Energy Flow in Ecosystems

Chapter 5 Section 1

Energy Sources

- Ultimate energy source: SUN
- Plants make sugar via photosynthesis
- Photosynthesis makes carbohydrates
- Chemical Reaction

$6CO_2 + 6H_2O + light \rightarrow C_6H_{12}O_6 + 6O_2$

- Energy transfers from…
- Sun--->plants--->animals

Energy transfer in Ecosystems

- Producer - organism makes its own food
  - A.k.a- Autotroph
  - Examples: plants and protists
- Consumer - get energy by eating other organisms
  - A.k.a- heterotroph
  - Examples: animals, rabbit, wolf

Who eats who?

- Herbivores- consumers that eat producers
  - Examples:
- Carnivores- consumers that eat other consumers
  - Examples:
- Omnivores- consumers that eat both
  - Examples:
- Decomposers- get food by breaking down dead organisms
  - Examples:

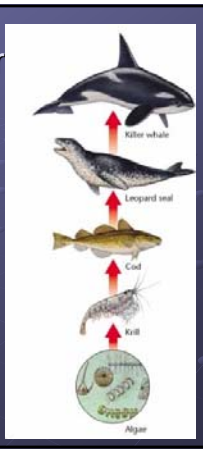
Using Energy:burning the fuel

- Food is broken down by chemical reactions
- Breaking down the food by
  - Cellular respiration

$C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O + energy$

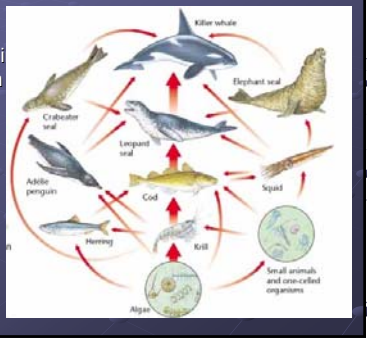
Energy Tr

- Food Chain
  - Shows energy transfer from one organism to next



Energy Transfer

- Food Web
  - Shows many feedi relationships in an ecosystem
  - Note – many food chains interconnected



Energy Transfer

- Trophic level
  - Each step in the transfer of energy in a food web
- Energy Pyramid
  - Shows the amount of energy vs. trophic level