital presentation. Use what are the available resources you can use.

Physical Model Creation:

- Cardboard boxes (different sizes for various organs)
- Construction paper or fabric scraps (for organ linings)
- Modeling dough, clay, or playdough (for shaping organs)
- Recycled materials (bottles, cans, egg cartons) - get creative!
- Markers, crayons, paint, or other art supplies (labeling and decoration)
- Pipe cleaners, yarn, or string (connecting organs)

<table>
<tr><td></td><td colspan="3">Digital Presentation Creation:

• Presentation software (e.g., Google Slides, Microsoft PowerPoint)
• Tablets or computers with internet access (for researching visuals and information)
• Drawing apps (for creating visuals if presentation software doesn't have them)</td><td></td></tr>
<tr><td rowspan="5">B. Teacher's Remarks</td><td>Note observations on any of the following areas:</td><td>Effective Practices</td><td>Problems Encountered</td><td rowspan="5"></td></tr>
<tr><td>strategies explored</td><td></td><td></td></tr>
<tr><td>materials used</td><td></td><td></td></tr>
<tr><td>learner engagement/ interaction</td><td></td><td></td></tr>
<tr><td>others</td><td></td><td></td></tr>
<tr><td>C. Teacher's Reflection</td><td colspan="3">Reflection guide or prompt can be on:
▪ <u>principles behind the teaching</u>
What principles and beliefs informed my lesson?
Why did I teach the lesson the way I did?

▪ <u>students</u>
What roles did my students play in my lesson?
What did my students learn? How did they learn?

▪ <u>ways forward</u>
What could I have done differently?
What can I explore in the next lesson?</td><td></td></tr>
</table>

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