

# Science

## Quarter 2 – Module 6:

### “Ecological Interactions”



**Science – Grade 4**  
**Alternative Delivery Mode**  
**Quarter 2 – Module 6 “Ecological Interactions”**  
**First Edition, 2020**

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**Science**  
**Quarter 2 – Module 6:**  
**“Ecological**  
**Interactions”**

# **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***

All the physical surroundings on Earth are called the environment. The environment includes living and non-living organisms. People, animals, plants, and all other living things interact with each other to survive. Different environmental factors affect the life of every organism including their life cycle.

This module will help you identify and describe the effects of the different environmental factors to the life cycle of organisms.

Series of activities were provided to help you attain your learning targets. Please be guided by the instructions in each activity. You can also use this module at your own pace.

The lesson will focus on:

- Lesson 1 – Effects of the environment on the life cycle of organisms (S4LT-IIg-h-14)

After going through this, you are expected to:

1. identify the effects of environmental factors that affect the life cycle of organisms; and
2. describe the effect of the different environmental factors to the life cycle of organisms.



## ***What I Know***

**A. Directions:** Choose the correct word in the box which will complete each sentence. Write your answer in your notebook.

food,      water,  
shelter,      space

\_\_\_\_\_ 1. This is one of the factors that is vital for bodily functions such as regulation of temperature, nutrient uptake, removing wastes, body weight and health.

\_\_\_\_\_ 2. It is needed by organisms for their protection

\_\_\_\_\_ 3. These are substances that provide energy to do activities, energy for all functions of the body such as breathing, digestions and repair of the body.

\_\_\_\_\_ 4. A suitable environment for the organism which provides a wide range of what the organism needs so they can express their physical and social behavior.

\_\_\_\_\_ 5. It is the place where organisms live.

**B. Directions:** List ten (10) things that organisms could get from the environment. Write your answer in your Science notebook.

1. \_\_\_\_\_

6. \_\_\_\_\_

2. \_\_\_\_\_

7. \_\_\_\_\_

3. \_\_\_\_\_

8. \_\_\_\_\_

4. \_\_\_\_\_

9. \_\_\_\_\_

5. \_\_\_\_\_

10. \_\_\_\_\_

**Congratulations!!! You can now proceed to the next activities.**

**Lesson****1****“Effects of the Environment in the Life Cycle of Organisms”**

Good day! Our environment plays an important role to all living organisms. It is where organisms get their food, water, shelter, and other needed materials for them to carry out their life processes. It is impossible for the organisms to live without an environment.

Hence, when the environment changes, some plants and animals are affected in terms of their survival and reproduction. Others die or move to new locations. All organisms cause changes in the environment where they live. Some of these changes are harmful to the organism or other organisms, whereas others are beneficial. I am excited to teach you about this concept.

Are you ready?

***What's In***

**A. Directions:** Copy the table below and list down in your notebook 5 terrestrial plants and 5 aquatic plants.

<b>Terrestrial Plants</b>	<b>Aquatic Plants</b>
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

**B. Directions:** Identify and describe the specialized structure of the following plants. Write your answer in your Science notebook.

*Example: Durian- They have fruits with pungent odor.*

1. rose- \_\_\_\_\_

2. cactus- \_\_\_\_\_

3. pineapple- \_\_\_\_\_

4. kangkong- \_\_\_\_\_

5. banana- \_\_\_\_\_

**Good job! Now, as you go through with the different activities, you will be familiarized with the environmental factors affecting the life cycle of organism.**



### ***What's New***

**Note to Parent/Guardian:** Guide your children while doing the various activities in this module. Remind them to observe precautionary measures and to be careful in handling the materials while performing the activity.

**To the Learner:**

**Directions:** Perform each activity and answer the questions that follow. Write your answers in your science notebook.

#### **Activity 1: “What is in the Picture?”**

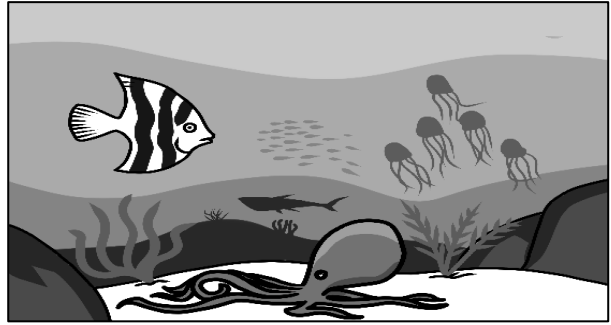
**Directions:** Look at the picture below. Describe the environmental factors affecting life cycle of organisms in the following environments. Answer the guide questions below.



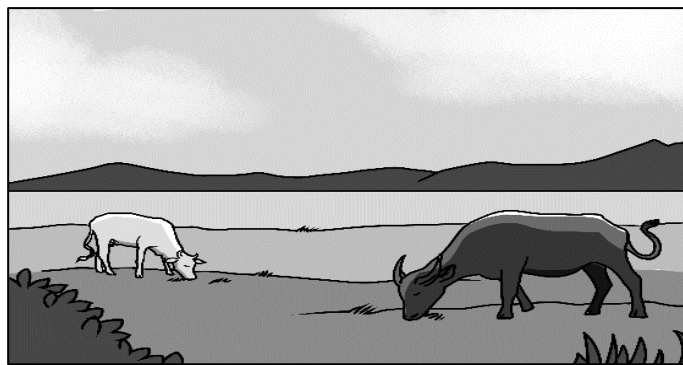
Picture 1



Picture 2



Picture 3



Illustrated by: Jotham D. Balonzo

### Guide Questions:

1. What kind of environment is in picture 1? picture 2? picture 3? What do we call this habitat?
2. What organisms can be found in environment/habitat 1? habitat 2? habitat 3?
3. What are the environmental factors affecting the life cycle of organisms?
4. In what way does water help in the life cycle of organisms? food? shelter? space?
5. What will happen to the organisms if there is:
  - a. limited food?
  - b. insufficient water?
  - c. limited space for the organism?
  - d. no shelter?

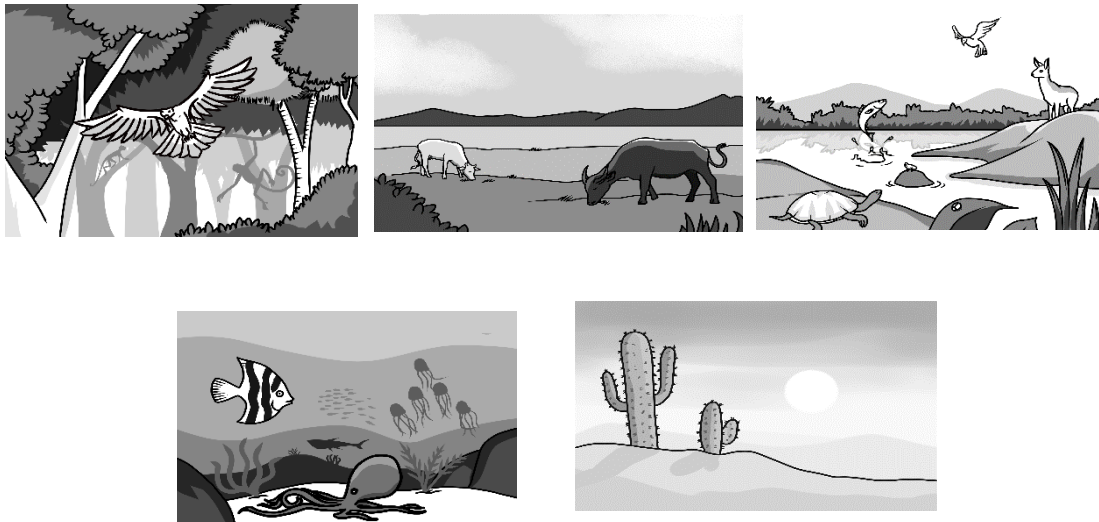
**Congratulations! You made it.**



## **What is It**

### **Points to Remember:**

- A habitat is a place where an organism makes its home. Some examples of habitats are the forest, farm, wetlands, ocean, freshwater, and desert. A habitat meets all the environmental conditions an organism needs to survive.



Illustrated by: Jotham D. Balonzo

- The main components of a habitat are shelter, water, food, and space. A habitat is said to have a suitable arrangement when it has the correct amount in all of these.
- The environmental factors affecting the life cycle of organisms are as follows: food, water, shelter and space. Each factor affects in the life cycle of the organisms.
- Food is an environmental factor needed by all organisms. They use it to get energy and perform life processes. Food is also needed for organisms' growth and development of the body.
- Living organisms need water to survive. Other organisms require water to break down food molecules or generate energy during the respiration process. Water also helps many

organisms regulate metabolism and dissolves compounds going into or out of the body.

- An organism's shelter protects it from other animals and extreme weather. Shelter also provides space for eating, sleeping, hunting, and raising a family. Shelters come in many forms. A single tree, for example, can provide sheltered habitats for many different organisms.
- Organisms need a living space or enough area for them to obtain resources like food, water, and oxygen. It is also an area where they can express their physical and social behaviors.

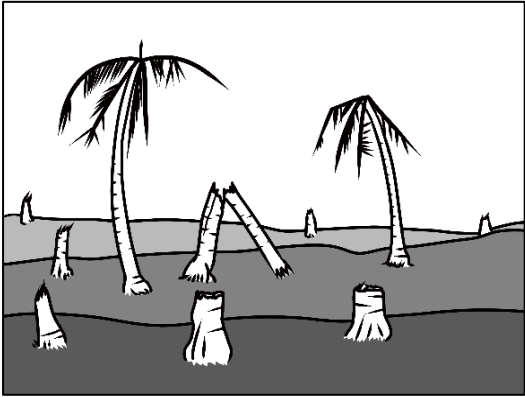
**Source:** Abutay, L., Bona, D., Crucis, E., Eslabra, J., Gramaje, Guadamor, M., Hernande, A., Ilagan, L., Llamera, F., Manawatao, R., Panganiban, H., Rojo, J., Tosco, R.R., and Zape, J. **Science Grade 4 Teacher's Guide.** First Edition 2015, Department of Education (2015), page 202-203

**Good job! I hope you keep those concepts in mind.**

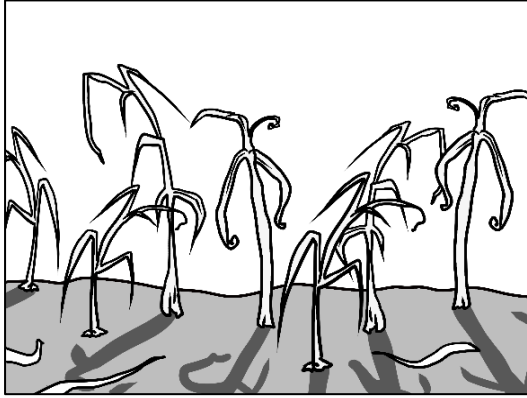


### *What's More*

**Directions:** In 1-2 sentences, describe the effects of the following environments on the life cycle of organisms. Write your answer in your notebook.

<p>1.</p> 	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
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2.



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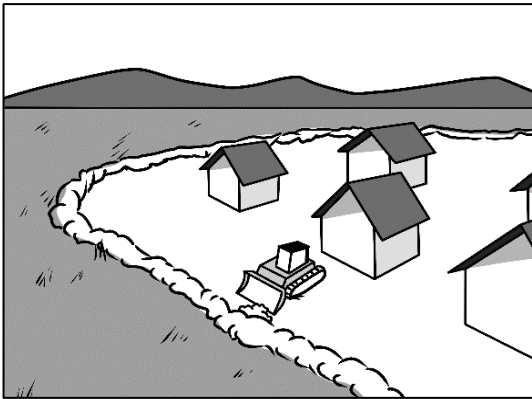
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3.



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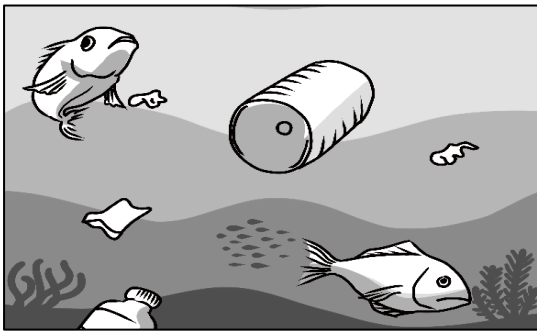
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4.



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5.



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Illustrated by: Jotham D. Balonzo

**Amazing! Gather up your thoughts and see what you have learned.**



## ***What I Have Learned***

**Directions:** Study the picture below. Be able to answer the questions that follow. Write your answer in your notebook.



Illustrated by: Jotham D. Balonzo

Questions:

1. What can you say about the picture? What organisms can you see?
2. What environmental factors are present in the picture of habitat?
3. Why do you think water, food, shelter, and space important to the organisms in that particular habitat?
4. What do you think will happen to the life cycle of organisms if all environmental factors are present in a habitat? What if one or all of the factors are absent?
5. How can you help organisms continue to have a normal life cycle in the environment?

**Great! Now, it's time to test what you can do.**



## ***What I Can Do***

**Directions:** Complete the table below by describing the effects of the kind of environment to the life cycle of organisms. Write your answer in your Science notebook.

Types of Environment	Effect to the life cycle of organisms
1. polluted seawater	
2. deforested mountain	
3. food shortage for animals in the zoo	
4. overpopulated fishpond	

Questions:

1. What did you realize from the activity above?
2. What will happen if the environment cannot provide the needs of the different living organisms?
3. How can you help maintain an environment that can sustain the needs and life cycle of different organisms?

**Very good! You are now ready for the final test.**



## Assessment

**A. Directions:** Choose the letter of the correct answer. Write your answers in your notebook.

1. It is something that provides nutrients to an organism's body.  
a. food                      b. shelter                      c. space                      d. water
2. It is vital for bodily functions such as regulation of temperature, nutrient uptake, removing wastes, body weight, and health.  
a. food                      b. shelter                      c. space                      d. water
3. What do you call the suitable environment for organisms that provide a wide range for their needs?  
a. food                      b. shelter                      c. space                      d. water
4. It cares for organisms needing protection and protects them from other organisms and extreme weather conditions.  
a. food                      b. shelter                      c. space                      d. water
5. The substances that provide energy for activity, growth, and all functions of the body is called \_\_\_\_\_.  
a. nutrients                      b. shelter                      c. space                      d. water
6. Which of the following will happen if organisms will not have a suitable environment to live in?  
a. Their number will increase.  
b. Their number will decrease.  
c. They will satisfy their needs.  
d. Their number will be the same
7. What do you think will happen if there will be no enough food in the environment for different organisms?

- a. Organisms will stay in their habitat.
  - b. Life cycle of organisms will continue.
  - c. There will be more competition for food.
  - d. Death among organisms will become less.
8. Which of the following should be avoided so as not to affect the water, food, shelter, and space in the environment?
- a. reforestation
  - b. controlled mining
  - c. water conservation
  - d. converting forest to residential areas
9. Why is space needed by living organisms?
- a. They need it for protection.
  - b. They need it to maintain proper bodily functions.
  - c. They need to sustain the nutrients needed by their body.
  - d. They need it to express their physical and social behavior.
10. All of the following are factors that affect the life cycle of organisms, EXCEPT \_\_\_\_\_.
- a. air
  - b. food
  - c. shelter
  - d. water

**B. Directions:** List five (5) possible effects of environmental factors to the life of organisms. Do this in your notebook.

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_
- 4. \_\_\_\_\_
- 5. \_\_\_\_\_





## ***Additional Activities***

**Directions:** Get a piece of bond paper and pencil. Draw a habitat where there is the presence of the different environmental factors such as food, water, shelter and space. You will be rated using the rubric below



### **Rubrics for the Activity**


Category	4	3	2
Craftsmanship	Demonstrate quality	Demonstrate some quality	Lack Demonstration of quality
Creativity	Express original idea	Light original idea	Lacks original idea
Realism	Content is evident	Content Somewhat evident	Lack of content is evident

- 10-12 points - Excellent, you can proceed with the next module
- 7- 9 points - Better
- 4- 6 points - Good
- 0-3 points - Needs improvement

**Congratulations! You did well in this lesson.**




# Answer Key


**What I Know** 

A. 1. water 3. food 5. shelter  
2. shelter 4. space


B. Pupils' answers may vary.

**What's In** 

A. Pupils' answer may vary  
B. 1. They have stems with thorns  
2. They have fleshy stems with thorns that can store water  
3. They have leaves with pointed edges.  
4. They have soft and hollow stems.  
5. They have big and wide leaves.

**What's New** 


Guide Questions:  
1. forest, sea/ocean, grassland/farmland  
2. birds, monkeys, and other wild animals  
fishes and other sea animals  
cows, carabaos, and other farm animals  
3. food, water, shelter, space  
4. Organisms' life cycle will be affected. The presence or absence of the factors affect the number of animals.  
5. a. They will compete for little supply of food.  
b. They will be unhealthy and might die.  
c. They will have stronger competition.  
d. They will not be protected from other organisms and extreme weather conditions.

**What's More** 

Pupils' answer may vary.

**What I Have Learned** 

Guide Questions:  
Pupils' answer may vary.

**What I Can Do** 

Effect to the life cycle of organisms	Pupils' answer may vary
1. polluted seawater	Pupils' answer may vary
2. deforested mountain	Pupils' answer may vary
3. food shortage for animals in the zoo	Pupils' answer may vary
4. overpopulated fishpond	Pupils' answer may vary

Guide Questions:  
Pupils' answer may vary.

**Assessment** 

A. 1. a 2. d 3. c 4. b 5. a  
6. b 7. c 8. d 9. d 10. a  
B. Pupils' answer may vary.

**Additional Activities**

Pupils' work may vary.

## ***Reference***

Abutay, Lelani R., et. al., *Science 4 Teacher's Guide*, 202-203.  
Pasig City: Department of Education, 2015.

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