**Microbiology**

**Classification and Taxonomy**

* They are diverse and live everywhere you can possibly imagine.
  + Bottom of the ocean
  + High in the atmosphere
  + Hot environments
  + Salty environments
  + In us and on us!
* Some hurt us, make us sick, and even kill us. Others help keep us healthy and provide for many of the products we rely on daily

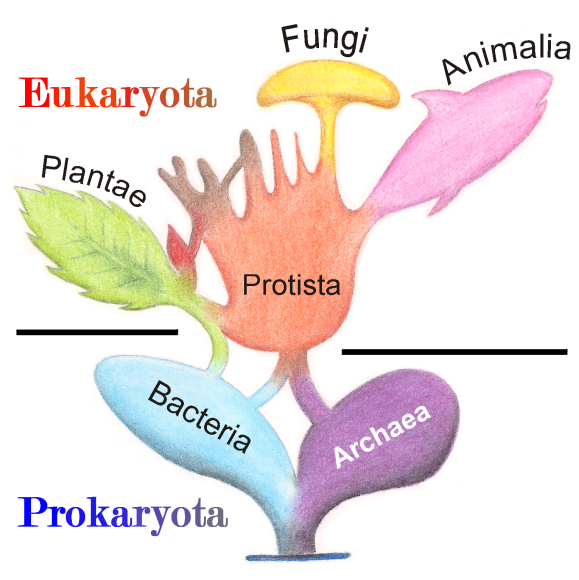
**Why are names important?**

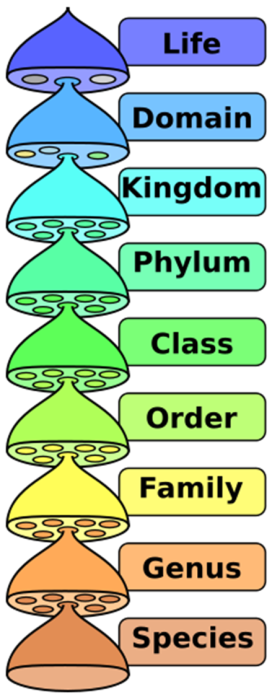
**Taxonomy** – the science of classifying organisms. Useful in determining relationships and similarities between organisms.

**Carolus Linnaeus**

* the “Father of Modern Taxonomy”
* grouped organisms according to structural similarities
* named organisms in Latin language (common language of the day)

**6 Kingdom System**

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* Organisms are grouped into smaller and smaller

groups all the way down to their species based on

common characteristics

* A species is the most specific grouping and

includes only organisms that can interbreed with

each other **and** produce fertile offspring.

**Binomial Nomenclature** – name given to each species as identification

* A two-name system

First part of name: genus

* (first letter is always capitalized)

Second part of name: species

* (First letter is always lowercase)

Entire name is underlined and *italicized*

* Names must be submitted for acceptance by original discoverer and are generally Latin or Latinized – often reference species characteristic, geography, discoverer…)

Ex. American Black Bear –

House Dog -

Wolf -

***Human Classification***

Domain:

Kingdom:

Phylum:

Class:

Order:

Family:

Genus:

Species