Topic 4: How Organisms Interact

There are two parts to every ecosystem:

biotic: living organisms including bacteria and plants

abiotic: non-living parts of the ecosystem including soil, air and water

The Roles of Organisms in an Ecosystem

niche: the role an organism plays in its environment

- To determine an organism's niche you must look at what it eats, where it lives and how it interacts with other organisms in its ecosystem

producers: plants and algae produce food from the sun and nutrients in the soil, they produce food energy for themselves and others

consumers: all other organisms, their niche is to eat the food made by the producers. Consumers may eat other consumers

- Consumers can be divided into three different groups:
  1. **Herbivores**: are animals that eat producers and fill the plant eating niche
  2. **Carnivores**: animals that eat other consumers, filling the meat eating niche.
     -**predators** kill and eat other animals called **prey**
  3. **Omnivores**: are animals that eat both producers and consumers
  4. **Food Chains**

Food chain: a model that shows how energy stored in food passes from organism to organism

Energy flow: the movement of energy starting from the sun and passing from one organism to the next

Food Webs

Food web: a network of interconnected food chains. May be large and complex because producers are usually eaten by more than one kind of consumer, and most consumers are eaten by more than one kind of predator

Pyramid of Numbers

Pyramid of numbers: includes the same organisms as in a food chain, but the size of each level changes to show the number of organisms at each level.

- There are always more animals being eaten than there are animals eating
- **Biomass**: the total mass off all the organisms in an ecosystem.
- Each level of the pyramid has less biomass than the level before it

Scavengers and Decomposers

Scavengers: organisms that feed on dead or decaying plant or animal matter

Decomposers: grow on or in dead or waste material, absorbing some of the nutrients into their own cells