

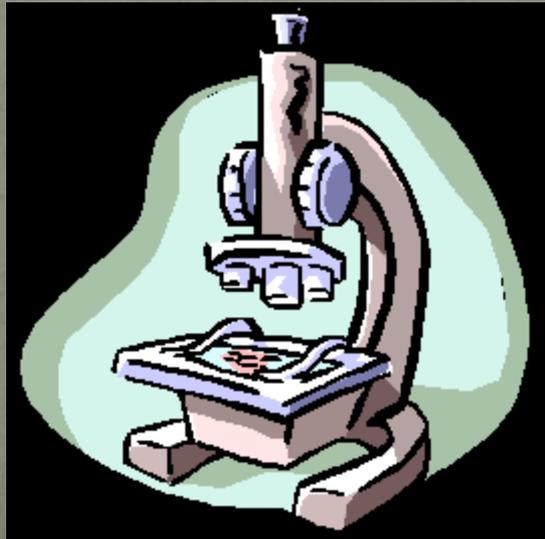
# Cell Structure

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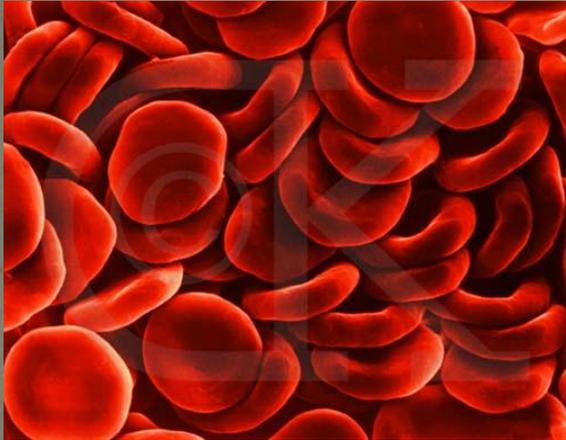
Cells Goal 1

# Cells

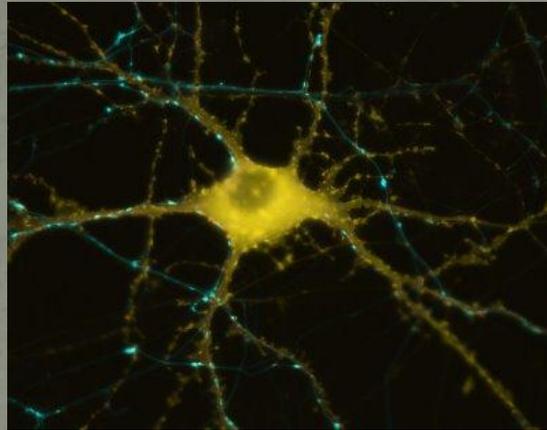
- A cell is the smallest unit of life that conducts all life functions.
- Each cell has major structures, called *organelles*, within it that perform these life functions. Most organelles are too small to be seen without the aid of a *microscope*.



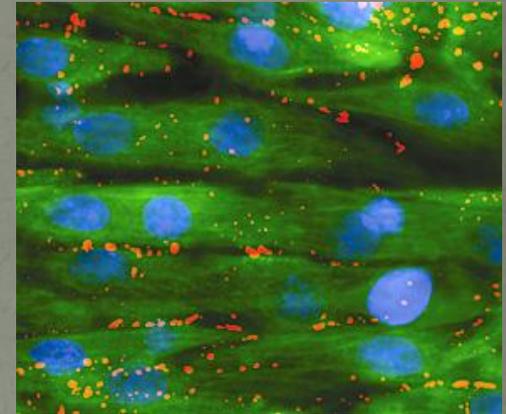
- Cells come in all sizes and shapes, but all contain the same major parts



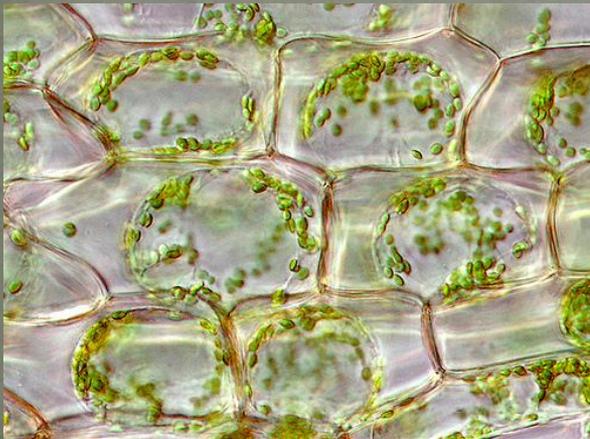
Red blood cells



Nerve cell



Muscle cells



Plant cells



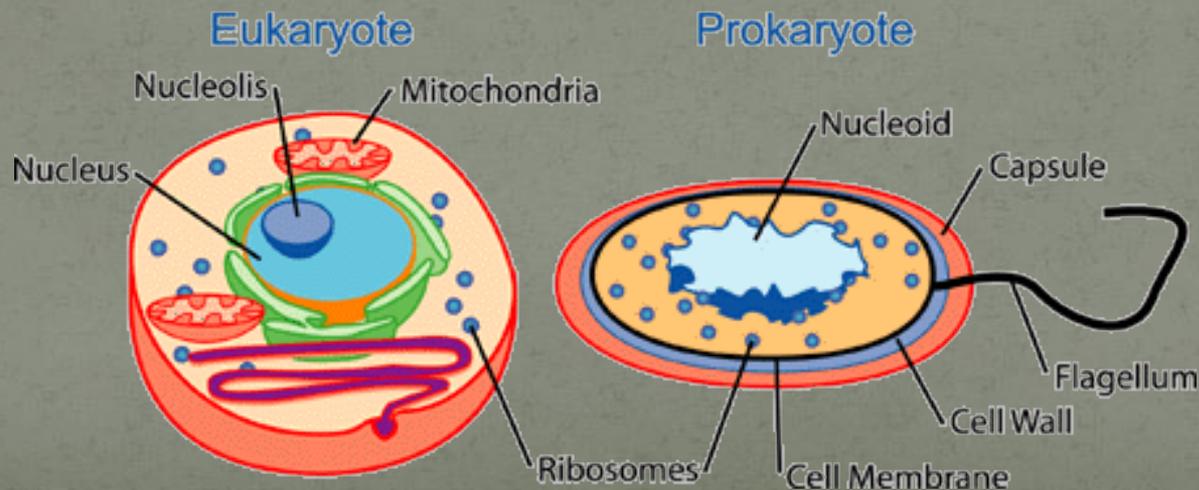
Cholera bacteria cell



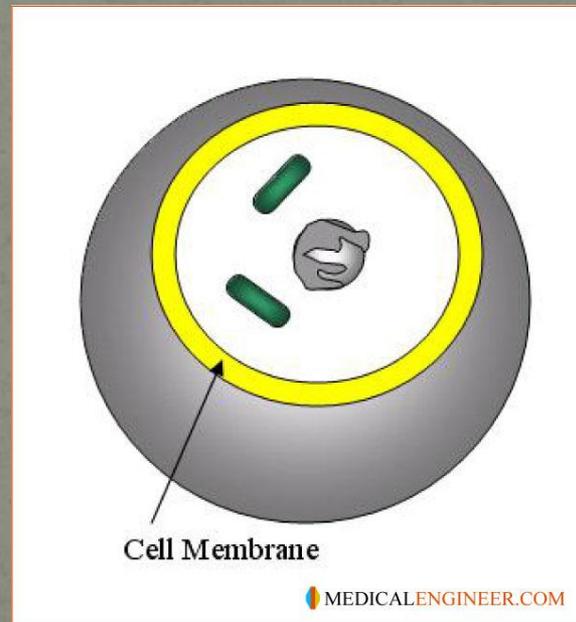
Amoeba

# Types of Cells

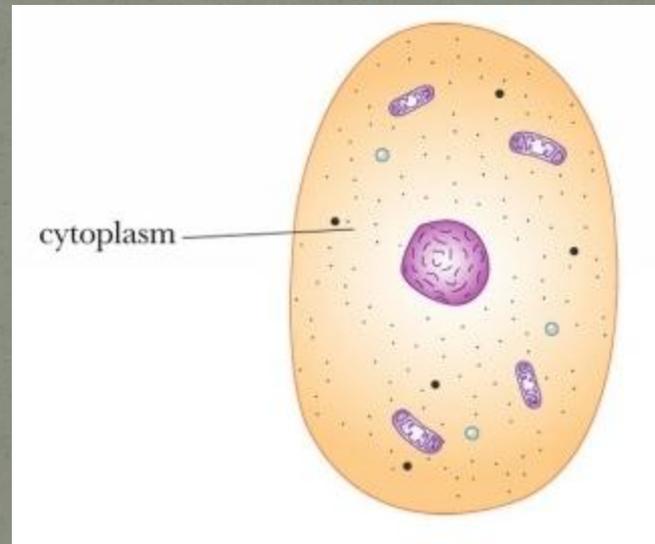
- There are two major groups of cells:
- Prokaryotic
  - Cells without a nucleus
  - *Only* example are bacteria
- Eukaryotic
  - Cells with a nucleus
  - Examples are all living things EXCEPT for bacteria



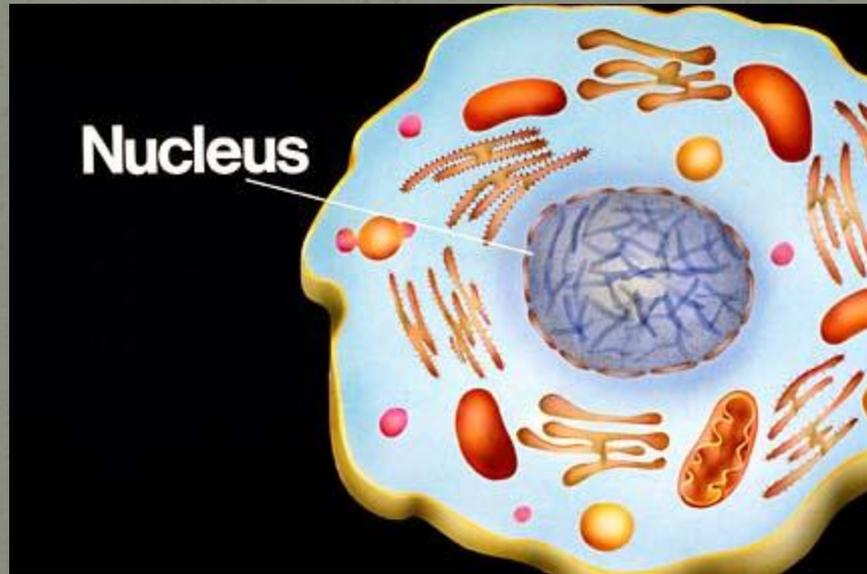
*Cell membrane* - The thin, flexible outer covering of a cell. It controls what enters and leaves a cell.



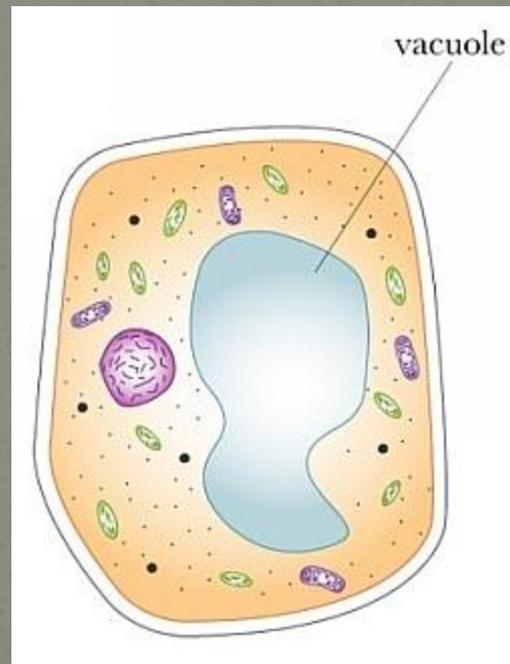
*Cytoplasm*- The gel-like fluid inside of a cell made of mostly water. The other organelles are floating in the cytoplasm.



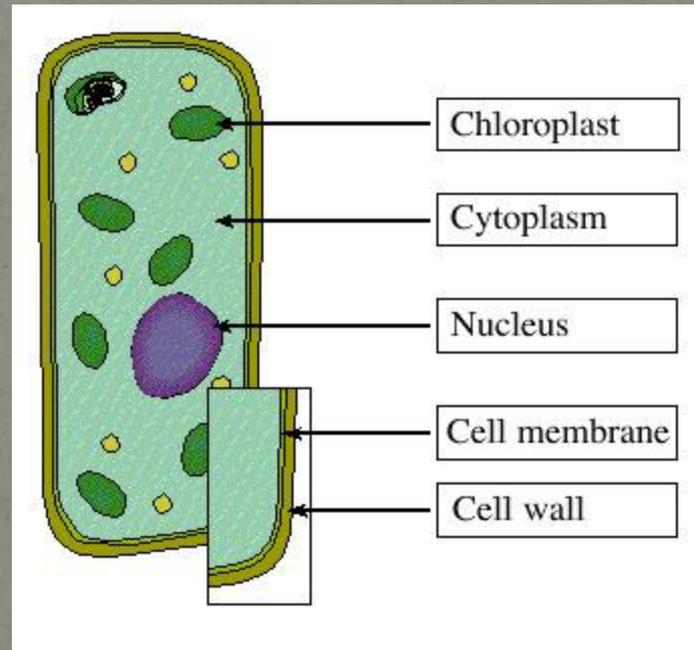
*Nucleus* - Contains the genetic material (DNA) and is the control center of the cell.



*Vacuole*- Temporary storage centers. Some store water or other useful substances. Others store waste products until they can be eliminated from the cell. They are very large in plant cells and small in animal cells.



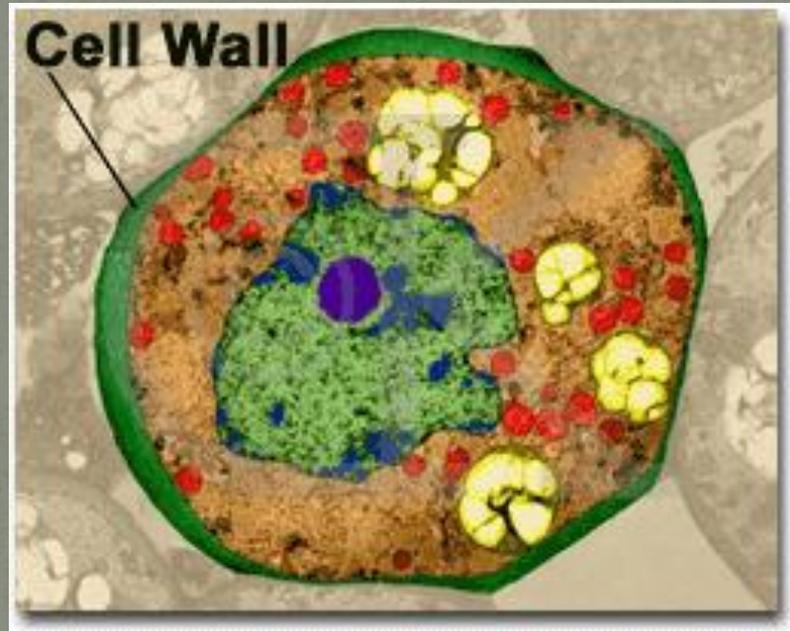
*Chloroplasts*- Are the sites where photosynthesis takes place in a plant cell. They contain the chlorophyll used to make food. They are only in plant cells!



*Mitochondria*- Are the energy producing sites in the cell where respiration (a process where energy stored in glucose is released) takes place. It is sometimes called the “powerhouse” of the cell.



*Cell wall* - Provides support and shape for plant cells. It is made mostly of cellulose (nonliving material). Only found in plant cells!



# Other Organelles

- Lysosomes – recycles (digests) old cell parts and other waste.
- Ribosomes – makes proteins for the cell.
- Endoplasmic Reticulum – sends / transports proteins and other products through out the cell.
- Golgi Bodies – Sorts and packages proteins to be shipped out of the cell.
- Chromosomes – tightly coiled bundles of DNA.

