

Unit III Diversity of Life

Taxonomy- the field of biology that deals with classifying organisms

Classification- placing items into different groups based on similarities and differences

-biologists use characteristics such as structure, function, biochemistry, and cellular and molecular make-up

homologies- likeness in form, as a result in evolution (limb pattern-structure, DNA- biochemical)

Levels of Classification

→ biology classification system is a hierarchy, meaning it has different levels.

i.e.) school hierarchy

1. Principal
2. Vice Principal
3. Teachers
4. Students

-the biology hierarchy was developed by Linnaeus in the 1700s

7 Levels

- | | |
|------------|---|
| 1. Kingdom | -at the top there are 5 kingdoms that have 1000s of organisms. As you go down the levels there are more groups, but less members of each group. |
| 2. Phylum | |
| 3. Class | |
| 4. Order | |
| 5. Family | |
| 6. Genus | |
| 7. Species | |

→ Linnaeus also developed a two-name system for naming organisms called **Bionomial Nomenclature**. This system is made up of two bottom levels.

-Latin is used so scientists all over the world can refer to organisms by the same name.

First name : Genus (capitalized, underlined)
Second name: species (lower case, underlined)

Example:

1. Humans Homo sapiens
2. Wolf Canis lupus
3. Dog Canis domesticus

5 Kingdoms of Living Things

autotroph (makes own food),
heterotroph (cannot make own food),
unicellular (organisms with only 1 cell),
multicellular (organisms made of many cells),
prokaryote (organism cells with no nucleus),
eukaryote (organisms cells have a nucleus)

1. Kingdom Monera (ie bacteria)

-unicellular -prokaryote -heterotrophic (decomposers)

2. Kingdom Protista (ie euglena, paramecium, amoeba)

-unicellular -eukaryotic -heterotrophic (mostly)

3. Kingdom Fungi (ie mold, mushrooms)

-multicellular -eukaryotic -heterotrophic (decomposers)

4. Kingdom Plantae (ie grass, rose, pine tree)

-multicellular -eukaryotic -autotrophic

5. Kingdom Animalia (ie ants, humans, lions, crab)

-multicellular -eukaryotic -heterotrophic
-mostly mobile (move)