

12.3 Populations and Communities

I. Populations and Communities

A. Communities, Habitats and Niches

1. Habitat is the place within an ecosystem where organisms live
2. A Niche is what a species does in its habitat to survive

B. Energy in communities-all living things use energy and carry out life processes such as growth and reproduction.

C. Energy Roles

1. Producers are organisms that get energy from the environment such as sunlight and make their own food.
2. Consumers are organisms that get energy by eating other organisms.
 - a. herbivores get energy from eating plants (producers)
 - b. Carnivores get energy from eating other consumers
 - c. Omnivores get energy from eating plants and consumers
 - d. Detrivores (decomposers) get energy by eating dead organisms

D. Energy Flow is shown through a food chain.

1. Energy flow begins with the sun, then producers and then consumers

E. Relationships in Communities

1. Predator-Prey relationships help keep populations from growing too large which decreases competition for resources.
2. Cooperative Relationships occur when members of some populations work together for survival.
3. Symbiotic relationships are close, long term relationships between two species that usually involves an exchange of food or energy.
 - a. Mutualism is a symbiotic relationship where both partners benefit
 - b. Commensalism is a symbiotic relationship that benefits one species but does not benefit or harm the other species.
 - c. Parasitism is a symbiotic relationship that benefits one species and harms the other species.