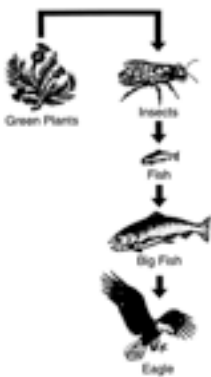
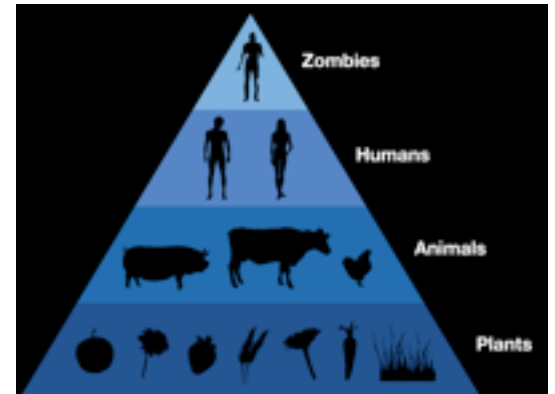


Energy Flow in Ecosystems

The *ultimate source of energy* come from the sun. Plants use sunlight and perform photosynthesis. Plants are they eaten by animals.

In *food chains*, plants and animals are classified by their *trophic level*.

- 1st trophic level = producers (autotrophs)
- 2nd trophic level = primary consumers
- 3rd trophic level = secondary consumers
- 4th trophic level = tertiary consumers
usually a top carnivore,

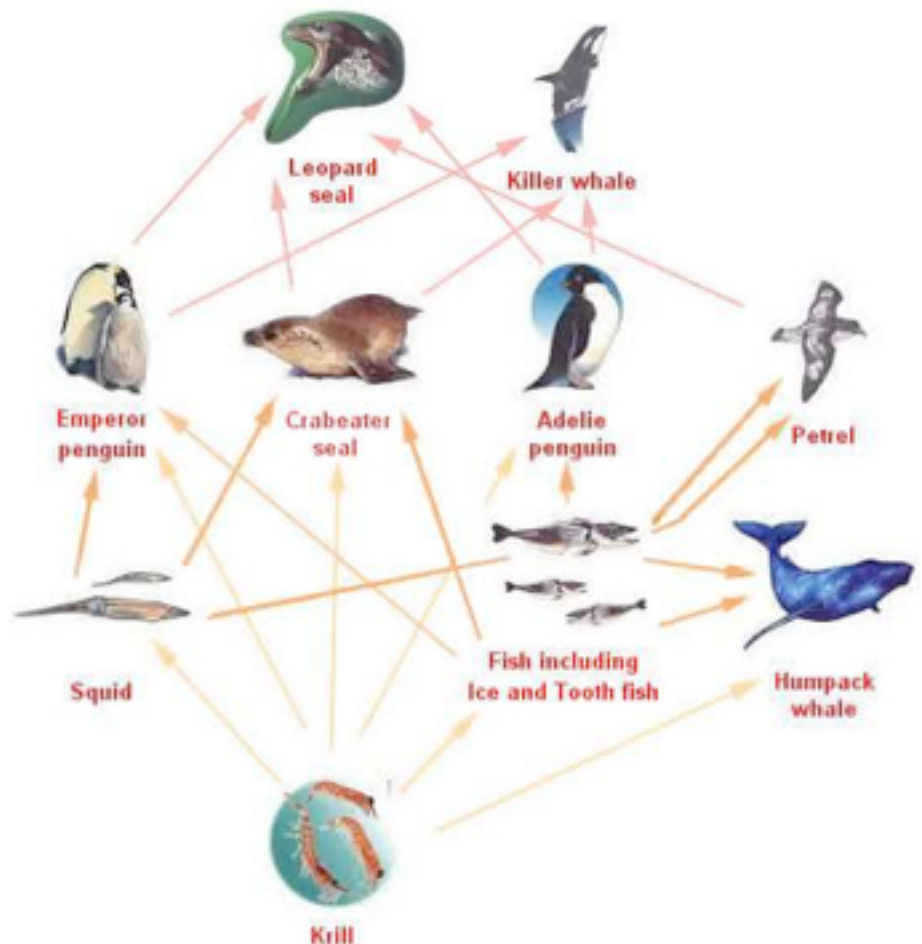


Usually food chains contain no more than four or five levels, since only ~10% of the energy is transferred.

Arrows point in the direction of energy transfer!

Food webs are similar to food chains, but show the feeding relationships among many more organisms, so they are more complex than food chains.

Since all of these organisms are so interconnected, the loss of one will have dramatic effects on the whole web!



Pyramids!

Pyramid of Energy - as energy is transferred from one trophic level to the next, energy is lost.

Pyramid of Numbers -

Pyramid of Biomass -