

Definition of "Life"

Ch. 10

6 Charact. of ALL Life:

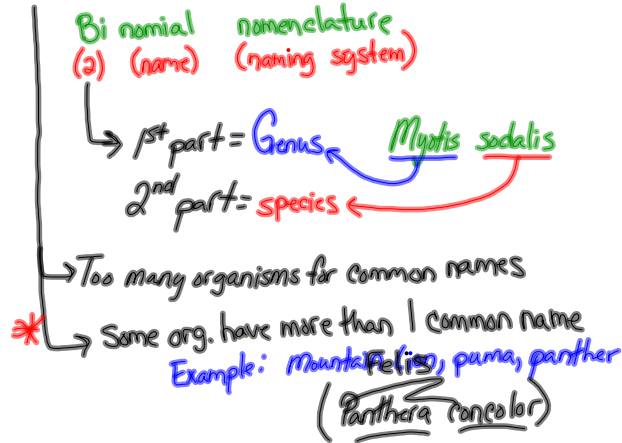
- 1) Cells
- 2) Similar chemicals:
 - Water → most abundant (Digest+metab.)
 - Carbs → Short-term Ex (Sugars)
 - Protein → Building blocks
 - Lipids → Long-term Ex (fats)
 - Nucleic Acids → Store genetic info (DNA)
- 3) Use Energy (Metabolism)
- 4) Respond to Environ.
 - Stimulus = Response (cause) = (action)
 - sunlight = growth
- 5) Grow/Develop
- 6) Reproduce
 - asexual (ONE Parent; cloned offspring)
Ex: Bacteria
 - sexual (TWO Parents; Diff offspring)
Ex: Most plants (flowers)
Mammals
frogs

Materials/Conditions NEEDED for Life:

- 1. Food
 - autotroph → makes own food (Bacteria, plants)
 - Heterotroph → "Eats" things (Animals, fish, mushroom, bugs)
- 2. Water
- 3. Living Space
- 4. Homeostasis → Stable internal conditions

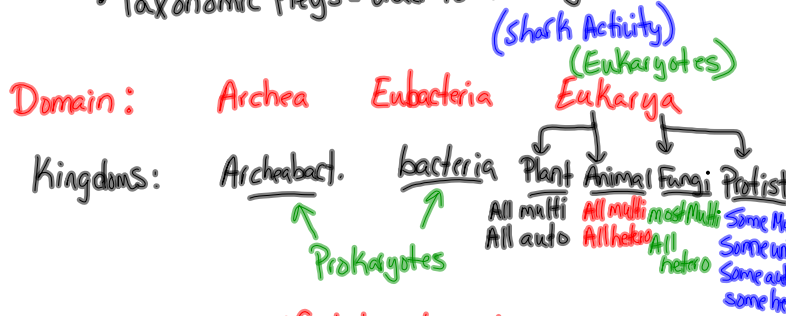
Classification

- Taxonomy = study of classifying/naming life
- Linnaeus → Scientist who created naming system



- 8 Levels
Domain (largest/broadest)
Kingdom
Phylum
Class
Order
Family
Genus
Species (most specific)
- The more levels 2 org. have in common, the more closely related they are.

• Taxonomic keys = used to ID organisms



- org. are classified based on:
 - 1) Cell type (Pro/Eukaryote)
 - * 2) Food (auto/hetero)
 - 3) # of cells (multi/uni)

Evolution → species change over time

- Proposed by Charles Darwin
- ↳ Evidence

• Derived Charact. = traits 2 RELATED organisms have in common from an ancestor.

Example | Primates → humans = opposable thumbs

* Chemical make-up = BEST (DNA)