

Ecology Test Info Sheet

(to help guide you in your studying)

➤ **Characteristics of living things**

- Cells
- Use Energy
- Grow and Develop
- Reproduce
- Respond to Environment
- Have Adaptations

➤ **Needs of living things**

- Water
- Living Space
- Proper Temperature
- Food
- Sunlight
- Gas Exchange (O₂ or CO₂)

➤ **What are the ecological levels? (From smallest to largest)**

Organism, Population, Community, Ecosystem, Biome, Biosphere

➤ **What are the abiotic factors needed for life everywhere in our biosphere?**

Water, Air, Soil, Temperature, Light, Shelter

➤ **What are the three categories of organisms and what role does each play in an ecosystem?**

1) Consumers (Heterotroph)- Eat other organisms

- Herbivore- plant eaters
- Carnivore- meat eaters
- Omnivore- eats plants and animals
- Scavenger - feeds on remains of dead organisms

2) Producers (Autotroph)- Makes its own food through photosynthesis

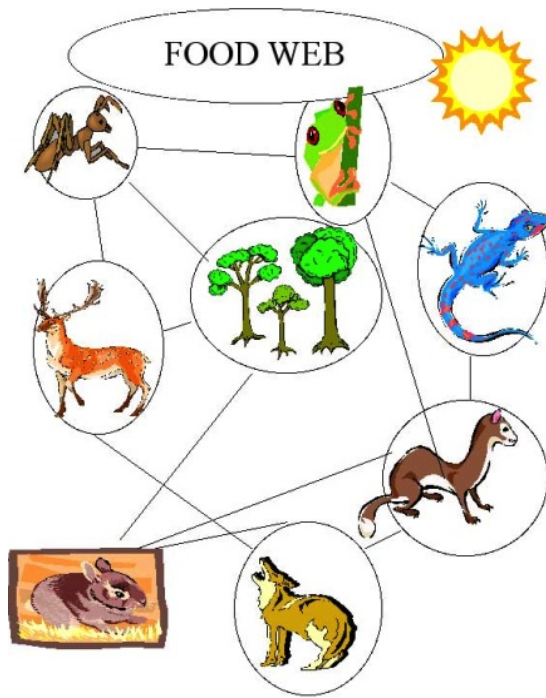
3) Decomposers - break down dead organisms and waste, recycle nutrients back into soil

➤ **What is the ultimate source of energy for Earth?**

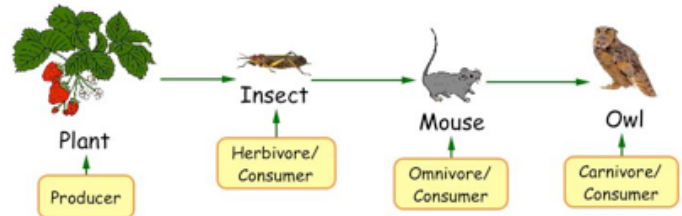
The Sun

➤ **What are differences and similarities between food chains and food webs?**

- **Food Chains** show the transfer of energy from one organism to another in a straight line. Energy must go from where the energy starts and where it goes to.
- **Food Webs** show the transfer of energy of all the organisms in an environment, from organism to organism. Made of multiple food chain



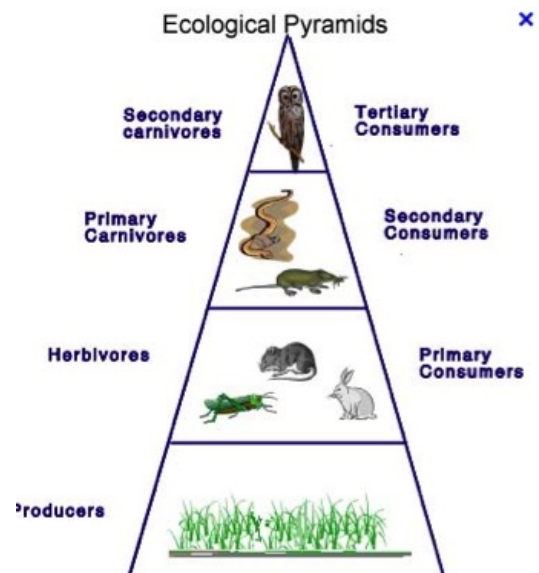
The Food Chain Of An Owl



➤ **What is an energy pyramid? What happens to the energy as you move up the levels? Why does the number of organisms decrease as you move up a pyramid?**

DON'T INCLUDE SUN

- Energy Pyramid shows the producers, primary consumers, secondary consumers and tertiary consumers. The bottom of the pyramid is larger than the top because at each level 90% of energy is lost.
- The number of organisms and amount of energy decrease as you move up the pyramid



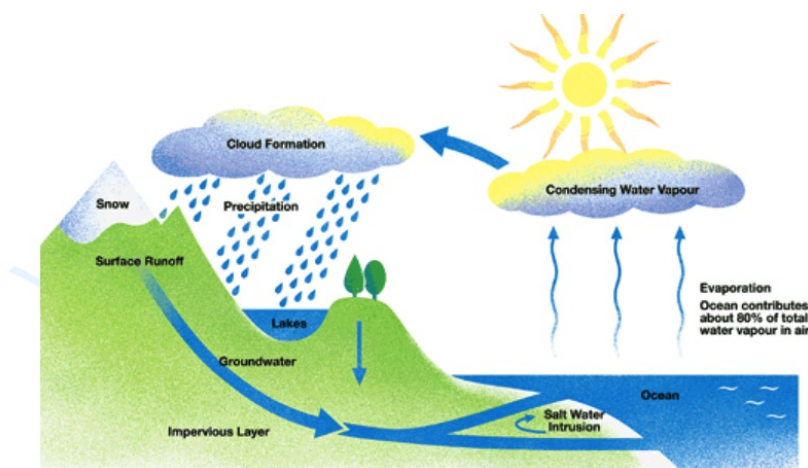
➤ **How are competition, predation, and symbiosis related? What specific vocab relates to each of these categories AND definitions of each.**

- Competition - "fight" for food (energy), water, reproduction (mates), space
- Predation - predator vs. prey
- Symbiosis - mutualism, parasitism, commensalism
 - Mutualism ☺☺
 - Commensalism ☺ :/
 - Parasitism: ☺☹

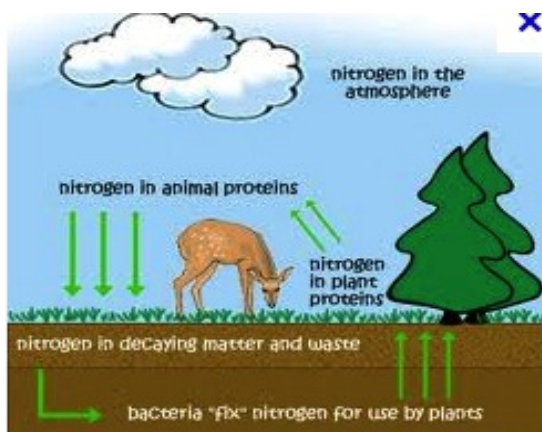
➤ **The three biological cycles:**

- 1) Water Cycle
- 2) Carbon Cycle/Oxygen Cycle
- 3) Nitrogen Cycle

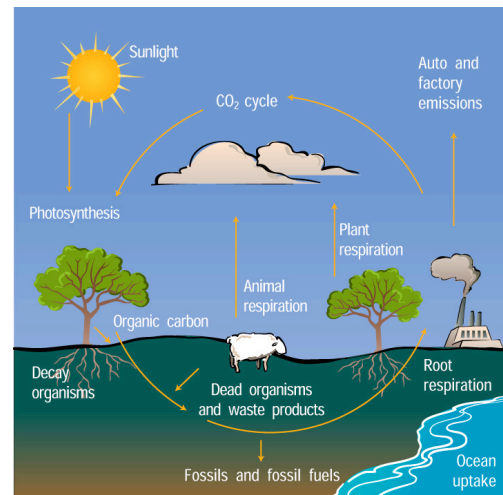
Water Cycle



Nitrogen Cycle:



Carbon Cycle:



➤ **How do ecosystems change over time? Describe how this can occur.**

- **Primary Succession**- occurs in an area where NO soil or living things left. Primary Succession is caused by a VOLCANO or Flash Flood, Meteor Strike. For growth to occur in this area PIONEER species (lichen or some moss) create a space for more species to grow.
- **Secondary Succession**- occurs in an area where the ecosystem's soil been disturbed by human impact or left alone or abandoned for a period of time. Pioneer Plants are not needed. The plants and shrubs start to grow. Overtime the trees begin to mature, which then becomes a climax community.

➤ **What are the eight biomes and some basic features of each?**

1. Deciduous - mixed trees that lose leaves, 4 seasons
2. Coniferous - most trees don't lose leaves, have needles and cones, mammals hibernate, more precipitation than tundra
3. Tropical rainforests - hot, humid and rainy, infertile soil
4. Tundra - permafrost, no trees, little vegetation, little precipitation each year, long winters, short summers
5. Grasslands - fertile, lots of grass, small rodents, big herbivores and predators, savannahs
6. Desert - very little precipitation, little to no vegetation, hot days, cold nights
7. Marine - salt water, oceans
8. Freshwater - no salt, lakes, rivers, ponds, streams