8

DepED
DEPARTMENT OF EDUCATION

Lesson Exemplar for Science

Quarter 1
Lesson
1

Lesson Exemplar for Science Grade 8
Quarter 1: Lesson 1 of 5 (for Week 1)
SY 2025-2026

Development Team

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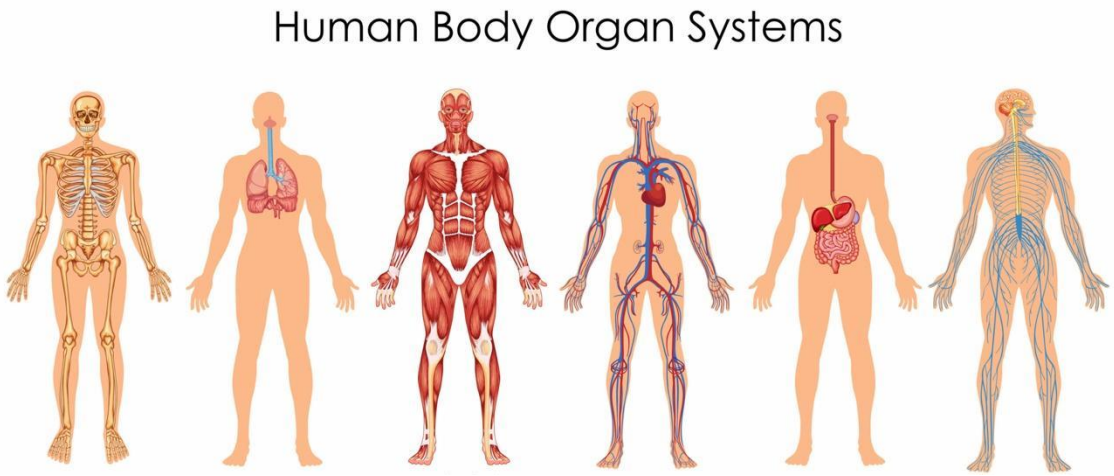
SCIENCE /QUARTER 1 / GRADE 8

I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES	
A. Content Standards	The learners learn that: 1. Organ systems work together for the growth and survival of the organism.
B. Performance Standards	By the end of the Quarter, learners demonstrate the use of models, flow charts, and diagrams to illustrate how body systems work together for the growth and survival of an organism.
C. Learning Competencies and Objectives	***Learning Competency*** 1. Using a labeled diagram, trace how food travels through the digestive tract and explain how different digestive processes work, including mechanical processing, secretion, digestion, absorption, and elimination. 2. Use models, flow charts, diagrams, and simulations to explain how body systems work together, such as digestion and excretion. ***Learning Objectives:*** Students should be able to: 1. Identify the parts and functions of the digestive system. 2. Create a model to show how food travels in the digestive system. 3. Provide measures on how to take care of the digestive system. 4. Describe how the digestive system interacts with other bodily systems.
D. Content	**Topic:** Digestive System Processes **Sub-topic:** Parts, Function and Models of Digestive System
E. Integration	Incorporating Sustainable Development Goal (SDG) 3, "**Good Health and Well-being,**" into a lesson on the digestive system highlighting the importance of nutrition for overall health. Students can explore how the digestive system functions to extract nutrients from food, emphasizing the role of balanced diets in preventing diseases.

II. LEARNING RESOURCES
Online Learning College. (n.d.). Organ Systems in Humans. Online Learning College. https://online-learning-college.com/knowledge-hub/gcses/gcse-biology-help/organ-systems-in-humans/ Peace and Equity Foundation. (2019). SCIGR8Q4-Reg [PDF]. Peace and Equity Foundation. Rochelle A. (n.d.). 5 Steps to Create an Effective Mind Map. Medium. https://rochellea.medium.com/5-steps-to-create-an-effective-mind-map-1e18d6bfd34f

III. TEACHING AND LEARNING PROCEDURE		NOTES TO TEACHERS
A. Activating Prior Knowledge	**Day 1** **1. Short Review** Let students identify the different organs of the body and facilitate the guide questions given:  Image Source: https://online-learning-college.com/knowledge-hub/gcses/gcse-biology-help/organ-systems-in-humans/	Suggested answers to GQ: 1. Body systems are a group of organs working together to perform a certain function. 2. Student answers may vary but here are some ideas: The body systems include the cardiovascular system, responsible for circulating blood and nutrients throughout the body; the respiratory system, which facilitates gas exchange and oxygenation of blood; the digestive system, involved in breaking down food and absorbing nutrients; the nervous system, responsible for transmitting signals between different parts of the body and coordinating bodily functions; the endocrine system, which produces hormones that regulate various bodily

	Guide Questions: 1. *What is a body system? What makes up a body system?* 2. *From the pictures given, identify at least one body's system and identify its function.* 3. *Why is studying body systems important?* **2. Feedback (Optional)**	functions; the musculoskeletal system, providing structure, support, and movement; the immune system, defending the body against pathogens and foreign substances; and the reproductive system, involved in producing offspring and maintaining sexual characteristics. 3. Studying the body systems is important because it helps us understand how the human body functions. Knowing our body systems maintains our health and developing practices for healthy living
B. Establishing Lesson Purpose	**1. Lesson Purpose (Day 1, x minutes)** **Activity 1.** Let students accomplish Activity #*1: My Favorite Food* and facilitate classroom discussion Guide Questions: 1. *Why do you like the food that you have chosen?* 2. *Is your favorite healthy? Why?* 3. *How does your body make use of the nutrients from your favorite food? What system helps it absorb the nutrients?* **2. Unlocking Content Area Vocabulary** **Activity 2.** Let students accomplish the Activity #*2: Crossword puzzle on Digestive System.* Facilitate a class discussion to check their answers.	See Learning Activity Sheet: Activity #*1: My Favorite Food* See Learning Activity Sheet: Activity #*2: Crossword puzzle on Digestive System*

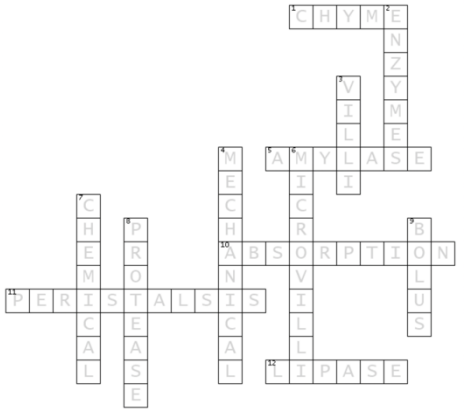
Clues for Activity 2

ACROSS

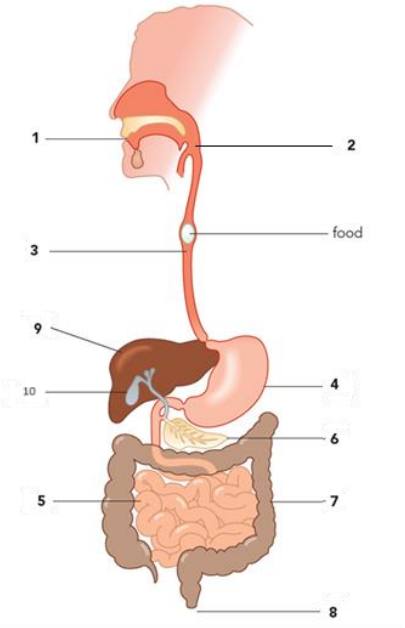
1. The semi-fluid mass of partially digested food and gastric juices that are formed in the stomach and passed into the small intestine
5. An enzyme produced in saliva and pancreas that breaks down carbohydrates into simpler sugars)
10. The process by which digested nutrients are taken up by the cells lining the digestive tract and transported into the bloodstream
11. The involuntary muscle contractions that propel food and liquid through the digestive tract
12. An enzyme that breaks down fats into fatty acids and glycerol

DOWN

2. Biological molecules that speed up chemical reactions, such as the breakdown of food into smaller molecules for absorption
3. Small finger-like projections in the lining of the small intestine that increase its surface area for absorption
4. The physical breakdown or digestion of food into smaller pieces by chewing, grinding, and churning
6. Tiny hair-like structures on the surface of villi that further increase the surface area available for nutrient absorption
7. The digestion process of breaking down food into simpler chemical compounds through enzymatic reactions
8. An enzyme that breaks down proteins into amino acids)
9. A rounded mass of food that has been chewed and mixed with saliva in the mouth, ready to be swallowed



Note: Teachers may allow students to research on the clues using their textbooks or the internet to help them answer the activity

C. Developing and Deepening Understanding	**Day 2** **1. Explicitation** • Post a picture of the digestive system on the board. Let students identify the parts of the digestive system. • Using post-it note pad, let students write what they know about the identified parts of the digestive system.  Image Source: https://shorturl.at/NNymU *Guide Questions (GQs):* 1. What are the parts of the digestive system? 2. What do you know about the functions of the digestive system? 3. How can we classify the parts of the digestive system? **2. Worked Example** **Activity 3.** • Let students watch the following YT Videos and accomplish *Activity #3: Parts and Functions of the Digestive System*	In grade 5, they are expected to already know the parts of the digestive system, hence only recall. *Answers for GQs:* GQ 1 1. Mouth 2. Pharynx 3. Esophagus 4. Stomach 5. Small Intestine 6. Pancreas 7. Large Intestine 8. Rectum 9. Liver 10. Gall Bladder GQ2: Student Answers may vary GQ3: By its function or pathway of food See Learning Activity Sheet: *Activity #3: Parts and Functions of the Digestive System*

	Links for Videos: a. Parts and functions of the Digestive System: https://www.youtube.com/watch?v=ZBZWgrfZFbU b. Processes in the Digestive System: https://www.youtube.com/watch?v=W55-QiHCYGA c. How the digestive system works: https://www.youtube.com/watch?v=_T_vmcLyTzI • Facilitate a classroom discussion about the videos they watched. *Guide Questions:* 1. What are the functions of the different organs of the Digestive System? 2. What are the different processes that happen during digestion? 3. How do the digestive organs help with the digestion of food? **3. Lesson Activity** • From the discussion on the digestive system, let the students create a story on the journey of food in the alimentary canal • Check for student's conceptual understanding on the functions of the digestive system and its processes. Correct misconceptions as it surfaces or as you have observed them. • Some common misconceptions to watch for are: 1. **Digestion Happens Only in the Stomach.** While the stomach is a crucial organ for digestion, the process begins in the mouth with chewing and saliva breaking down food and continues in the small intestine where most nutrient absorption occurs. 2. **All Bacteria in the Gut Are Harmful.** The gut contains a mix of beneficial and harmful bacteria. Beneficial bacteria aid in digestion, produce essential nutrients, and support the immune system. 3. **Digestive Issues Are Solely Caused by Food.** While diet plays a significant role in digestive health, other factors such as stress, medications,	This activity can be done by a group and as an assignment The teacher may facilitate fact or bluff activity on the common misconceptions on the digestive system. Teachers may add other students' misconceptions they know about the Digestive System.

	genetics, and underlying medical conditions can also contribute to digestive problems. 4. **Chewing Gum Takes 7 Years to Digest.** This is a common myth; chewing gum is not digested like food. It usually passes through the digestive system without being broken down and is eventually expelled from the body. 5. **Spicy Food Causes Stomach Ulcers.** Spicy food can exacerbate existing ulcers or cause discomfort in some individuals, but it does not directly cause stomach ulcers. Most ulcers are caused by bacterial infection (Helicobacter pylori) or prolonged use of nonsteroidal anti-inflammatory drugs (NSAIDs). 6. **Fasting Detoxifies the Body.** While intermittent fasting or detox diets may have some benefits, the idea that they detoxify the body by cleansing the digestive system of toxins is largely unfounded. The liver and kidneys are primarily responsible for filtering and eliminating toxins from the body. 7. **Everyone Needs to Eat Three Meals a Day.** The ideal number of meals varies for everyone. Some people may feel better with three meals a day, while others may prefer smaller, more frequent meals or intermittent fasting. It's essential to listen to your body's hunger and fullness cues. 8. **Digestive Enzymes Aid Weight Loss.** While digestive enzymes help break down food, there's little evidence to support the claim that they promote weight loss. Weight loss is primarily achieved through a combination of a balanced diet, regular physical activity, and lifestyle changes. 9. **Stomach Acid Causes Heartburn.** Contrary to popular belief, heartburn is often caused by a weakened lower esophageal sphincter (LES) allowing stomach acid to reflux into the esophagus. While excess stomach acid can exacerbate symptoms, it's not always the primary cause. 10. **The Digestive System Works Independently of the Rest of the Body.** The digestive system is intricately connected to other bodily systems, including the nervous, endocrine, and immune systems. Factors such as stress, emotions, hormones, and overall health can influence digestive function. **Day 3** **SUB-TOPIC 2: Model of Food Passage** **1. Explicitation** • Ask student volunteers to read the story they created in the previous section. Gather feedback from the class about the presenter's work.	

	Guide Questions: 1. How does food travel in the digestive system? 2. How will you show the pathway of the food through a model? **2. Worked Example** **Activity 4.** • Let students do *Activity #4: Model of food pathway in the Digestive System* *Guide Questions:* 1. How does your model show food travel in the digestive system? 2. What insights have you learned from the model? 3. How will you improve the model? **3**. **Lesson Activity** **Activity 5.** • Let students recall their experiences and insights in the model they created for the digestive system. Ask them to answer *Activity #5: Taking Care of the Parts of the Digestive System.* *Guide Questions:* 1. How do we take care of the different parts of the digestive system? 2. What are specific measures that we should observe to maintain a healthy digestive system? **3.** Why is it important to take care of our digestive system? **Day 4** **SUB-TOPIC 3: Digestive System and Other Organs** **1. Explicitation** • Let students sing a stanza in the song "Ang Lahat ng Bagay" *Ang lahat ng bagay ay magkaugnay* *Magkaugnay ang lahat* *(repeat 4x)* • After the song, facilitate a reflection activity on what does the song means. Encourage them to share any new insights or perspectives they gained from	See Learning Activity Sheet: *Activity #4: Model of food pathway in the Digestive System* See Learning Activity Sheet: *Activity #5: Taking Care of the Parts of the Digestive System*

the song. Ask the linking question: In relation to our lesson, “How does the digestive system work with other systems?”

2. Worked Example
Activity 6.

- Assign each group to work on a certain body and brainstorm how the digestive system works with them.

- Sample groupings and assignments can be:

Groupings	Body System	Relation to Digestive System
1	Skeletal	The digestive system supplies nutrients essential for the growth and repair of bones.
2	Muscular	Nutrients from the digestive system fuel muscle activity, whether it involves skeletal, smooth, or cardiac muscle.
3	Respiratory	The digestive system furnishes nutrients to support the diaphragm's function in facilitating breathing.
4	Circulatory	Nutrients from the digestive system sustain the heart's function by providing it with essential substances necessary for circulation.
5	Nervous	The digestive system supplies energy for the brain to carry out cognitive functions and regulate other bodily systems.

See Learning Activity Sheet: *Activity #6: Body Systems Working Together*

6	Excretory/Urinary	The digestive system provides nutrients required for kidney function in filtering blood and removing waste products generated by other bodily systems.

Guide Questions:

1. *Which organ systems benefit from the functions of the digestive system?*
2. *What additional organ systems, not addressed in the preceding information, receive services from the digestive system?*
3. *What do you think would happen to the other body systems if the digestive system fails in its functions?*

- Let students present their work and process the given guide questions.

3. Lesson Activity

- Let students create a mind-map on how the digestive system works with other body systems. See sample figure below.

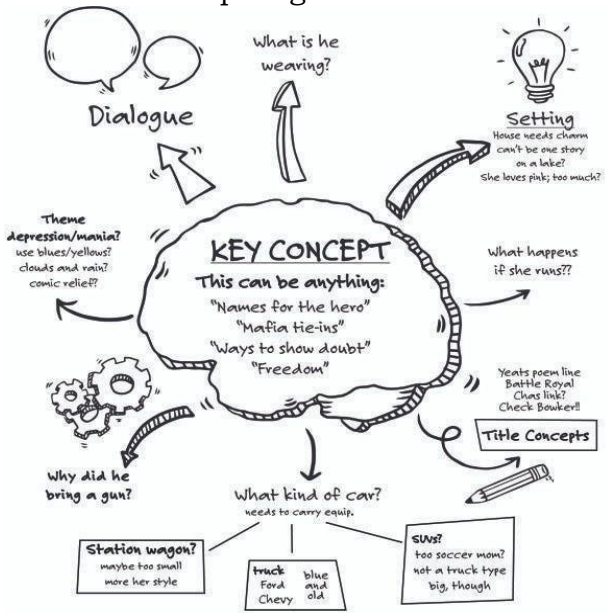


Image Source: https://miro.medium.com/v2/resize:fit:720/format:webp/1*6cs9om4YMrortwsSa1z0aA.jpeg

<table>
<tr><td></td><td>

- Let students present their concept map in class and facilitate class discussion. Ask students to identify one idea that they have learned from the lesson.

</td><td>This can be done in a group.</td></tr>
<tr><td>D. Making Generalizations</td><td>

1. Learners' Takeaways

Let students accomplish the exit ticket to check their understanding and gather feedback on the lesson.

3-2-1 Exit Ticket on the Digestive System

<table>
<tr><td>Items</td><td>Response</td></tr>
<tr><td>3 Things I learned</td><td></td></tr>
<tr><td>2 Things I like about the lesson</td><td></td></tr>
<tr><td>1 Question I have</td><td></td></tr>
</table>

2. Reflection on Learning

Post a large picture of the Digestive system on the board. Distribute post it to students and let them write their commitments to take care of their digestive system.

</td><td>The teacher may propose other activities for the learners to describe their understanding of a concept, idea, and skill covered in the previous topic.

The teacher should allow the learners to document their ways on how they think about their learning (metacognition).

Teachers may use the same picture in the first sub-topic.</td></tr>
</table>

<table>
<tr><th>IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION</th><th>NOTES TO TEACHERS</th></tr>
<tr><td>A. Evaluating Learning</td><td>

1. Formative Assessment.

Let students answer the following multiple choice test questions:

1. Which of the following is NOT a part of the digestive system?
   a. Liver
   b. Kidney

</td><td>Answer Key:
1. b. Kidney
2. c. By controlling muscle contractions
3. a. Absorption of nutrients</td></tr>
</table>

	c. Stomach d. small intestine 2. How does the nervous system regulate digestion? a. By producing enzymes b. By secreting hormones c. By controlling muscle contractions d. By filtering waste products 3. What is the main function of the small intestine? a. Absorption of nutrients b. Mechanical processing of food c. Secretion of digestive enzymes d. Storage of bile 4. Which body system transports nutrients absorbed by the digestive system? a. Nervous system b. Circulatory system c. Respiratory system d. Endocrine system 5. What roles do the liver and gallbladder play in digestion? a. Producing bile b. Absorbing nutrients c. Filtering blood d. Pumping oxygen 6. How does food move through the digestive tract? a. Through diffusion b. Through muscle contractions c. Through osmosis d. Through passive transport 7. Which of the following is a mechanical processing step in digestion? a. Absorption b. Emulsification	4. b. Circulatory system 5. a. Producing bile 6. b. Through muscle contractions 7. b. Emulsification 8. b. Nutrients move from the digestive tract into the bloodstream 9. a. Absorption of water and minerals 10. c. By transporting waste products 11. d. Spreadsheet 12. c. Plants do not have a circulatory system 13. d. Producing insulin 14. b. Emulsifying fats 15. a. Nervous system 16. c. To lubricate food 17. b. Waste products are expelled from the body 18. d. Enzymatic breakdown 19. a. By transporting nutrients absorbed by the digestive system 20. a. By providing visual representations

c. Enzymatic breakdown
d. Chemical digestion

8. What happens during the process of absorption in the digestive system?
a. Food is broken down into smaller molecules
b. Nutrients move from the digestive tract into the bloodstream
c. Waste products are eliminated from the body
d. Enzymes are secreted to aid in digestion

9. What is the primary function of the large intestine?
a. Absorption of water and minerals
b. Absorption of nutrients
c. Production of bile
d. Secretion of digestive enzymes

10. How do body systems work together in digestion and excretion?
a. By producing hormones
b. By sharing nutrients
c. By transporting waste products
d. By regulating body temperature

11. Which of the following is NOT an example of a model used to explain body systems working together?
a. Flow chart
b. Diagram
c. Simulation
d. Spreadsheet

12. How does the plant transport system differ from the human digestive system?
a. Plants do not have digestive enzymes
b. Plants do not absorb nutrients
c. Plants do not have a circulatory system
d. Plants do not undergo elimination

13. Which of the following is NOT a function of the liver in digestion?
   a. Producing bile
   b. Storing glycogen
   c. Filtering toxins from the blood
   d. Producing insulin

14. What is the function of bile in digestion?
   a. Breaking down carbohydrates
   b. Emulsifying fats
   c. Absorbing water
   d. Transporting nutrients

15. Which body system controls muscle contractions in the digestive tract?
   a. Nervous system
   b. Circulatory system
   c. Muscular system
   d. Respiratory system

16. What is the purpose of mucus secretion in the digestive system?
   a. To absorb nutrients
   b. To eliminate waste products
   c. To lubricate food
   d. To break down food molecules

17. What happens during the process of elimination in the digestive system?
   a. Nutrients are absorbed into the bloodstream
   b. Waste products are expelled from the body
   c. Enzymes break down food molecules
   d. Bile is produced by the liver

18. Which of the following is NOT a component of mechanical processing in digestion?
   a. Chewing
   b. Mixing
   c. Segmentation
   d. Enzymatic breakdown

<table>
<tr><td></td><td colspan="3">19. How does the circulatory system interact with the digestive system?
a. By transporting nutrients absorbed by the digestive system
b. By producing digestive enzymes
c. By regulating muscle contractions in the digestive tract
d. By filtering waste products from the blood

20. How do models, flow charts, diagrams, and simulations contribute to understanding body systems working together?
a. By providing visual representations
b. By producing hormones
c. By eliminating waste products
d. By absorbing nutrients

2. Homework (Optional)
Giving homework for extended deliberate practice (optional)</td><td></td></tr>
<tr><td rowspan="5">A. 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">This lesson design component prompts the teacher to record relevant observations and/or critical teaching events that he/she can reflect on to assess the achievement of objectives. The documenting of experiences is guided by possible areas for observation including teaching strategies employed, instructional materials used, learners' engagement in the tasks, and other notable instructional areas. Notes here can also be on tasks that will be continued the next day or additional activities needed.</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>
</table>

B. Teacher's Reflection	*Reflection guide or prompt can be on:* ▪ *principles behind the teaching* *What principles and beliefs informed my lesson?* *Why did I teach the lesson the way I did?* ▪ *students* *What roles did my students play in my lesson?* *What did my students learn? How did they learn?* ▪ *ways forward* *What could I have done differently?* *What can I explore in the next lesson?*	This lesson design component guides the teacher in reflecting on and for practice. Entries on this component will serve as inputs for the LAC sessions, which can center on sharing the best practices discussing problems encountered and actions to be taken; and identifying anticipated challenges and intended solutions. Guide questions or prompts may be provided here.