

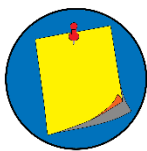
9

# SCIENCE

Modified Strategic Intervention Materials

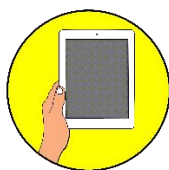


Quarter 1 Week 5



## Title Card

### Lesson 14: Biodiversity and Population



## Guide Card

### Introduction

Organisms need a balanced ecosystem. A balanced ecosystem is one that allows all living and non-living things to interact successfully. If any part of the ecosystem is disturbed, other parts will also be disturbed. Different parts of the ecosystem interact with one another. Changes to one part affect the other parts. When all the members of a species die, that species' become extinct in the ecosystem. What could possibly happen if a certain species become extinct? How would this reduced diversity affect the community of species? Does loss of biodiversity affect an organism's ability to sustain and to perform certain functions that may contribute to the needs of that ecosystem?

### Learning Competency

In this module, you are expected to :

Relate species extinction to the failure of populations of organisms to adapt to abrupt changes in the environment. S9LT-Ie-f30

### Objectives:

- ◆ Explain biodiversity and population
- ◆ Describe how biodiversity contributes to the sustainability of an ecosystem: and
- ◆ Realize the importance of biodiversity

### KEY QUESTIONS :

1. What is biodiversity?
2. What is the importance of biodiversity?
3. How does population density affect biodiversity?

(Note: Do not write on this material. Use your interactive notebook in answering each part of the activity/test stated in this module.)

## Pre-Test: What I Know

### I. Choose the letter of the best answer.

1. Which of the following best describes the word “biodiversity”?  
A. endangered species  
B. different kinds of planets in the solar system  
C. the variety of all life on earth  
D. stories of famous biologists
2. What is the most serious threat to biodiversity?  
A. scientists collecting specimens  
B. habitat loss  
C. tourists  
D. pollution
3. Which biotic factor has limit in carrying the capacity of any habitat?  
A. availability of water  
B. level of atmospheric oxygen  
C. activity of decomposers  
D. amount of soil erosion
4. Why is the size of frog population in a pond remains fairly constant over a period of several years?  
A. decreasing competition  
B. environmental carrying capacity  
C. excessive dissolved oxygen  
D. the depth of water
5. What group of living organisms is with the same species in a certain area?  
A. renewable resource  
B. biodiversity  
C. population  
D. ecology

### II. Briefly answer the following questions:

1. If the population species of a given area is doubled ,what effect would this have on the resources of the community?
  2. If population density is the number of individuals per size of an area, what is the population density of 40 carabaos living in an area of 1.5 km<sup>2</sup> ?
  3. In a population, limiting factors and population density are often related. Suppose that the population density of plant seedlings is very high, how do the limiting factors affect the population density?
- Now that you are done with the pre-test, let’s take a recap of your previous lesson.

## Review / What’s In

### Answer the following questions:

1. What is an organism? ...species?
2. What is an ecosystem?
3. What are the two factors of an ecosystem?
4. What is meant by balanced ecosystem?
5. How do plants and animals interact with one another?

In this module, you will study the importance of biodiversity and how population affects biodiversity.



Study figures 1 and 2. Picture yourself swimming and diving in the Tubbataha Reef Marine park where very high densities of marine organisms are found. What organisms are in figure 1? How many different kinds of organisms do you think you will see? Now, imagine yourself standing at a coconut plantation. Which species do you think dominates this area? The Tubbataha Reef Marine Park has many populations. You can see hundreds of different species of organisms, unlike in a coconut plantation, only one species dominates.

Now work on the activity to find out the amount of biodiversity and species distribution in a community.



# Activity Card

## What’s New

### Activity 1:Explore Your Backyard

#### Materials:

Outdoor area (backyard, flower garden, vegetable garden)  
recording notebook , pen

#### Procedure:

- 1. Go over potential place to look at, such as your flower garden, backyard, vegetable garden, and the like. Dig into the soil to observe organisms.
- 2. Record the number of species of plants and animals/insects present in the area.

PLANTS	ANIMALS/ INSECTS
Ex. Okra - 3	Earthworm - 2

Answer the following questions:

- 1. Which has the highest number of population?
- 2. How does population affect the variety of species in an area?
- 3. In your vegetable garden, a certain fungus was growing inside an eggplant you planted. Predict what might eventually happen if this fungus doubled in number.

You will work on the next activity to help you understand changes in population and factors affecting population growth and size, and learn about the needs and characteristics of a population

Activity 2: Measuring Population Density

Objectives:

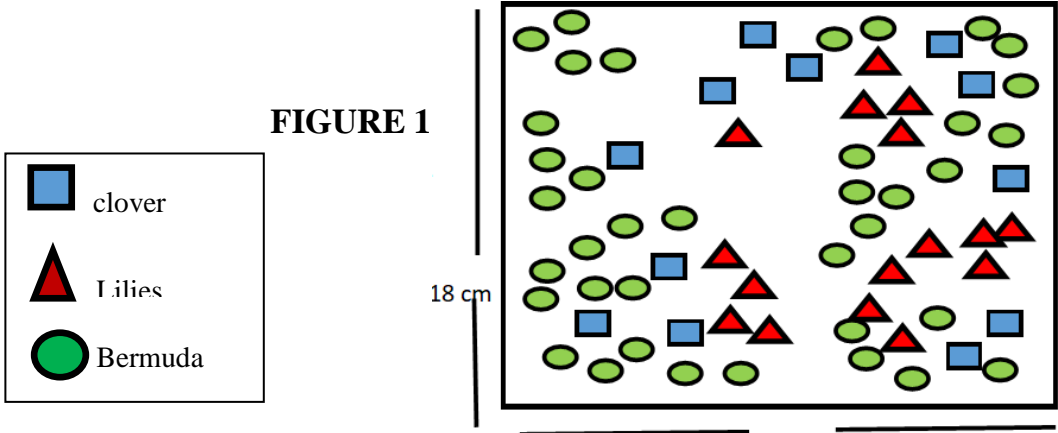
- Determine the pattern of population distribution using mathematical formula : and
- Compare the distribution patterns of the different populations

Materials:

Ruler  
Pencil & Paper

Procedures:

1. Study the three patterns of population distribution in Figure 1.



2. Using the given formula in computing population density, calculate the density of each population.

**Population density** = **no. of individuals / organisms**  
**Size of area**

3. Count the total number for each population. Record the number on Table 1.
4. On your interactive notebook, prepare a table to record the data for population density.

POPULATION NAME	NUMBER OF ORGANISMS	POPULATION DENSITY

Table 1. Population Density

5. Calculate the density of each population. Record it on the table.

Guide Questions :

1. What is the distribution patterns of the three populations.
2. Which population has the greatest density?
3. Infer from recorded data the possible causes for the differences in the population density.
4. What conditions could change the density of any of the population?
5. How are limiting factors related to population density?

Activity 3: What is the Importance of Biodiversity?

Read each statement carefully and fill in the blanks with the correct answer. Choose your answers from the pool of words inside the box:

species	environment	pollutants	global warming
biodiversity	natural resources	ecosystem	
health	freshwater	food production	

Our **1**\_\_\_\_\_ is very important to the well-being of our planet. Most cultures have recognized the importance of conserving **2**\_\_\_\_\_. It increases **3**\_\_\_\_\_ productivity where each species has a specific role to play in an **4**\_\_\_\_\_ and supports a larger number of plant **5**\_\_\_\_\_ therefore producing a greater variety of crops. It protects **6**\_\_\_\_\_ resources supplying clean and potable water supply for us. It promotes soil formation and protection needed for bountiful **7**\_\_\_\_\_. It aids in breaking down **8**\_\_\_\_\_ for us to breathe fresh air. It contributes to climate stability and lessen impact of **9**\_\_\_\_\_. It provides more medicinal resources and pharmaceutical drugs from plants and animals used for **10**\_\_\_\_\_ promotion. Lastly, it offers top sights for tourist attractions because of its preserved natural resources.

Discussion of the Activity

**Biodiversity** refers to the variety of life in the area. A **population** is a group of living things of the same species within a certain area. Several different populations may be found in a community. A population of one kind may affect a population of another kind within the community. Differences in population density in any community may be attributed to many factors. **Limiting factors** keep a population from increasing in size and help balance an ecosystem such as availability of food, water, and living conditions. Light, temperature and soil nutrients are also included because they determine the types of organisms that can live in an ecosystem.

So far, you have learned about biodiversity and population density. Perform the next activity to find out if you have fully understood the importance of biodiversity.



Enrichment Card

Activity 1: Let’s Illustrate!

Work on this activity by following the given procedures:

- Use colored pencils to draw a **food web** ecosystem that has 10
- organisms in it. Use arrows to show how energy is transferred.
- Place **RED X** over one organism to show the species has been
- removed from the ecosystem.

Guide Questions:

1. How does the removal of one organism change the biodiversity in the ecosystem?
2. What are the limiting factors that help balance the ecosystem?

Let us elaborate biodiversity!



As we all know, Pampanga is known as *The Culinary Capital of the Philippines*. Farming, fishing, and handicraft (*parol*-making) are our major industries. Our products include rice, corn, sugarcane, bangus, crabs, and tilapia. Our province is also rich in natural resources like wetlands, swamplands, agricultural lands, clay, gravel, sand, and copper .

For your next activity, let us be let us familiarize ourselves on the biodiversity pictures from some municipalities in Pampanga.

Activity 2: A Journey to Pampanga

A. Look at these pictures. These are biodiversity pictures of some municipalities in Pampanga. Can you identify them? Choose your answers from the names of the municipalities listed below.

Arayat	Sasmuan	Candaba	Masantol	Porac
--------	---------	---------	----------	-------



- 1. Picture A \_\_\_\_\_
- 2. Picture B \_\_\_\_\_
- 3. Picture C \_\_\_\_\_
- 4. Picture D \_\_\_\_\_
- 5. Picture E \_\_\_\_\_

B. Answer these questions.

- 1. What does each picture illustrate?
- 2. What does biodiversity contribute to a certain place or community?



Reflection Card

Three (3) things I learned from the lesson

Two(2) interesting facts about the lesson

One (1) question I still need to know about the lesson



# Assessment Card

## I. Choose the letter of the best answer.

1. Which of the following best describes the word “biodiversity”?  
A. Endangered species  
B. Different kinds of planets in the solar system  
C. The variety of all life on earth  
D. Stories of famous biologists
2. What is the most serious threat to biodiversity?  
A. scientists collecting specimens  
B. habitat loss  
C. tourists  
D. pollution
3. Which biotic factor limits the carrying capacity of any habitat?  
A. availability of water  
B. level of atmospheric oxygen  
C. activity of decomposers  
D. amount of soil erosion
4. Why is the size of frog population in a pond remains fairly constant over a period of several years?  
A. decreasing competition  
B. environmental carrying capacity  
C. excessive dissolved oxygen  
D. the depth of water
5. What group of living organisms is with the same species in a certain area?  
A. renewable resource  
B. biodiversity  
C. population  
D. ecology

## II. Answer briefly the following question.

6. Which one refers to the number of organisms per size of an area?  
A. extinction  
B. population density  
C. community  
D. biodiversity
7. Which of the following does not belong to the limiting factors of an ecosystem?  
A. water  
B. availability of food  
C. temperature  
D. presence of decomposers
8. Suppose 60 ants live in a 4 m<sup>2</sup> plot of grass, what would be the population density of the ants?  
A. 15  
B. 20  
C. 25  
D. 30
9. What is the importance of biodiversity?  
A. increases food production  
B. promotes soil formation and protection  
C. produce variety of plant and animal species  
D. all of the above
10. If the population density of a species in a given area is doubled, what effect would this have on the resources of the community?  
A. increases the resources  
B. decreases the resources  
C. retain the number of resources  
D. produce no effect





Answer Card

- 1. Biodiversity
- 2. Natural resources
- 3. Ecosystem
- 4. Environment
- 5. Species
- 6. freshwater
- 7. food production
- 8. pollutants
- 9. global warming
- 10. health

Activity # 3

- help balance the ecosystem
- 5. it keeps population from increasing in size and
- 4. limiting factors
- 3. it depends on size of area and no. of organisms
- 1. C
- 6. B
- 2. D
- 7. D
- 3. B
- 8. A
- 4. C
- 9. D
- 5. C
- 10. B1

Assessment

- 1. Patterns of distributions differ
- 2. Bermuda

5. Masarital

4. Arayat

Name	No. of Organisms	Population Density
bermuda	38	10
lilies	16	0.04
clover	12	0.03

Activity #2

- A. 1. Porac
- B. 1. answers may vary
- 2. Candaba
- 2. answers may vary
- 3. Samuan

Enrichment# 2

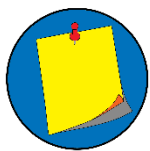
- 3. Eggplant will dried up
- 2. Population decrease when species moves out
- 1. affected
- 2. air, water, light ,temperature

A . illustration of food web may vary

Enrichment # 1

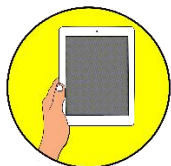
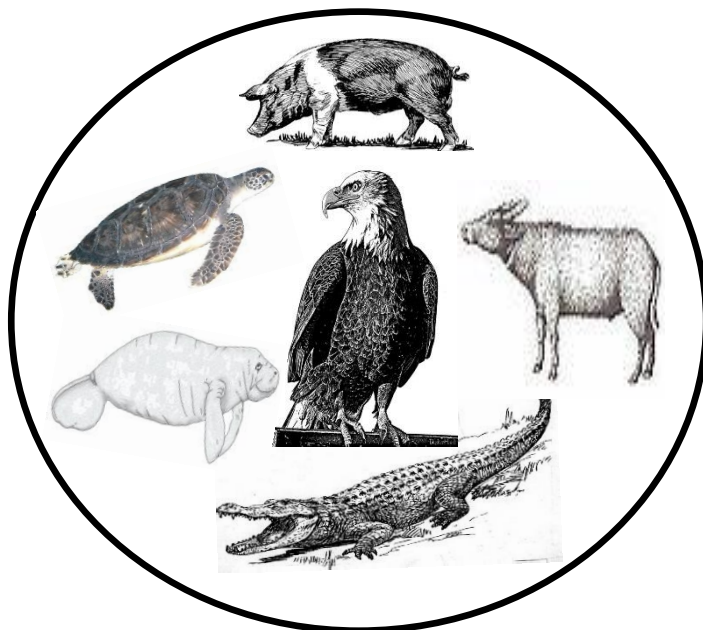
Activity #1

- 1. answers may vary



## Title Card

### Lesson 15: Extinction of Species



## Guide Card

### Introduction

How many species are we losing?

Life depends on life. Animals cannot exist without green plants. Living things create niches for other living things. But what happens if the living conditions of these organisms are not ideal for their survival? What do you think are the major causes of species extinction?

**Extinction** is the disappearance of a species when the last of its members die. Changes to habitats can threaten organisms with extinction. As populations of people increase, the impact of their growth and development is altering the face of the Earth and pushing many other organisms to the brink of extinction. Each time species goes extinct, the world around us unravels a bit. The consequences are profound, not just in those places and for those species, but for all of us.

### Learning Competency

In this module, you are expected to :

Relate species extinction to the failure of populations of organisms to adapt to abrupt changes in the environment. S9LT-Ie-f30

### Objectives:

- Explain the extinction of species
- Describe different factors that can cause extinction of species
- Relate how human activities contribute to species extinction

As you study this module, you will find answers to the following:


- What causes species extinction?
- What are the factors causing extinction of species?
- How can changes in the environment affect the continued survival of the species?

Pre-Test: What I Know

A. Photo Quiz: The concepts below are some of the causes of extinction of some species. Study the pictures that follow and fill in the box with the concept that match each item.


Taking Animals for Profit	Introduced species
Hunting and Trapping	Destruction of habitat
Overharvesting	Pollution

1.




gg77711814 GoGraph.com

2.




shutterstock.com - 92227957

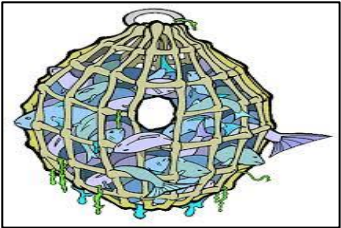
3.



4.



5.

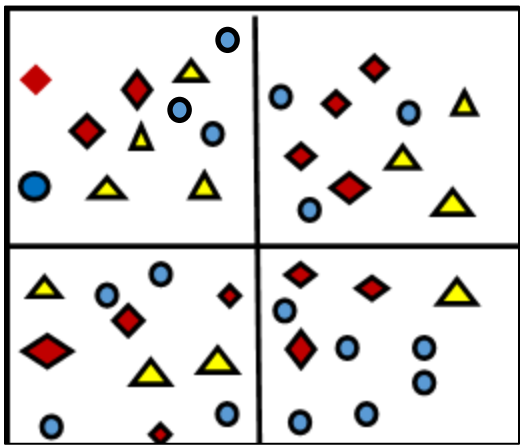


B. The map below shows the population distribution of fish, frogs, and water lily plants in a pond.

 FISH

 FROG

 WATER LILY



1. Which species has the largest population in the community?
2. What factor might influence a change in population?

Review / What's In

Let's see if you still remember your past lesson.

Answer briefly the following questions:

1. What is biodiversity?
2. What is population?
3. Why do you think population sizes vary among organisms?
4. How do we compute population density of an area?
5. How are the limiting factors related to population density ?

You probably need to know more about the causes of extinction of species. To do this, you must read the short story below.

THE STORY OF LOLONG....

Are you familiar with the story of Lolong? Who is Lolong? How old is Lolong? Is Lolong still alive? *The Philippines is the home of the largest saltwater crocodile (crocodylus porosus) in captivity as of 2011. The croc (buwaya) in question was “Lolong”. Lolong was one unique reptile from Agusan del Sur in Mindanao. From 2011-2013 he held the world title, The Largest Saltwater Crocodile in captivity at that time and that title was certified by the Guinness Book of World Records. Weighing in at 2,370 pounds, Lolong was king of his kind*

*Lolong was captured in his habitat, the Agusan Marsh, a protected wildlife sanctuary in the Agusan Basin in Eastern Mindanao .When finally captured in 2011,Lolong was so immense that it took 60 men to subdue and harness him before he was transported to his new home. The creature was named after prominent Palawan crocodile hunter Ernesto “Lolong” Coñate. “Lolong” is a derivative of “lolo” the Filipino term for grandfather . Coñate had led the search for the notorious man-eating crocodile but suffered a fatal heart attack a few days before the croc was captured in September 2011. Hence, the captured croc was named in his honor.*

*An Australian doctor, Dr. Adam Britton, estimated Lolong to have been roughly 50 (human) years old. When Lolong died in February 2013, the necropsy revealed that the crocodile expired from a variety of causes: multiple organ failure, muscular atrophy, stress, and eventually, pneumonia caused by his confinement in a very small pen with a concrete bottom without the water depth he needed to feel safe.*

*At present, LOLONG’s hide and skeleton can be viewed at the Museum of Natural History in Manila.*

- 1. How old is Lolong?
- 2. Who killed Lolong?
- 3. Where did his name LOLONG come from?



Activity Card

What’s New

Activity 1: Am I...Endangered or Threatened?

Below are some endangered and threatened species. Can you group them according to their level of extinction?

Tamaraw

warty pig or baboy ramo

pilandok or mouse deer

Dugong

Philippine eagle

tarsier

whale shark

pawikan

ENDANGERED

THREATENED

Activity 2: Word Search

There are 10 words hidden in the grid either diagonally, horizontally, or vertically. These words are all about extinction of species and the causes. List down these words on your notebook.

E	R	A	E	B	Y	I	O	Z	X	V	R	U	Q	N
X	W	Y	N	D	L	D	T	M	C	Q	N	D	W	O
T	P	R	Q	E	Y	Z	Q	S	X	E	R	E	D	I
I	Q	N	O	I	T	U	L	L	O	P	Z	N	E	T
N	M	D	S	M	C	Y	S	E	W	V	F	E	R	A
C	I	A	L	H	F	R	X	H	C	R	D	T	E	T
T	M	N	O	I	T	A	L	U	P	O	P	A	G	S
I	T	X	M	Q	G	P	S	Y	S	D	B	E	N	E
O	A	O	W	O	X	N	U	P	K	M	W	R	A	R
N	T	H	G	I	W	H	I	C	E	X	I	H	D	O
Q	I	W	J	H	B	R	J	T	U	C	U	T	N	F
C	B	O	L	V	E	K	S	Y	N	W	I	V	E	E
Z	A	T	U	Z	O	Q	J	E	L	U	L	E	J	D
N	H	I	L	M	Y	G	Y	B	K	X	H	C	S	X
O	V	E	R	C	O	N	S	U	M	P	T	I	O	N

Activity 3: My HIPPO Scenarion

Below are scenarios causing extinction of species. Identify the factor illustrated by choosing the letter from the acronym:

- H- Habitat loss, Hunting
- I- Introduced species
- P- Pollution
- P- Population growth
- O- Overconsumption, Overharvesting

1. I lived in a rural area until the smoke from factories nearby made me sick. \_\_\_\_\_
2. I lived in a forest until workers came and cut down all of the trees. \_\_\_\_\_
3. I lived in marine water until fishermen caught me and my small fingerlings. \_\_\_\_\_
4. I lived in a city with fresh air but after a few years, informal settlers occupied the land. \_\_\_\_\_
5. I lived near an island until a killer algae deprived marine organism to multiply and survive. \_\_\_\_\_

Discussion of the Activity

**Extinction** is the disappearance of a species when the last of its members die. When a species population becomes so low that only a few remain, the species is considered endangered that will possibly become extinct. In the Philippines, some terrestrial species like the **tamaraw** in Mindoro, **mouse deer** in Palawan, **Philippine deer**, **Monkey-eating eagle**, and aquatic species like the **dugong** found in Negros, Batangas, and Leyte are in danger of extinction. Sometimes, there is a particular species that declines so fast that it becomes endangered and is said to be threatened.

In a study conducted by field biologists on population size and distribution of **Philippine fauna**, they reported that as of 1991, 89 species of birds, 44 species of mammals, and eight species of reptiles are internationally recognized as threatened. Some threatened species are **whale sharks**, **tarsiers**, and **pawikan**. There are probable causes of extinction of species and that includes habitat destruction, introduction of new species, pollution, population growth, and overconsumption or overharvesting (**HIPPO**).

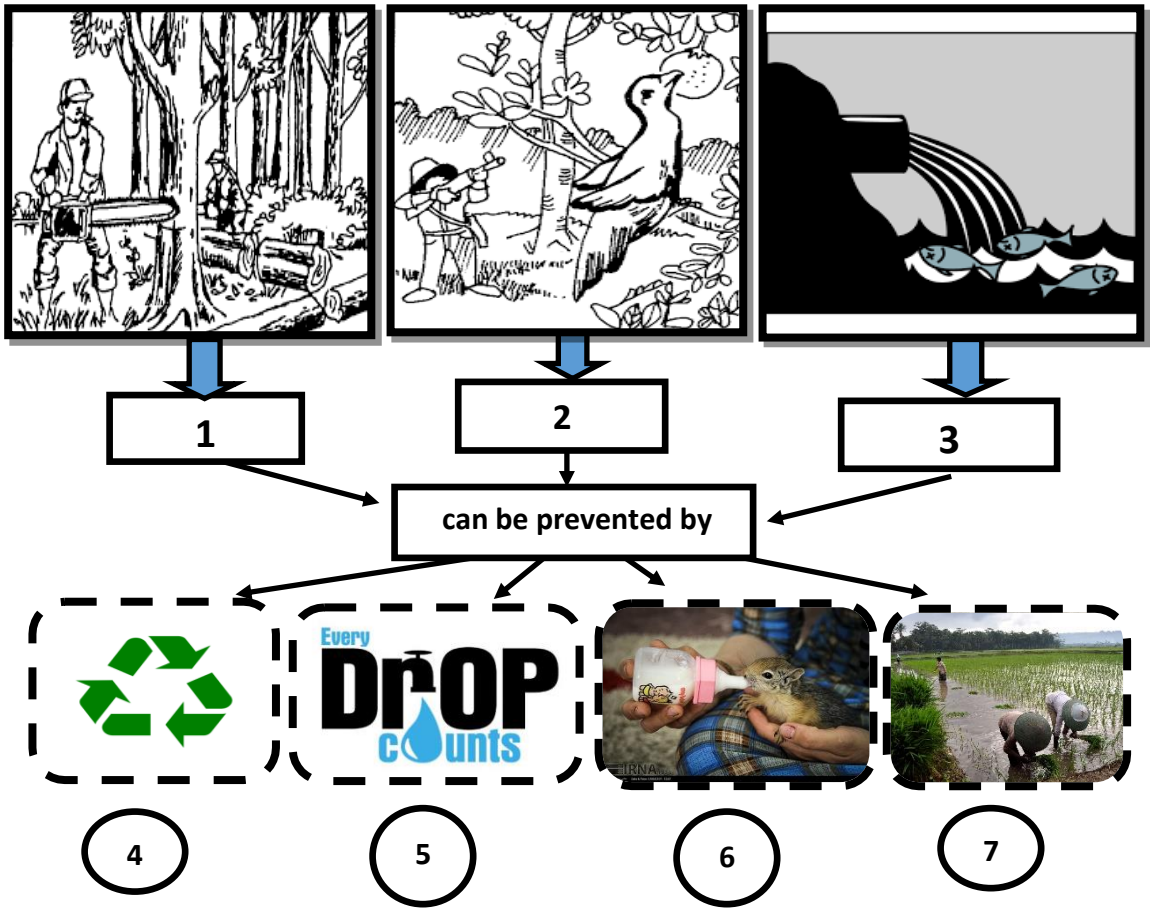


Enrichment Card

Activity 1: HIT THE SPOT!

Look at the following pictures.  
Identify the causes of extinction of species and ways on how to prevent this extinction.

How do animals / species become endangered?





Activity 2: CAUSE-----EFFECT

Read each scenario and decide if the organism is endangered or threatened . Briefly explain your answer.

1. The Visayan warty pig is known by many as *baboy damo*, only has small surviving populations in Negros and Panay, due to the small number of remaining Visayan warty pigs in the wild, and 98% of its original native range due to the loss of forest cover. What will finally happen to these native pigs?

Answer : \_\_\_\_\_

2. Imagine a dam built in your area has usually a lot of water. The water is now gone in some area. What will happen to the fish if this is their only home?

Answer : \_\_\_\_\_



Reflection Card

Three (3) things I learned from the lesson

Two(2) interesting facts about the lesson

One (1) question I still need to know about the lesson



# Assessment Card

## Assessment 1:

**Choose the letter of the best answer.**

1. Which of the following is more prone to extinction if its population continue to decrease?  
A. any species of animal                      B. any species of plant  
C. any species of animal, plant              D. None of the above
2. Which of the following is/are the greatest threat/s among endangered species?  
A. habitat destruction                      B. illegal hunting  
C. environmental protection              D. Both A and B
3. How can you help protect endangered animals from extinction?  
A. reduce, recycle, and reuse              B. protect natural habitats  
C. landscape with native plants              D. all of the above
4. What do you call the place where a species lives and reproduces its own kind?  
A. Habitat      B. Ecosystem              C. Wildlife              D. Extinction
5. What is/are the most important factor/s that leads to extinction?  
A. Hunting      B. Overharvesting      C. Pollution              D. all of the above

## Assessment 2:

**Answer briefly the following questions.**

1. What is the difference between threatened and endangered species? (1 point)
2. What causes species extinction? Give at least 2 causes. (2 points)
3. How can we prevent extinction of species.? Cite at least two possible ways. (2 points)



Answer Card

Activity #1

THREATENED

1. whale shark  
2. tarsier  
3. pawikan

ENDANGERED

1. tamaraw  
2. dugong  
3. Philippine eagle  
4. pilandok o mouse  
deer  
5. warty pig or baboy  
damo

Activity # 2

pollution  
species  
endangered  
extinct  
deforestation  
population  
threatened  
Overconsumption  
habitat  
hunting

Activity #3

1. P  
2. H  
3. O  
4. P  
5. I

Enrichment # 1

1. logging  
2. hunting  
3. water pollution  
4. 3 R s  
5. save water  
6. plant tress  
7. take care of animals

Enrichment #2

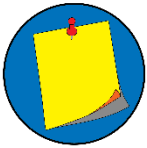
1. endangered  
2. threatened

Assessment # 1

1. C  
2. D  
3. D  
4. A  
5. D

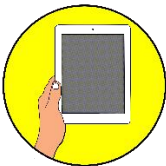
Assessment # 2

1. Endangered species  
is when its population  
is so low that is nearly  
extinct while  
threatened species  
habitat begins  
declining rapidly and  
closed to being  
hunting  
2. answers may vary  
3. answers may vary



## Title Card

### Lesson 16: Local and Global Issues on Extinction of Species



## Guide Card

### Introduction

Many changes take place in the communities. You may have noticed that the natural vegetation in an area has been cleared. Concrete structures and increasing populations of people and other organisms gradually take over the area. Perhaps, some areas were destroyed by natural disasters or by human activities. Just as vegetation changes, animal populations also change. These may have major effects on the ecosystem causing replacement of communities or development of a new environment.

The environment encompasses the whole of life on earth and the complex interactions that link the living world with the physical world. It covers everything contained within in the air, land, and water. Sudden and dramatic natural changes to the environment have occurred, and will continue to occur, which have the potential to upset the whole balance of the Earth's ecosystem.

### Learning Competency

In this module , you are expected to :

Relate species extinction to the failure of populations of organisms to adapt to abrupt changes in the environment. S9LT-Ie-f30

### Objectives:

- Identify environmental changes that may result in the loss of species
- Describe local and global issues/problems on extinction of species
- Suggest possible ways on how to prevent extinction of species

**Key Questions:**

1. What are some local and global environmental issues and problems that affect our community?
2. How do the problems/issues contribute to extinction of species?

**Pre-Test: What I Know****I. Choose the letter of the your answer.**

1. Which activities most directly control erosion?  
A. reforestation and over cropping      C. use of phosphates and hydrocarbons  
B. establishment of fisheries      D. establishment of national parks
2. Why does human impact on the environment is often more dramatic than the impact of most other living things? Because humans have a greater...  
A. need for water      C. ability to adapt to change  
B. need for food      D. ability to alter the environment
3. Which situation has the most negative effect on the ecosystems of Earth?  
A. Using of air pollution controls      C. use of natural predators to control insect pests  
B. increasing human population      D. recycling glass, plastic, and metals
4. What is the irreversible effect of both deforestation and water pollution to the environment?  
A. extinction of species      C. increase in renewable resources  
B. depletion of atmospheric CO<sub>2</sub> levels      D. thinning of the ozone shield
5. What will happen to the natural resources if the population increases?  
A. It stays the same      C. it also increases  
B. It decreases      D. Population does not impact the environment

**II. Briefly answer the following questions:**

1. How is forest ecosystem affected when trees are cut down?
2. What is the most important issue the environment is facing today?
3. Why do we need to preserve our natural resources?
4. What are the major causes of air pollution?
5. Do you think people should recycle non-biodegradable materials? Why?

**Review / What's In**

Let's recap your past lesson.

Identify what is being referred to in the following:

1. It is an addition of contaminants in water, air, and land that causes adverse change in the environment.
2. These are species that are not native to a specific location, and that they have the tendency to spread to a certain degree which is believed to have caused damage to the environment.
3. It is a process by which a natural habitat becomes incapable of supporting its native species.
4. It is a situation where the resources used has outpaced the sustainable capacity of the ecosystem.
5. It is the increase in the number of individuals in a population.

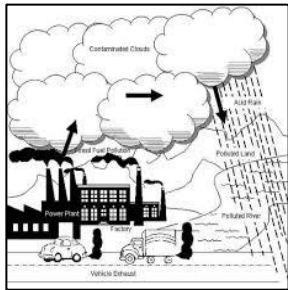
The next part of the module is basically a discussion of local and global environmental issues that contribute to species extinction.

Take a look at the following pictures. Can you describe what is shown in each picture?

A



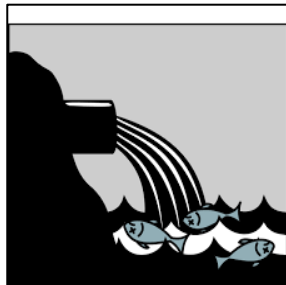
B



C



D



E



F



Work on the next activity which shows issues on species extinction.

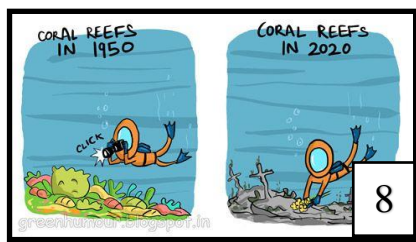
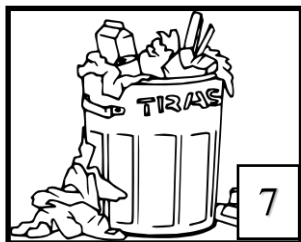
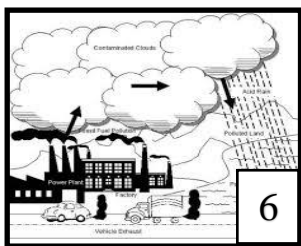
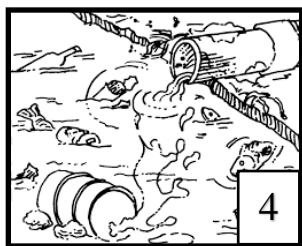
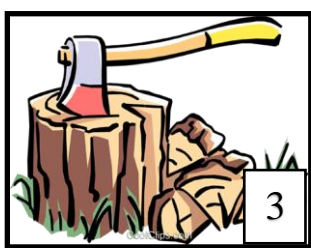
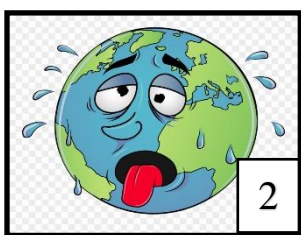
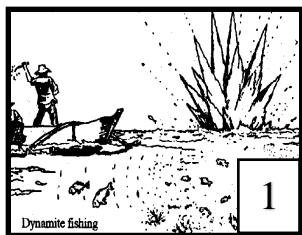


# Activity Card

## Activity 1: Pictionary

Study the images below and match them to the list of concepts found inside this box.

Water pollution — global warming — acid precipitation  
disposal of garbage — dynamite fishing — air pollution  
destruction of coastal resources — deforestation





Probably, you need to know more about some of the local and global issues that are also affecting your community. Answer the next activity.

**Activity 2: ENVIRONMENTAL CARDS**

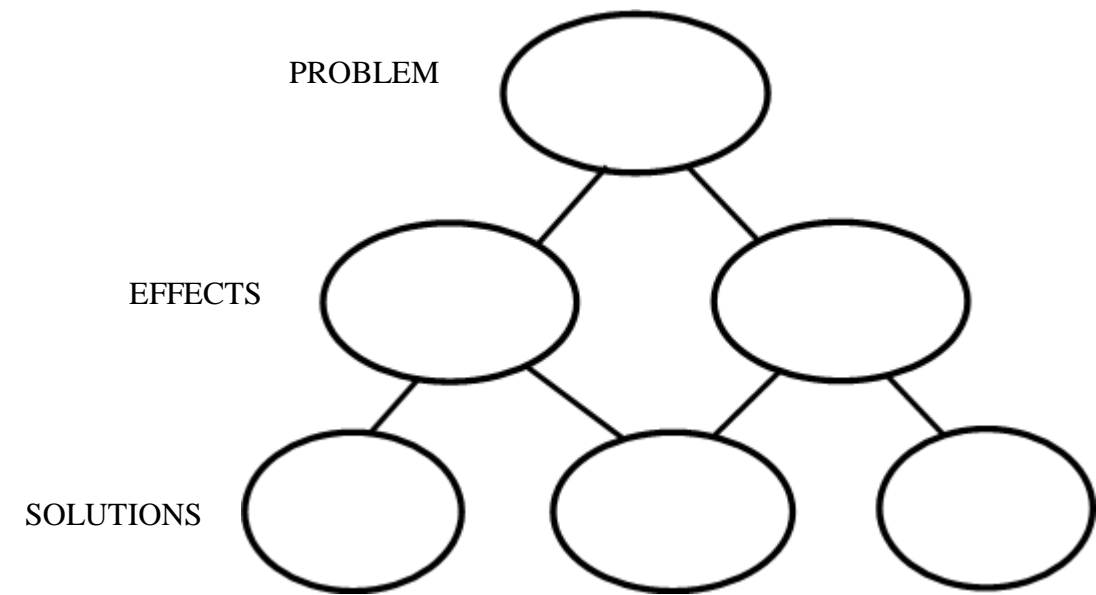
Widen your vocabulary skills by describing the different issues and problems listed below. Write your description inside the boxes.

<b>ACID RAIN</b>	<b>EUTROPHICATION</b>	<b>CLIMATE CHANGE</b>
<b>GLOBAL WARMING</b>	<b>WILDLIFE DEPLETION</b>	<b>AIR POLLUTION</b>
<b>SOIL EROSION</b>	<b>KAINGIN FARMING</b>	<b>DEFORESTATION</b>

Now that you know some local and global issues/problems that cause species extinction, you can now answer this next activity.

**Activity 3: LET’S ANALYZE**

Choose one environmental problem in your community. Cite the effects and suggest solutions/preventions to solve the problem.



Discussion of the Activity

There are local and global environmental problems that contribute to extinction of species. These include deforestation which covers kaingin farm-ing, and illegal logging , **air and water pollution, wildlife depletion, acid precipitation and destruction of coastal resources.**

Many of the changes that humans had done to the environment were made by accident. However, others occur naturally. In the past few months and until now, we are in the dilemma of this global pandemic crisis, the ongoing **COVID-19** that has animated its reality and threatened the whole world .

Try to know more on this dreadful virus currently spreading in our country by doing the next activity.



Enrichment Card

Activity 1: Are we safe?

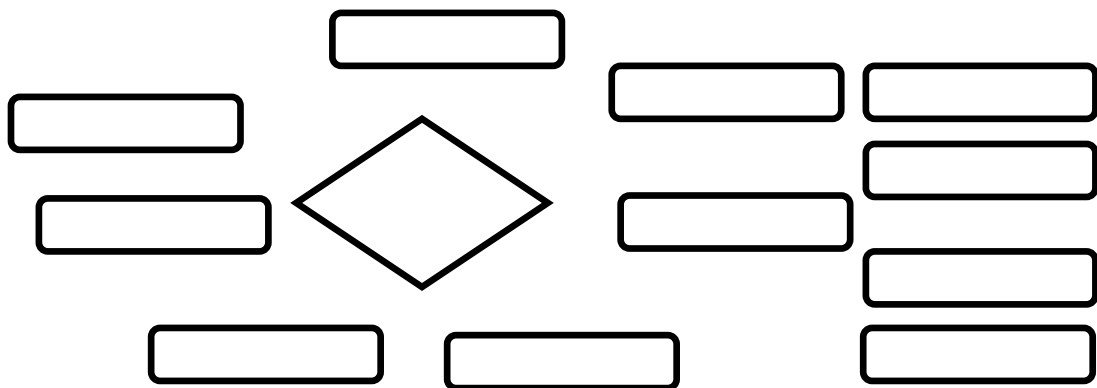
Write an essay with a minimum of 200 words and maximum of 300 words guided by the following questions.

- 1. What is COVID –19 ?
- 2. What caused this COVID –19?
- 3. How does COVID-19 affect human lives?
- 4. How can we prevent the spread of this virus?

CRITERIA	
Ideas/Organization	5
Understanding	5
Sentence Structure	5
Total	15 pts.

Activity 2: Graphic Organizer

Create a concept map on the different local/global issues and problems on extinction of species.



Reflection Card

Three (3) things I learned from the lesson

Two(2) interesting facts about the lesson

One (1) question I still need to know about the lesson



## Assessment Card

**Choose the letter of the your answer and write it on your notebook.**

1. Pollutants dumped into the rivers and streams eventually find their way to (A. the ocean B. the atmosphere C. groundwater supplies)
2. The average temperature of the earth's atmosphere may rise as a result of (A. the greenhouse effect B. water pollution C. garbage dumping)
3. ( A. Increased gas emissions B. Increased crop production C. Increased water pollution) can occur due to run off pollutants such as pesticides and fertilizers.
4. Acid rain forms ( A. when ozone layer is depleted B. when sulfuric acid mix with moisture and oxygen C. when there is temperature inversion )
5. Humans are using (A. fewer B. better C. more) natural resources than they did 100 years ago.
6. Which activities most directly control erosion?  
A. reforestation and cover cropping      C. use of phosphates and hydrocarbons  
B. established fish ponds      D. established national parks
7. Why does human impact on the environment is often more dramatic than the impact of most other living things? Because humans have a greater...  
A. need for water      C. ability to adapt to change  
B. need for food      D. ability to alter the environment
8. Which situation has the most negative effect on the ecosystems of Earth?  
A. use of air pollution controls      C. use of natural predators  
B. recycle glass, plastic and metals      D. increasing human population.
9. What is the irreversible effect of both deforestation and water pollution to the environment?  
A. extinction of species      C. increase in renewable resources  
B. depletion of atmospheric CO<sub>2</sub> levels      D. thinning of the ozone shield
10. What will happen to the natural resources if the population increases?  
A. stays the same      C. also increases  
B. It decreases      D. Population does not impact the environment



Answer Card

Activity #1

1. Dynamic fishing

2. Global warming

3. Deforestation

4. Water pollution

5. Air pollution

6. Acid precipitation

7. Disposal of garbage

8. Destruction of coastal resources

Activity #2

1. Acid rain results from the emission from factories and motor vehicles.

2. Eutrophication is the addition of substances from domestic garbage into bodies of water .

3. Climate change is the rising in average surface temperatures on Earth.

4. Global warming is the unusually rapid increase in Earth's average surface temperature.

5. Wildlife depletion is the loss of habitat of species.

6. Air pollution is a mixture of solid particles and gases in the air .

7. Soil erosion is the displacement of the upper layer of soil forming degradation.

8. Kaining farming is the cutting down and burning of trees and plant growth in an area for cultivation purposes .

9. Deforestation is the removal of a forest or stand of trees from land .

Activity #3

Answers may vary

Enrichment #1 and Enrichment #2

Answers may vary .

Assessment

1. C

2. A

3. C

4. B

5. C

6. A

7. D

8. D

9. A

10. B