Ecology Vocabulary

Ecology = The scientific study of _____ among organisms and their environments.

Biosphere = The portion of Earth that supports _____. It extends from the atmosphere to the bottom of the oceans.

Abiotic Factors = The _____ of an organism's environment (e.g. temperature, moisture, light, type of soil and nutrients, etc.)

Biotic Factors = All the _____ organisms that inhabit an environment.

Species = A group of organisms that are able to produce fertile _____ and that share common genes and therefore resemble each other in appearance, behavior, and internal structure.

Population = A _____ of organisms of one _____ that interbreed and live in the same place at the same time.

Community = A collection of several (or all of the) interacting _____ that inhabit a common environment.

Ecosystem = The interactions among _____ in a community. Includes all of the biotic factors as well as the community's physical surroundings, or abiotic factors.

Biome = A group of ecosystems with the same climax communities (&/or climates).

Organism → _____ → Population → _____ → Ecosystem → Biome → _____

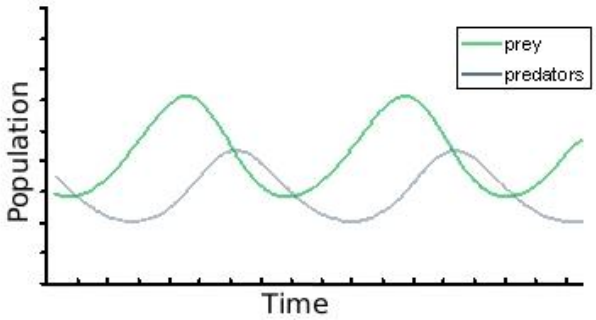
Habitat = The place where an organism _____ out its life.

Niche = *An organism's way of life*. The _____ and _____ a species has in its environment. It includes all biotic and abiotic interactions as an animal meets its needs for survival and reproduction.

Predation = The act of killing and _____ another organism.

1) **Predator** = An organism that kills and _____ another organism.

2) **Prey** = An organism that is killed and _____ by a predator.



Competition = the relationship between species that attempt to use the same _____ _____(e.g. hyenas fighting with lions over a carcass or trees competing for sunlight at the top of the canopy)

Symbiosis = A close association between _____ (____ _____) organisms of different species.

1) _____ = A type of symbiotic relationship in which one species (the ***symbiont***) benefits and the other species (the ***host***) is neither harmed nor benefited.

2) _____ = A type of symbiotic relationship in which both species benefit from the relationship.

3) _____ = A type of symbiotic relationship in which one organism benefits (the ***parasite***) at the expense of the other species (the ***host***).

- **Host** = Generally, the larger of the two species in a symbiotic relationship.
- **Symbiont** = Generally, the smaller of the two species in a symbiotic relationship.

_____ = *producers* = Organisms that use energy from the sun or energy stored in chemical compounds to manufacture their own nutrients.

_____ = *consumers* = An organism that cannot make its own food and must feed on other organisms for energy and nutrients.

_____ = Organisms, e.g. fungi and certain bacteria, that break down and absorb nutrients from dead organisms.

_____ = The total weight of living matter at each trophic level.
- A pyramid of biomass represents the total dry weight of living material available at each trophic level.

Food Chain = A sequence in which energy is transferred from one organism to the next as each organism eats another.
- example of a food chain in an ocean ecosystem

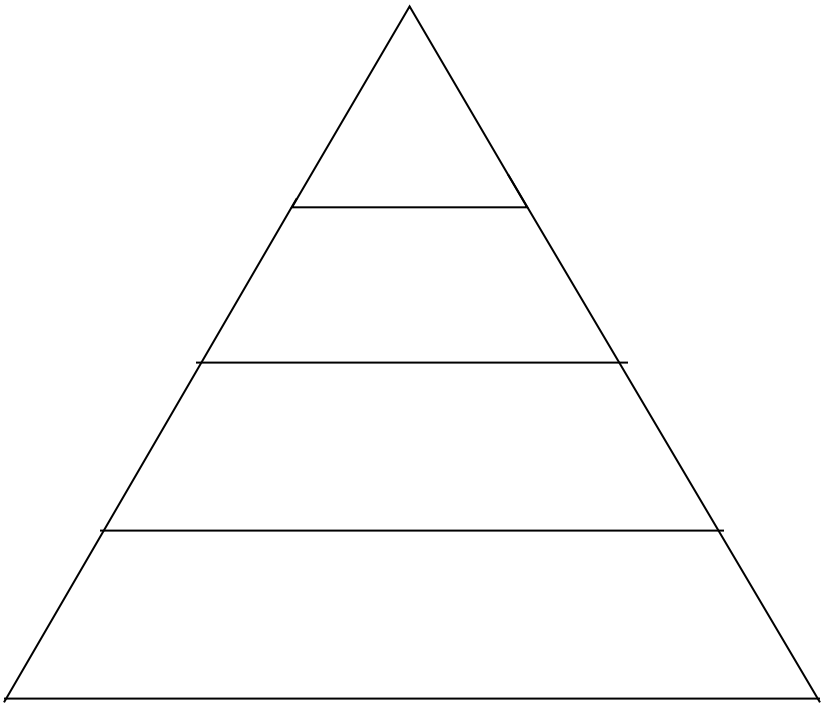
algae (producers) → krill → cod → leopard seal → killer whale
- poisons (e.g. DDT) can also be passed on in a food chain
  - Ecosystems are much more complicated than a simple food chain.

1. They generally contain many more species than those present in a single food chain.
2. Most organisms feed on more than one kind of food.

Food Web = A model that expresses all the possible feeding relationships at each trophic level in a community.

Trophic Level = Organism in a food chain that represents a feeding step in the passage of energy and materials through an ecosystem.
- each time energy is transferred, less of it is available to organisms at the next trophic level

a. some energy is lost during the process of converting food to energy
b. organisms use much of the remaining energy to carry out the functions of living (producing new cells, regulating body temperature, moving)
c. about 90% of the energy at each trophic level is used up in this way
d. the remaining 10% becomes part of the organism's body, stored in its molecules (muscle, fat, etc.)



Label: *(producers, primary consumers, secondary consumers, tertiary consumers, herbivores, carnivores, omnivores, example of each of those, & how much energy is lost from level to level)*