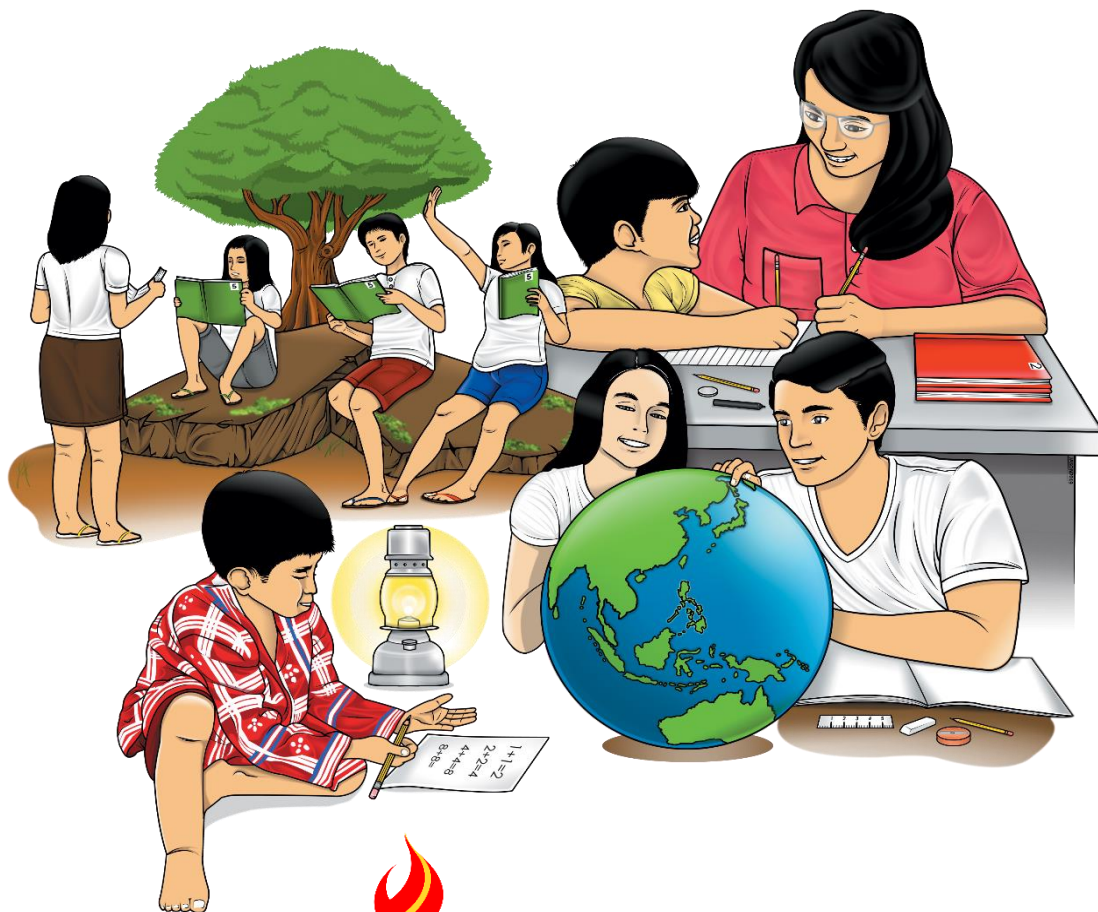


SCIENCE

Quarter 2 – Module 2: “Making Connections”



Science – Grade 4
Alternative Delivery Mode
Quarter 2 – Module 2 “Making Connections”
First Edition, 2020

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Published by the Department of Education
Secretary: Leonor Magtolis Briones
Undersecretary: Diosdado M. San Antonio

Development Team of the Module

Author:	Katherine D. Yarte
Editors:	Noel V. Ibis, Christian M. Espiritu
Reviewer:	Chozara P. Duroy
Illustrator:	Jotham D. Balonzo
Layout Artist:	Jogene Alilly C. San Juan
Management Team:	Gilbert T. Sadsad, Francisco B. Bulalacao Jr., Grace U. Rabelas, Ma. Leilani R. Lorico, Emma T. Soriano, Amy B. Dumail

Printed in the Philippines by _____

Department of Education – Region V

Office Address: Regional Center Site, Rawis, Legazpi City 4500
Telefax: 0917 178 1288
E-mail Address: region5@deped.gov.ph

Science
Quarter 2 – Module 2:
“Making Connections”

Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.



What I Need to Know

This module was designed and written for you. It is here to help you understand that major organs of the body such as stomach, intestines, kidneys, heart, lungs and brain communicate together to perform their functions properly. Series of activities were provided that can help you attain your learning targets. Please be guided by the instructions in each activity.

The lesson will focus on:

Lesson 1 - Communicate that the major organs work together to make the body function properly (S4LT-IIa-b-2)

After going through this module, you are expected to:

1. communicate that the major organs work together to make the body function properly; and
2. name organs that work together to make the body function properly.



What I Know

1. Directions: Arrange the following jumbled letters to form the hidden words. Write your answers on your notebook.

1. D I S G T E O I N -
2. C R A N O B D O I E D I X -
3. E L A H X E -
4. N I L E A H -
5. O Y G X N E -

2. Directions: Describe the main functions of the major organs by matching the items in column A with the items found in column B. Write the letter of your answer in your Science notebook.

A	B
1. stomach	a. absorbing
2. kidneys	b. filtering
3. heart	c. breathing
4. lungs	d. making meanings
5. brain	e. digesting
6. intestine	f. pumping

3. Directions: Identify the following statements stated below. Write your answer in your Science notebook.

- _____ 1. This is a large j-shaped organ that is made up of layers of muscles that breaks down, squeezes, twists, and churns the food into smaller pieces.
- _____ 2. A hollow muscular organ usually as big as a fist, located between the lungs.
- _____ 3. A complex organ which controls voluntary and involuntary movements of the body.
- _____ 4. These are bean-shaped paired organ which are about four to five inches long and two to three inches in diameter.

If your score is...

11-15 Very Good! You may still read the module, but you are already knowledgeable with the topics that we are to discuss.

6-10 Good! Go over the items that you find difficult, and then, you may proceed to the lessons in this module that you don't understand.

0-5 Don't worry about your score. This module is designed for you to understand further about matter. So, what are you waiting for? Start your journey!

Lesson

1

“Major Organs Work Together”

Organs know what they need to do. It is specific, connected, and related. It is organized and systematic.

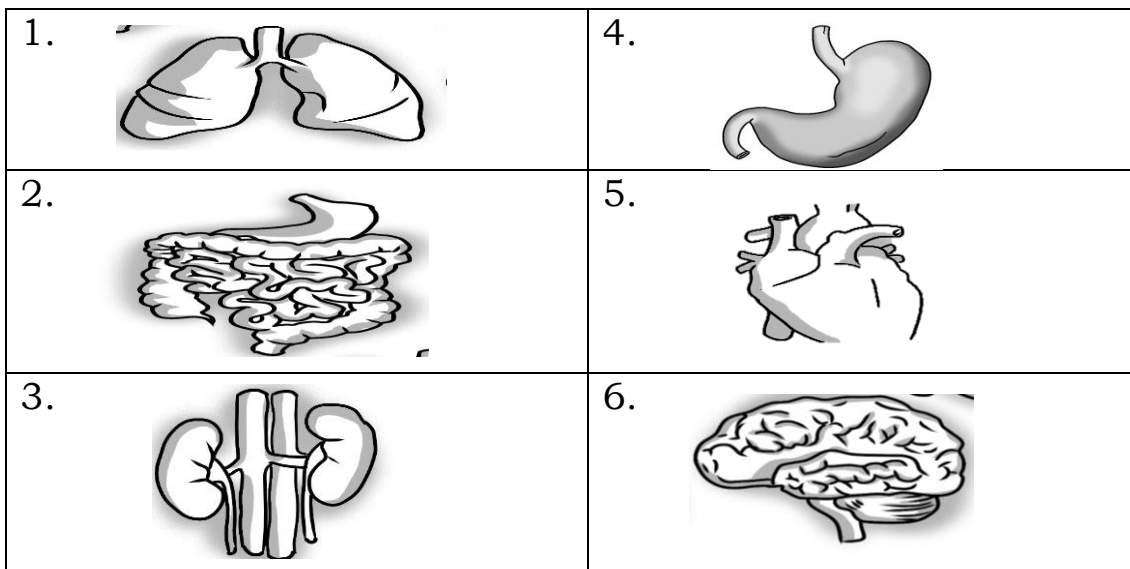
Good day kids! How are you once again? It’s good to hear that you are feeling well. It means that your body organs do their functions effectively.

This module contains fun and exciting activities which will help you realize that body organs communicates and works together to make your body function efficiently and well.



What's In

Directions: Write the name of the following body organs on your notebook as shown in the pictures.



Illustrated by: Jotham D. Balonzo

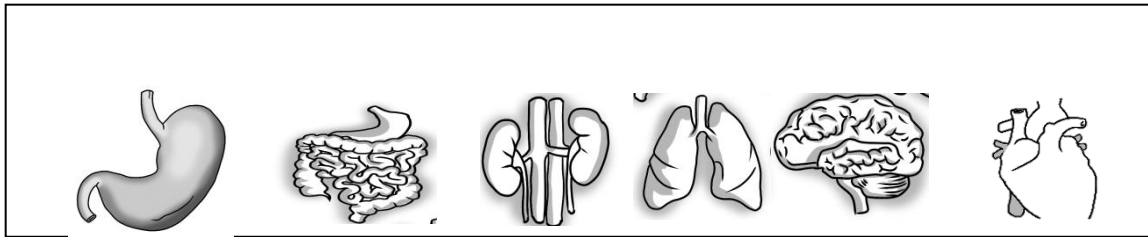
Amazing! You are in the right track. You can now proceed to the other activities.



What's New

Activity 1: "How Much I Owe you?"

Directions: Given are the 3 pairs of organs that works together. Explain briefly how these organs communicate or work together through their functions. Write your answer in your Science notebook.



Illustrated by: Jotham D. Balonzo

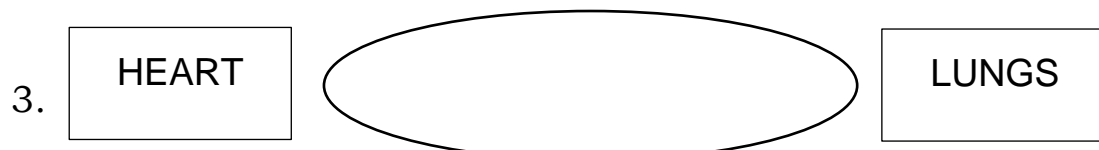
CONNECTIONS



CONNECTIONS



CONNECTIONS

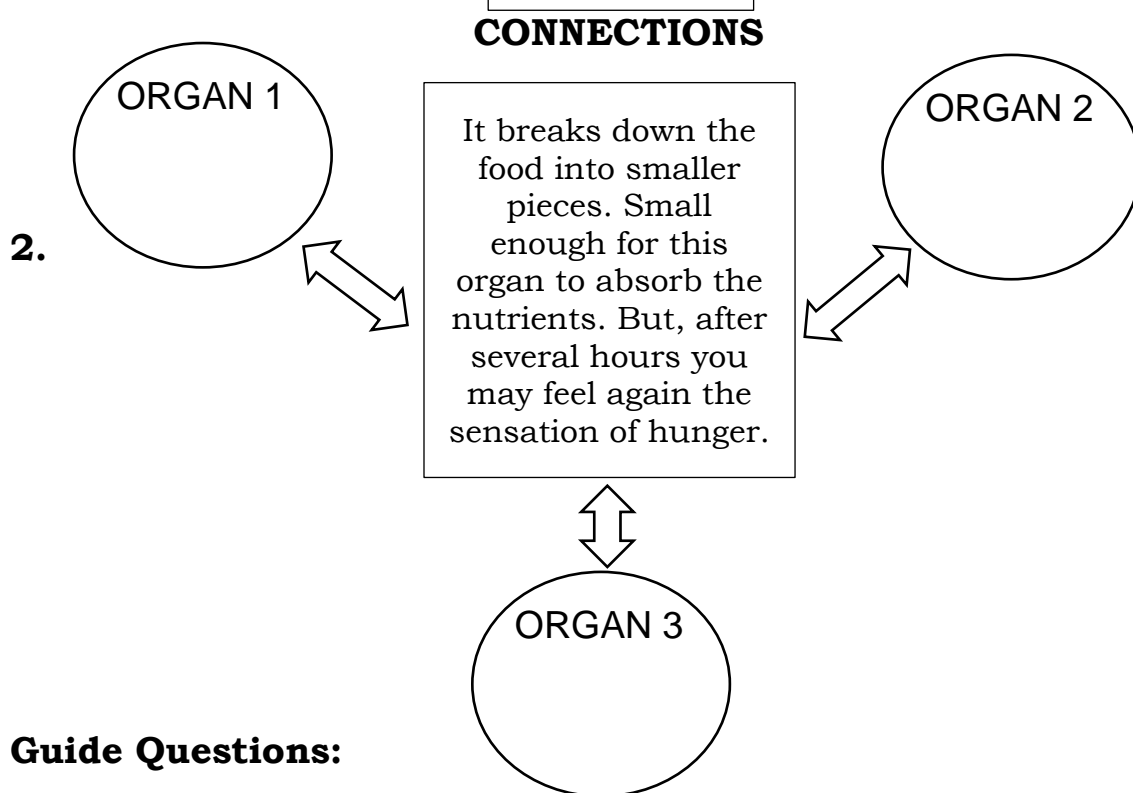
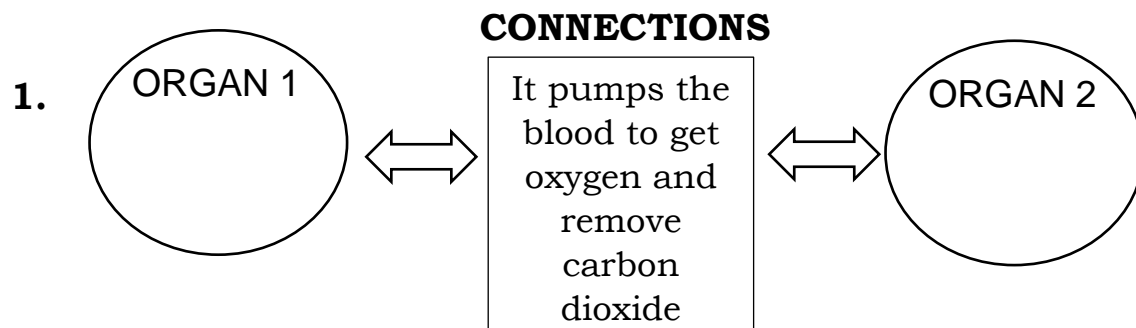


Guide Questions:

1. What are the different major organs of the body?
2. Based from the activity, what are the organs that communicate with one another?
3. How do they communicate with one another?
4. What happens if an organ does not work properly?
5. What will you do in order to maintain your major organs healthy?

Activity 2: “The Line of Connection”

Directions: Stated in the box are the functions on how the major organs communicate with each other. Name the organs involved in the connections.



Guide Questions:

1. What organs are connected in number 1? How about in number 2?
2. Is one organ exclusively connected to only one particular organ?
3. How does one organ communicate with another organ?

Well done! For more activities, read and understand the information below.



What is It

Points to Remember:

Our body is composed of different body organs which perform important functions. They work together in order to make the body function properly. So, keeping them healthy is important.

The human body contains organs that are considered vital for survival. They are the stomach, intestines, heart, brain, kidneys, and lungs.

- Stomach is a sack-like container of food made from involuntary muscle. It contracts and relaxes in order to digest food. Foods are squeezed, churned, and twisted in the stomach.
- Intestines are found inside our body which are long, continuous tube running from the stomach to the anus. The nutrients and water absorption mostly happen in the intestines. These include the small and large intestine and the rectum.
- The heart is located at the center of the chest, and its function is to keep the blood flowing through the body. Blood carries substances to cells that they need and also carries away wastes from cells.
- The brain is located in the head and functions as the body's control center. It is the seat of all thoughts, memories, perceptions, and feelings.
- The two kidneys are located in the back of the abdomen on either side of the body. Their function is to filter blood and form urine, which is excreted from the body.
- The two lungs are located on either side of the upper chest. Their main function is exchanging oxygen and carbon dioxide with the blood.

[https://bio.libretexts.org/Bookshelves/Human_Biology/Book%3A_Human_Biology_\(Wakim_and_Grewal\)/10%3A_Introduction_to_the_Human_Body/10.4%3A_Human_Organs_and_Organ_Systems,_Science_Learner's_Materials_by:_Lelani_R._Abutay,_Dina_C._Bonaio,_Edith_B._Crucis,_et.al_\(pages_71,_73,80,82,84_and_94\)](https://bio.libretexts.org/Bookshelves/Human_Biology/Book%3A_Human_Biology_(Wakim_and_Grewal)/10%3A_Introduction_to_the_Human_Body/10.4%3A_Human_Organs_and_Organ_Systems,_Science_Learner's_Materials_by:_Lelani_R._Abutay,_Dina_C._Bonaio,_Edith_B._Crucis,_et.al_(pages_71,_73,80,82,84_and_94))

- Each part of your digestive system helps to move food and liquid through your gastrointestinal tract, break food and

liquid into smaller parts, or both. Once foods are broken into small enough parts, your body can absorb and move the nutrients to where they are needed.

<https://www.niddk.nih.gov/health-information/digestive-diseases/digestive-system-how-it-works>

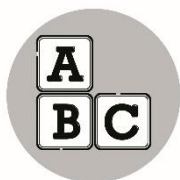
- The heart and lungs work together to make sure the body has the oxygen-rich blood it needs to function properly.
- The pulmonary loop is responsible for the oxygen-poor blood from the body and moves it to the lungs for cleaning and re-oxygenating while in the systemic loop once the blood is re-oxygenated, the left side of the heart moves the blood throughout the body so that every part receives the oxygen it needs.

<https://www.nationaljewish.org/conditions/health-information/health-infographics/whats-the-connection-your-heart-can-affect-your-breathing>

- The brain controls what you think and feel, how you learn and remember, and the way you move and talk. But it also controls things you're less aware of — like the beating of your heart and the digestion of your food.

<https://kidshealth.org/en/teens/brain-nervous-system.html>

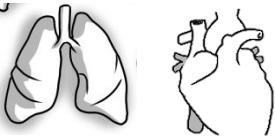
Let's check what you have learned so far! Good luck...


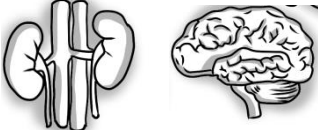
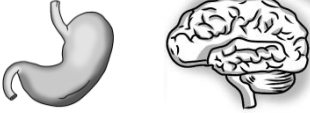
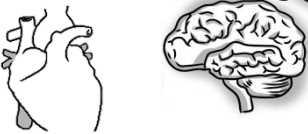



What's More

Activity 1: "Organs Together"

Directions: With the given pair of organs, explain how they work together to make your body function properly.

Pair of Organs	Name of Organs	How do they work together?
1. 		

2.			
3.			
4.			
5.			
6.			

Illustrated by: Jotham D. Balonzo



What I Have Learned

Directions: Given are the pictures of the different internal organs. Think of a possible way on how you are going to create or do a concept map showing the interconnectedness of all the different internal organs. You can use color or crayons in creating lines to show the connections and be able to write how the paired organs work together. Consider the title of your concept map as **“Control over the other.”** Do it in your notebook.



Illustrated by: Jotham D. Balonzo

Wow! Aren't you proud of yourself?



What I Can Do

Directions: Answer the given questions below. Write your answers in your notebook.

1. A child is suffering from diarrhea, what particular organs of the body do not function properly?
2. Someone, experience difficulty in breathing, what organs of the body are not functioning well?
3. Rico loves to eat salty and fatty foods, what particular organs can be affected by his bad habit?

Wonderful! Now you've figured it out!



Assessment

Directions: Read and analyse each sentence. Write the letter of the correct answer in your notebook.

1. How do the heart and lungs work together?
 - a. The lungs help the heart to pump blood.
 - b. The heart provides nutrients to the lungs.
 - c. The lungs help the heart provide nutrients to the body.
 - d. The heart pumps the blood to the different body parts while the lungs filter the blood before going back to the heart.
2. Stomach and the brain are related to each other. In what way are they connected?
 - a. The stomach provides blood to the brain.
 - b. The stomach provides oxygen to the brain.
 - c. The brain removes the waste of the stomach.
 - d. The brain controls the involuntary muscles of the stomach.
3. When you are in danger, your muscles move as fast as you can

to protect yourself. How does this happen?

- a. Your lungs control your muscles to move fast.
- b. Your stomach commands your muscles to work rapidly.
- c. Your brain react to the situation which results to rapid muscle movement.
- d. Your heart tells you to react by controlling the movement of your muscles.

4. Your friend had an accident which damaged his brain. After the accident, he cannot move both of his legs. Why did this happen?

- a. Your legs cannot anymore detect your brain.
- b. The part of your legs connected to the brain was damaged.
- c. The part of your brain commands your legs to stop moving.
- d. The part of your brain that controls leg movement was affected.

5. How do stomach and intestines work together?

- a. The stomach receives the nutrients and water from the intestine.
- b. The stomach absorbs the nutrients and water from the food digested by the intestines.
- c. The stomach digests the food while the intestines remove the undigested food out of the human body.
- d. The stomach squeeze, churn, and twist the food while the intestines absorb the water and nutrients.

6. How do the lungs work together with the other organs of the body? The lungs provide _____.

- a. oxygen needed by the brain
- b. nutrients needed by the heart
- c. food needed by the stomach
- d. blood needed by the stomach

7. What do you think will happen if your heart will not pump blood?

- a. The brain will not function properly.
 - b. The kidneys will not have blood to be filtered.
 - c. The lungs will not be able to produce oxygen-rich blood.
 - d. All of these.
8. Rene always eats salty foods and drinks soda. His kidneys failed to function. Which of the following are the effects of this to the other organs of the body?
- a. The kidneys can regulate blood pressure well.
 - b. The kidneys can filter waste materials from blood which can be used by the other organs of the body.
 - c. The wastes from the different organs and parts of the body will not be excreted as urine.
 - d. Both a and b.
9. Which of the following statements is TRUE?
- a. The heart controls the brain functions.
 - b. The brain controls the involuntary muscles of the heart.
 - c. The lungs provides carbon dioxide rich blood to the heart.
 - d. The kidneys filters and excretes the blood produced by the lungs.
10. The following statements are true, EXCEPT _____.
- a. All body organs have different functions that are not related with each other.
 - b. The brain controls the functions of the heart, lungs, kidneys, and other body organs.
 - c. If one organ of the body will not function properly, other body parts will also be affected.
 - d. All body organs have different functions and are in constant communication with one other.
11. The beating of your heart and the digestion of your food are both body activities that we are less aware of. What organ commands and is responsible for these to happen?

- a. lung b. brain c. kidney d. heart

12. The different organs work together for the proper functions of the human body. The following statements are proper ways to help the organs function properly with one another, EXCEPT _____.

- a. I will exercise daily
- b. I will eat nutritious foods
- c. I will avoid harmful substances
- d. I will drink 3-4 glasses of water daily

13. What will happen to the brain if your stomach is always empty?

- a. The brain will not work perfectly.
- b. The brain will tell your body to rest.
- c. The brain will do its function perfectly.
- d. The brain will signal the stomach to drink.

14. Someone encountered an accident and according to the doctor, the brain was damaged that is why the patient could not see anymore. The following are the reasons, EXCEPT for one.

- a. The eyes were damaged like the brain.
- b. The brain cannot communicate anymore with the eyes.
- c. The part of the brain responsible for seeing was damaged.
- d. The brain cannot receive and send information due to the damage.

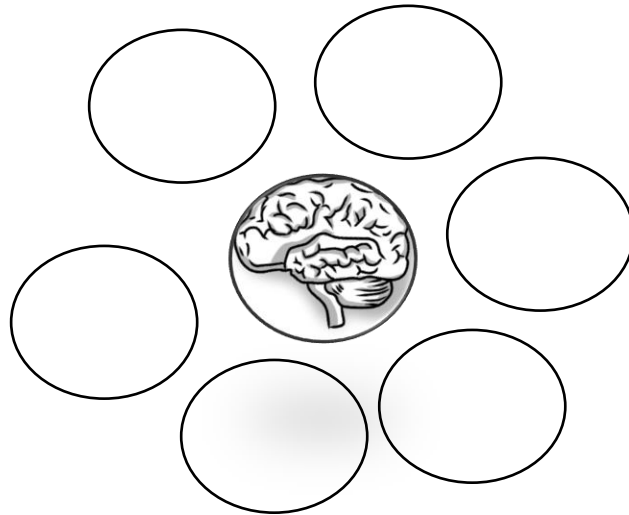
15. How does the brain communicate with body parts when a person sees his/her favorite food? The brain initially_____.

- a. ignores the message
- b. commands to eat the food right away
- c. commands to walk away from the food
- d. sends a message to your tongue to salivate



Additional Activities

Directions: Draw different body organs that work together with brain. Color them and be able to write how they work together. Do it in your notebook.




Illustrated by: Jotham D. Balonzo


Congratulations!!! You finished the module with flying colors.




Answer Key

What I Know 

1. digestion
2. carbon dioxide
3. exhale
- 2
1. e 2. B 3. F 4. C 5. d 6. A
- 3
1. stomach 2. heart
3. brain 4. kidneys

What's In 

1. LUNGS
2. INTESTINES
3. KIDNEYS
4. STOMACH
5. HEART
6. BRAIN

What's New 

Activity 1: How Much I Owe You?


1. Brain tells the kidney to filter the blood, the kidney filters blood for the brain and the entire body.
2. Heart pumps blood to the different parts of the body. Brain controls the involuntary action of the heart.
3. Heart pumps blood to the lungs to get and remove carbon dioxide.

Guide Questions


1. stomach, intestine, kidney, lungs, brain and heart
2. brain and kidney, heart and brain, heart and lungs
3. They communicate through their functions.
4. The connected organs will fail to function well or will not work at all.
5. Practice healthy lifestyle like having enough rest, drinking 8-10 glasses of water, eating nutritious foods and others.

Activity 2. Line of Connections


1. heart and lungs
2. Stomach, intestine and brain
3. One organ can communicate to two or more other organs.

What's More 


1. lungs and heart- lungs provide oxygen rich blood before it goes back to the heart. Heart pumps blood to the lungs.
2. intestines and stomach- stomach digests the food before intestines absorbs the nutrients and water
3. kidneys and brain- brain controls the functions of the kidneys. Kidneys filters the blood that enters the body
4. stomach and brain- brain controls the muscles of stomach
5. stomach breaks down the food as the brains tells to do so.
6. heart and brain- brain controls the involuntary muscles of the heart. The heart pumps blood to be used up by the body
6. brain and lungs- lungs provide oxygen to the brain, brain controls the lungs.

What's I Have Learned 

CONTROL OVER THE OTHER



They work together in order to make the body function properly.

What I Can Do 

1. gastrointestinal tract specifically large intestine
2. lungs
3. kidney

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<https://www.nationaljewish.org/conditions/health-information/health-infographics/whats-the-connection-your-heart-can-affect-your-breathing>

<https://kidshealth.org/en/teens/brain-nervous-system.html>

For inquiries or feedback, please write or call:

Department of Education - Bureau of Learning Resources (DepEd-BLR)
Ground Floor, Bonifacio Bldg., DepEd Complex Meralco Avenue,
Pasig City, Philippines 1600

Telefax: (632) 8634-1072; 8634-1054; 8631-4985

Email Address: blr.lrqad@deped.gov.ph * blr.lrpd@deped.gov.ph