Study Guide for Midterm 4

- Habitat – place where you live; physical location
- Certain regions favor and support a greater quantity of species (artic vs. tropical)
- Niche – the sum of all activities and relationships in which a species performs in order to allow survival and reproduction
    - Job/sometimes it is which other organism it eats
- Commensalism – one benefits/one neutral [Bird(+) / tree(o)]
- Predation – one benefits/one is harmed (killed) [hawk(+) / mouse (-)]
- Cyclic in nature – increase in prey leads to increase in predators and vice versa
- Parasites – live on or in the host organism
- Interspecific competition – two different species use the same food. Usually not as intense as intraspecific because they have similar but not identical requirements
    - Between two different species
- Intraspecific competition – competition within the same species, very intense because of the same food requirements
    - Between the same species
- Mimcry – physical or behavioral resemblance of one species to another to benefit itself or sometimes benefit both species
- Warning coloration – is intended not to camouflage an organism but to make it more noticeable. Such coloration is found among animals that have natural defenses that they use to deter or fend off predators
- Camouflage – aka “Cryptic coloration”, helps disguise an animal so that it is less visible to predators or prey
- Moment of truth defenses – action by prey just before death that is unexpected by predator
- Succession – the gradual replacement of one community with another
- Sediment buildup –
- Primary succession occurs when land is first formed
    - Microbes, lichens and mosses must create soil before other plants can grow
- Secondary succession occurs when succession must start over after the destruction of a climax community
- Keystone species – most dominant species in the community
- Most free oxygen in the atmosphere comes from photosynthesis
- Carnivore – meat eater, one animal that eats another animal
- Omnivore – organism that eats plants and animals
- Herbivore – organisms that eat plants only
- Decomposers – fungi and bacteria who obtain energy by breaking down the remains of organisms
- Ecosystem – an array or organisms (biotic) and the physical environment (abiotic) in the process of energy transfer ultimately from the sun
- Producer (autotrophic organism) – a plant or organism capable of changing inorganic compounds into organic compounds that can be used for food
    - Capable of photosynthesis or chemosynthesis
    - Usually a plant, but could also be a cyanobacteric and some protests

- Food chain – a linear series of relationships based on trophic levels
- Food web – more complicated than a single chain, often one organism is prey for several other organisms
    - A predator can also be someone else's prey
- Energy flow through the ecosystem - energy from a primary source (sun) flows in a one-way direction through food webs
- Ecological pyramid – graphic representation of the various trophic levels in a way to depict the relative amounts of biomass in each level
- Biomass – the dry weight of all organic matter in a given ecosystem
- Hydrologic Cycle or Water Cycle –
    - Precipitation – rainfall, snow, fog, sleet, hail, dew…
    - Runoff – water that cannot be absorbed and passes by gravity to the lowest level (ocean, lake, stream)
    - Groundwater – water beneath the surface (pools and rivers)
    - Respiration – biological process that uses oxygen and sugar to make energy and releases water
    - Evaporation – physical change or aqueous water to water vapor which is dependent on heat
    - Transpiration – loss of water directly from plant leaves to atmosphere
- Legumes – plants that have special bacteria in the roots that are capable or converting atmospheric nitrogen (N_2) to fertilizer
- Phosphorous Cycle – a sedimentary cycle, the movement of the element phosphorous from mineralized forms to aqueous forms and then the incorporation into plants and animals.
- Phosphates are RARE on earth
- Biological magnification – ever increasing concentration of a slowly degradable or non-degradable substance in body tissues as it is passed along food chains
- Carbon/Oxygen Cycle – atmospheric cycle. Carbon moves from its environmental reservoirs (sediments, rocks, the ocean), through the atmosphere (as CO_2), food webs, and back to the reservoirs.
    - CO_2 acts to retain heat like a blanket around the earth
- Food pyramid – chart of a well-balanced diet
- Predator – a heterotroph that eats other living organisms (its prey)
- Prey – any organism that another organism captures as a food source
- Primary consumer – eats producers (herbivores and omnivores)
- Secondary consumer – eats primary consumers (omnivores and carnivores)