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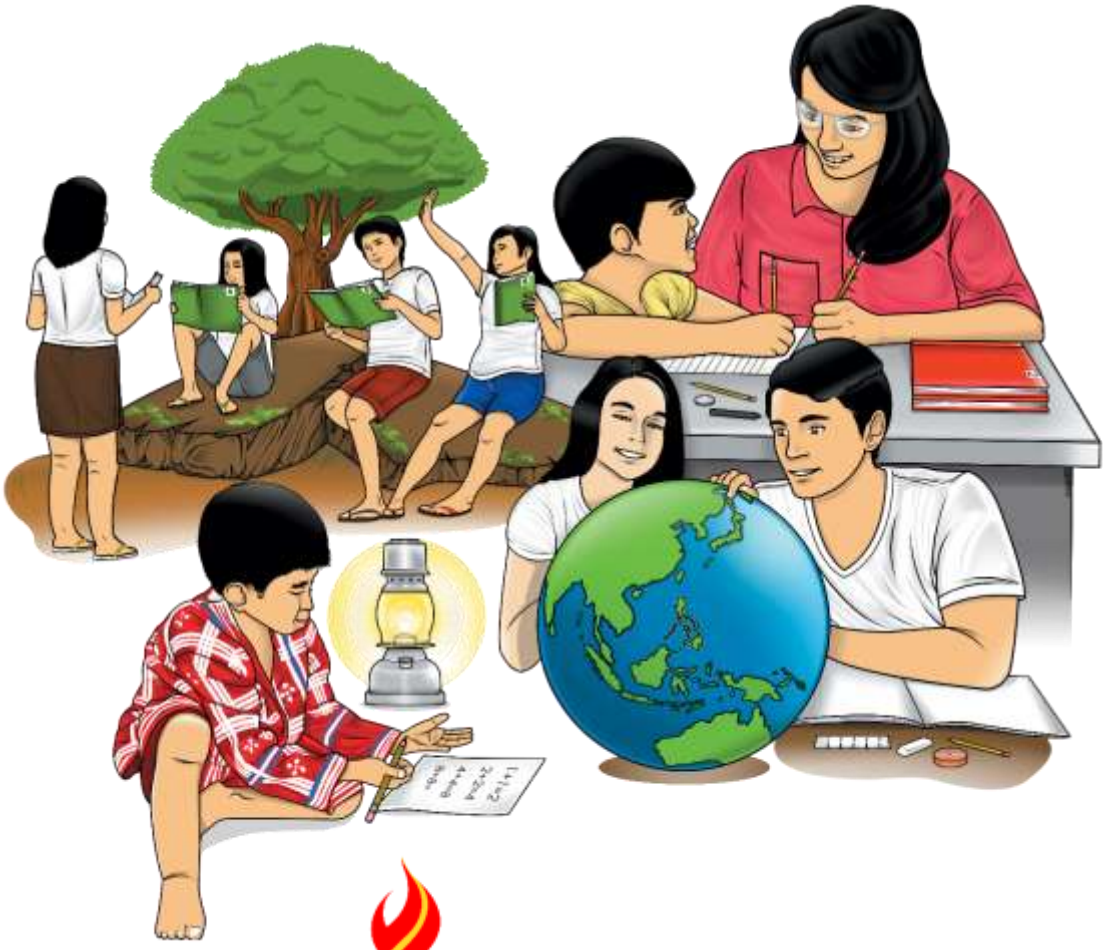
DEPARTMENT OF EDUCATION

Science

Quarter 4 – Module 7:
Protection and Conservation of Endangered and Economically Important Species



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Science

Quarter 4 – Module 7:
Protection and Conservation of Endangered and Economically Important Species

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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.

Thank you.

What I Need to Know

This module was designed and written with you in mind. It is here to help you understand how to protect and conserve the endangered and economically important species!

This module also emphasizes that humans are the leading cause of habitat destructions and other environmental problems since capturing and hunting wild animals are prevalent. This would help you realize to care, protect, and conserve the endangered and economically important species and become responsible for the welfare of our ecosystem.

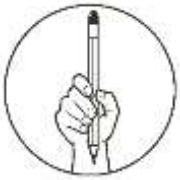
The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students. The lessons are arranged to follow the standard sequence of the course. But the order in which you read them can be changed to correspond with the textbook you are now using.

This module contains:

- **Lesson 1** – Protection and Conservation of Endangered and Economically Important Species

After going through this module, you are expected to:

1. Identify the factors affecting stability of ecosystems; and
2. Explain the advantage of high biodiversity in maintaining the stability of an ecosystem; (MELC Week 5 S8LT- IVh-21)



What I Know

Directions: Choose the letter of the correct answer. Write your answers on a separate sheet of paper.

1. Which is the ill effect of applying insecticides and herbicides to plants?
   A. hastens the growth of plants
   B. eradicates insects and weeds
   C. diminishes the carrying capacity of the land
   D. increases productivity of agricultural products

2. Which is the role of microorganisms in agriculture?
   A. returns plant nutrients to the soil
   B. blocks nutrients from getting absorbed by plants
   C. disturbs the cycle of nutrients for reuse of plants
   D. hinders the absorption of water by the roots of plants

3. Which practices help conserve the environment?
   I. Adopting organic farming
   II. Throwing garbage anywhere
   III. Using insects to fight other insects
   IV. Growing variety of crops rather than just one crop

   A. I, II and III
   B. I, II and IV
   C. I, III and IV
   D. II, III and IV

4. How do humans cause destructions in the environment?
   I. They use synthetic fertilizers in farming.
   II. They deprive many animals of their habitat.
   III. They limit the cultivation of various sorts of plants.
   IV. They spray their crops with insecticides and herbicides.

   A. I and II only
   B. I, II and III
   C. I, II and IV
   D. I, II, III and IV

5. Which activity contributes to pollution in the country?
   A. Not passing a law to minimize tons of wastes
   B. Constructing environmentally compliant buildings
   C. Selective and responsible logging for housing projects
   D. Throwing wastes like plastics, tin cans, and bottles anywhere

6. Which are the benefits of recycling waste materials?
   I. wasted time and effort
   II. reduced volume of wastes
   III. turned damaged materials into useful one
   IV. derived income from sold recyclable materials

   A. I and II
   B. II, III and IV
   C. I and III
   D. I, II and III

7. The Philippines has an abundant biological resource for foods, commercial merchandizes, and natural construction materials because of its rich _____ and fauna.
   A. Aqua
   B. Flora
   C. marina
   D. tuna

8. Which of the following are benefits derived from biodiversity?
   A. sports activities
   B. reduction of food security
   C. overpopulation of plants and animals
   D. environmental research, recreation and tourism

9. Which of the following places in the Philippines are well-known for its high biodiversity?
   A. Tubbataha Reef, Sumilon Island, & Eden Farms
   B. Banaue Rice Terraces, Surf Camps & Enchanted Kingdom
   C. Palawan Crocodile Farm, Ocean Park, & Ayala Art Museum
   D. Boracay Beaches, Manila Bay Fish Pens, & Pangasinan Bangus Farms

10. Which is a principle of ecosystem stability?
   A. Biodiversity is maintained.
   B. Ecosystems use sunlight as source of energy.
   C. Ecosystems replenish nutrients by recycling all elements.
   D. All of the above

11. Which anthropogenic activity has become a threat to destruction or loss of habitat of biodiversity?
   A. kaingin system
   B. indiscriminate mining
   C. illegal logging and poaching
   D. all of the above

12. Which criterion is NOT considered in determining whether a species is threatened or not?
   A. Direct economic value to human populace
   B. Modification or curtailment of its habitat and range
   C. Natural or man-made factors affecting the existence of wildlife
   D. Over-utilization for commercial, recreational, scientific or educational purposes

13. What does Republic Act 9147 provide for?
    A. preservation and protection of forest resources to promote ecological balance and enhance ecological diversity
    B. conservation and protection of water resources and their elements to promote balance and enhance animal density
    C. conservation and protection of wildlife resources and their habitats to promote ecological balance and enhance biological diversity
    D. conservation and protection of exotic animal resources and their habitats to promote biological stability and enhance biological density

14. Which two facilities were established by virtue of RA 9147?
    A. Critical Spots and Habitat for Humanity
    B. Clinical Habitats and Center of Plant Density
    C. Critical Habitats and Center of Plant Diversity
    D. Centennial Habitats and Center of Plant Density

15. Which set of human activities overexploits biodiversity that decrease the flora and fauna population and endanger species up to the brink of extinction?
    A. Illegal gambling, discriminate logging, and farming
    B. Illegal logging, indiscriminate mining, and poaching
    C. Urban gardening, herbal medicine and asexual farming
    D. Kaingin farming systems, flower marketing, and plant breeding

Lesson 1 Protection and Conservation of Endangered and Economically Important Species

Our country is considered one of the seventeen megadiverse countries as well as global biodiversity hotspots. It is also surrounded by waters reportedly with the highest level of marine biodiversity in the world.

Economically important species help humans to sustain life and work, as well as in the areas of recreation and tourism. But the more humans exploit other organisms and their habitats, the more species are harmed. This module deals with the variety of human activities that have been found as the leading causes of habitat destructions and adverse effects on biodiversity. It will help us realize to be responsible for our actions and to be good managers of biodiversity as a natural resource.

What's In

Activity 1. Let Us Recall!

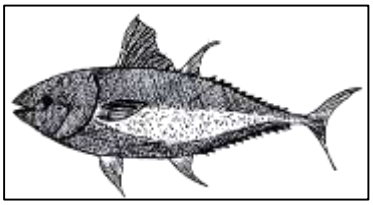
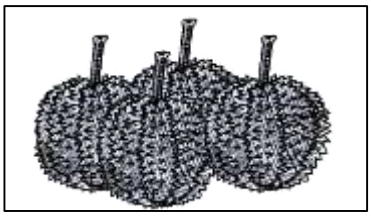
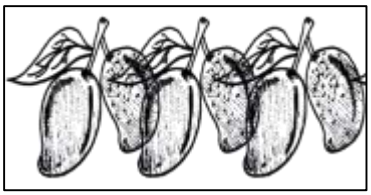
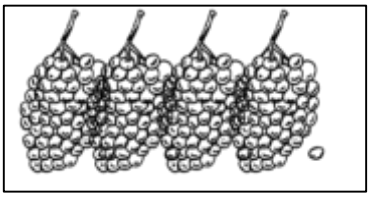
Directions: Write **T** if the statement is true and **F** if the statement is false about species. Write your answers on a separate sheet of paper.

1. Species is the basic unit of classification of an organism.
2. It is the smallest group of organisms that can produce offspring.
3. Species names consist of two words; the first word indicates to which organism belongs and the second word specifies the specific term of the species.
4. The scientific name of papaya is correctly written as *Carica papaya*.
5. The scientific name of milkfish or bangus is correctly written as *chanus chanus.*
6. Species consist of ~~the~~ similar individuals that are capable of exchanging genes.
7. Dogs, rice plants, and humans are examples of species.

What's New

Activity 2. Match it Up!

Directions: Match the plants or animals in the picture under **column A** with the place in the Philippines where these are most abundant or commonly found under **column B**. Write your answers on a separate sheet of paper.

Column A		Column B
1. Tamaraws		A. Camiguin City
2. Tuna		B. Davao City
3. Durians		C. Guimaras Province
4. Mangoes		D. General Santos City
5. Lansones		E. Mindoro Island

Illustrated by: Jubane, Jame-Son G.

What is It

Biodiversity and Value of Species

In Module 5, we defined **biodiversity** as the flexibility among living things from all sources and the ecological complexes of which they are a member of including differences within and between species and between ecosystems. They also perform an important role in keeping the stability in the ecosystem.

Philippines, being a global biodiversity hotspot is teeming with flora and fauna. This bountiful biodiversity serves many purposes such as biological resources, ecosystem services and, social benefits (Shah, 2014). With a rich flora and fauna, we have an abundant biological resource for foods, commercial merchandise, and natural construction materials, even ingredients for medicinal and pharmaceutical uses. Moreover, rich flora accounts for climate stability since plants freely absorb carbon dioxide and produce oxygen. The social benefits derived from biodiversity include environmental research, recreation, and tourism. To top it all, biodiversity boosts our economy. Economically important species or species that have actual or potential value in trade or utilization for commercial purposes are valuable sources of income for people. Rattan is a good example of an economically important species that is primarily used for the construction of furniture.

The value of species can be divided into three categories:

1. Direct Economic Value

This term collectively refers to the utilization of biological resources either for direct consumption or for commercial purposes. Cutting bamboo poles from the forest is a good example of direct economic value for direct consumption as material for native furniture or bamboo huts and cottages. Meanwhile, medicines that are developed from plant or animal extract are examples of direct economic value for commercial purposes.

2. Indirect Economic Value

There are benefits produced by species even without us using them. For example, certain plant species maintain the chemical quality of natural water bodies, prevent soil erosion and floods, cycle minerals in the soil, and absorb pollutants. Several animals also play many roles in the ecosystem. The following are some roles of species in the ecosystem:

- Bees are important pollinators to most crops. In addition to their ecological niche. They are also a food source to predators like birds, spiders, lizards, and other animals.
- Spiders and lizards are natural biocontrols against mosquitoes and other insects.
- Ants aid in rebuilding soil nutrients, enhance soil structure, permit water and air to pass through the soil easily, sustain energy, and improve biodiversity.

- Earthworms turn and fertilize the soil, allowing water and oxygen to reach plant roots. They eat a wide variety of organic materials and provide food for many different organisms.
- Bats are one of the pollinators of the durian flower which blooms only at night.
- Frogs regulate the insect population. To keep things in balance, they use lots of survival tools. Some run away and play dead.

3. Aesthetic Value

The aesthetic value of species refers to the feeling of pleasure derived from the appreciation of high biodiversity in a certain area. These include a panoramic view of tropical forests or species diversity of plants and animals that lead to recreation and tourism.

Among the well-known places in the Philippines appreciated for high biodiversity are: Tubbataha Reef in Sulo Sea, Sumilon Island in South-Eastern Cebu, Eden Farm in Davao, and Initao National Park in Misamis Oriental, Mindanao.

Stability in Ecosystem

A stable ecosystem is necessary to sustain its population across generations. It is where situations are held constant by negative response systems working within the ecosystem. The following are the principles of ecosystem stability:

- Ecosystems dispose of waste and replenish nutrients by recycling all elements;
- Ecosystems use sunlight as the source of energy;
- The size of a consumer population is maintained such that overgrazing and other forms of overuse do not occur; and
- Biodiversity is maintained.

Benefits of High Biodiversity in Preserving the Balance of an Ecosystem

High biodiversity helps maintain the stability of ecosystem and boosts its productivity. A bigger number of plant species indicates a higher diversity of crops; higher species diversity ascertains natural continuity for all living organisms, and healthy ecosystems can better withstand and recover from a variety of disasters. Healthy biodiversity provides several ecosystem services: protection of water resources, soil formation and protection, nutrient storage and recycling, pollution breakdown and absorption, contribution to climate stability and maintenance of ecosystems.

Threats to Biodiversity

Humans are showered with the numerous benefits obtained from high species biodiversity. However, their anthropogenic activities have become threats to biodiversity due to destruction or loss of habitat; such as when humans resort to kaingin to clear forest for farming. Furthermore, humans cause biological pollution when they intentionally or accidentally introduce alien species that compete with the native species, thus becoming an invasive species threatening shifts in biodiversity. An example of this biological pollution is the introduction of *Rhinella marina* or cane

toad to combat insect pests in sugar cane plantations. However, it becomes a problem as it eats other smaller animals in competition with the less superior native amphibian the *Limnonectes magnus* or bakbak.

Illegal logging, indiscriminate mining, and poaching are also examples of how human overexploits biodiversity leading to a major decrease of flora and fauna population thus endangering species up to the brink of extinction.

Figure 1: Philippine Eagle

Endangered species refers to species or subspecies that are not critically endangered but whose survival in the wild is unlikely to thrive if unwanted human factors continue operating. In addition, **critically endangered** species refers to a species or subspecies that are facing an extremely high risk of extinction in the wild in the immediate future, such as the avian species Philippine Eagle shown in Figure 1. To determine whether any wildlife species/subspecies is threatened, the following internationally accepted criteria have been used:

- present or threatened destruction;
- adjustment or restriction of its habitat and range;
- over-consumption for commercial, entertainment or leisure, scientific, or scholastic intentions;
- inadequacy of existing regulatory mechanism; and
- other natural or manmade factors affecting the existence of wildlife

Plants and animals are being threatened with extinction due to excessive hunting and large-scale destruction of their habitat.

The Philippines has been tagged as one of the "hotspots" in the world for conservation concern as 97% of its vegetation has been altered coupled with critically endangered bird and mammalian species (Tacio, 2000). There are nine endemic, endangered mammalian species in the Philippines. **Endemic species** means species or subspecies which is naturally thriving and seen only within a specific place in the country. These are the Golden-crowned flying fox, Negros naked-backed fruit bat, Philippine tube-nosed fruit bat, Panay bushy-tailed cloud rat, Ilin hairy-tailed cloud rat, Visayan warty pig, Calamian hog deer, Visayan spotted deer, and tamaraw (See figure 2).


Illustrated by Jubane, Jame-Son G.

Figure 2. Endemic species of the Philippines (from left to right), tamaraw, Golden-crowned flying fox and Philippine tarsier.

Protection and Conservation Measures

To address the biodiversity concerns, the Philippines has issued **Republic Act No. 9147** also known as the "Wildlife Resources Conservation and Protection Act". It is an act providing for the conservation and protection of wildlife resources and their habitats to promote ecological balance and enhance biological diversity. Under this act, the provision shall be enforceable for all wildlife species found in all areas of the country, including protected areas under RA 7586 and critical habitats. This act shall also apply to exotic species which are traded, cultured, maintained, and/or bred in captivity or propagated in the country. **Critical habitats** were designated outside protected areas and were subjected to stringent protection from any form of exploitation or destruction which may be detrimental to the survival of threatened species dependent therein imposing penalties over violation of this act.

Center of Plant Diversity was also established to protect and preserve endemic plant species. Mt. Kitanglad in Bukidnon, Mt. Apo in Davao, and Agusan Marsh in Agusan del Sur are examples of the established center of plant diversity in Mindanao. Identification of research sites is also another initiative to promote protection and conservation of wildlife, an example of which sites in Mindanao are Mt. Kitanglad Range in Bukidnon and Camiguin islands. In addition, the government has launched the **National Greening Program** to mitigate deforestation by funding and providing local farmers with economically important plant species such as cacao, falcate, and fruit trees.

What's More

Activity 3. Examine and Explain It!

Directions: Provide what is asked after the given situation below. Write your answers on a separate sheet of paper.

A team of researchers was tasked to identify within six months the number of plant and animal species in a certain ecosystem that is undisturbed by humans. They found out that the ecosystem is healthy as it inhabits a high number of plant and animal species reflected in the table below.

Ecosystem			
Plant Species	**No. of Species**	**Animal Species**	**No. of Species**
Banana	25	Ants	500
Carabao grass	400	Birds	50
Coconut Trees	50	Lizards	150
Corn	300	Monkeys	25
Gabi	100	Spiders	300
Gmelina Trees	10	Snakes	5
Mansanitas	5	Wild Pigs	15

Questions and Tasks:

1. Which plant species is dominantly inhibiting the ecosystem?

   _____

2. Which animal species is dominantly inhibiting the ecosystem?

   _____

3. Explain the advantages of high biodiversity of plant species and abundance of animal species in maintaining the stability of the ecosystem.

   _____

Scoring rubric for number 3.

Points	**Descriptions**
3	Discussions do not have misconceptions and with complete scientific evidence.
2	Discussions do not have misconceptions and with incomplete scientific evidence.
1	Discussions have misconceptions and with incomplete scientific evidence.
0	No discussions.

Activity 4. How Do You Feel?

Directions: Given the picture, express and explain your emotion based on the indicated conditions below. Write your answers on a separate sheet of paper.

Photo Credit: Rabaya, Grace Day S.

Questions **What would you feel if...**	**Emotions** (sad, angry, happy)	**Explanations**
1. plants and animals in the picture continue to live?		
2. trees are burned?		
3. Plants and animals are sold?		
4. wild animals are hunted?		
5. hills are excavated?		

Activity 5. Classify the Value of Species!

Directions: Categorize the value of each species by putting a check (/) mark on the space provided for. Write your answers on a separate sheet of paper.

Species/ Organism	Value of Species	Categories		
		Economic		Aesthetic
		Direct	Indirect	
1. Trees	Freshen the air			
	Provide shade			
	Source of medicines			
	Beautify the environment			
	Help to lessen carbon dioxide			
2. Abaca	Production of fabric for clothes			
3. Bees	Natural pollinators			
4. Oyster mushroom	Food			
5. Clownfish	Beautiful to watch			
6. Rattan	Used as decorative works			
7. Sea weeds	Act as soil conditioners			
	Human foods			
8. Corn	Source of Carbohydrates			
9. Coconut trees	Good source of cooking oil			
	Use as coconut lumber for housing project.			
10. Coral reefs	Protect coastlines from storms and erosion			
	Offer opportunities for recreation			
	Source of food and new medicines			

Activity 6. It Is Important!

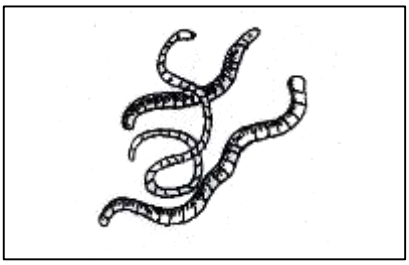
Directions: Name at least three economically important species according to the given uses below.

Uses	Examples of Species/ Subspecies		
	1	**2**	**3**
1. Aesthetics			
2. Construction Materials			
3. Food source			
4. Medical applications			

Activity 7. It's a Match!

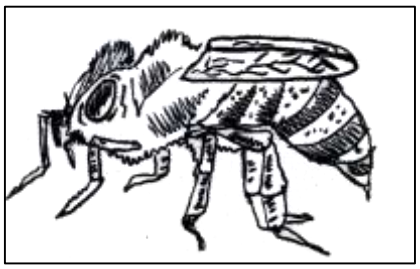
Directions: Match the organisms in the pictures with their roles below. Write only the letter of your answers on a separate sheet of paper.

A.



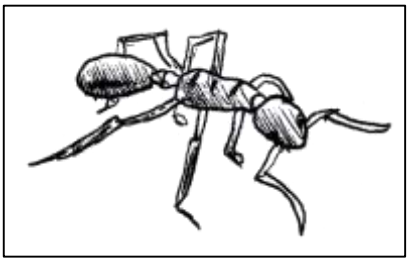
Earthworms

B.



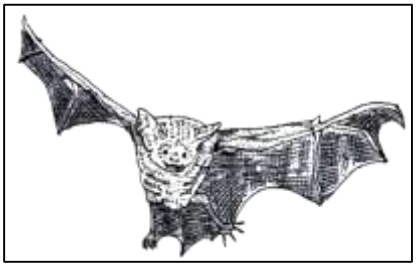
Bee

C.



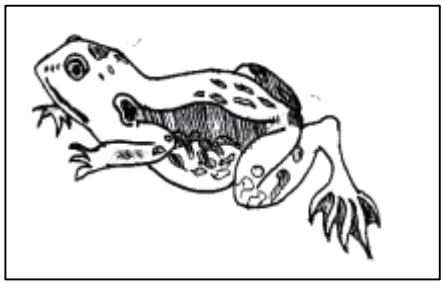
Ant

D.



Bat

E.



Toad

All drawings are Illustrated by Jame-Son G. Jubane

1. It is important pollinator to most agricultural crops. It is a food source to predators like birds, spiders, lizards and other animals.

2. This species helps restore soil nutrients, improves soil structure, and allows water and air to enter the soil more freely, conserves energy, and boosts biodiversity.

3. They fertilize the soil, allowing water and oxygen to reach plant roots. They eat a wide variety of organic materials and provide food for many different organisms.

4. This species maintains Davao's precious gem – Durian, by pollinating its flowers which bloom only at night.

5. It plays a central role in many ecosystems. It regulates the insect population. To keep things in balance, it uses several survival tools.

What I Have Learned

Activity 8. Filling in the Blanks!

Directions: Complete the statement by writing the correct word or phrase on the blank. Write your answer on a separate sheet of paper.

1. Species or subspecies that is not critically endangered but whose survival in the wild is unlikely to thrive is referred to as _____.
2. Certain plant species maintain~~s~~ the chemical quality of natural water bodies, prevent~~s~~ soil erosion and floods, contribute~~s~~ to the cycling of minerals in soil, and absorbs pollutants. These are considered _____ economic value of species.
3. The feeling of pleasure derived from the beauty of high biodiversity in a certain area is considered as _____ value of species.
4. Biological _____ happens when alien species is introduced either intentionally or accidentally; and it competes better than the native species.
5. Philippines has been tagged as one of the "hotspots" in the world for conservation as _____% of its vegetation has been altered coupled with critically endangered bird and mammalian species.
6. Species considered as _____ are those that naturally occur and found only within specific areas in the country.
7. Plants and animals are being threatened with extinction due to excessive hunting and large scale _____ of their habitat.
8. Republic Act No. _____ is also known as the "Wildlife Resources Conservation and Protection Act.
9. A healthy biodiversity provides a number of _____ services, such as protection of water resources and soil formation and protection.
10. A larger number of plant species means a greater variety of crops which ensures natural _____ for all life forms.

What I Can Do

Activity 9. Make It!

Directions: Create either a poster, slogan, poem, or a comic strip based on the theme: **"Protection, Conservation and Stability of Biodiversity amidst COVID-19 Pandemic".**

Scoring Rubric:

4 points	3 points	2 points	1point
Poster, slogan, poem, or comic strip captures substantial information about the theme/topic.	Poster, slogan, poem, or comic strip includes limited information about the theme/topic.	Poster, slogan, poem, or comic strip has little connection to the theme/topic.	Poster, slogan, poem, or comic strip has no connection to the theme/topic.

Assessment

Directions: Choose the letter of the best answer. Write your answers on a separate sheet of paper.

1. Which are categories of the value of species?

   I. aesthetic
   II. recreational value
   III. direct economic value
   IV. indirect economic value

   A. I and II
   B. III and IV
   C. I, III and IV
   D. I, II and III

2. Which category of economic value is described when humans are benefited without them intentionally or actually using species of organisms?

   A. Aesthetic
   B. economic value
   C. direct economic value
   D. indirect economic value

3. Which of the following shows an indirect economic value of species?
   A. rose plantation
   B. bangus farm
   C. variety of trees and shrubs along riverbanks
   D. malungay powder as food supplement

4. Which of the following shows direct economic value of species?
   A. butterfly pollenating a rose flower in a garden
   B. bangus grown in farms
   C. trees along riverbanks preventing soil erosion
   D. scenic view over chocolate hills in Bohol

5. Which of the following shows aesthetic value of species?
   A. butterfly pollenating flowers of fruit trees
   B. bangus grown in farms
   C. trees along riverbanks preventing soil erosion
   D. artistic & colorful feathers of peacock

6. In what way are birds beneficial to humans?
   A. They help the growth of crops.
   B. They feed on insect pest and small rodents
   C. Some birds feed on insect pest and small rodents that are themselves destroyers of valuable crops.
   D. Some birds are destroyers of valuable crops.

7. The following are examples of species with aesthetic value
   I. orchid
   II. bamboo
   III. peacock
   IV. chicken

   A. I and III
   B. III and IV
   C. III and IV
   D. II and III

8. Which policy promotes the protection and welfare of endangered species?
   A. Prohibit Kaingin system as it leads species to become extinct.
   B. Regulate hunting of animals specially the endangered and endemic species.
   C. Ban cutting of young trees as birds may lose habitat.
   D. All of the above

9. Which would likely –happen when overfishing in the oceans, clearing of forests and polluting of water sources are not prevented?
   A. Species may become endangered; habitat will become inhabitable; and biodiversity may decrease.
   B. Species will proliferate; habitat will become habitable; and biodiversity may increase.
   C. Species will increase; and biodiversity decreases.
   D. Species will decrease; and biodiversity will increase.

10. Which actions of an environmental activist will promote the welfare of endangered species?
    I. protect and maintain the endangered habitat
    II. discretely buy hardwood lumber like narra and yakal for construction purposes
    III. coordinate with "bantay gubat" personnel to avoid hunting of endemic species
    IV. initiate a program like seminars or lectures through the help of concern personnel

    A. I and II
    B. II and III
    C. II, III and IV
    D. I, III and IV

11. Which is NOT a principle of an ecosystem stability?
    A. Biodiversity is maintained.
    B. Ecosystems use sunlight as source of energy.
    C. Ecosystems replenish nutrients by recycling all elements.
    D. The size of a consumer population is not maintained such that overgrazing and other forms of overuse do not occur.

12. Which anthropogenic activity is encouraged to protect and preserve biodiversity?
    A. Biological Pollution
    B. Kaingin
    C. Logging and Pouching
    D. Reforestation

13. Which of the following criteria are considered in determining when a species is threatened?
    I. Inadequacy of existing regulatory mechanism
    II. Modification or curtailment of its habitat and range
    III. Natural or man-made factors affecting the existence of wildlife
    IV. Over-utilization for commercial, recreational, scientific or educational purposes

    A. I, II and III
    B. I, II and IV
    C. II, III and IV
    D. I, II, III and IV

14. Which Republic Act provides for the conservation and protection of wildlife resources and their habitats to promote ecological balance and enhance biological diversity?
    A. Republic Act 9003
    B. Republic Act 9147
    C. Republic Act 7586
    D. Republic Act 7587

15. Which of the following "ecosystem services" are derived from a healthy biodiversity?
    I. Depletion of the water resources
    II. Nutrient storage and recycling
    III. Contribution to climate stability
    IV. Pollution breakdown and absorption

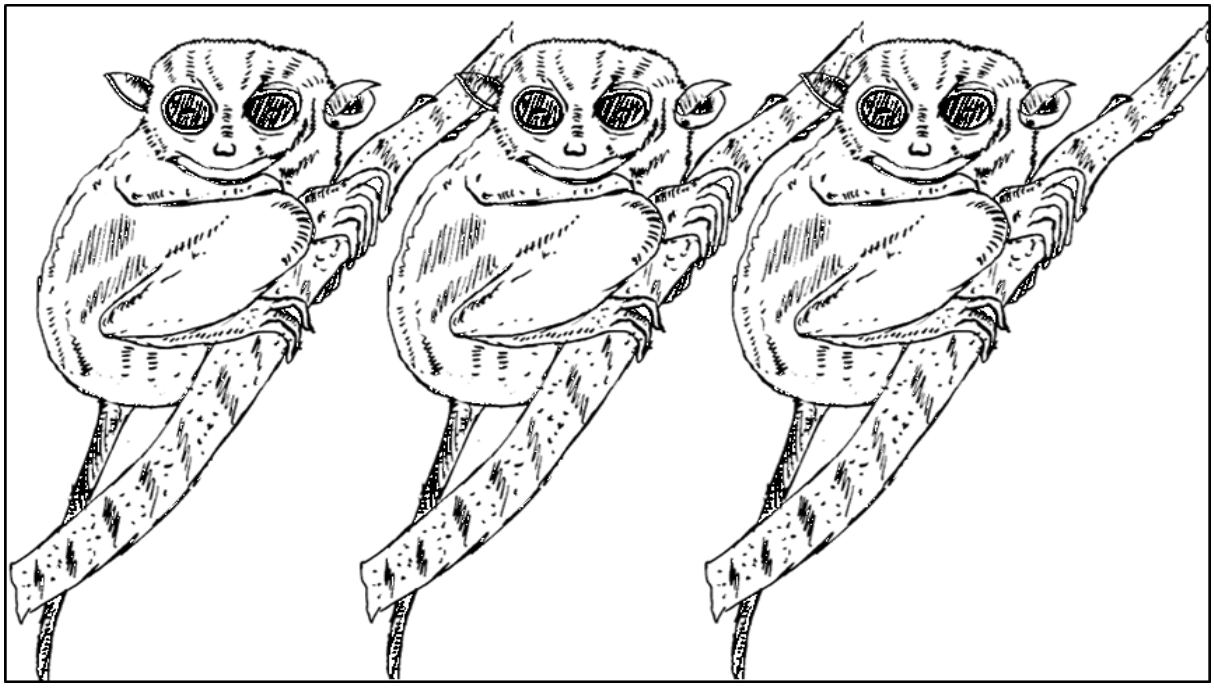
    A. I, II and III
    B. I, II and IV
    C. I, III and IV
    D. II, III and IV

Additional Activities

Activity 10: If I Were You!

Directions: Provide what is asked. Write your answers on a separate sheet of paper.

Scenario*: If you were the provincial director of the Department of Environment and Natural Resources (DENR) in Bohol, what conservation guidelines will you impose to protect the welfare and preserve the endangered tarsiers of Bohol?*



Illustrated by: Jubane, Jame-Son G.

Scoring Rubric:

Points	Descriptions
5	Conservation guidelines are clear, simple, relevant, complete and feasible.
4	Conservation guidelines are clear, simple, relevant and feasible but with incomplete provisions.
3	Conservation guidelines are clear, simple and feasible but with irrelevant and incomplete provisions.
2	Conservation guidelines are clear and simple with irrelevant and incomplete provisions and not feasible.
1	Conservation guidelines are complex with irrelevant and incomplete provisions.
0	No drafted conservation guidelines.

Answer Key

What I Know

1. A
2. C
3. D
4. D
5. B
6. B
7. B
8. D
9. A
10. D
11. D
12. A
13. C
14. C
15. B

What's In
Activity 1: Let Us Recall

1. T
2. F
3. T
4. F
5. F
6. T
7. T

What's New
Activity 2:

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

What's More
Activity 3: Match It Up!

1. Carabao grass
2. Ants
3. (Possible answer) No matter how small the number of species is all have an important role to play. A larger number of plant species enhance a greater variety of crops and greater species diversity ensures natural sustainability for all life forms.

Activity 4. How Do You Feel?

(Note: All answers are correct since these are elicited personal emotions and explanations).

Activity 5. Classify The Value of Species

1. Trees- direct, indirect and aesthetic
2. Abaca - direct
3. Bees – indirect
4. Oyster mushroom – direct
5. Clownfish – aesthetic
6. Rattan-Aesthetic
7. Sea weeds-direct and indirect
8. Corn-direct
9. Coconut trees-direct and indirect
10. Coral reefs-direct, indirect and aesthetic

Activity 6: It Is Important!
Possible answers.

1. Rose, sampaguita and cactus
2. Nara tree, yakal and coconut lumber
3. Panyawan, Malunggay ang Mangostin

(Note: In case answers of the learners do not coincide with the possible answers, teachers should evaluate whether or not the examples are correct).

Activity 7: It's a Match!

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

What I have Learned
Activity 8: Filling In The Blank

1. Endangered species
2. Indirect economic value
3. Aesthetic value
4. Pollution
5. 97%
6. Endemic
7. Destructions
8. R.A. 9147
9. Ecosystem
10. Sustainability

What I Can Do
Activity 9: Make It!

(Note: Use the rubric to assess the poster.)

Assessment

1. C
2. D
3. C
4. B
5. D
6. C
7. A
8. D
9. A
10. A
11. D
12. C
13. D
14. B
15. D

Additional Activities
Activity 10: If I Were You!

1. Possible provisions in the conservation guidelines:
2. Hunting and killing of tarsiers are not allowed.
3. Households are not allowed to cage tarsiers.
4. Any form of disturbance to the habitat of tarsiers is not allowed.
5. Experimentation s resulting to death of tarsiers are not allowed.

References

Electronic Sources:

"Republic Act No 9147". No Author, retrieved at: on https://pcsd.gov.ph/igov/republic-act-9147-conservation-protection-wildlife-resources on July 14, 2020.

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