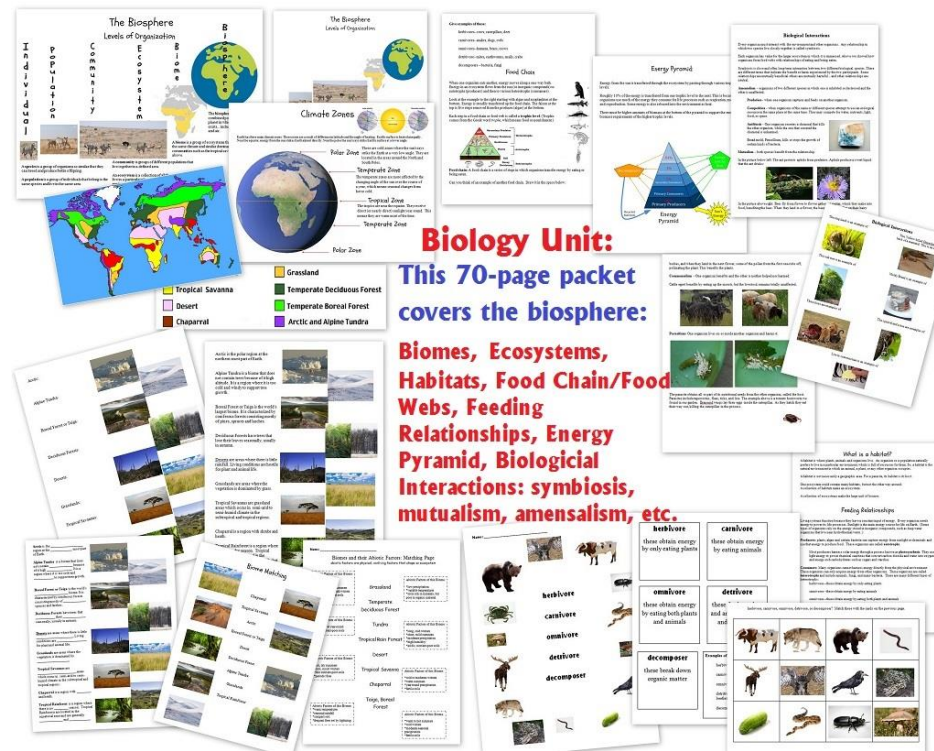
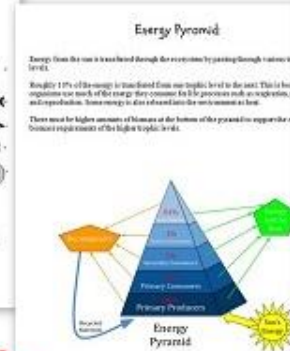
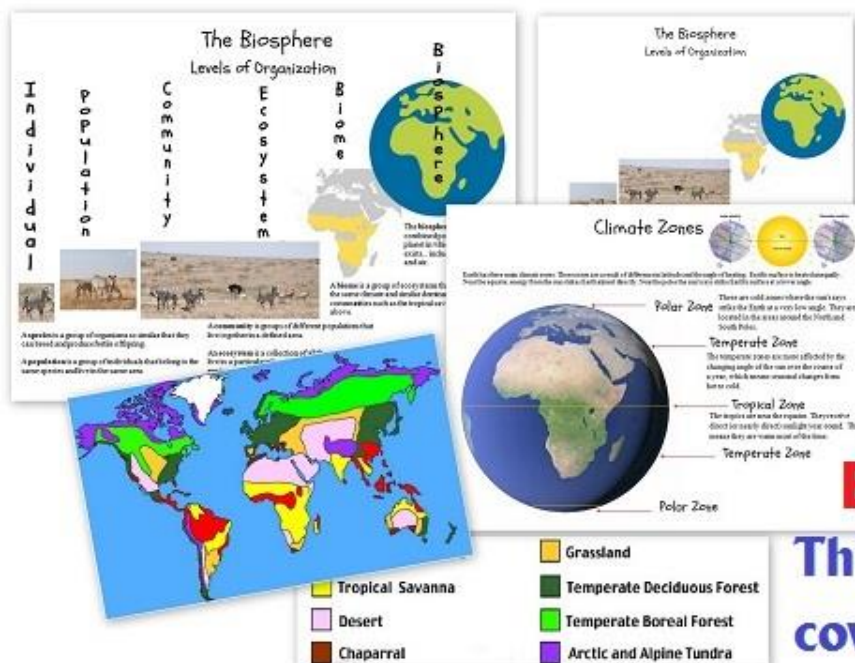


# Biology Packet Quick Preview

**70+ page Biology Unit on the Biosphere: biomes, ecosystems, habitats, feeding relationships, biological interactions**

What is the difference between a biome, ecosystem, and habitat? What is the difference between a food chain and a food web? What are trophic levels? What is the energy pyramid? What is symbiosis? How do different species interact? What in the world is amensalism or antibiosis?! You'll find out in our Biology Packet! It includes worksheets, interactive notebook pages and more!





## Biology Unit:

### This 70-page packet covers the biosphere:

## Biomes, Ecosystems, Habitats, Food Chain/Food Webs, Feeding Relationships, Energy Pyramid, Biological Interactions: symbiosis, mutualism, amensalism, etc.





Arctic is the polar region at the northern-most part of Earth.

Alpine Tundra is a biome that does not contain trees because of its high altitude. It is a region where it is too cold and windy to support tree growth.

Boreal Forest or Taiga is the world's largest biome. It is characterized by coniferous forests consisting mostly of pines, spruces and larches.

Deciduous Forests have trees that lose their leaves seasonally, usually in autumn.

Deserts are areas where there is little rainfall. Living conditions are hostile for plant and animal life.

Grasslands are areas where the vegetation is dominated by grass.

Tropical Savannas are grassland areas which occur in semi-arid to semi-humid climate in the subtropical and tropical regions.

Chaparral is a region with shrubs and heath.

Tropical Rainforest is a region where there is no dry season. Tropical Rainforests are located in the equatorial zone and are generally hot and wet.



## Biomes

# Biomes Worksheets

Arctic:

Alpine Tundra:

Boreal Forest or Taiga:

Deciduous Forests:

Deserts:

Grasslands:

Tropical Savannas:

Chaparral:

Tropical Rainforest:



## Biomes

## Biome Matching



Chaparral

Tropical Savanna

Arctic

Boreal Forest or Taiga

Desert

Deciduous Forest

Alpine Tundra

Grasslands

Tropical Rainforest



[homeschoolden.com](http://homeschoolden.com)

Deciduous Forest



# Biome Cards

Taiga (Boreal Forest), Yu



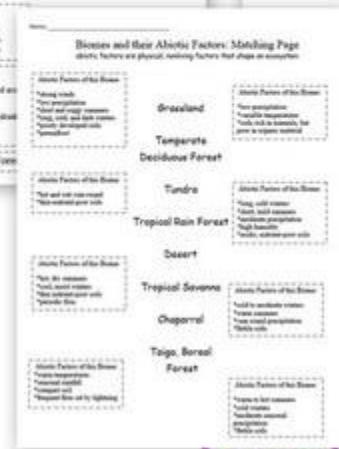
Tropical Savanna

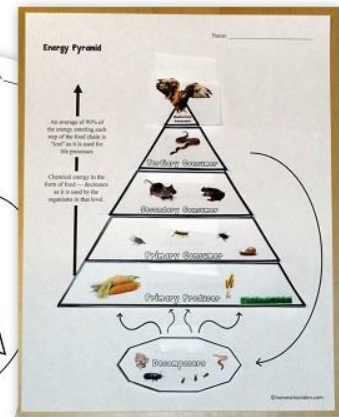
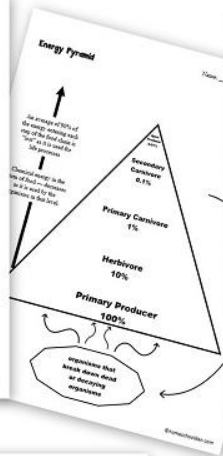
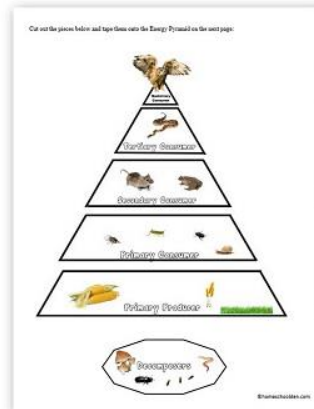
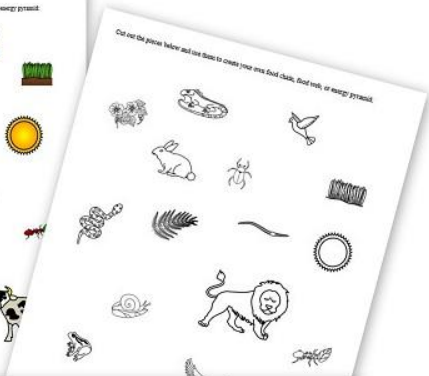


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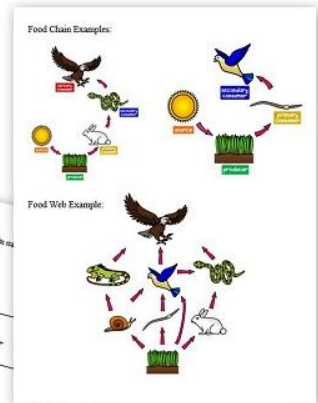
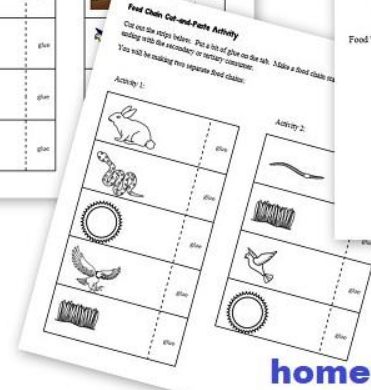
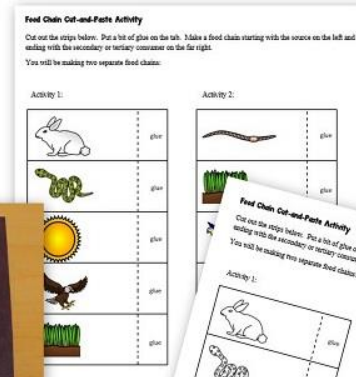
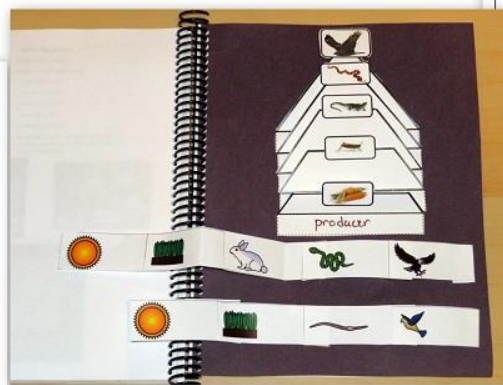
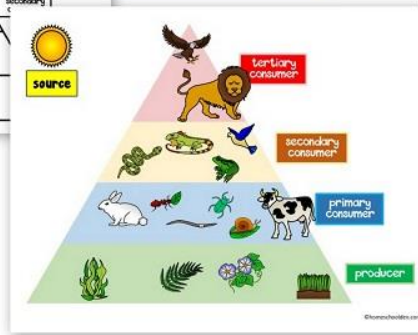
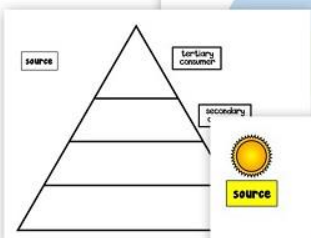
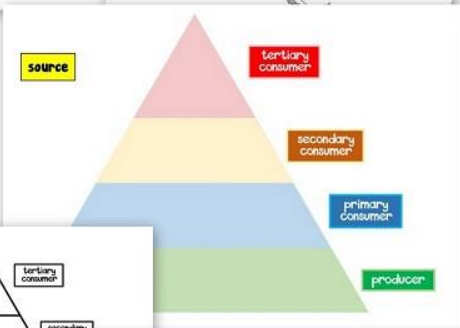








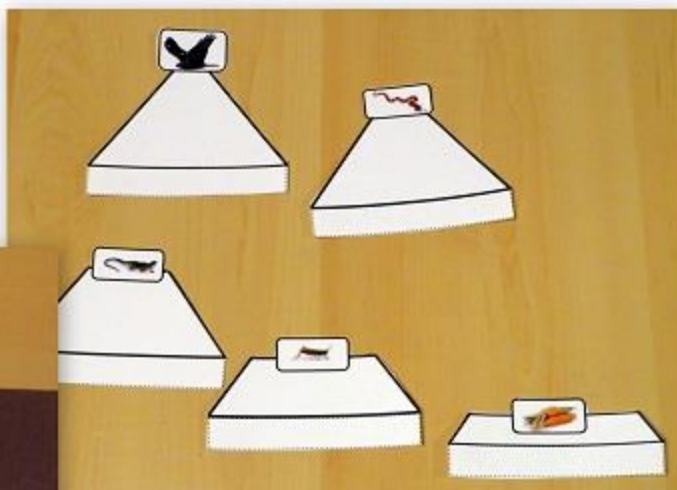
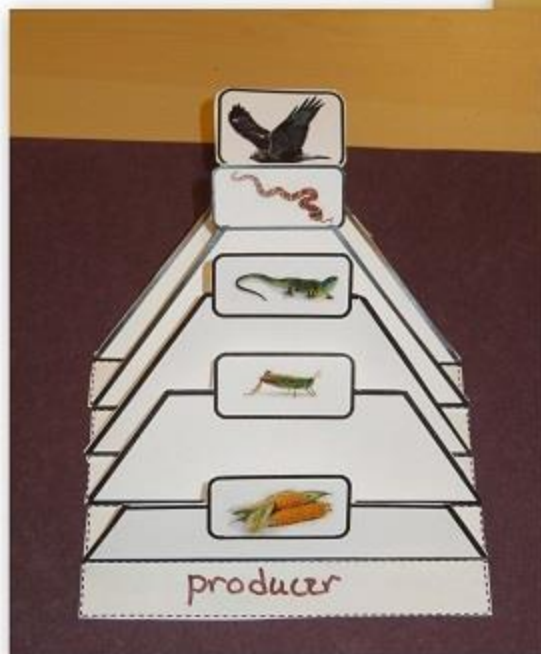
# Food Chain Food Web Energy Pyramid Activities



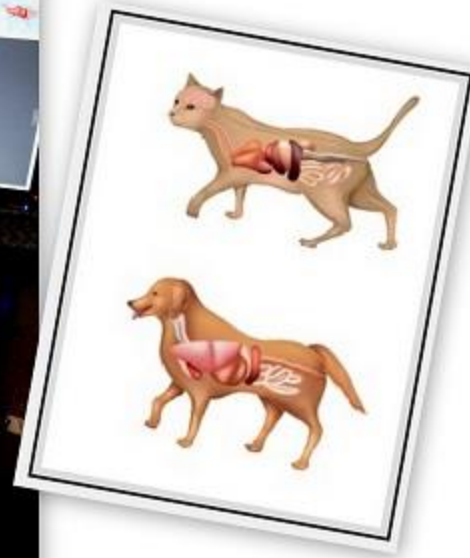
# Trophic Levels

## Interactive

### Notebook Activity







[homeschoolden.com](https://www.homeschoolden.com)



## What is a habitat? What is an ecosystem?

A habitat is where plants, animals and organisms live. An organism or a population naturally prefers to live in a particular environment, which is full of resources for them. So, a habitat is the natural environment in which an animal, a plant, or any other organism occupies.

A habitat is not necessarily a geographic area. For a parasite, its habitat is its host.

An ecosystem includes all of the living things (plants, animals and organisms) in a given area, interacting with each other, and also with their non-living environments (weather, earth, sun, soil, climate, atmosphere).

One ecosystem could contain many habitats, but not the other way around. A collection of habitats makes an ecosystem.

A collection of ecosystems makes the large world around us.

## Feeding Relationships

Living systems function because they have a constant input of energy. Every organism needs energy to power its life processes. Sunlight is the main energy source for life on earth. (Some types of organisms rely on the energy stored in inorganic molecules, such as hydrogen sulfide, in organisms that live near hydrothermal vents.)

**Producers:** plants, algae and certain bacteria can capture energy from sunlight or chemicals and use that energy to produce food. These organisms are called autotrophs.

Most producers harness solar energy & light energy to power chemical reactions and energy-rich carbohydrates such as

**Consumers:** Many organisms cannot harness These organisms can only acquire energy by heterotrophs and include animals, fungi, and

**herbivores**—these obtain energy by eating plants  
**omnivores**—these obtain energy by eating both plants and animals  
**detritivores**—these feed on plant and animal matter  
**decomposers**—these break down organic matter into simpler substances

A heterotroph is an animal that can't make its own food, so they have to eat other things, like plants or other animals, to survive.

Look at the pictures below. What kind of heterotrophs are these?  
What do you think they are eating?



**herbivore**  
these obtain energy by only eating plants

**carnivore**  
these obtain energy by eating animals

**omnivore**  
these obtain energy by eating both plants and animals

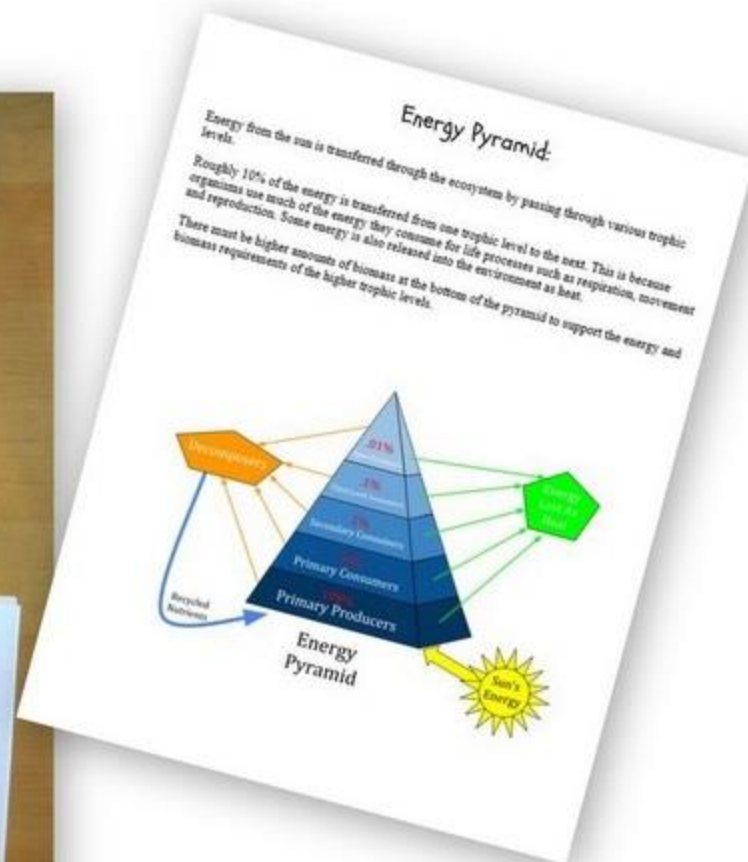
**detritivore**  
these feed on and other dead matter

**decomposer**  
these break down organic matter into simpler substances

**Examples of these:**  
herbivores—antelope, rabbit, deer  
carnivores—snake, dog, owl  
omnivores—humans, bears, crows  
detritivores—mites, earthworms, snails, crabs, beetles, millipedes  
decomposers—bacteria, fungi

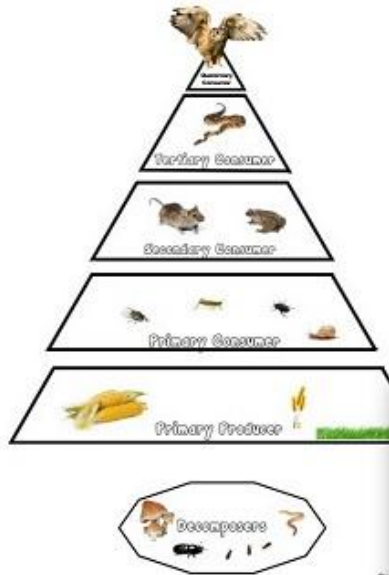
herbivore, carnivore, omnivore, detrivore, or decomposer? Match these with the cards on the previous page.







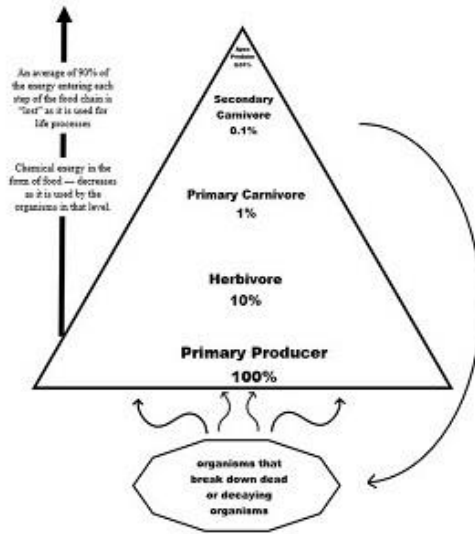
Cut out the pieces below and tape them onto the Energy Pyramid on the next page:



# Energy Pyramid

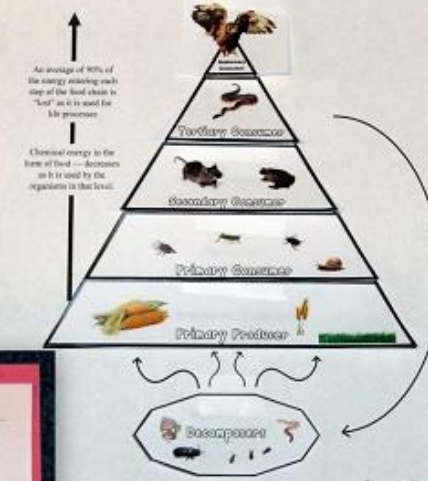
## Interactive Notebook Page

Energy Pyramid



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Energy Pyramid



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Energy Pyramid



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### Biological Interactions

Every organism must interact with the environment and other organisms. Any relationship in which two species live closely together is called **symbiosis**.

Each organism has value for the larger ecosystem in which it is numbered. Above we showed how organisms from food webs with relationships of eating and being eaten.

**Symbiosis** is close and often long-term interaction between two different biological species. There are different terms that indicate the benefit or harm experienced by the two participants. Some relationships are mutually beneficial, others are mutually harmful, and other relationships are neutral.

**Amensalism** - organisms of two different species in which one is inhibited or destroyed and the other is unaffected.

**Predation** - when one organism captures and kills another organism.

**Competition** - when organisms of the same species or different species compete for the same food, or space.

**Antibiosis** - One organism secretes a chemical that kills the other organism, while the one that secreted the chemical is unharmed.

**Bread mold, Penicillium**, kills or stops the growth of certain kinds of bacteria.

**Mutualism** - both species benefit from the relationship.

In the pictures below left: The ant protects aphids from predators. Aphids produce a sweet liquid that the ant drinks.




In the pictures above right: Bees fly from flower to flower gathering nectar, which they make into food, nourishing the bees. When they land in a flower, the bees get some pollen on their hairy bodies, and when they land in the next flower, some of the pollen from the first one rubs off, pollinating the plant. This benefits the plants.

### Biological Interactions

**Commensalism** - One organism benefits and the other is neither helped nor harmed.

Cattle egrets benefit by eating the insects that fly up to the animal's noses, but the livestock remains totally unaffected.




**Parasitism** - One organism lives on or inside another organism and harms it.




**Parasitism** - One organism lives on or inside another organism and harms it. For example, a tick on a dog's skin is a parasite. The tick feeds on the dog's blood, and the dog is harmed. Another example is a parasite that lives inside a host's body, like a tapeworm in a human's intestine. The parasite takes nutrients from the host, and the host is harmed.

### Biological Interactions

The slug leech is an example of



This oak tree is an example of



These lions are examples of



This Yellow-billed Cuckoo is on the back of a mammal. This is an example of









Many birds are an example of



The squirrel and a tree are examples of



### Biological Interactions

predation	competition	antibiosis
		
		

### Biological Interactions Matching

organisms of two different species in which one is inhibited or destroyed and the other is unaffected.

when one organism captures and kills another organism.

when one organism benefits and the other is neither helped nor harmed.

when organisms of the same or different species struggle to use the same resources in the same place at the same time. They may compete for water, nutrients, light, food, or space.

when one organism secretes a chemical that kills the other organism, while the other is unharmed.

both species benefit from the relationship.

when one organism lives on or inside another organism and harms it.

when one organism benefits from the relationship.

when one organism benefits and the other is neither helped nor harmed.

when organisms of the same or different species struggle to use the same resources in the same place at the same time. They may compete for water, nutrients, light, food, or space.

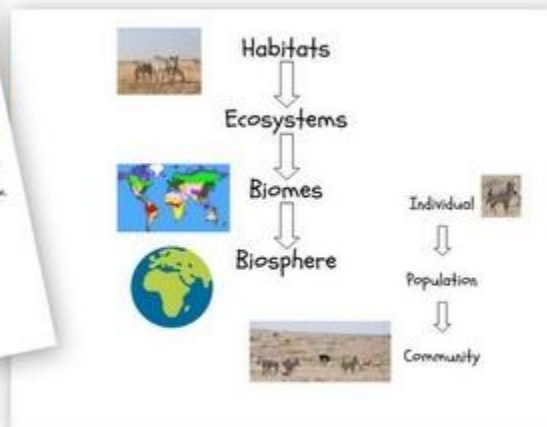
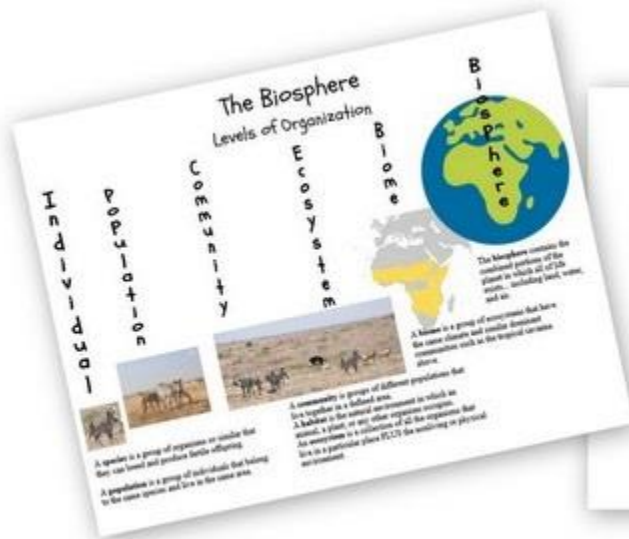
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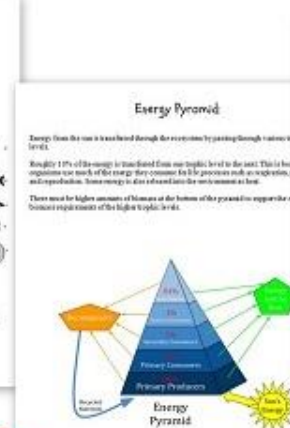
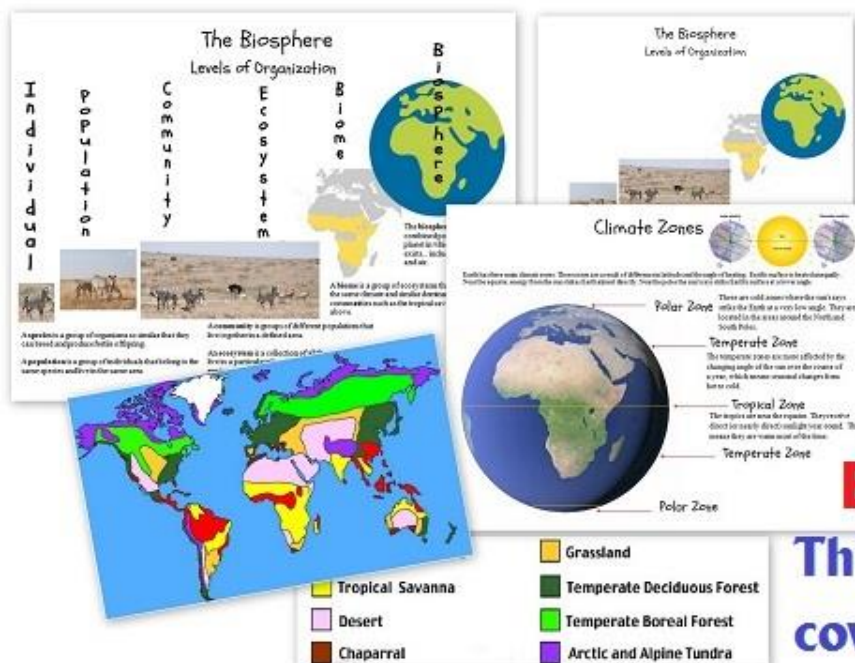
when one organism benefits from the relationship.





### Review

- The \_\_\_\_\_ contains the combined portions of the planet in which all life exists, including land, water, and air.
- \_\_\_\_\_ is when one organism captures and feeds on another organism.
- The \_\_\_\_\_ is a region where there is no dry season. They are located in the equatorial zone and are generally hot and wet.
- The \_\_\_\_\_ zones are more affected by the changing angle of the sun over the course of a year, which means seasonal changes from hot to cold.
- A \_\_\_\_\_ is a group of individuals that belong to the same species and live in the same area.
- \_\_\_\_\_ These are cold zones where the sun's rays strike the Earth at a very low angle. They are located in the areas around the North and South Poles.
- \_\_\_\_\_ are also known as producers.
- \_\_\_\_\_ are areas where the vegetation is dominated by grass.
- \_\_\_\_\_ is a biome that does not contain trees because of a high altitude. It is a region where it is too cold and windy to support tree growth.
- \_\_\_\_\_ is when one organism benefits and the other is neither helped nor harmed.
- An \_\_\_\_\_ is a collection of all the organisms that live in a particular place PLUS the nonliving or physical environment.
- \_\_\_\_\_ level is each step in a food chain or food web.
- A \_\_\_\_\_ is a group of ecosystems that have the same climate and similar dominant communities.
- \_\_\_\_\_ is when one organism secretes a chemical that kills the other organisms, while the one that secreted the chemical is unharmed.



## Biology Unit:

### This 70-page packet covers the biosphere:

## Biomes, Ecosystems, Habitats, Food Chain/Food Webs, Feeding Relationships, Energy Pyramid, Biological Interactions: symbiosis, mutualism, amensalism, etc.

### Biome Matching

Match the biome to the description.

- Arctic Tundra** - A cold, dry region with low vegetation.
- Boreal Forest or Taiga** - A cold region with coniferous trees.
- Deciduous Forest** - A temperate region with trees that lose their leaves.
- Grasslands** - A temperate region with grasses.
- Tropical Savanna** - A warm region with grasses and scattered trees.
- Chaparral** - A warm region with shrubs.

### Biomes and their Abiotic Factors: Matching Page

Match the biome to the abiotic factor.

- Grassland** - High temperatures, high rainfall.
- Temperate Deciduous Forest** - Moderate temperatures, moderate rainfall.
- Tundra** - Low temperatures, low rainfall.
- Tropical Rain Forest** - High temperatures, high rainfall.
- Desert** - High temperatures, low rainfall.
- Tropical Savanna** - High temperatures, moderate rainfall.
- Chaparral** - High temperatures, moderate rainfall.
- Taiga, Boreal Forest** - Low temperatures, moderate rainfall.

### Feeding Relationships

Classify the organisms as herbivore, carnivore, omnivore, or decomposer.

- herbivore** - these obtain energy by only eating plants
- carnivore** - these obtain energy by eating animals
- omnivore** - these obtain energy by eating both plants and animals
- decomposer** - these break down organic matter