Interactions Notes

Biome: Group of ecosystems with similar climate and plants and animals

Rocks and Water: Abiotic Factors

Abiotic Factors: nonliving (sunlight, temperature, rocks, water)
Biotic Factors: living things (plants & animals)
Habitat: where an organism lives
Niche: where an organism lives AND its role in the ecosystem

Types of Interactions

1. **Predation**: one organism captures & feeds on another
   - predator: does the killing & feeding
   - prey: what gets eaten

   Prey Adaptations
   - **camouflage**: blending in with a background
   - **disruptive coloration**: leopard spots
   - **countershading**: two toned shading (penguins light in front and dark on their backs)

   - **mimicry**: disguised as similar harmful organism
   - **chemical defenses**: toxins, skunk spray
   - **nutrient exclusion**: plants aren't worth eating

2. **Competition**: organisms attempt to use the same resource at the same place & same time

3. **Symbiosis**: a relationship in which 2 species live closely together
   3 Types of Symbiosis
   1. **Mutualism**: both species benefit
      - Ex: bees and flowers
      - bee gets nectar from flower /flower gets pollinated by bee
   2. **Parasitism**: one organism benefits and the other is harmed
      - Ex: flea on a dog
      - Flea gets food and the dog loses blood and gets sick
   3. **Commensalism**: one organism benefits and the other doesn’t care.
      - Ex: barnacle & whale
      - barnacle lives on whale
      - whale doesn’t notice or care
      - clownfish and sea anemone
**Levels of Organization**
Atom → Molecule → Organelle → Cell → Tissue → Organ → System

**Levels of Ecological Organization**

1st Level of Organization  
**Organism:** An individual living thing that is made of cells, uses energy, reproduces, responds, grows, and develops  
Ex: One lion

2nd Level of Organization  
**Population:** A group of organisms, all of the same species, which interbreed and live in the same place at the same time.  
Ex: All the lions in a habitat

3rd Level of Organization  
**Community:** All the populations of different species that live in the same place at the same time.  
Ex: All the lions, hyenas, warthogs, meerkats, and baboons.

4th Level of Organization  
**Ecosystem:** Populations of plants and animals that interact with each other in a given area and the abiotic components of that area.  
Ex: All the animals, rocks, soil and water.

5th Level of Organization  
**Biosphere:** The Earth. All the ecosystems.