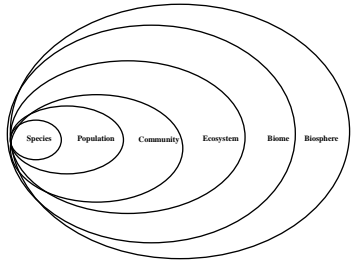
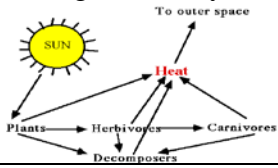


<p>Class Notes Intro to Ecology & Energy Flow</p> <p>Questions/Main Idea:</p>	<p>Name: _____ Period: _____ Date: _____</p> <p style="text-align: right;">Notes:</p>
<p>What is Ecology?</p>	<p>The study of interactions between organisms and their surrounding environment</p>
<p>The environment includes living and nonliving parts</p>	<ul style="list-style-type: none"> • Biotic – the living parts of the environment (animals, plants, fungi, bacteria, protists, etc.) • Abiotic – the nonliving parts of the environment (air, water, rocks, soil, light, etc.)
<p>At what levels of organization do ecologists study?</p> 	<ul style="list-style-type: none"> • Species – group of similar organisms that can breed and produce fertile offspring • Population – group of organisms that belong to the same species and live in the same area • Community – group of different populations that live in the same area • Ecosystem – community of organisms that live together and interact with the abiotic environment • Biome – group of ecosystems with the similar climate and dominant communities • Biosphere – the portion of the planet in which all of life exists including land, air, and water
<p>What are Consumers v. Producers?</p>	<ul style="list-style-type: none"> • Autotrophs – make their own food, so they are called Producers • Heterotrophs – get their food from another source, so they are called Consumers
<p>What two main types of Producers (autotrophs)?</p>	<ul style="list-style-type: none"> • Get energy from sunlight <ul style="list-style-type: none"> ○ The main source of energy for life on earth = Photosynthesis • Get energy from chemicals <ul style="list-style-type: none"> ○ Some organisms such as bacteria, rely on the energy stored in inorganic compounds = Chemosynthesis
<p>What are the types of Consumers?</p>	<ul style="list-style-type: none"> • Consumers are classified by what they eat: <ul style="list-style-type: none"> ✓ Herbivores – Only eat plant material (e.g., leaves, flowers, fruits, wood) ✓ Carnivores - Eat meat, other animals ✓ Omnivores – Eat both plants and meat. ✓ Detritivores / decomposes – Feed on plant and animal remains

How does the **energy** flow through an ecosystem?

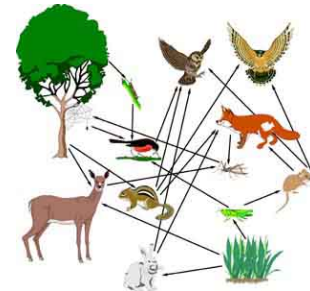


- It flows in one direction.

Ex: Sun → algae → mosquito larvae → dragonfly larvae → frog

What is **food chain** and what is a **food web**?

- **Food Chain** – steps of organisms transferring energy by eating and being eaten
- **Food Web** – network of the interconnected food chains in an ecosystem



What are trophic levels?

- Each step in a food chain or food web is a **trophic level**.
- Producers make the first trophic level.
- Consumers make up the second, third, or higher trophic levels.
- - ✓ A **primary consumer** eats the 1st trophic level.
 - ✓ A **secondary consumer** eats the 2nd trophic level.
 - ✓ A **tertiary consumer** eats the 3rd trophic level.
 - ✓ A **quaternary consumer** eats the 4th trophic level.

What is an **Ecological Pyramid**?

- A graphical representation of the trophic levels in an ecosystem

What is an **energy pyramid** versus a **Biomass Pyramid**?



- Energy pyramid represents the amount of energy available in each trophic level.
 - Only about 10% of the energy stored in an organism is transferred to the next trophic level
 - The more levels that exist between producers and top-level consumers in an ecosystem, the less energy that remains from the original amount
- Biomass pyramid represents the total amount of living tissue available within each trophic level of a food chain
 - It represents the amount of potential food available for each trophic level (grams of organic matter per unit area)
 - Typically, the greatest biomass is at the bottom of the pyramid.

Summary:
