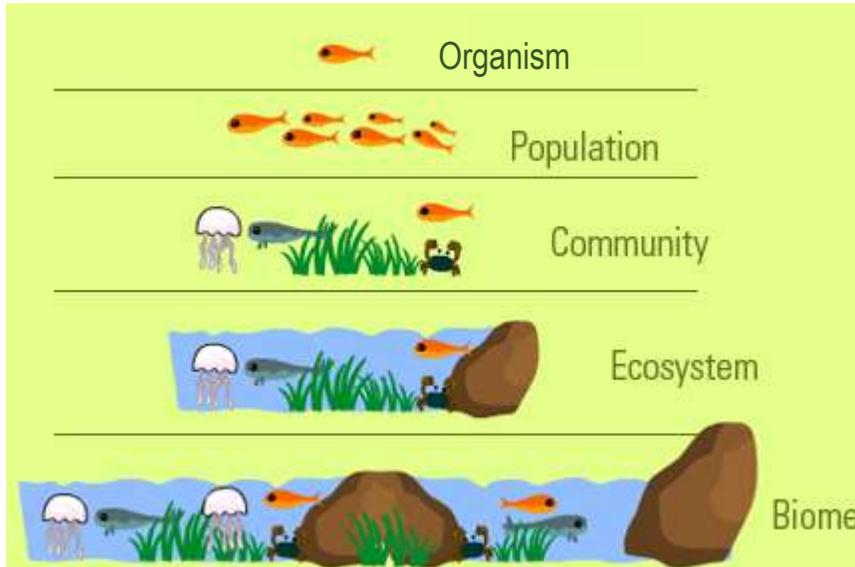


# Chapter 5: Ecosystems

pages 196-235

Test on FRIDAY, OCTOBER 30<sup>th</sup>



**Individual/Organism:** a single plant or animal

**Population:** a group of all the same kind of organism

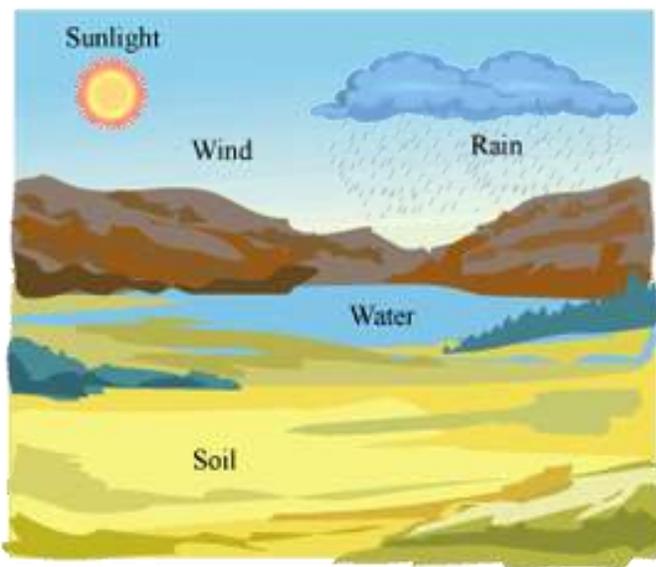
**Community:** all the populations (*groups of plants and animals*) that live in an area

**Ecosystem:** all the living and nonliving things in an area

**Biome:** a large region of Earth that has a certain climate and certain types of living things that are adapted to survive in that area

## Questions to think about:

- What is the difference between an ecosystem and a community?
- What makes a biome?
- Can you name the 5 vocab words on the picture above and explain what they mean?



**Biotic:** the living or once living parts of an ecosystem

- Plants
- Animals
- Dead plants/animals
- Materials from livings (fur, a log, shell, milk, leaves, etc.)

**Abiotic:** all parts of an ecosystem that are nonliving and have never been alive

- Sun
- Water
- Air
- Temperature
- Precipitation
- Soil
- Wind

## Questions to think about:

- Can you name some abiotic and biotic factors in an ecosystem (*desert, lake, forest, tundra, grasslands, etc.*)?
- How do the abiotic factors impact the biotic factors?
- What happens in an ecosystem when an animal has to compete for a resources (*like food or water*)?

## BIOMES AROUND THE WORLD

### Tundra

Climate: **-90° to 50° F**

Diversity of plants and animals: **very low**

Precipitation: **very low** (*less than 10 in./year*)

- flat land and no trees
- made by glaciers
- mostly ice and snow
- animals need to be adapted to the cold or migrate to warmer climates
- very **fragile** ecosystem
- a layer of soil stays frozen year round called **permafrost** which limits plant life because their roots cannot grow
- **plants:** moss, algae, lichen (fungus), shrubs
- **animals:** caribou, polar bear, arctic hare, wolves, snowy owl



### Taiga

Climate: **-50° to 70° F**

Diversity of plants and animals: **low**

Precipitation: **low** (*10-35 inches per year*)

- Coniferous trees (evergreen) survive well due to their adaptation of waxy needles, ability to absorb heat, and storing water
- many animals need to hibernate or migrate to warmer climates
- Northern Lights (aurora borealis) happens here
- largest biome
- **plants:** moss, shrubs, lichen (fungus), coniferous trees
- **animals:** bear, moose, reindeer, grey wolves



### Deciduous (Temperate) Forest

Climate: **0° to 80° F**

Diversity of plants and animals: **high**

Precipitation: **medium** (*30-60 inches per year*)

- has all 4 seasons
- soil is rich in nutrients which is helpful to plants
- we live in this biome
- trees lose their leaves every winter and regrow in spring
- more people live in this biome than any other biome
- **plants:** trees, ferns, sunflowers, bushes
- **animals:** bear, squirrels, chipmunks, deer, fox



### Grassland

Climate: **-40° to 70° F**

Diversity of plants and animals: **medium**

Precipitation: **low** (*10-35 inches per year*)

- mostly flat, dry, and hot
- wildfires are a risk during the seasons of drought (no rain)
- animals migrate through the biome to find more food
- plants adapted to store water or have long roots to find water deeper in the ground
- found between deserts and deciduous forests (away from the ocean)
- **plants:** grasses, shrubs, wild oats
- **animals:** zebras, antelope, lions, cheetahs



### Rainforest

Climate: **64° to 93° F**

Diversity of plants and animals: **extremely high**

Precipitation: **extremely high** (*up to 250 in./year*)

- ½ the plants and animals in the world live in the rainforest
- only 7% of the world
- Layers: (**emergent, canopy, understory, and floor**)
- many medicines comes from the rainforest
- **plants:** vines, orchids, trees
- **animals:** toucans, monkeys, snakes, spiders, sloths



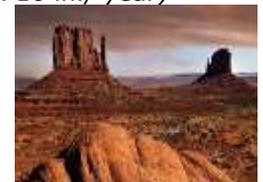
### Desert

Climate: **15° to 120° F**

Diversity of plants and animals: **low**

Precipitation: **very low** (*less than 10 in./ year*)

- hot and dry
- plants have waxy outer coating to protect them from the sun and to store water
- most animals are nocturnal (hunt at night)
- **plants:** cactus, prickly pear, shrubs
- **animals:** snakes, lizards, coyotes, tarantula



# Chapter 5: Ecosystems

## Questions to think about (biomes):

- What could happen to a biome if its climate changed?
- Why do certain animals only live in certain biomes?
- Why is there more diversity in the rainforest than any other biome?

## Humans and Ecosystems

\* Humans have made positive and negative impacts on the world.

Positive Impact on Ecosystems	Negative Impact on Ecosystems
<ul style="list-style-type: none"><li>• Repair damage to ecosystem made by storms or other people (<i>this is called habitat restoration</i>)</li><li>• Inventing new technology to create less pollution and save energy</li><li>• Use natural ways to clean, kill weeds, and fertilize plants</li><li>• Recycling</li><li>• Reusing materials</li></ul>	<ul style="list-style-type: none"><li>• Clearing too much land for building houses and buildings</li><li>• Polluting the air, soil, and water with chemicals</li><li>• Throwing away things that could be recycled</li><li>• Wasting water, food, or other resources</li></ul>

## Natural Resources

Some natural resources can be replaced. Sunlight, air, and water are renewable resources. People can also grow more trees and plant more crops. **However**, some cannot be replaced. Coal, gas, oil, are found in the ground and once they are used, they are gone. It would take millions of years to make more of those resources.

