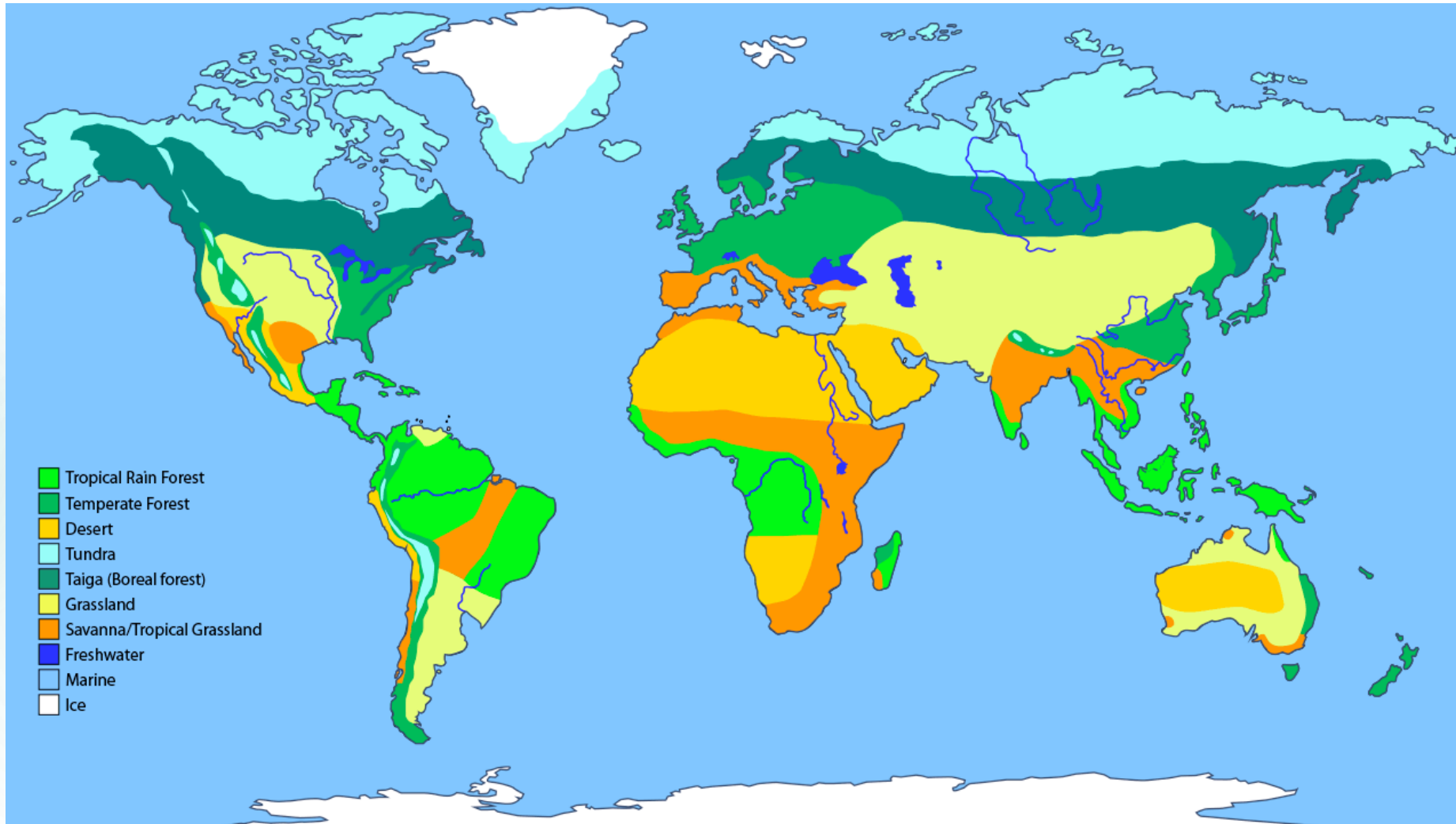


Biomes

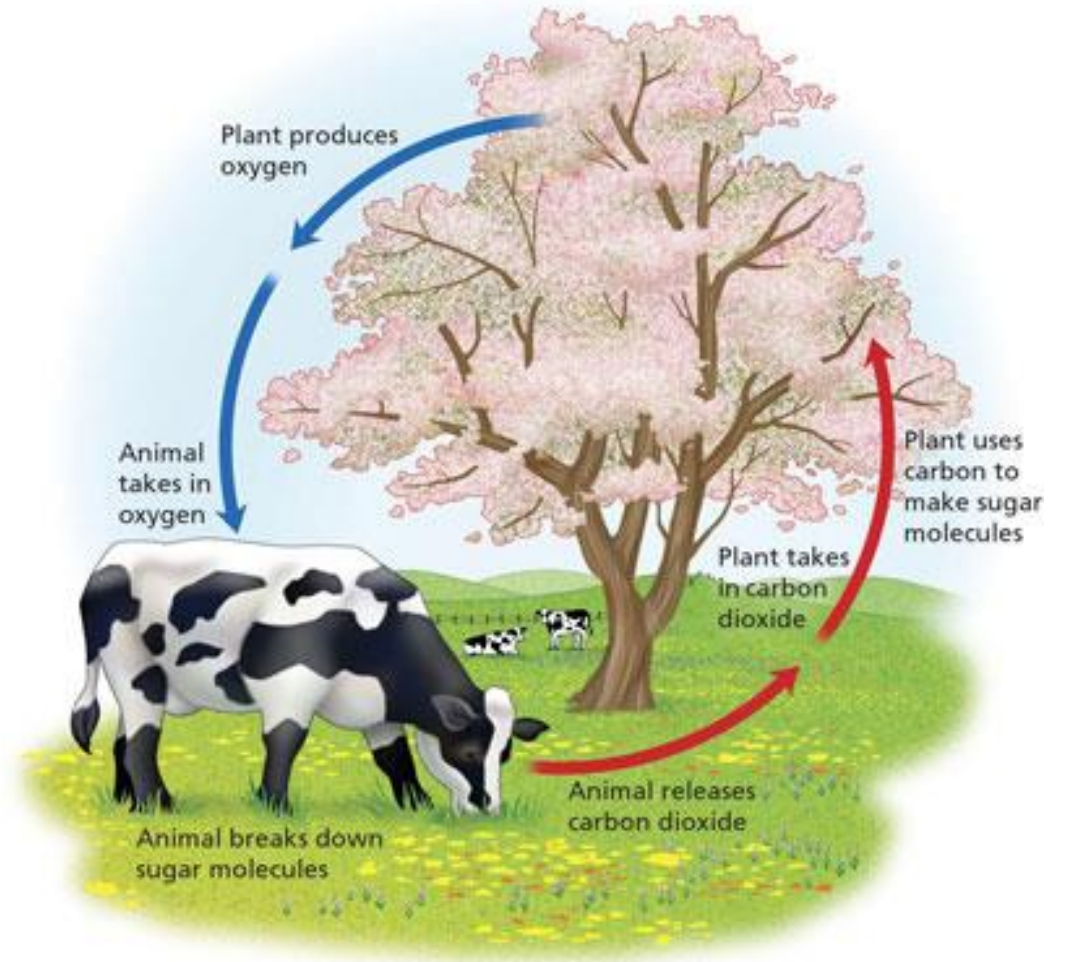


Chapter 6 Vocabulary

- Environment
- Population
- Community
- Ecosystem
- Abiotic Factor
- Biotic Factor
- Biome

How Are Organisms On Earth Connected?

- All living things on Earth share resources, such as air, water and light.
- Living things, including humans, are connected through the resources they share.
- The actions of humans can effect other parts of the biosphere



Connections In The Biosphere

- Biosphere - Life supporting portions of earth composed of air, land, fresh water, and salt water.
- All life on Earth exists in the biosphere



Connections In The Biosphere

- Although organisms live in different parts of the Earth, they all share Earth's resources.
- Ecology: The study of how living things interact with each other and their environment



Organization Of The Biosphere

- Population - A group of organisms of one species living in the same place at the same time.
 - All the zebras in Africa, all the horses in Texas, all the humans in Latham, NY



Organization Of The Biosphere

- Community – A group of populations that interact with each other in a particular area.
 - All living things in Latham, NY

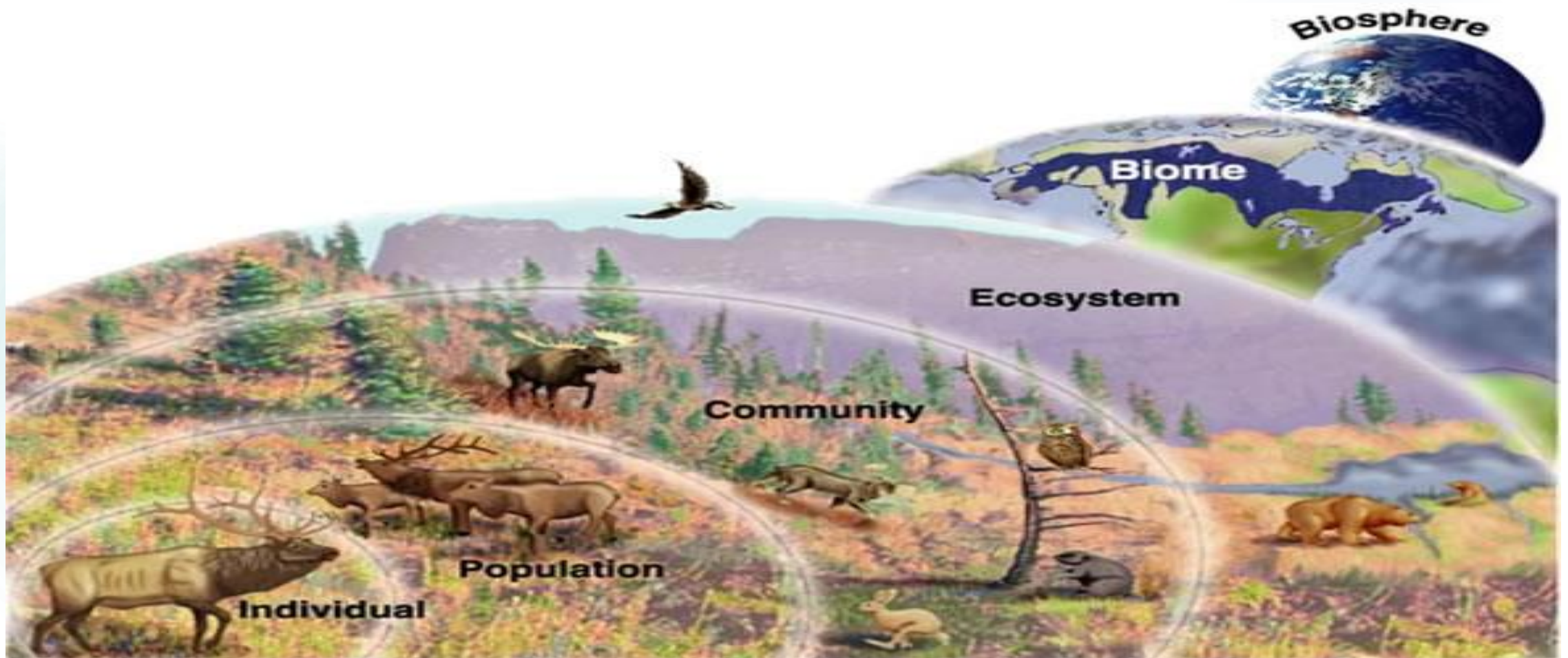


Organization Of The Biosphere

- Ecosystem: A community of organisms living together along with the non-living parts of the environment
- Abiotic Factors: Non-living parts of an ecosystem
- Biotic Factors: Living organisms in an ecosystem



Organization Of The Biosphere



Energy Flow In Ecosystems

All organisms need to obtain energy from their environment to power life processes.

Sunlight is the main energy source for life on Earth.

Organisms that can capture energy from sunlight and use that energy to produce food are called producers.

Only plants, some algae, and certain bacteria are producers.

Feeding Relationships

There are 3 main types of feeding relationships

1. Producer - Consumer
2. Predator - Prey
3. Parasite - Host

Feeding Relationships

Producer - All plants; they trap energy from the sun.

- Bottom of the food chain



Feeding Relationships

Consumer - They ingest food containing the sun's energy

- Herbivores
- Carnivores
- Omnivores
- Decomposers

Feeding Relationships

Consumer

Herbivores – Only eat plants

- First non-plant organism in the food chain.



Feeding Relationships

Consumer

Carnivores - Eat meat

- Predators
- Hunt prey animals for food.



Feeding Relationships

Consumer

Omnivores - Eat both plants
and animals



Feeding Relationships

Consumer

Scavengers -

Feed on dead animals

- Most scavengers do not solely eat dead organisms



Feeding Relationships

Consumer

Decomposers -

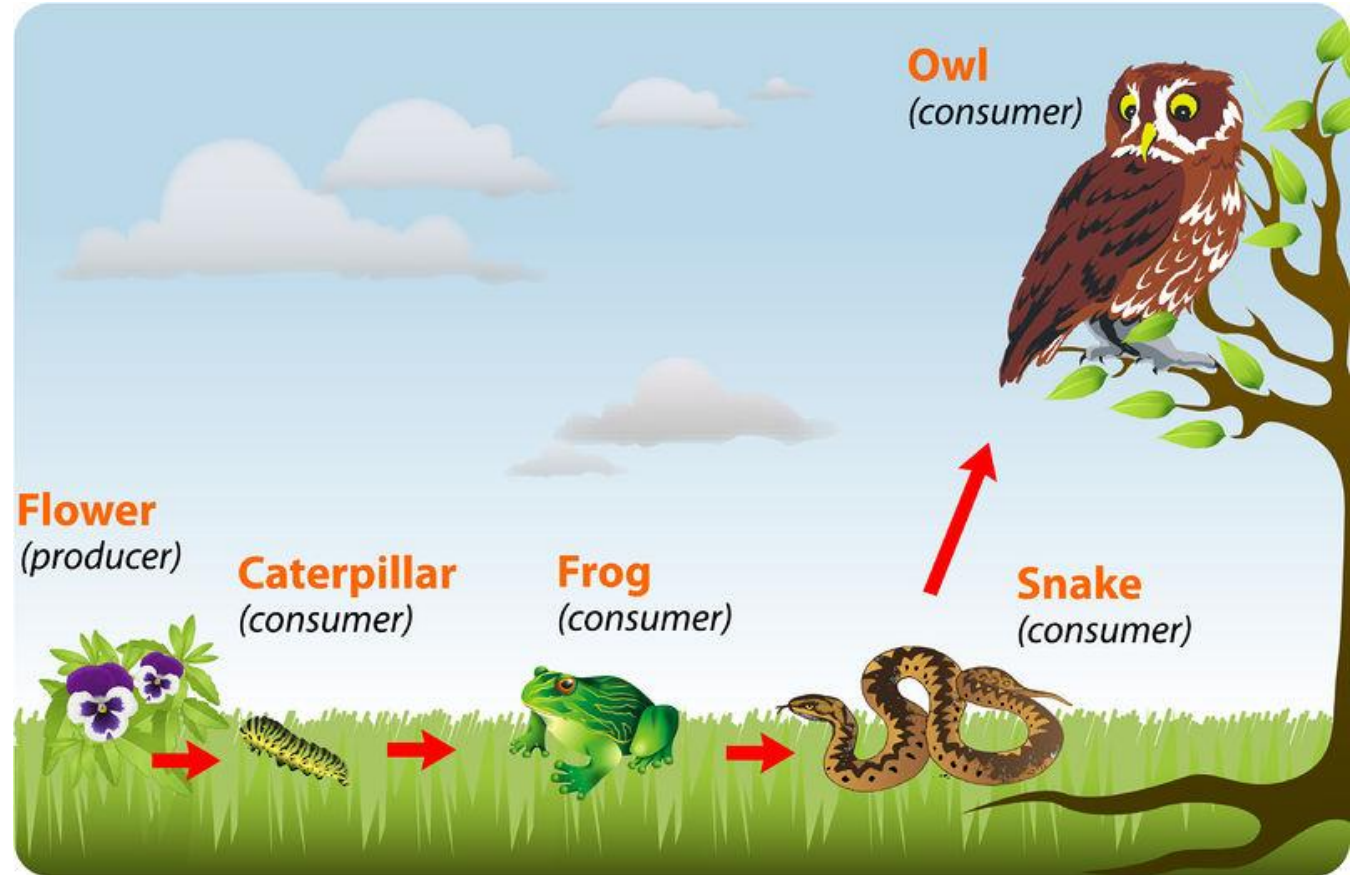
Breakdown the complex compounds of dead and decaying plants and animals into simpler molecules that can be absorbed



Energy Flow

Food Chain –

A simple model that shows how matter and energy move through an ecosystem



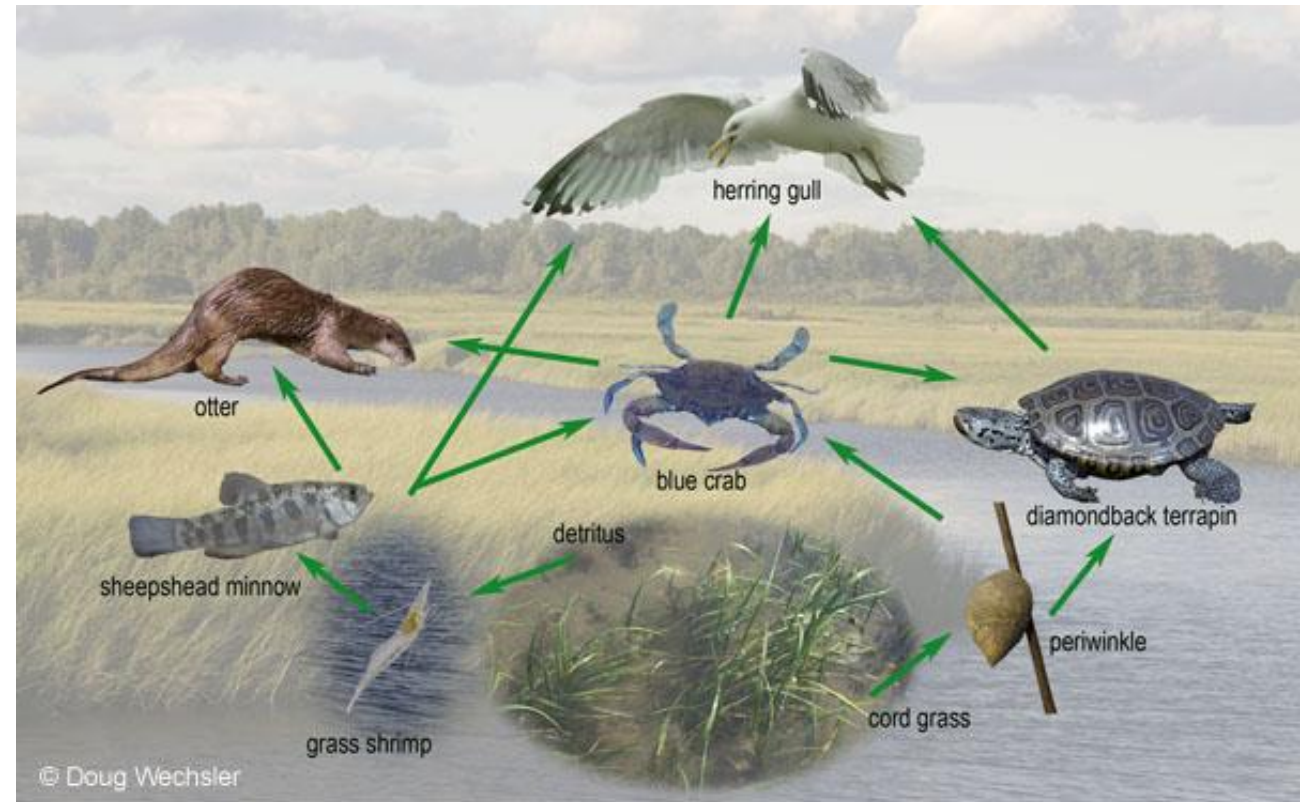
Energy Flow

- Each link in a food chain is known as a trophic level.
- Trophic levels represent a feeding step in the transfer of energy and matter in an ecosystem.
- The arrows in a food chain always point to the organism that is receiving the energy

Energy Flow

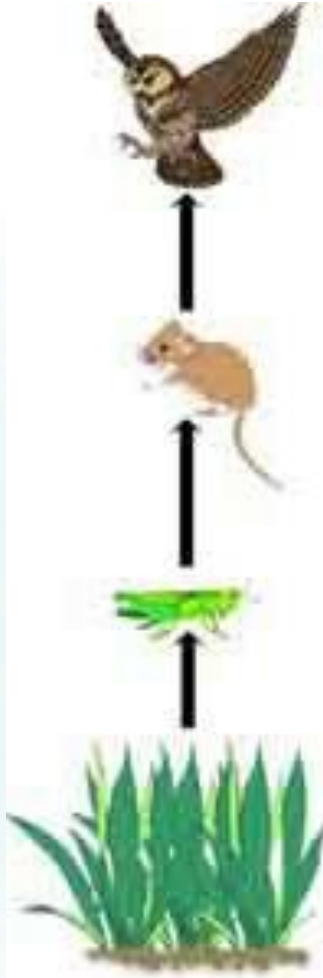
Food Web

Links all the food chains in an ecosystem together



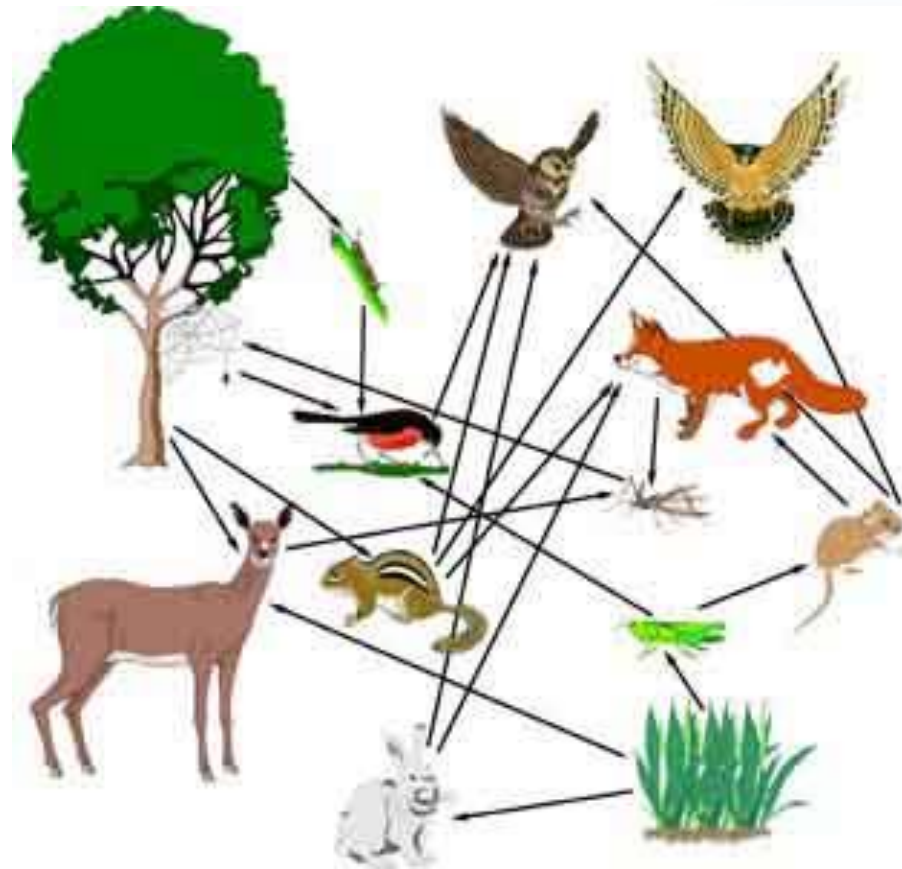
Food Chain

Just 1 path of energy



Food Web

All possible energy paths



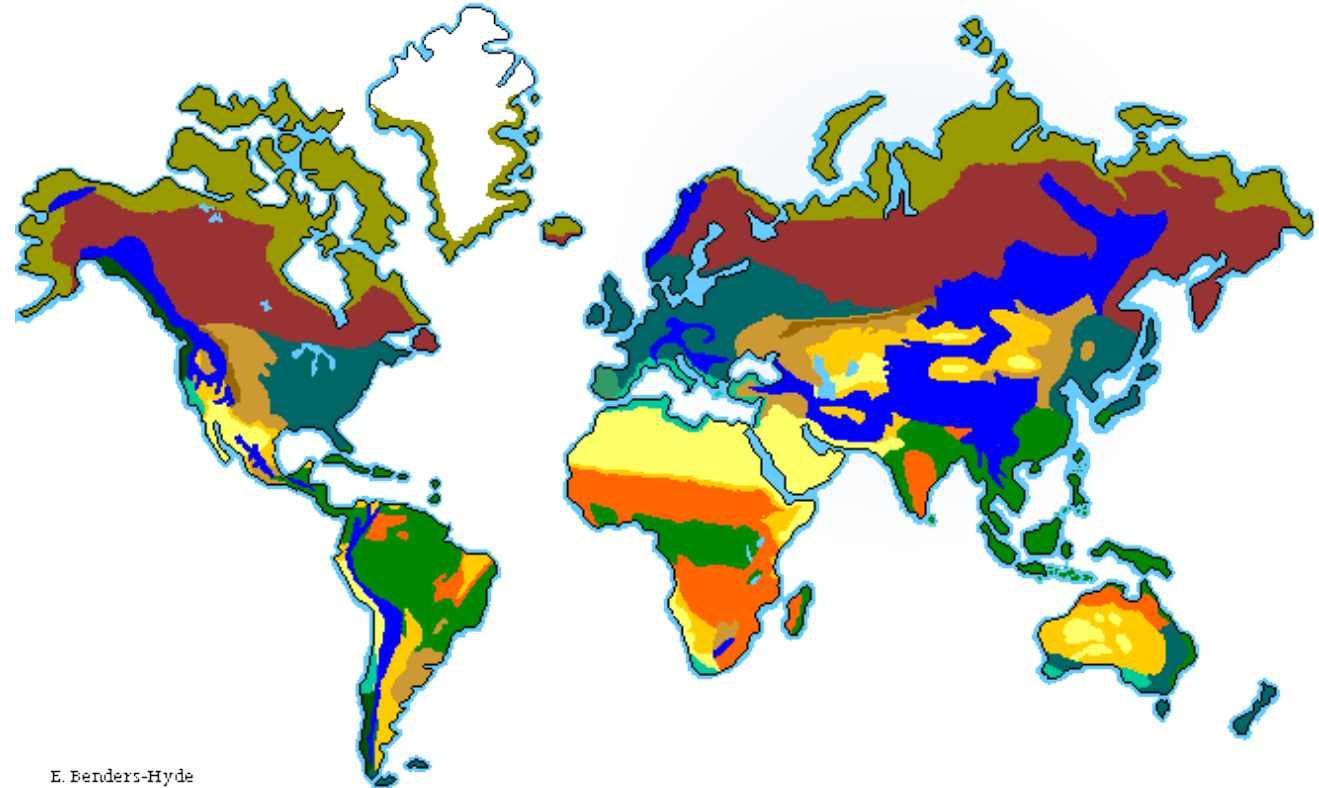
Habitat vs. Niche

Niche - The role a species plays in a community; its total way of life

Habitat - The place in which an organism lives out its life

Biomes

- A biome is a major ecological community type.
- Each biome has different climate characteristics that determine what types or organisms can live there.
- With different organisms, there is competition among different species and same species organisms for resources.
- Competition, in biology, is the relationship between members of the same or different species in which individuals are adversely affected by those having the same living requirements, such as food or space.



Tropical Rain Forest Biomes

- Tropical rainforest biomes are found near the equator.
- They are warm all year long, and receive a lot of rainfall.
- They have more species than all other biomes due to the climate.
- Even though they have more species than any other biome, not every organism can survive in a tropical rainforest.



Deciduous Forest Biomes

- Deciduous forests are areas that are cooler and do not have huge amounts of rain.
- Deciduous forest trees lose their leaves in the fall and winter months.
- Other organisms make adaptations in order to survive the cold winters and hot summers.
- We live in a deciduous forest biome.



Grassland Biomes

- Grasslands are biomes that are covered with many types of grasses and have few trees.
- They receive little rain, making it difficult for trees to grow; most trees are near rivers or lakes.
- Animals such as bison, prairie dogs and antelope thrive due to the amount of grass available to eat. Wolves and coyotes are natural predators. Who would also thrive if they weren't threatened by humans.



Taiga Biomes

- Taiga biomes are colder and drier than deciduous forests.
- Most trees have needles rather than leaves, such as pine trees and evergreens.
- Common animals are bear, moose, elk and wolves.



Desert Biomes

- Desert biomes are defined as areas receiving less than 25 centimeters of rain each year.
- Deserts can be very hot and have sand dunes such as in the Sahara Desert, or they can be extremely cold and be covered in ice, such as in Antarctica.



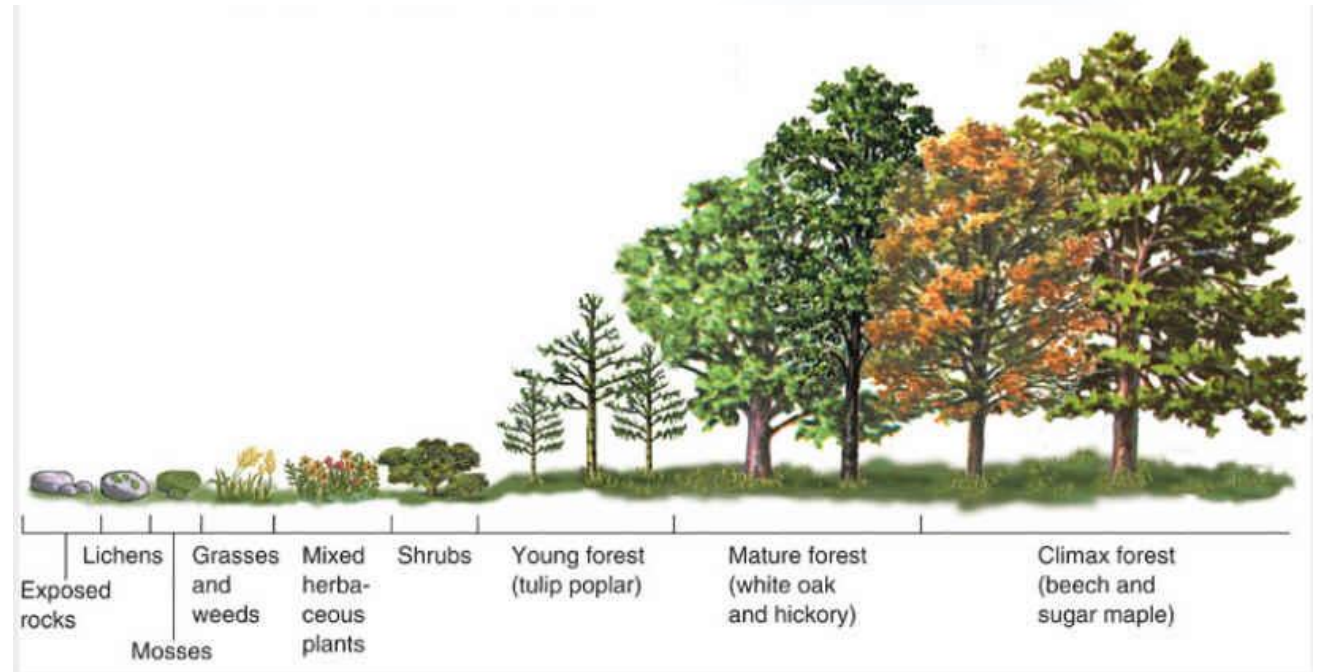
How Do Ecosystems Change?

- Ecosystems can experience natural changes and changes caused by humans.
- Natural changes can include natural disasters such as tornados, hurricanes and earthquakes.
- Natural changes can also be caused by changes in climate or changes in seasons.

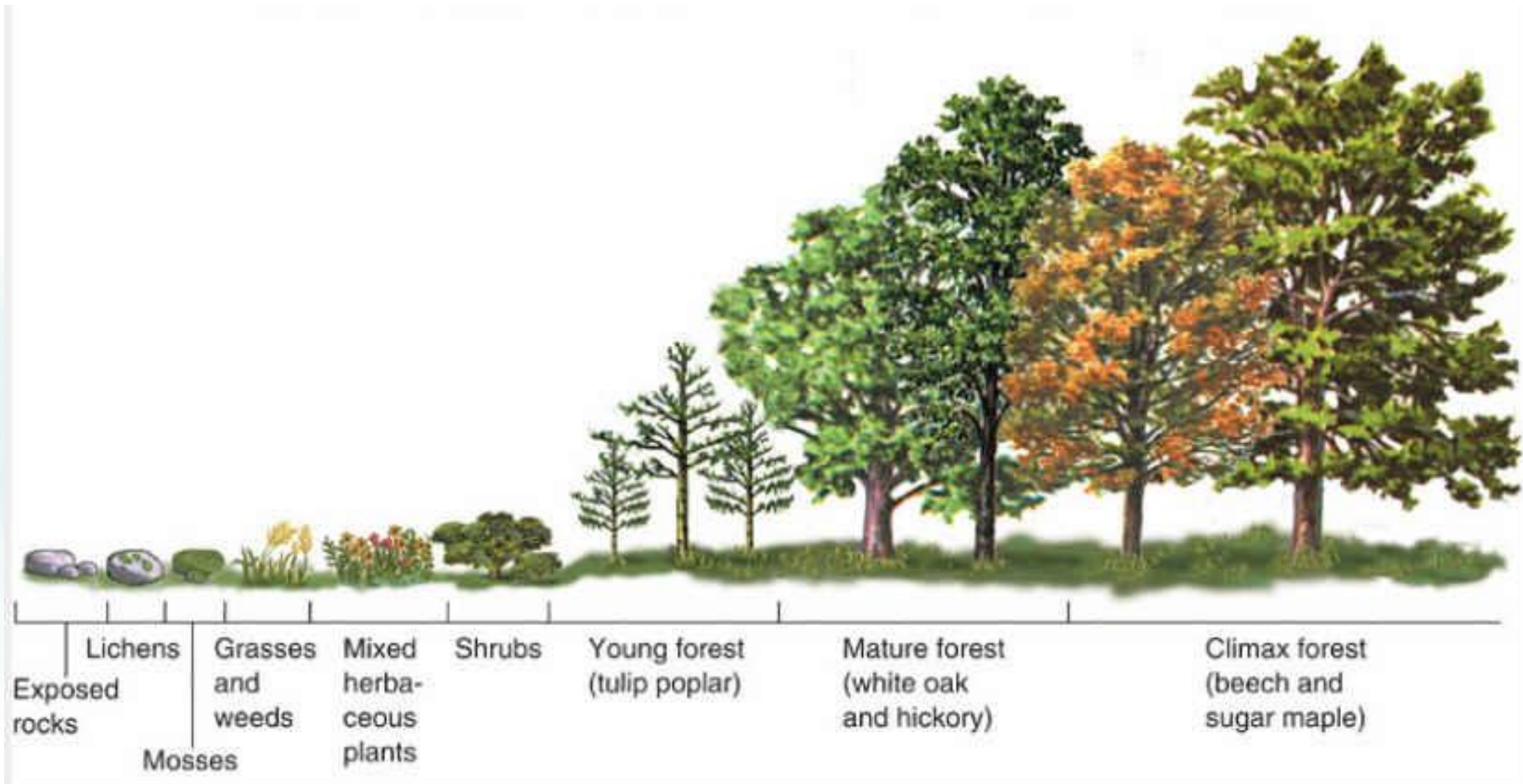


Slow Changes

- Changes in climate cause slower changes in an ecosystem.
- As the climate gets warmer or cooler, the kinds of organisms that live in the area change.
- Ecosystems change slowly through succession.
- Succession a series of predictable changes that occur naturally over time.



Ecological Succession



Human Impact On Ecosystems

- Humans change ecosystems by destroying habitats, hunting species to extinction, introducing toxic compounds into food webs, and introducing foreign species into new environments.
- Extinction occurs when a species disappears from all or part of its range.



Human Impact On Ecosystems

- An endangered species is a species whose population size is declining in a way that places it in danger of extinction.
- As humans destroy habitats, the species that once lived in the habitats die out.
- Development often splits habitats into separate pieces. The smaller the pieces of habitat, the less likely that their species will be able to survive.



Human Impact On Ecosystems

- Pollution can seriously threaten ecosystems. Toxic compounds build up in the tissues of organisms.
- Concentrations of toxins increase in organisms higher up in a food chain or food web. This is called biological magnification.

