

Energy Transfer Notes

- **Producer (Autotroph)** – an organism that makes its own food and stores energy
 - *Example: plants*
- **Consumer (Heterotroph)** – an organism that obtains food and energy by eating other organisms
- Types of Consumers:
 1. **Herbivores** – organisms that eat only plants
 - *Example: cattle*
 2. **Carnivores** – organisms that eat only animals
 - *Example: coyotes*
 3. **Omnivores** – organisms that eat both plants and animals
 - *Example: bears*
- **Decomposer** (*also a heterotroph*) – organisms that obtain energy by breaking down wastes and the remains of dead organisms
 - *Examples: mushrooms and earthworms*
- **Food Chain** – model that shows how energy passes from one organism to another
 - In a food chain, an arrow points from the organism being eaten to the organism doing the eating
 - Primary source of energy in a food chain is the sun
 - *Example: Plant → Rabbit → Weasel*
- Levels of Consumers:
 - **First level**: Consumers that eat producers
 - **Second level**: Consumers that eat first-level consumers

- Only about 10% of the energy consumed by a first-level consumer is available for the second-level consumer. The other 90% is used to support the life processes (keeping warm, pooping, etc) of the primary consumer
- This means that the higher the level of consumer, the fewer there are of them because they have to eat *A LOT* to get enough energy
- **Food Web** – a series of overlapping or connected food chains that exist in an ecosystem. More accurate than a food chain because they show ALL the feeding relationships within an ecosystem