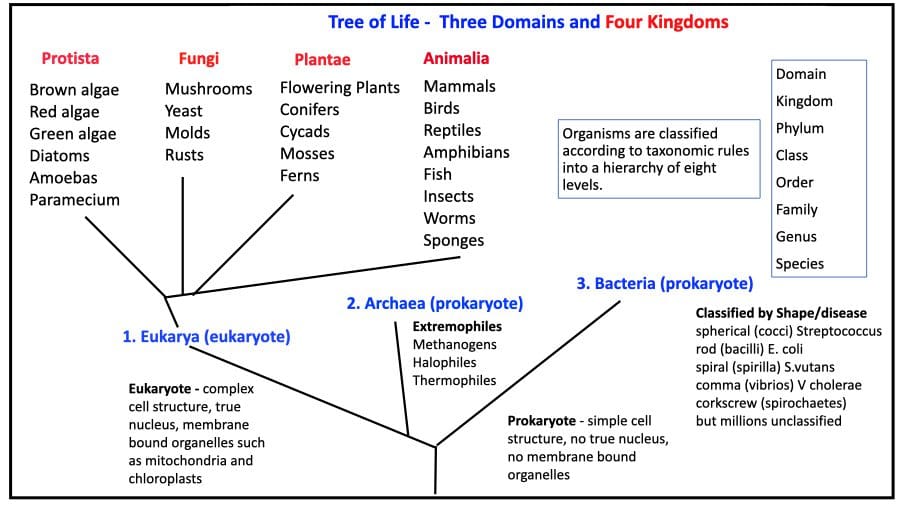
Molecular Biology for

Computer Scientists

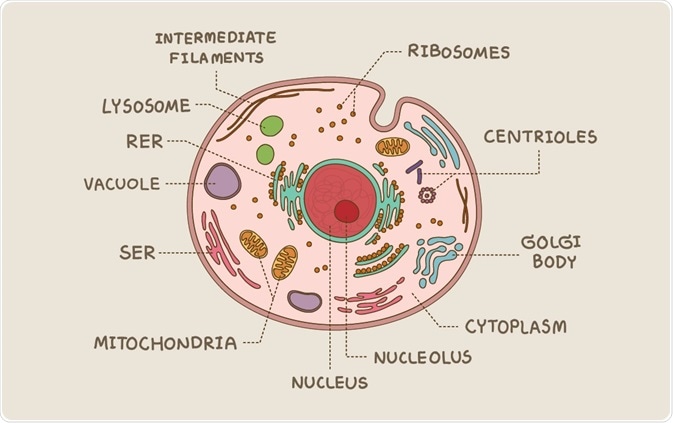
Notes

All living things are made up of cells

Cell 🡪 membrane-enclosed sacks of chemicals carrying out finely tuned sequences of reactions called metabolic pathways



Eukarya

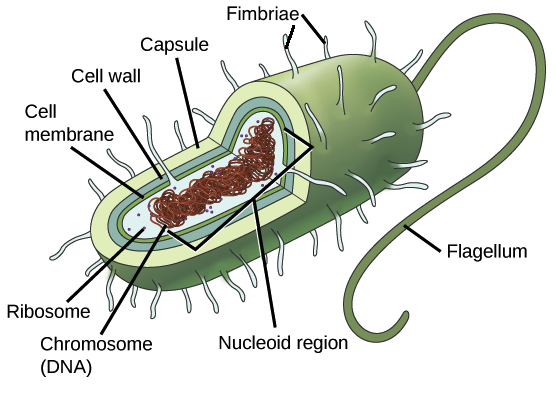


* Contains nucleus to hold genetic information
* Multi-chromosomal
* Contains organelles like
  + Mitochondria – powerhouse of the cell
  + Chloroplast – capture energy from sunlight

Fungi vs Green Plants

* Fungi do not photosynthesize

Prokarya



* No nucleus so genetic information in cytoplasm
* Single-chromosome
* Unicellular organism

Archaea

* Prokaryotic organism that lives in superheated Sulphur vents in the deep sea
* Do not require oxygen

Viruses

* Zombies
* Parasites – Relies on the biochemical machinery of the host organism to survive i.e. parasitic relationship
* Virus inject their genetic information (often stored in their RNA) into the living organisms. When this organism cells multiply then the virus also replicates.

Symbiotic relationship

* Bacteria in our guts
* We eat food. Some of it digested. The remaining undigested food (like starch) is digested by the bacteria in our guts
* The opposite of parasitic relationship

Phage Medicine

* Utilizes bacteriophages (viruses that infect and kill bacteria) to treat bacterial infections
* Infect bacteria with virus to counter other bacteria