





**GRADES 1 to 12  
DAILY LESSON LOG**

School:	Visit <a href="http://DepEdResources.com">DepEdResources.com</a> for More	Grade Level:	<b>VI</b>
Name of Teacher		Learning Area:	<b>SCIENCE</b>
Teaching Dates and Time:	<b>NOVEMBER 4 - 8, 2024 (WEEK 6)</b>	Quarter:	<b>Second</b>

OBJECTIVES	Monday	Tuesday	Wednesday	Thursday	Friday
<b>A. Content Standard</b>	The learners demonstrate the different characteristics of vertebrates and invertebrates.	The learners demonstrate the different characteristics of vertebrates and invertebrates.	The learners demonstrate the different characteristics of vertebrates and invertebrates.	The learners demonstrate the different characteristics of vertebrates and invertebrates.	The learners demonstrate the different characteristics of vertebrates and invertebrates.
<b>B. Performance Standard</b>	1. make an inventory of vertebrates and invertebrates that are commonly seen in the community 2. practice ways of caring and protecting animals	1. make an inventory of vertebrates and invertebrates that are commonly seen in the community 2. practice ways of caring and protecting animals	1. make an inventory of vertebrates and invertebrates that are commonly seen in the community 2. practice ways of caring and protecting animals	1. make an inventory of vertebrates and invertebrates that are commonly seen in the community 2. practice ways of caring and protecting animals	1. make an inventory of vertebrates and invertebrates that are commonly seen in the community 2. practice ways of caring and protecting animals
<b>C. Learning Competency/ Objectives</b>  <b>Write the LC code for each.</b>	Discuss the interactions among living things and non-living things in tropical rainforests, coral reefs, and mangrove swamps <b>(S6MT-Iii-j-5)</b>	Discuss the interactions among living things and non-living things in tropical rainforests, coral reefs, and mangrove swamps <b>(S6MT-Iii-j-5)</b>	Discuss the interactions among living things and non-living things in tropical rainforests, coral reefs, and mangrove swamps <b>(S6MT-Iii-j-5)</b>	Discuss the interactions among living things and non-living things in tropical rainforests, coral reefs, and mangrove swamps <b>(S6MT-Iii-j-5)</b>	Discuss the interactions among living things and non-living things in tropical rainforests, coral reefs, and mangrove swamps <b>(S6MT-Iii-j-5)</b>
<b>II. CONTENT</b>	<b>Interactions Among Organisms</b>	<b>Interactions Among Organisms</b>	<b>Ecosystem: Tropical Rainforests, Coral Reefs and Mangrove Swamps</b>	<b>Ecosystem: Tropical Rainforests, Coral Reefs and Mangrove Swamps</b>	<b>Ecosystem: Tropical Rainforests, Coral Reefs and Mangrove Swamps</b>
<b>III. LEARNING RESOURCES</b>					
<b>A. References</b>	<b>K-12 MELC- C.G p 383</b>	<b>K-12 MELC- C.G p 383</b>	<b>K-12 MELC- C.G p 383</b>	<b>K-12 MELC- C.G p 383</b>	<b>K-12 MELC- C.G p 383</b>
<b>1. Teacher's Guide Pages</b>					

<b>2. Learner's Materials pages</b>					
<b>3. Textbook pages</b>					
<b>4. Additional Materials from Learning Resource (LR) portal</b>					
<b>B. Other Learning Resource</b>					

**III. PROCEDURES**

**A. Reviewing previous lesson or presenting the new lesson**

**Animals Around Us**  
 Directions: Inside the box are names of vertebrates and invertebrates. Classify them according to the place they live and write them in the appropriate column.

Monkey Octopus Frog Fish Bees Mudfish	Vertebrates	Forest	Swamps	Sea
	Invertebrates			

What have you learned in our previous lesson?


What are the different interactions among living things that you have learned in our previous lesson?

What are the layers of the rainforest?

**What are the categories of coral reefs?**

**B. Establishing a purpose for the lesson**

Observe the pictures below. Identify what organisms are harmed, benefited, or not affected in each of the following interactions. Write your answers in the table. The first item is done for you.

Interaction	Organisms involved	Harmed	Benefited	Not Affected
	Rat and snake	Rat	snake	---


Instructions: Match the picture with the correct term.



Competition



Sharing resources




Causing harm

Directions: Read each item carefully and choose the letter of the best answer. Write your answer on your answer sheet.


1. What are the things needed by plants to make their own food?

- water, chemicals and oxygen
- oxygen and carbon dioxide
- oxygen and chemicals
- carbon dioxide, soil






Can you identify what is on the picture? What animals live with corals?

A coral reef is rich with marine life. It is a marine biome. It is composed of non-living



The picture shows a mangrove swamp. What organisms do you think that live in a mangrove swamps?

A mangrove swamp is a home to a diverse living and non-living things.

	Clown fish and sea anemone			
	Whale and barnacle			
	Orchid and tree			

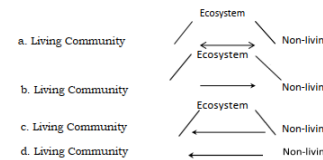
and sunlight  
 2. What kind of interaction is shown when worms live in the guts and flesh of a fish?

- a. mutualism
- b. commensalism
- c. predation
- d. parasitism

3. What kind of interaction is shown when monkeys in tropical rainforest compete for food with other animals?

- a. mutualism
- b. commensalism
- c. competition
- d. predation

4. Which of the following represents the ecosystem?



5. Which of the following pairs of organisms shows commensalism?

- a. butterfly sucking the flowers
- b. ferns attached to a tree
- c. flatworms in coral reefs
- d. snake eating a rat

things and living things. The living part composed of different species like fish, sea grass, corals, sponges and other marine animals.

Different species of animals like crustaceans, fish and mollusk compose the living part of mangrove ecosystem. Mangrove plants are the main organism that dominates this ecosystem. How do living and non-living things interact with each other in this environment?

**C. Presenting examples/ instances of the new lesson**

**Let us discover the different interactions among organisms.**

Let us learn the interactions among things and non-living things in tropical rainforests, coral reefs, and mangrove swamps.

The following are found in tropical rainforests. Classify them as living or non-living things. Write your answers in your Science Journal.

- tropical shrubs      trees      birds
- carbon dioxide      sunlight      oxygen

Living Things	Non-living Things

Directions: The following are found in coral reefs. Classify them as living or non-living things. Write your answers in your Science Journal.

1. crab \_\_\_\_\_
2. turtle \_\_\_\_\_
3. fish \_\_\_\_\_
4. sand \_\_\_\_\_
5. water \_\_\_\_\_

Pick out the animals that can be found in mangrove swamps ecosystem.

- |                      |            |             |
|----------------------|------------|-------------|
| monitor lizard       | oysters    | bats        |
| white heron (tagaki) | snake      | fish        |
| fiddler crab         | eagle      | monkey      |
| dolphin              | rat        | clown fish  |
| corals               | sea urchin | sea anemone |

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

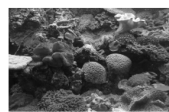
**D. Discussing new concepts and practicing new skills #1**

**Fun with Pics!**  
Directions: Observe the pictures closely. Choose the best picture that matches the descriptions given. Write the letter of the correct answer on the blank provided before the number.



- \_\_\_\_\_ 1. Animals of the same species fighting for food and space.
- \_\_\_\_\_ 2. An animal feeding on another animal.

**Tropical rainforest** is a very dense, warm, and wet forest located in the band of the equator. It can be described as a tall, dense jungle. The reason it is called a "rain" forest is because of the high amount of rainfall it gets per year. The climate of a rain forest is very hot and humid so the animals and plants that exist there must learn to adapt to this climate. It provides habitats for tropical plants and animals, serve as.



**Coral reefs** are large underwater structures composed of the skeletons colonial marine invertebrates called coral. nonliving components include water, a sand, and living components include crustaceans, mammals, mollusks, cnidarian, echinoderms, and sponges. Coral reef provide breeding and protection to many organisms. **Algae** serve as the producers this ecosystem.

**Mangrove swamps** are found in seashores. They are smaller aquatic ecosystems where mangrove trees abound. There are thousands of adaptive species in these areas which are not found in open seas and oceans. These areas are very important because they prevent large-scale marine pollution. They trap the particulates brought by water before these get into the sea. They also recycle waste matter into nutrients and often serve as breeding grounds of fishes.



<https://i.pinimg.com/en/photos/8/2/0/820934>



**Figure 1: Tropical rainforest**

The Ecosystem is an environment where both living and non-living things exist and interact with one another. This interaction enables the survival of living things and affects non-living things. Example of ecosystem



**Figure 5: Coral Reef Ecosystem**

Just like in other ecosystems, in coral reefs, organisms interact with each other. The producers like sea grass, provide food and nutrients to the consumers. These consumers include sea turtles, crabs, manatees (dugong),



Photo credit: Ester L. Penabaz

**Figure 6: Mangrove swamp in Bago City, Negros Occidental**

Mangrove swamp ecosystem is composed mostly of mangrove plants and animals like crustaceans and migratory birds. The non-living part composed of water, sand, mud, rocks and sunlight. It is an important system that allows for the breeding of fishes and

\_\_\_\_\_3. Organisms of different species work together benefiting each other.

\_\_\_\_\_4. Interaction of two organisms in which one is benefited and the other is neither harmed nor benefited.

\_\_\_\_\_5. Organisms that cooperate with each other for survival.

is the tropical rainforests. Living things that can be found here composed of plants and animals. Non-living things include soil, air, humidity, water and sunlight. Rainforest has different layers namely emergent, canopy, understory and forest floor. **Emergent** refers to trees that are 130 to 180 feet tall. **Canopy**, on the other hand, has tall slender trees from a dense platform of vegetation with 60 to 129 feet of the ground.

fishes and other marine animals. The factors that contribute to the coral reef formation are temperature, light penetration, stable salinity and water movement. There are different categories of coral reefs. Fringing reefs are reefs that hug the shore of continents or islands. Barrier reefs are reefs that stand between the open sea and a lagoon. Coral atolls are reefs that enclose a lagoon.

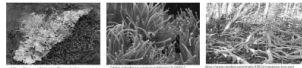
survival of other marine animals. It is also a part of the coastal and marine ecosystems. There are varieties of marine and terrestrial life living in mangroves. Animals like white heron (tagak), and other birds inhabit the mangrove canopy. Fishes and crustaceans live underneath the mangrove roots system. Organisms like oyster, mussels attached themselves to the trunk and lower branches of the mangroves. Animals like monitor lizard, mudskipper and crustaceans such as shrimps and crabs live in mangrove swamps. Also, migratory birds like pelicans, spoon bills and bald eagles are also found in this habitat. Some saltwater crocodiles can also live in Philippine mangrove swamps.

**E. Discussing new concepts and practicing new skills #2**

An ecosystem is composed of living and nonliving things. The living part of an ecosystem consists of the different species of organisms. Each species is a part of the ecosystem's population. The nonliving components of an ecosystem are: the soil, the type of climate (temperature, light, water or moisture, wind) and location. The different populations make up a community. The different populations in the ecosystem interact with each other and their environment. Producers are green plants, algae or microorganisms that are capable of making their own food. Consumers get their energy by feeding on plants and other organisms. Decomposers get energy by breaking down dead organisms and their wastes. A food chain is a sequence of organisms which starts from producers and ends with decomposers. A food

The complex interactions for survival among living things and nonliving things that take place in tropical rainforests, coral reefs, and mangrove swamps include: mutualism, commensalism, predation, competition, cooperation, and parasitism.

**Mutualism** is a type of interaction when two organisms of different species "work together," each benefiting from the relationship. An example from the Tropical Rainforest ecosystem is the lichen. It consists of an algae and fungus growing together. The fungi gets food from the photosynthesizing algae and the algae gets a place to live. Both are benefited from the interaction. In Coral Reefs ecosystem, mutualism is also present between coral and zooxanthellae. Corals depend on photosynthetic protist zooxanthellae, that live on their tissues for survival. Both organisms are benefited. Another example is the clown fish and sea anemones, these two live together showing give-and-take-relationship. In this relationship, both are benefited. The sea anemones serve as its habitat of the clown fish while the clown fish protects the sea anemone from sea creature that are inimical to the its tentacles. In mangrove swamps ecosystem, the mangrove and coral reefs have mutual relationships. The reef protects the coast where in mangroves grow and the mangroves trap sediments washed from the land, prevent them from reaching the reef.



**Commensalism** is a type of interaction that occurs between two species in which one organism benefits while the other organism is neither benefited nor harmed. Example of this in the rainforest ecosystem is an orchid on the trunk of a tree, orchids attach themselves to the trunks of trees. The orchids make their own food and do not take anything from the trees. They simply use the trees for exposure to get the much-needed sunlight. In the coral reef ecosystem, barnacles attached themselves to the skins of whales and turtles. The barnacles are the commensals while the whales are the host. The commensals are benefited while the host is neither harmed nor benefited. In mangrove ecosystem, oysters and barnacles attach themselves to the roots of mangroves.



**Predation** is an interaction wherein one animal consumes another. The organism that does the eating is called predator and the organism that gets eaten up is the prey. The act of predation always causes the death of its prey and taking in the prey's body parts into its predator's body. Example of this in the rainforest ecosystem is a snake feeding on a rat. In the coral reef ecosystem, a barracuda preying on a small fish is an example. Flamingo eating small fish is an example in the mangrove ecosystem.

**Competition** is a fight between organisms to survive. When populations in an ecosystem have the same needs and utilize the same resources, the resource become scarce, and competition exists. Examples of this in the rainforest ecosystem is: plants competing for space (they try to outgrow one another by reaching out for sunlight while help them in the manufacture of food) and animals of the same species fighting for food.



The **understory** is about 59 feet and below and consists of trunks of canopy, shrubs, trees and small plants. The **forest floor** is home to animals like jaguars, tigers and cassowaries which thrive in a deep shade part of the forest where plant life is thin. This is because only a small percent of sunlight gets through the thick canopy and understory and reaches the forest floor. Organisms like fungi, insects, worms and litter from taller trees that fall on the forest floor can be found here.

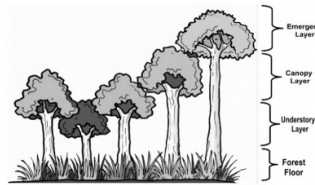

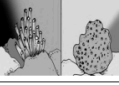




Figure 2: Layers of the rainforest

Producers provide food for the consumers which include herbivores-plant

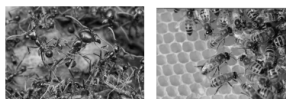
There are interactions that exist in the coral reefs' ecosystem.

	Commensalism is an interaction where organisms live together without harming one another; for example, barnacles attached on skin of turtles without harming them. Barnacles are benefited while the host is not harmed.
	In mutualism, both organisms benefit in the relationship; for example, the corals receive oxygen from the algae; the algae get protection from them.
	Competition is an interaction wherein organisms compete for survival. For example, the fishes compete for source of food and space in the coral reef.
	Predation is a kind of interaction in which one organism kills smaller organisms for food. An example of this is when a big fish eats a small fish. The predator which a big fish benefits in the interaction while the prey, a small fish is harmed.

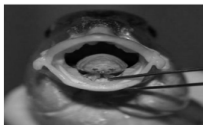
The symbiotic interaction found in a mangrove ecosystem includes many organisms that depend on mangrove for survival. Animals like oysters, mollusks and barnacles are dependent on mangrove for their source of food and habitat. Commensalism is shown when barnacles and oysters attach themselves to the roots of mangroves. Fishes stay in the mangroves during a particular stage of their life to grow and develop into a mature fish. Mutualism is shown when animals like crabs and mollusks help break down plant litter in a mangrove ecosystem through grazing. White heron (tagak) eating a fish shows predation in this kind of ecosystem.

web is a combination of multiple food chains. In food chains, we get to know how organisms are connected to each other.

**Cooperation** is a type of interaction where organisms cooperate with each other for their survival. Each member has specific task to do. Examples include: works colonies of ants, bees, and termites in a rainforest ecosystem.



**Parasitism** is another relationship where one organism is benefited while the other one is harmed. Example of parasitism is the interaction between the parasite living in the mouth of the fish and the fish itself.



Healthy in mouth by Boonero, M. S., 2012. <https://www.flickr.com/photos/2009648822/>

eating animals and carnivores-flesh eating animals. Herbivores provide food to the carnivores. Producers include trees, shrubs and other plant life in the forest. Feeding relationships like food chain and food web occur among species in the forest ecosystem. Food chain starts with producer, a series of consumers and decomposers. Food web results from the interconnected food chains.

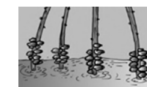
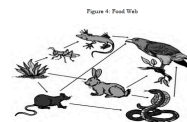
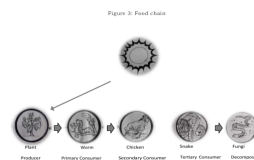


Figure 7: Oysters attached to mangrove



Figure 8: White heron eating a

Mangrove swamp ecosystem is important for they serve as breeding and nesting grounds of animal species. The mangrove shelter is used as shelter by fishes as breeding and nursing grounds before heading to the open ocean. Mangroves are also important habitat of organisms. Numerous animal species find protection and abundant food in this environment. It also acts as natural barrier and flood defense as they defend coast lines from flooding and erosion. Lastly, mangrove is an important source of livelihood of people living in coastal areas.

**F. Developing mastery (leads to Formative Assessment 3)**

Living things like animals and plants can interact with the non-living environment, including the soil,

**Explain the concept further.**

Directions: Identify the type of interaction

Directions: Answer the following questions. Write your answers in your Science journal.

Directions: Identify and discuss the interaction between living and non-living things

climate and water, to cause effects on each other that can be positive, negative or neutral. For example, animals benefit from a non-living environment with plenty of water and air because these are essential for survival. If a living organism cannot adapt to its non-living surroundings (such as a lack of sunlight or too hot or cold temperature) or cannot get what it needs from these surroundings (such as water), then the living organism will have problems surviving and thus will be negatively affected. In addition, living organisms in an environment without sufficient non-living resources may have trouble getting what they need for survival due to competition for those resources. Some examples on interactions between non-living and living things include plants getting their

described. Choose your answer from the box and write it on the space provided before the number.

Mutualism	Competition
Commensalism	Cooperation
Predation	Parasitism

1. An interaction between organisms or species in which both the organisms or species are harmed.
2. A type of interaction where organisms cooperate with each other for their survival.
3. An interaction wherein one animal consumes another.
4. A type of interaction that occurs between two species in which one organism benefits while the other organism is neither benefited nor harmed.
5. A relationship where one organism is benefited while the other one is harmed.
6. A

There are different organisms living in this ecosystem which interact with each other. There are interactions that exist among the tropical rainforest.



Commensalism is an interaction where organisms live together without harming one another for example orchids is attached to the trunk of a tree without harming it.



In mutualism both organisms benefit in the relationship for example, a bee or butterfly suck nectar from a flower and the flower reproduces.



Competition is an interaction wherein organisms compete for survival. For example, grass, shrub flowers, and trees grow together in one area where they compete for source of food, sunlight, soil nutrients and other things needed for their survival.



Predation is a kind of interaction in which one organism kills smaller organisms for food. An example of this is when a snake eats a rat for food. Predator usually organisms which are stronger, bigger and fiercer compared to prey.

Directions: Read carefully and answer the following items. Write your answers in your Science Journal.

- What are the interactions that exist among living things and non-living things in the tropical rainforest?
- Discuss interaction between plants and sunlight in a tropical rainforest ecosystem.
- What will happen if producers will decrease in a rainforest ecosystem?
- Are the interactions among living things

1. What are the living and non-living things found in the coral reefs?
2. How do they interact with each other? Discuss the relationship or interaction between:
3. Big fish and small fish
4. Worm in the flesh and guts of fish
5. Are these interactions important? Why?

in a mangrove swamp ecosystem. Write your answers in your Science Journal.

1. oyster and mangrove
2. white heron and water
3. crab and mud
4. mangrove and bird

minerals from the soil and making food using sunlight, animals needing a specific temperature range for their body processes to function properly and sea creatures needing either saltwater or freshwater.

type of interaction when two organisms of different species "work together," each benefiting from the relationship.

and non-living things important? Why?

**G. Finding practical application of concepts and skills in daily living**

Directions: Using the box below, draw a poster on how you can help protect and conserve our ecosystems following the elements of arts (*Color, Space, Shape, Form, Value, Line, and Texture*). Choose only one ecosystem from the three types discussed. The given rubric will be used in giving points of your output.

RUBRIC:

	Excellent (4)	Good (3)	Poor (2)	Needs Improvement (1)
Following Instructions	All directions were followed	Most directions were followed	Some directions were followed	None of the directions were followed
Color	All colors were appropriate	Most colors were appropriate	Some colors were appropriate	No color is appropriate
Clearness	Clear from errors	Some errors were observed	Many errors were observed	Ten many errors were observed
Relevance to the concept	Clearly shows the concept	Fairly shows the concept	Poorly shows the concept	Failed to show the concept

Directions: Match the different types of interactions in Column A with its corresponding examples in Column B. Write your answer on the blank provided before the number.

- |  |  |
|--|--|
| <p>Column A</p> <ol style="list-style-type: none"> <li>1. Commensalism</li> <li>2. Mutualism</li> <li>3. Parasitism</li> <li>4. Competition</li> <li>5. Cooperation</li> <li>6. Predation</li> </ol> | <p>Column B</p> <ol style="list-style-type: none"> <li>A. Whale eating smaller fish.</li> <li>B. Worm living in the body of the whale and the whale is</li> <li>C. Two monkeys fighting over a potato.</li> <li>D. Bee and the flower.</li> <li>E. Oysters attaching themselves to mangroves.</li> <li>F. Working colonies of bees.</li> </ol> |
|--|--|

Read the paragraph and answer the questions that follow. Write your answer in your Science Journal. Living things and non-living things interact with each other in a Tropical Rainforest Ecosystem. This interaction enables the survival of living things and affects non-living things. Can you identify the living and non-living things in a Tropical Rainforest? Discuss their interaction. Example: Plants and carbon-dioxide - Plants need carbon dioxide for food-making, in return, it releases oxygen during the process of photosynthesis.

Read the paragraph and answer the questions that follow. Write it in your Science Journal. Living things and non-living things interact with each other in a Coral reef ecosystem. Coral reef is composed of non-living components such as water and sand. It serves as breeding place for fish, crustaceans, mollusks, cnidarians, sponges and echinoderms. Their interaction enables the survival of living things and affects non-living things. Can you identify the living and non-living things in Coral Reef Ecosystem?

The YES-O members of Bago City, Negros Occidental participated in the conduct of mangrove planting and clean-up drive at Purok Batad, Brgy. Sampinit, Bago City.



Photo credit: Ened P. Pasadas



Photo credit: Ened P. Pasadas

During the mangrove planting, pupils were asked identify the different factors that would ensure the survival of plants and other living things in the mangrove ecosystem. Directions: Identify the living and non-living things in

Discuss their interaction.

the mangrove ecosystem and discuss how they interact.

Living Things and Non-living Things	Interaction
Example: water and mangrove	Water enables the growth mangrove, mangrove in return he filter the pollutants from the it run-offs making the water free fr harmful build-up of sediments.
1.	
2.	
3.	

**H. Making generalizations and abstractions about the lesson**

What have you learned in this lesson?  
 I learned that. . .  
 (Tropical rainforests, Mangrove swamps, Coral reefs) are very dense, warm, and wet forest located in the band of the equator. Coral reefs are large underwater structures composed of the skeletons of colonial marine invertebrates called (corals, crabs, shrimp).  
 (Coral reefs, Mangrove swamps, Tropical rainforests) are smaller aquatic ecosystems where mangrove trees abound.  
 Mutualism is a type of interaction when two organisms of different species work together, each (benefited, harmed, not affected) from the relationship.

What have you learned in this lesson?  
 I learned that. . .  
 (Commensalism, Cooperation, Competition) is an interaction between organisms or species in which both the organisms or species are harmed. A relationship where one organism is benefited while the other one is harmed is called (cooperation, mutualism, parasitism).  
 (Cooperation, Predation, Parasitism) is the term used when referring to interactions among organisms that cooperate with each other.

Complete the paragraph below.  
 Choose your answer from the words inside the box.

mutualism	ecosystem	understory	canopy
predation	emergent	forest floor	food chain
food web	commensalism		

I learned that.....  
 The is an environment where both living and non-living things exist and interact with one another.  
 The different layers of the rainforest are \_\_\_\_\_, \_\_\_\_\_ , \_\_\_\_\_ and \_\_\_\_\_ .  
 \_\_\_\_\_ is a series of feeding relationship, while \_\_\_\_\_ is an inter-connected food chain.  
 \_\_\_\_\_ is an interaction where organisms live together without harming one another, for example,

Complete the paragraph. Choose your answer from the words given inside the box below.

water movement	temperature
coral reefs	fringing reefs
coral Atolls	parasitism
barrier reefs	predation

I learned that ....  
 The serve as a breeding ground of marine life.  
 The factors that contribute to the reef formation are light penetration, , stable salinity and .  
 The , and are categories of coral reefs. \_\_\_\_\_ is an interaction where organisms live together without harming one another, for example, barnacles attached on skin of turtles without harming them. In both organisms benefit in the relationship. For

Complete every statement by supplying the blank with a word or group of words from the box below.

commensalism	mangrove swamp
habitat of organisms	predation
natural barrier and flood defense	

I learned that ...  
 Ecosystem is composed mostly of mangrove plants and animals like crustaceans and migratory birds.  
 Mangroves are important because, they serve as breeding and nesting grounds of animal species, \_\_\_\_\_ , \_\_\_\_\_, a source of livelihood of people living in coastal areas.  
 In this kind of ecosystem, \_\_\_\_\_ is shown when animals like crabs and mollusks help break down

(Commensalism, Competition, Predation) is an interaction wherein one animal consumes another. (Commensalism, Competition, Predation) is a type of interaction that occurs between two species in which one organism benefits while the other organism is neither harmed nor benefited.

the orchids are attached to the trunk of a tree without harming it. In \_\_\_\_\_, both organisms benefit in the relationship. \_\_\_\_\_ is a kind of interaction in which one organism kills smaller organisms for food.

example, the corals receive oxygen from the algae; the algae get protection from them. is a kind of interaction where one organism, the parasite, depends on another organism for food, production and reproduction. is a kind of interaction in which one organism kills smaller organisms for food. An example of this is when a big fish eats a small fish.

plant litter in a mangrove ecosystem through grazing. \_\_\_\_\_ is shown when white heron (tagak) ate fishes.

**I. Evaluating learning**

Directions: Read each item carefully. Encircle the letter of the correct answer.

**1. In a coral reef ecosystem, clown fishes and sea anemones live together. What type of relationships do they have?**

A. Commensalism  
B. Mutualism  
C. Parasitism  
D. Predation

**2. Colonies of ants work together for survival, what do you**

Here you have different examples of interaction between living things. Write below each picture the correct word: cooperation, competition, mutualism, commensalism, predation or parasitism.



Directions: The table below shows the different interactions in a tropical rainforest. Choose the correct organism that shows the kind of interaction in a given ecosystem.

Interaction in Tropical rainforests	Organisms Involved
1. Mutualism	a. The shrubs, flowers and trees grow in one area. b. The butterfly sucks nectar from a flower; flower reproduces.
2. Commensalism	a. The birds eat worms. b. The orchids attach to a branch of a tree.
3. Competition	a. The orchids attach to a branch of a tree. b. The grass, flowers, trees grow together in one area.
4. Cooperation	a. The ants in a colony. b. The snake eats a rat.
5. Predation	a. The snake eats a rat. b. The ferns attach on a tree.

Directions: Identify the interaction between the given pair of organisms in column A and its interaction in column B.

Column A	Column B
1. sea urchin-corals	a. mutualism
2. barnacles-turtle	b. competition
3. worm-fish	c. predation
4. tuna fish-blue marlins	d. commensalism
5. clown fish-sea anemone	e. parasitism

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

1. Which group of organisms can be found in the mangrove ecosystem?

a. mussels, fish, corals  
b. worm, rat, fish  
c. butterfly, snake, bird  
d. mangrove trees, fiddler crab, fish

2. What are the things needed by plants to make their own food?

**call this interaction?**

- A. Mutualism
- B. Parasitism
- C. Cooperation
- D. Commensalism

**3. Which organisms show commensalism?**

- A. Fish living on corals
- B. Sea urchin eating corals
- C. Barnacle living on a whale
- D. Clownfish living on a sea anemone

**4. Which phrase best describes mutualism?**

- A. It is a predator-prey relationship
- B. an interaction when one is benefited and the other is harmed
- C. an interaction when two organisms of different species work together benefiting each other
- D. a relationship that occurs between two species in which one organism benefits while the other organism is neither benefited nor harmed

**5. From what you have learned in the discussion, how will you describe predation?**



cooperation	competition	commensalism
mutualism	predation	parasitism

- a. water, chemicals and oxygen
- b. oxygen and carbon dioxide
- c. oxygen and chemicals
- d. carbon dioxide, soil and sunlight

3. Which of the following describes a canopy of the rainforest?

- a. composed of trees that are 130 to 180 feet tall
- b. about 59 feet and consists of trunk of canopy, shrubs, small plants and trees
- c. consists mostly of fungi, insects, worms and litter from taller trees
- d. has slender trees from a dense platform of vegetation with 60 to 129 feet.

4. What kind of interaction is shown when one organism kills another organism for food?

- a. mutualism
- b. commensalism
- c. parasitism
- d. predation

5. It is an environment where both living and non-living things exist

- A. an interaction wherein one animal consumes another.
- B. an interaction when one is benefited and the other is harmed.
- C. an interaction when two organisms of different species work together.
- D. a type of interaction where organisms cooperate with each other for their survival.

- and interact with one another.
- a. ecology
  - b. ecosystem
  - c. community
  - d. population
6. One example of competition in tropical rainforest is when the shrubs and trees are growing together in one area. What do they compete for?
- a. sunlight and soil nutrients.
  - b. oxygen and carbon dioxide.
  - c. chemicals and oxygen.
  - d. water and chemicals.
7. \_\_\_\_\_ results from the interconnected food chains.
- a. consumer
  - b. producer
  - c. food web
  - d. biotic component
8. Why is the relationship between the corals and the algae in the coral reefs considered mutualistic?
- a. The corals benefit in the interaction and not the algae.

b. The corals receive oxygen from algae, the algae get protection from corals.

c. The corals receive oxygen from algae while the algae are harmed.

d. The corals and algae live together without harming each other.

9. What kind of interaction is shown when animals like crabs and mollusks help break down plant litter in a mangrove ecosystem through grazing?

a. competition

b. commensalism

c. parasitism

d. mutualism

10. Why is producer important in an ecosystem?

a. It is the source of food to the consumers.

b. It is an organism that eats plants.

c. It breaks down organism into smaller particles.

d. It is a series of feeding relationship.

**J. Additional activities for**

<b>application or remediation</b>					
<b>IV. REMARKS</b>					
<b>V. REFLECTION</b>					