

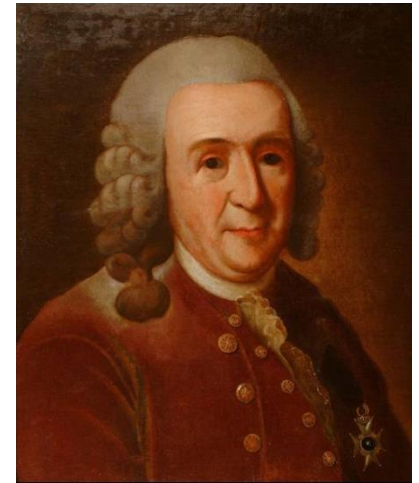
Life Science

Chapter 7 Part 2

Taxonomy

Taxonomy

- The classification of living things into groups called Taxons
- Aristotle classified as to the area they mainly lived in:
Land, Air or water
- Linnaeus came up w/ the modern day classification system using binomial nomenclature



Dumb King Phillip Came Over For Golf Saturday!!



Puma concolor

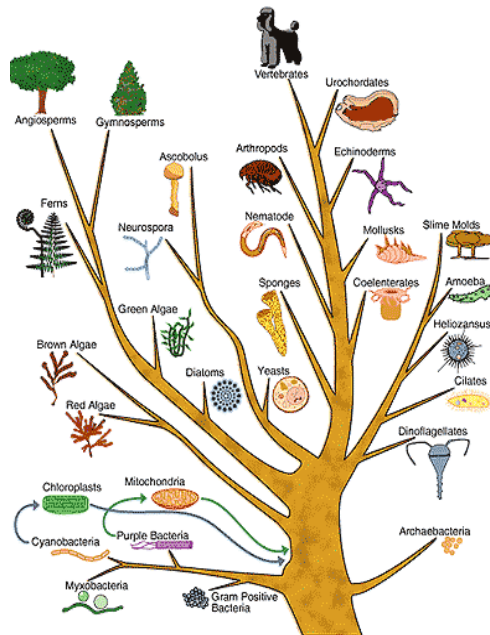
Kingdom
Phylum
Class
Order
Family
Genus
Species

Binomial Nomenclature

- “Two names” genus+species
- Gives a unique **Scientific name** to all living things
- Protocols
 - Genus name first, species name second
 - Genus always capitalized, species always lower case
 - Name is either ***italicized*** or **underlined**



Puma concolor



Domain: Eukaryota

Kingdom: Animalia

Phylum: Chordata

Class: Mammalia

Order: Carnivora

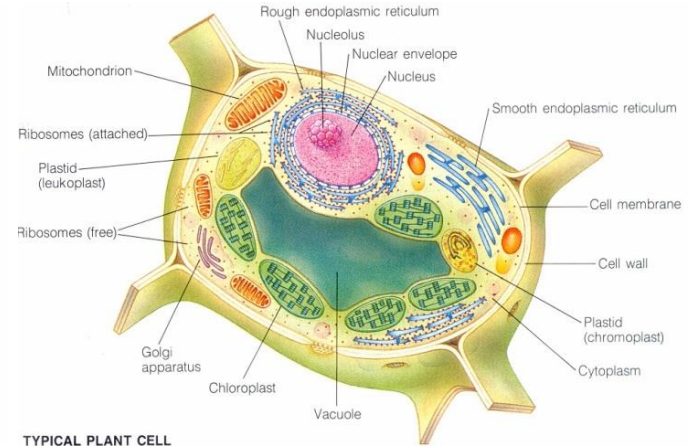
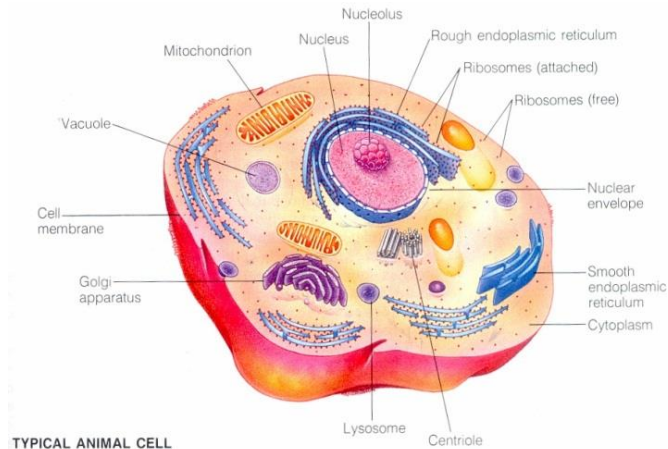
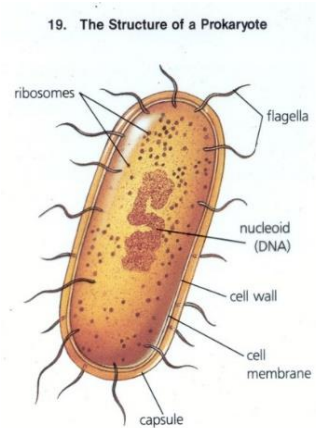
Family: Felidae

Genus: Puma

Species: concolor

Prokaryotes vs Eukaryotes

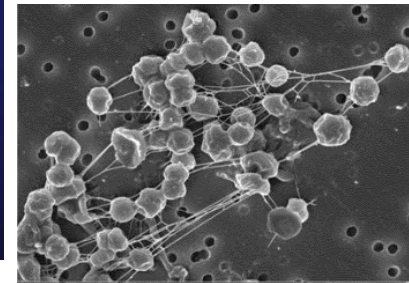
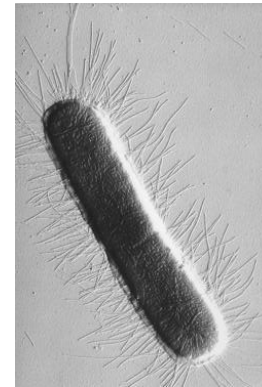
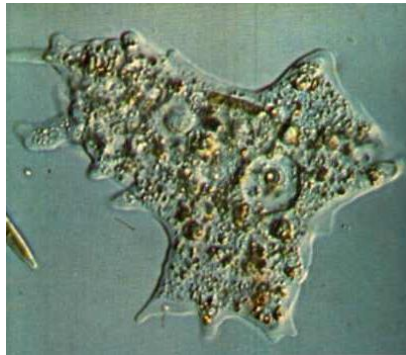
- **Prokaryotes** are organisms without an organized nucleus and other membrane bound organelles (mitochondria, golgi bodies etc.)
 - Include organisms in the Kingdoms Archaeobacteria and Kingdom Eubacteria.
- All other organisms are Eukaryotes
 - **Eukaryotes** are organisms whose cells contain an organized nucleus surround by a membrane. The cells also contain other organ bound structures like mitochondria, ER's, vacuoles, chloroplasts, etc.
 - Include organisms in the Kingdoms Protista, Fungi, Plantae & Animalia



The 3 Domains

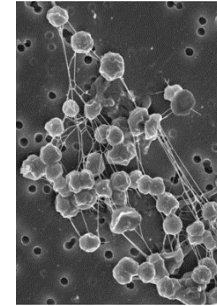
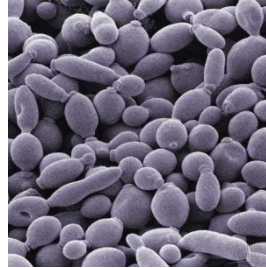
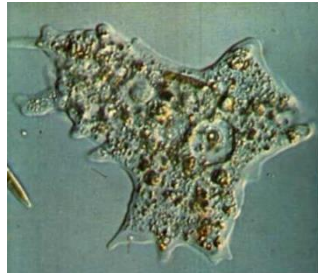
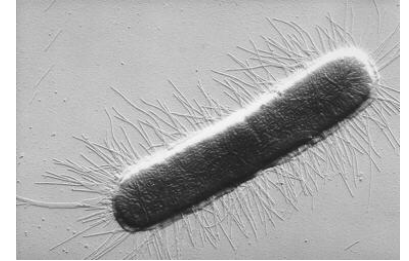
- Domain:

- **Archae** – includes the Kingdom Archaeobacteria
- **Bacteria** – includes the Kingdom Eubacteria
- **Eukarya** include the remaining 4 Kingdoms
 - **Protista**
 - **Fungi**
 - **Plantae**
 - **Animalia**



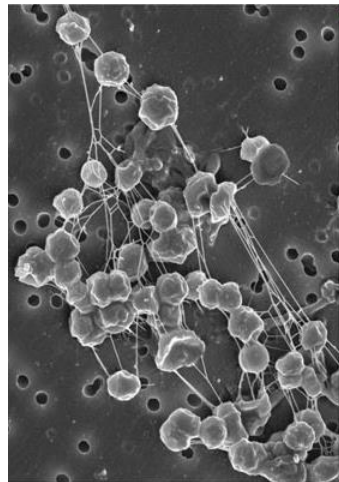
The 6 Kingdoms

- **Archaeobacteria** – Old Bacteria
- **Eubacteria** – New Bacteria
- **Protista** – “Junk Drawer” Kingdom
- **Fungi** – Mushrooms, Yeast, Molds
- **Plantae** – Plants
- **Animalia** – Animals



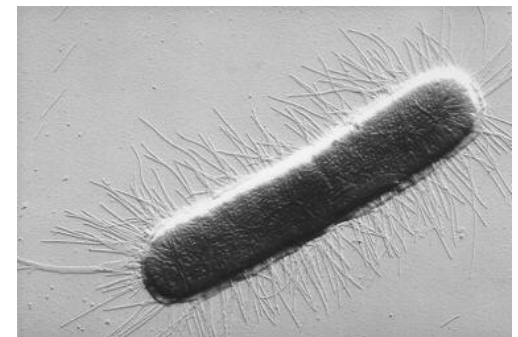
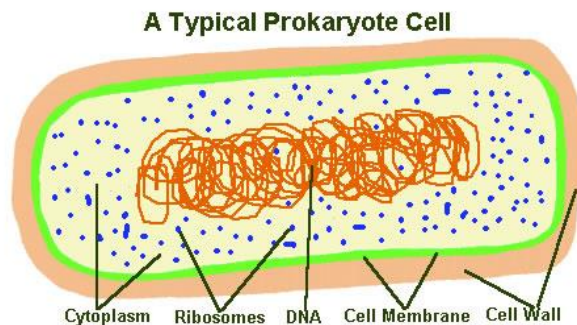
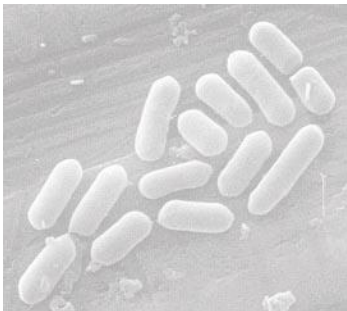
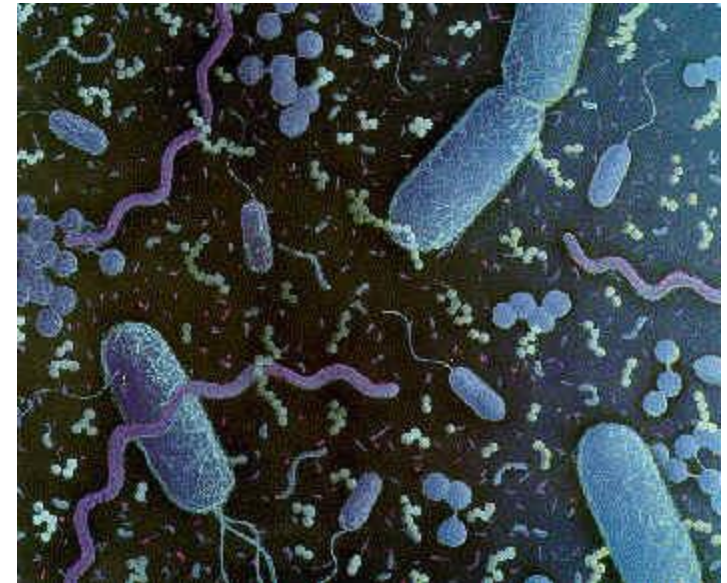
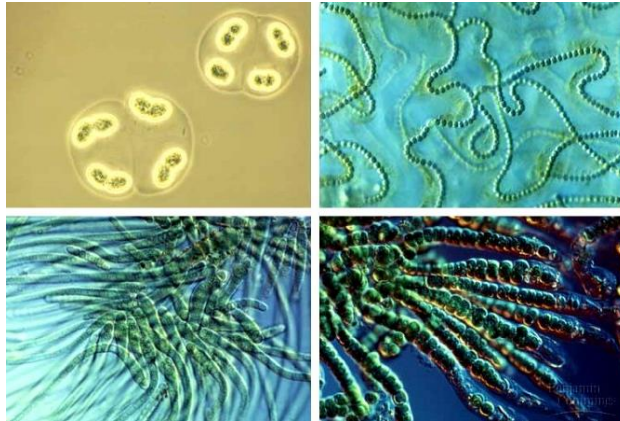
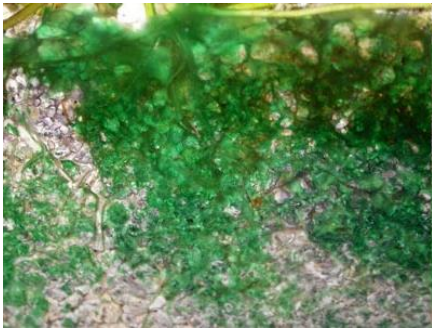
Archaeobacteria

- **Archaeobacteria**: the Latin name means “Old Bacteria”, examples are the **methanogens**. They are all Prokaryotes (w/out an organized nucleus), and are **unicellular**, some are **autotrophs**, most are **heterotrophs**. **Cell wall** is present and composed of **amino acids** or **polysaccharides**. Many have **flagella** or **cilia** and are able to move (locomotion)
- Live in very harsh environments -



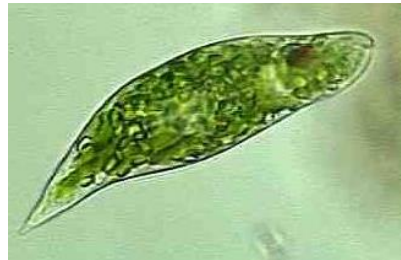
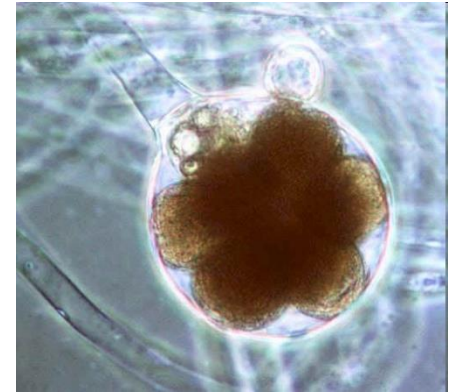
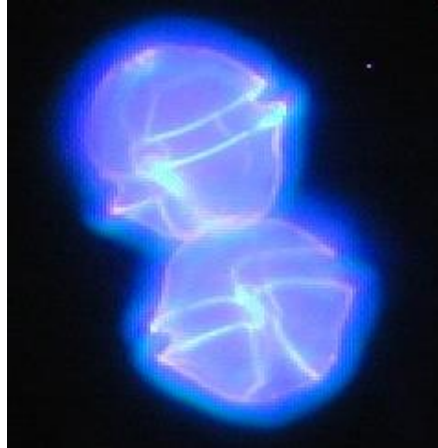
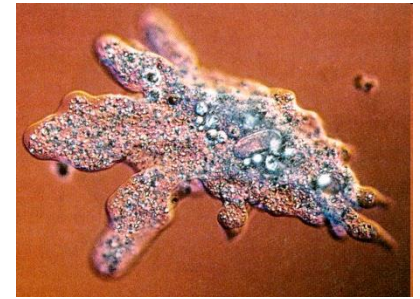
Eubacteria

- “New Bacteria”, examples are the bacteria and blue-green algae. They are all Prokaryotes. Cell wall is present and composed of amino acids or polysaccharides.



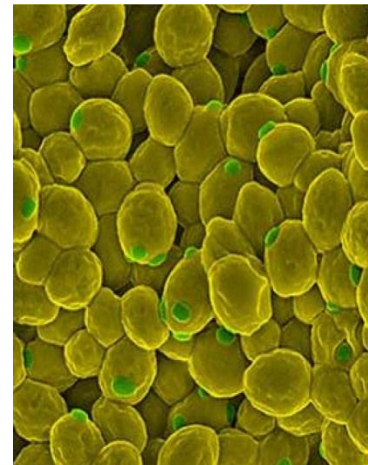
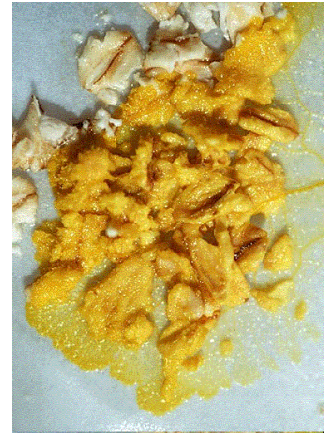
Protista

- **Junk drawer** kingdom – a little bit of everything, some w/ cell walls (composition varies), some w/out.
- All are **Eukaryotes**, autotrophs and heterotrophs represented.
- Single cellular to multi-cellular and over 300 ft long.
- Divided into three categories:
 - **Animal-like**
 - **Plant-like**
 - **Fungus-like**



Fungi

- water molds, bread molds, Sac fungi, yeasts, mushrooms and *Penicillium* sp.
- Usually require moist, dark and warm habitats.
- **Characteristics:**
 - i. Eukaryotic **heterotrophs** decomposers
 - ii. Many are **Saprophytes** or parasites
 - iii. Most are Multicellular however yeast are unicellular
 - iv. Most are immobile
 - v. Cell Wall present and composed of **Chitin** (except Oomycota)
 - vi. Sexual and asexual reproduction present



Kingdom: Plantae

- Eukaryotic **Autotrophs**
- cell walls present and composed of **Cellulose**.
- Multicellular



Kingdom Animalia

- Eukaryotic **heterotrophs**
- Cell membranes **w/out cell walls**
- Multicellular
- Mobile

