

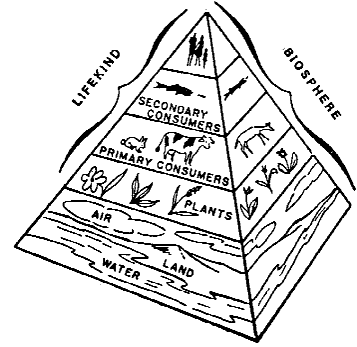
Food For Thought – Energy

Ecology – the study of the _____ of living things to _____ and their _____ (surroundings)

Ecosystems – _____ of the _____ communities of an area together with the _____ parts of their _____

Parts of an Ecosystem

1. _____ community (_____ factors)
2. _____ input and use
3. _____ cycling
4. _____ environment (_____ factors)



Characteristics of Living Things

1. _____
2. _____ and _____
3. _____ to the environment
4. _____
5. _____ to the environment

Ecology involves the study of the following things:

- a. The interactions between members of the _____ community (the living plants, animals and microbes)
- b. The interactions between members of the _____ community and the _____ environment
- c. The interactions between the _____ environmental factors (such as light-temperature-moisture)

The Environment and Energy

Energy – the _____ to do _____

All _____ use energy for life processes.

First Law of Thermodynamics

Energy is never _____ nor _____ but is only _____ from one form to another, or _____ from one place to another.

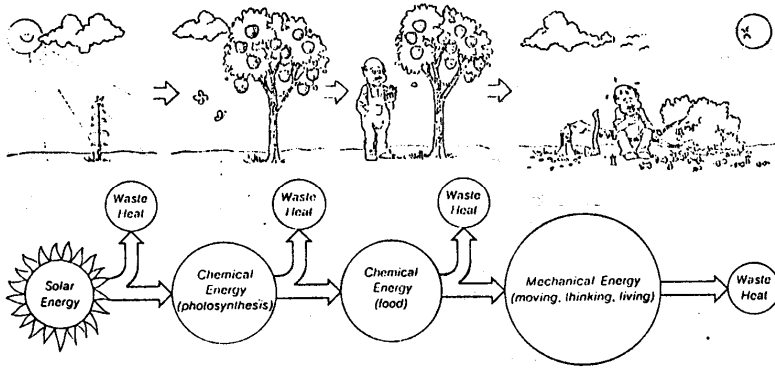
Second Law of Thermodynamics

When _____ is transformed or transferred, a part of the energy is _____ in the form of _____.

How organisms obtain energy

1. _____ are powered by energy from the _____
2. Energy only enters living things at the _____ level.
3. As energy is passed along the _____ chain, much of it is lost as _____.

4. Energy flows _____ way through the food chain, from _____ through _____.
5. Each level of the food chain has _____ available energy in it.



Using Energy

- Some organisms use _____ to balance energy used to get food with the type of energy gained from that food.
- Examples:
 - _____
 - _____ type of prey based on availability
 - _____ or dormancy
- Organisms use _____ to obtain _____ (more energy)
 - A coyote uses energy to _____ mice
 - Birds use energy to _____ to a location with more food rather than staying in a cold climate.

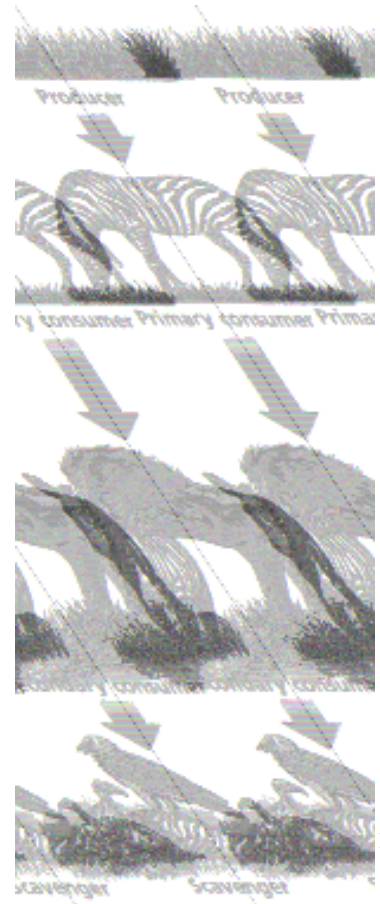
How They Fit in – Trophic Levels

Producers (_____) – are _____. They capture light energy from the sun and convert it into food energy.

Consumers (_____) – are _____ that depend upon green plants and other animals for food.

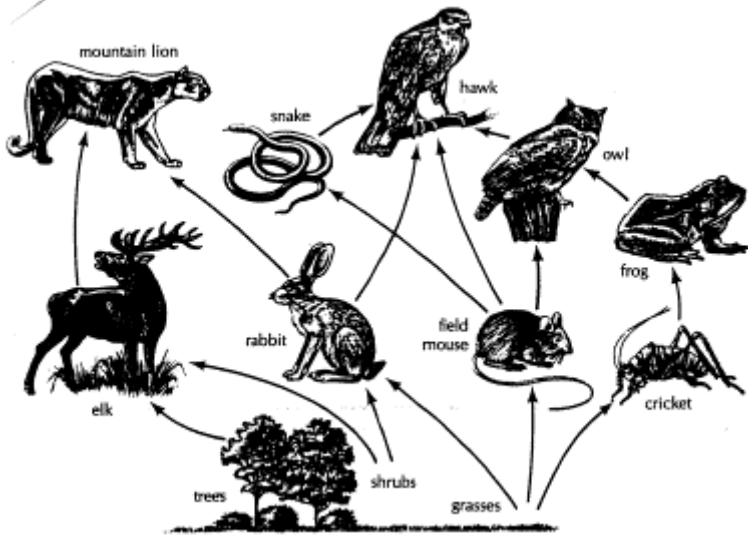
1. Primary Consumer (Herbivores) – eat _____ to get energy
2. 2nd level (secondary) Consumers (Carnivores, omnivores) – eat _____ to get energy
3. 3rd level (tertiary) Consumers (Carnivores, omnivores) – eat _____ to get energy

Decomposers – Break down and _____ getting energy and releasing nutrients back into the environment.



Name _____

You Are What You Eat

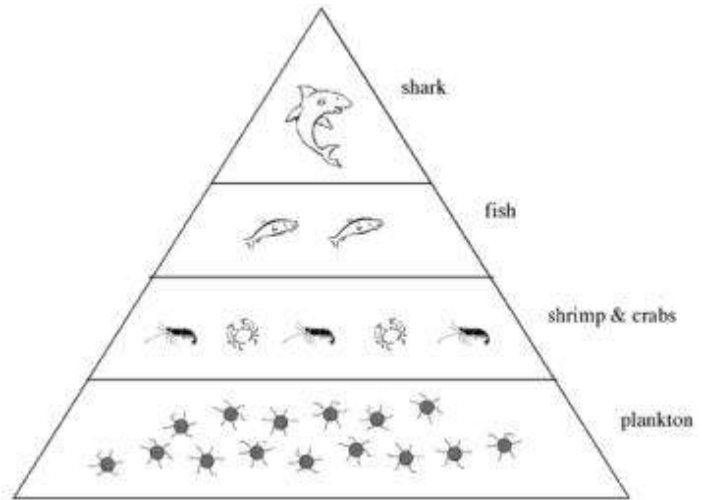


Food Chains – a simple _____ drawing showing which organisms feed upon which others

Food Web – _____

Energy Pyramid

- Number of _____ decrease as we go from one energy level to the next.
- _____ also decreases as we go from one energy level to the next.
- Only _____ of the available energy is _____ to the next energy level.



SYMBIOSIS -- _____

_____ – A relationship where one species benefits and the other is neither harmed or benefited.

Example:

_____ – A relationship where both species benefits.

Example:

_____ – A relationship where one organism benefits and the other is harmed.

Example:

_____ - _____ **Relationships** – A relationship where there is an organism that is the hunter and one that is the hunted.

Example:

Competition/Limiting Factors

_____ – When two or more organisms are competing for the same thing. It could be abiotic or biotic.

_____ – Environmental factors that affect an organisms ability to survive in its environment, such as food availability, predators, water, and temperatures.

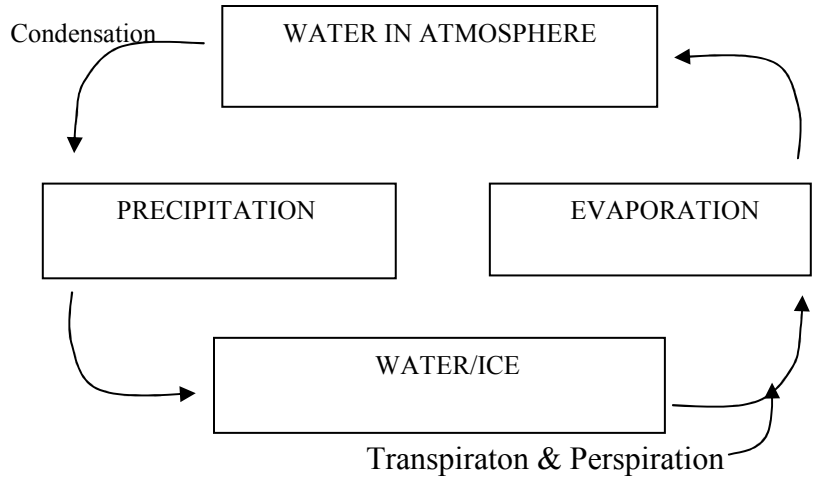
My Life's a Circle

Matter Cycles – the movement of _____ materials from the atmosphere or soil into living _____ and back again.

Water Cycle

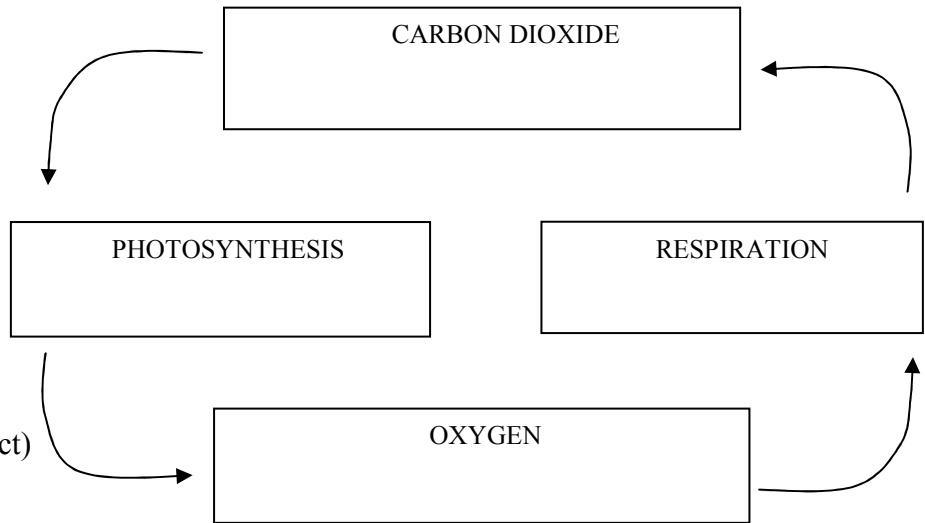
- _____ - liquid to gas
- _____ - gas to liquid
- _____ - water falling to earth

Organisms return water to the **Atmosphere through** _____, _____, and _____.



Carbon/Oxygen Cycle

Photosynthesis – plants use _____
 And release _____
 Respiration – Animals Use _____
 and release _____
 Burning of _____ increases
 The amount of _____ in the
 Atmosphere. This may be increasing
 The temperature. (_____ effect)



Nitrogen Cycle

Nitrogen is necessary to make _____.
 Nitrogen _____ is done by
 Plants containing rhizobium bacteria.
 _____ is the returning of nitrogen
 into the atmosphere

