

Chapter 28 notes

Ecosystems:

- Interactions among organisms with their environment
- Niche – is the specific role an organism plays in its environment

Pyramid of energy –

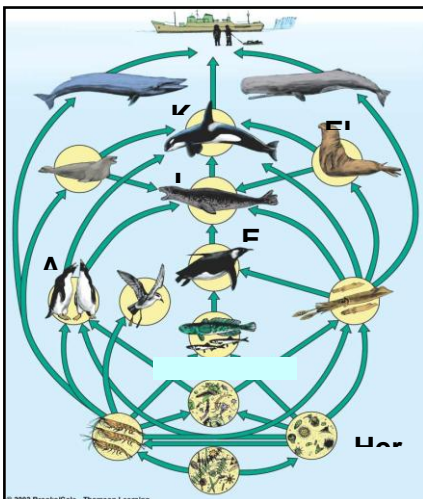
- Energy is not recycled
- Energy transfer between trophic levels is not 100% efficient
 - Some energy is lost

Pyramids and biomass

- Because of energy loss there are more herbivores and then

A food pyramid

- has different levels because of energy loss
 - Producer
 - First order consumer (herbivores)
 - Second order consumer (Carnivores, Omnivores)
 - Third order consumer (carnivores, omnivores)
 - first order consumer
 - second order consumer
 - third order consumer
 - Symbiotic feeding relationships... Symbiosis ('living together')
 - Mutualism (+, +)
 - Parasitism (+, -)
 - Commensalism (+, 0)



Food Chains vs. Food Webs

- Chain shows what feeds on what a web shows all of the possible feeding relationships
- Food Web - Energy Flow and Matter Cycling in Ecosystems...
- Cycles in the ecosystem
- The passage of energy and living matter
- Matter is recycled

Energy Flow and Matter Cycling in Ecosystems...

- There is little if no matter waste in natural ecosystems!

Major Ecosystem Components

- Abiotic is non living
- Biotic is living

Abiotic

- Abiotic factors that influence life in the biosphere
 - determine the biosphere's structure and dynamics (fluctuations)
 - Water, air, temperature, soil, light levels, precipitation, salinity
 - Sets tolerance limits for populations and communities
 - Abiotic Components unusually move in cycles.
 - There is little if no matter waste in natural ecosystems!
 - Carbon Cycle
 - Nitrogen Cycle
 - Water Cycle

Biotic Components

- Producers, consumers, decomposers
- Plants, animals, bacteria/fungi
- Biotic interactions with biotic components include
 - predation
 - competition
 - symbiosis, parasitism
 - commensalism etc.

Physical and chemical factors, and disturbance

- Solar energy, water, temperature, wind,
- For example, soils include inorganic material, organic material in various stages of decomposition, water, air, and living organisms.
- All of which can be affected by disturbance.
- Such variables play an important role in determining the distribution of organisms

Latitude Climates

- Are due to the uneven heating of Earth's surface as it orbits the sun
 - Influences
 - many abiotic and biotic factors

- distribution of biological communities

The tilt of the Earth's axis

- Causes the changes of the seasons in the northern and southern hemispheres
- The uneven heating of the Earth
- Also sets up patterns of precipitation and prevailing winds
- Ocean currents

Local climate conditions

- Sea breezes
- land breezes
- mountain breezes