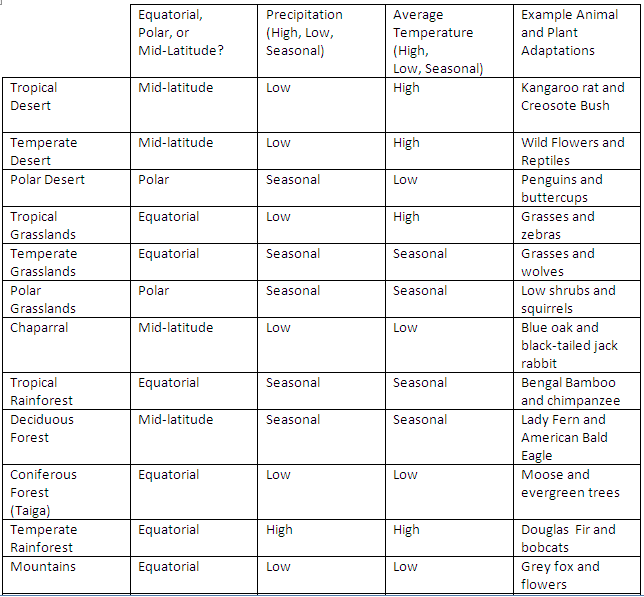
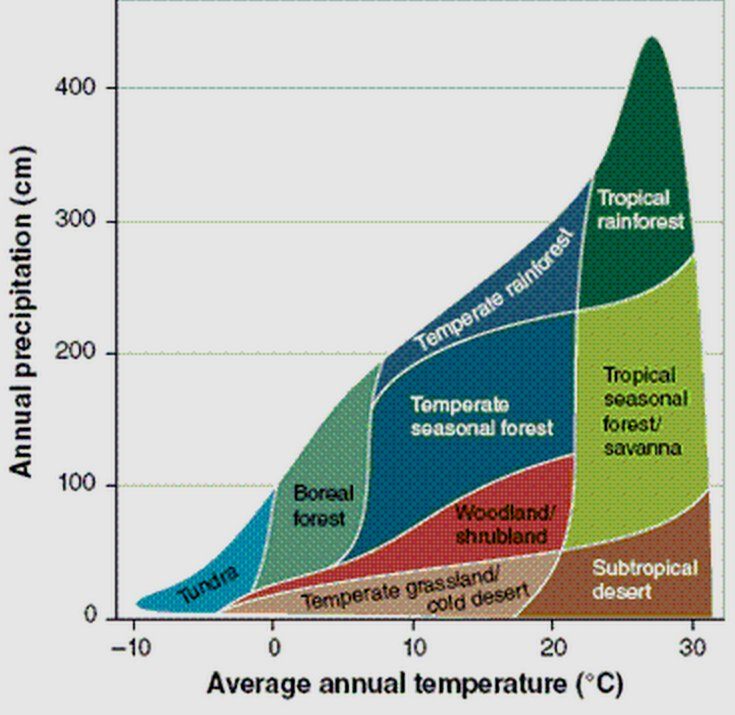
**Ecology**

Organism 🡪 Population 🡪 Community 🡪 Ecosystem 🡪 Biosphere

**Terrestrial Biomes**: Categorized by Temperature and Precipitation.

**Aquatic Biomes**: Categorized by Temperature and Salinity

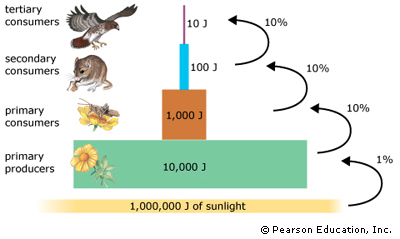
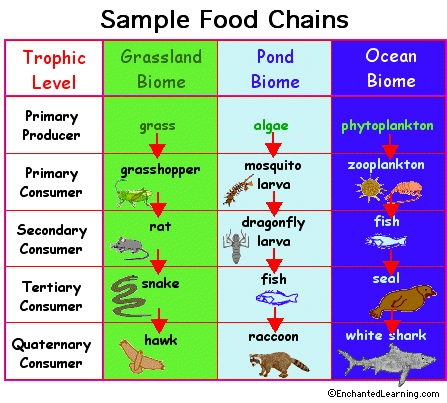
\* KNOW ALL TERRESTRIAL AND AQUATIC BIOMES AND UNIQUE CHARACTERISITICS/ANIMAL ADAPTATIONS



Ecotone: where two biomes meet; Ecoregion: small region within a biome that has distinct features

Biodiversity within an ecosystem is a GOOD THING… a measure of ecosystem health!!!

**Food Chains/Webs and Energy Flow**



Pyramid of Energy: 10% of energy is passed on from one trophic level to the next (90% lost as HEAT!)

-results in Pyramid of Biomass & Pyramid of Numbers

Producers: autotrophs (create own energy with photosynthesis!)

**Net Primary Productivity = Gross Primary Productivity – plant cell respiration**

Consumers: heterotrophs (EAT to get energy)

Detritivores: Consume non-living organic matter (dead animals, plant litter)

Decomposers: bacteria and fungi that absorb nutrients from nonliving organic matter. Recycle materials back into inorganic forms.

**Bioaccumulation:** accumulation of a substance in the body tissue of an organism (ONE organism)

**Biomagnification:** the increase in concentration of toxins in higher trophic levels. (UP the FOOD CHAIN)

**Evolution:**

-Natural selection and speciation… individuals best fit for their environment are more likely to reproduce. Evolution requires MANY generations!

-Extinction

-Ecological vs. economic vs. biological

-r-selected vs. k-selected species

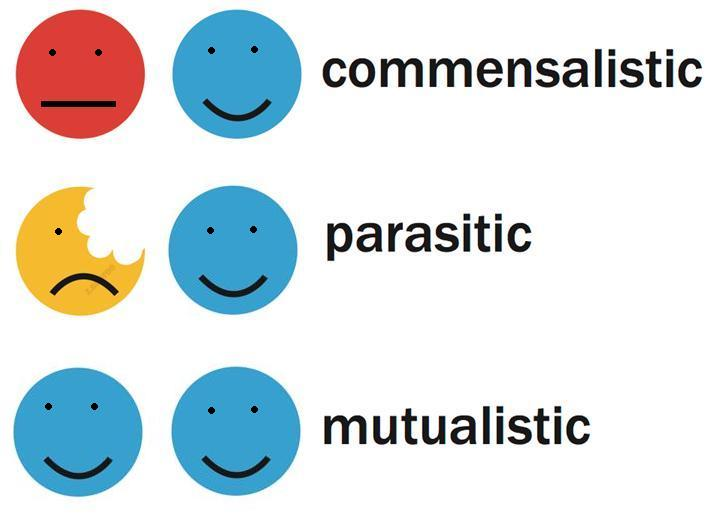
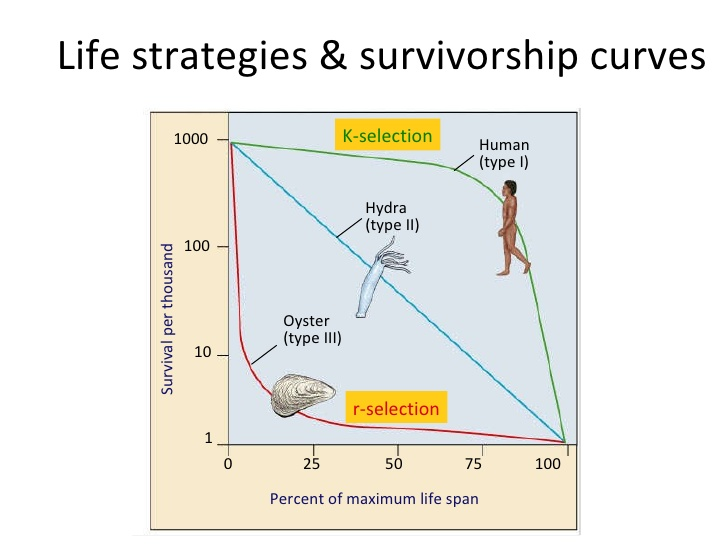
**Relationships between species**

-Niche (realized (actual) vs. fundamental (ideal)): how a species uses the resources in its environment. No two species can occupy the same niche!

-Resource partitioning and competition (intraspecific (same species) vs. interspecific (diff species))

-Predation

-Symbiotic Relationships (Mutualism, Commensalism, Parasitism)



**How ecosystems change**

-Keystone species: a species whose presence contributes to an ecosystem’s diversity and whose extinction would lead to extinction of other species. VERY IMPORTANT ROLE in the ecosystem

-Indicator species: a species that is used to evaluate the HEALTH of an ecosystem

-Indigenous (native) vs. Invasive/Alien (not native)

-Generalist (can live in many environments; invasive species!) vs. Specialist (specific environment)

**Ecological Succession**

-Primary Succession: where an ecosystem begins in a lifeless area (NO SOIL)

-Secondary Succession: forms after a fire, tornado, human impact, other disaster (SOIL IS STILL INTACT)  
