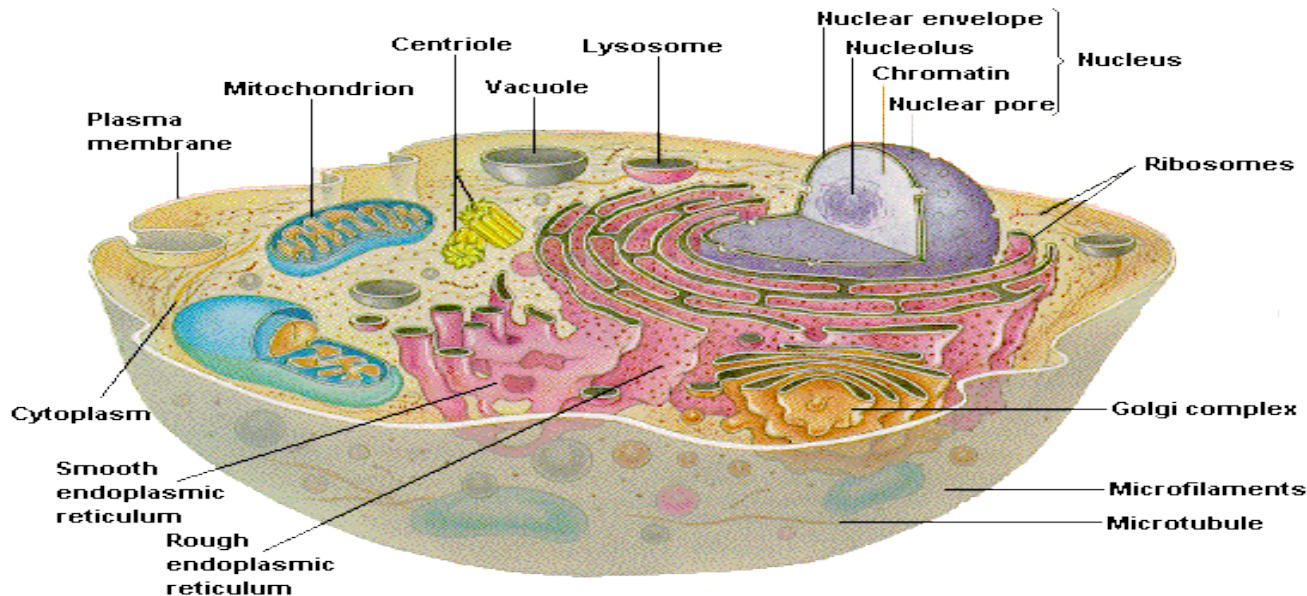


Cells: The Basic Units of Life



How big is a cell?

- <http://www.cellsalive.com/howbig.htm>

The Cell Theory

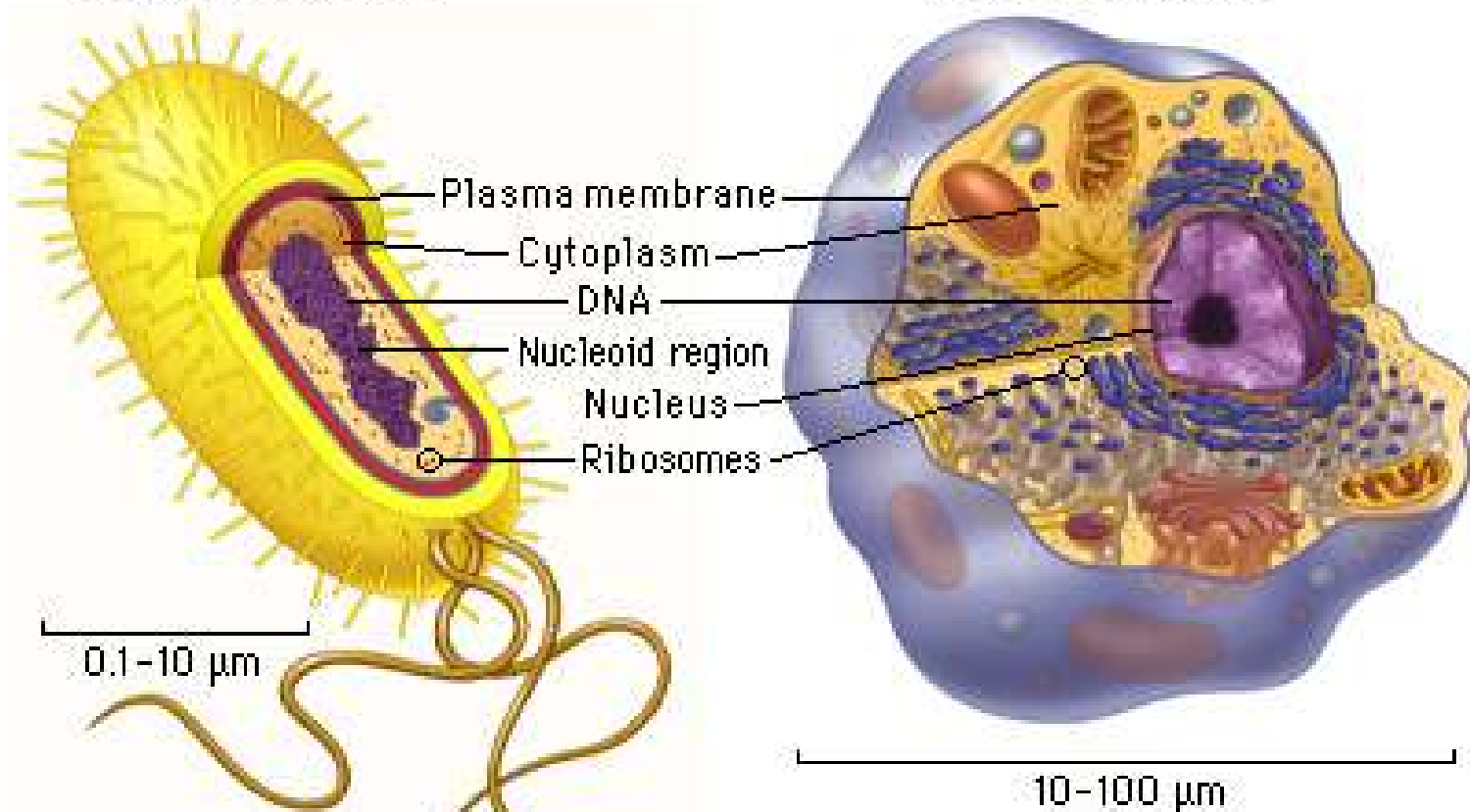
- All organisms are made of cells.
- The cell is the basic unit of life in all living things.
- All cells come from existing cells.

THIS IS IMPORTANT BECAUSE IT SHOWS THAT
ALL LIVING THINGS SHARE A SIMILAR
STRUCTURE

Two Types of Cells

Prokaryotic cell

Eukaryotic cell

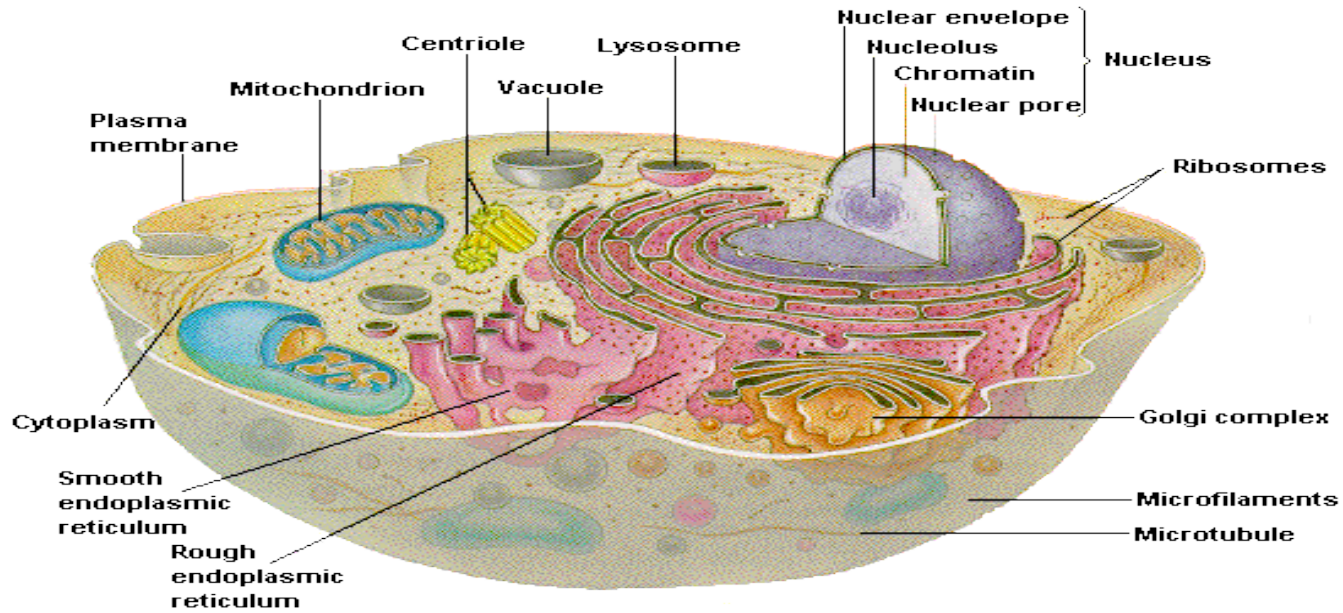


All cells, whether they are prokaryotic or eukaryotic, have some common features

Organelles



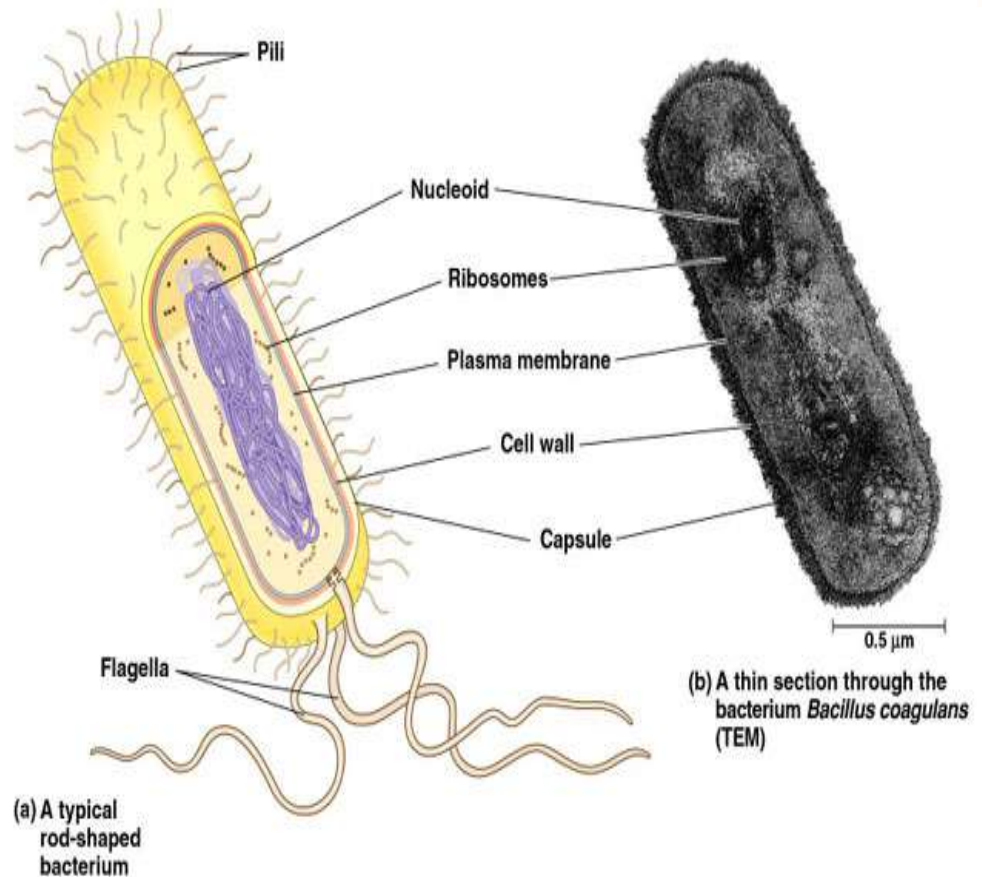
Organelles are structures that enable the cell to live, grow and reproduce.



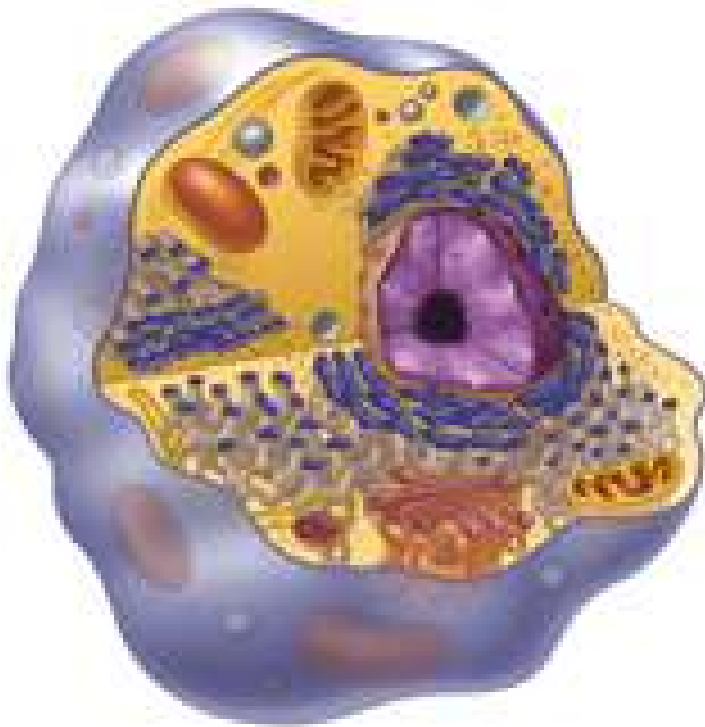
Two Types of Cells

Prokaryotic Cells:

- Have no membrane covered nucleus
- Have no membrane - covered organelles
- Have circular DNA
- Are bacteria



Two Types of Cells



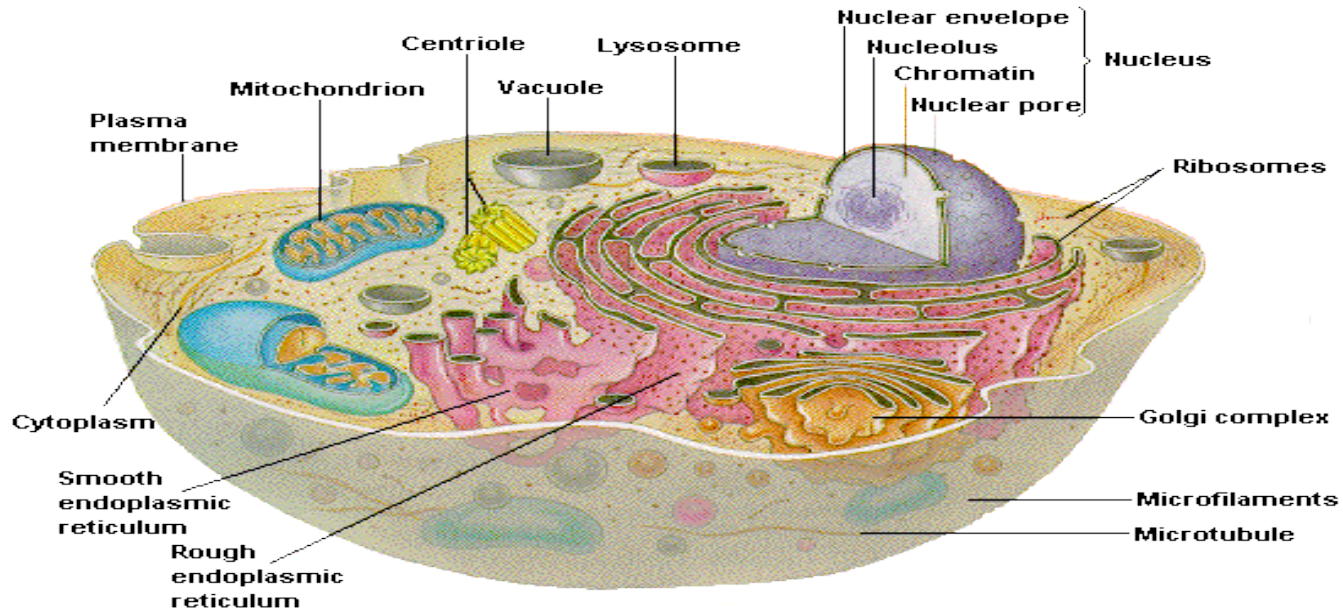
Eukaryotic Cells:

- Have a nucleus
- Have a membrane - covered organelles
- Have linear DNA
- Are all other cells

Organelles

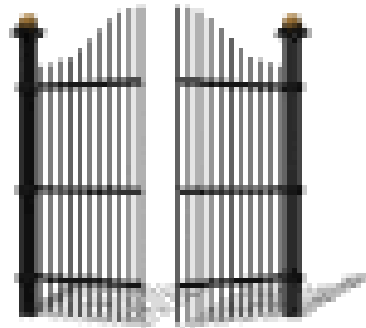


Organelles are structures that enable the cell to live, grow and reproduce.

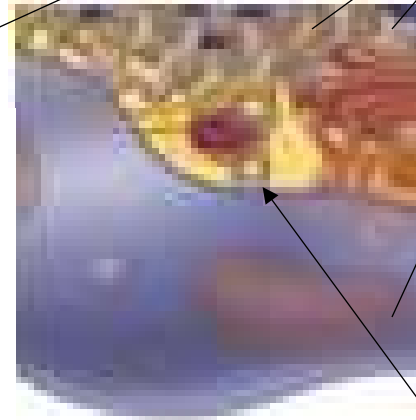
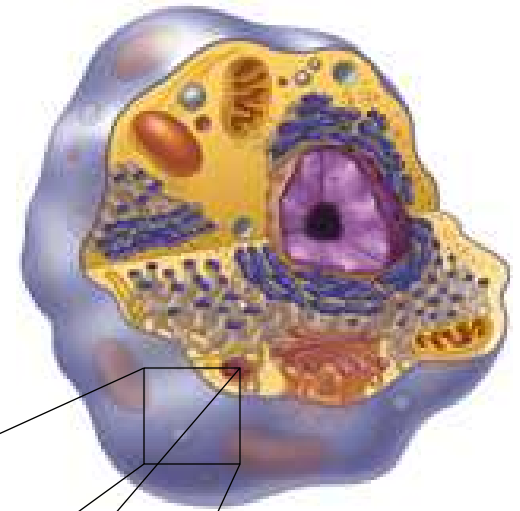


Cell Membrane

- Outer layer of cell
- Allows nutrients into the cell and wastes outside of the cell



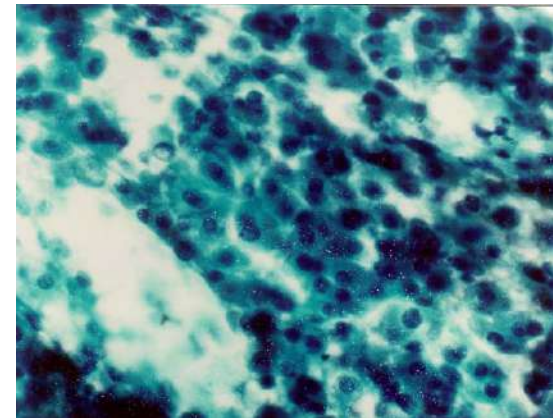
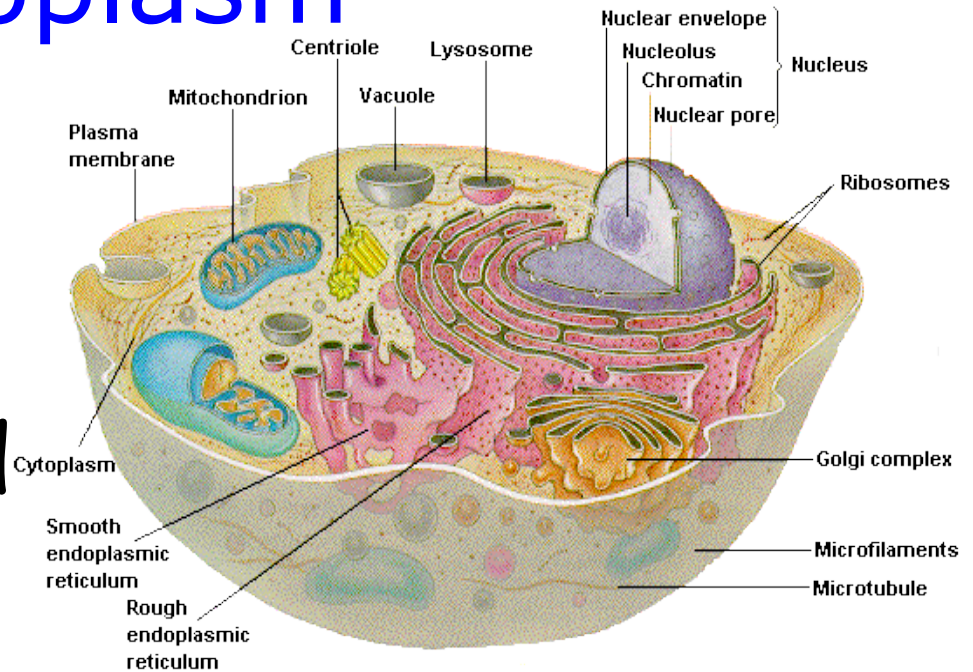
“Gate into the city”



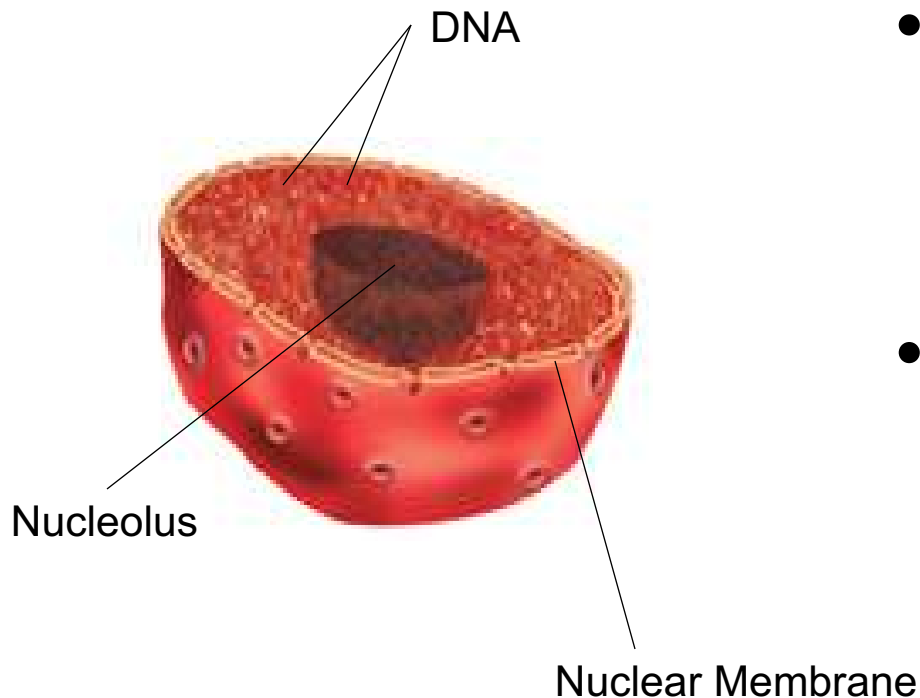
Cell Membrane

Cytoplasm

- Cytoplasm a jelly-like fluid contained in the cell that holds the organelles.



The Nucleus



- The control center of the cell
- Contains the Cell's DNA

“Mayor’s office”

Mitochondria

- Power center of cell
- Provides the energy the cell needs to move, divide, etc.



“Electric company of the cell”

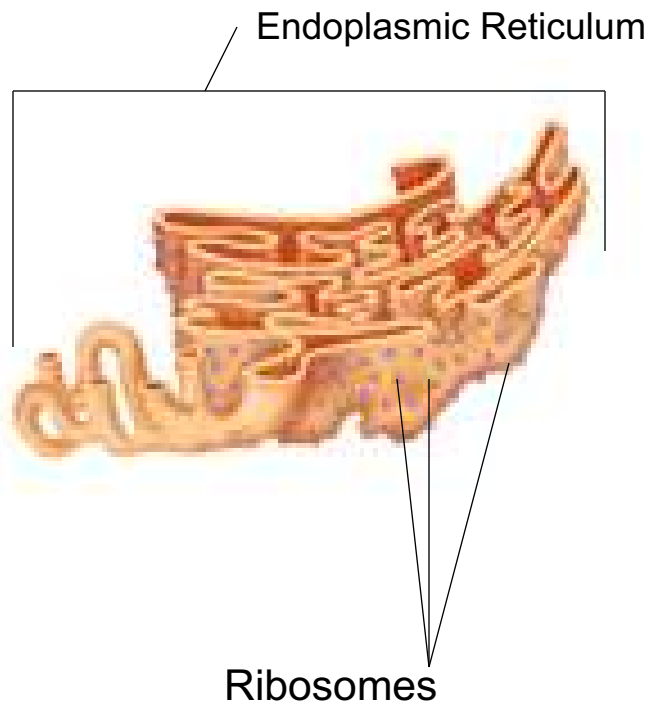
Ribosomes

- Site where proteins are made
- Cell parts are made of proteins



“Factories of the cell”

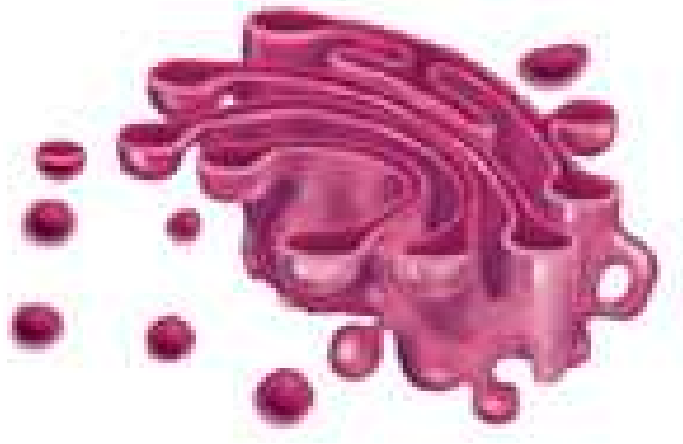
Endoplasmic Reticulum



- **Transportation system of cell**
- **Rough ER- ribosome's attached**
- **Smooth ER- no ribosome's**

“Roadways of the cell”

Golgi Complex



- Packaging house of cell
- Packages, processes, and ships out the stuff the cell makes

“UPS of the cell”

Lysosomes

- Digests food particles and cell parts
 - “Garbage men”
- Protects cell by digesting foreign invaders
 - “Police men”

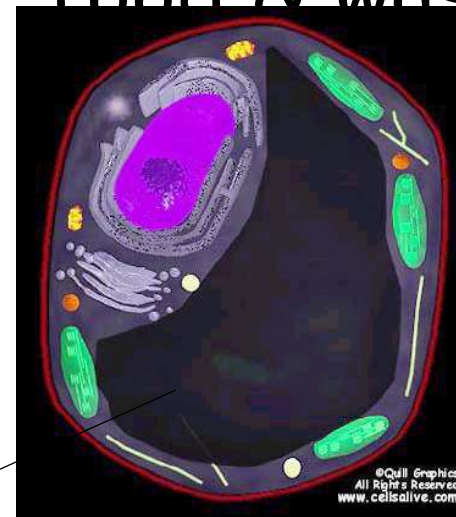


Vacuole

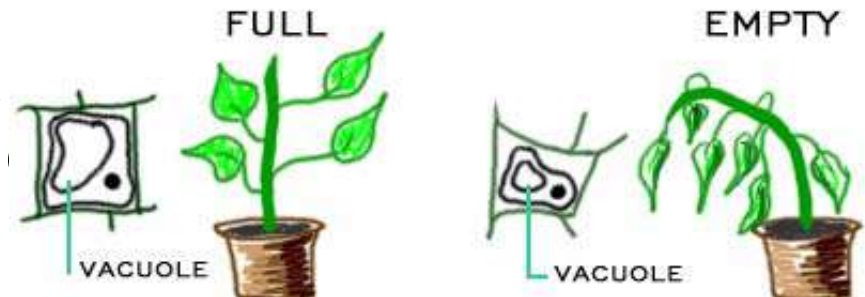
Vacuole



- Stores water, food & wastes



Vacuole is largest organelle in plant



Cell Wall

Plant Cell Wall

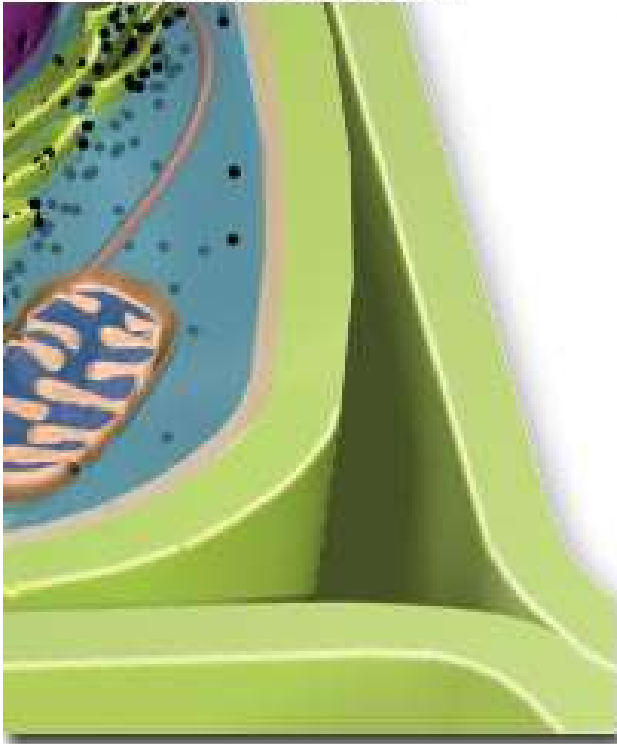
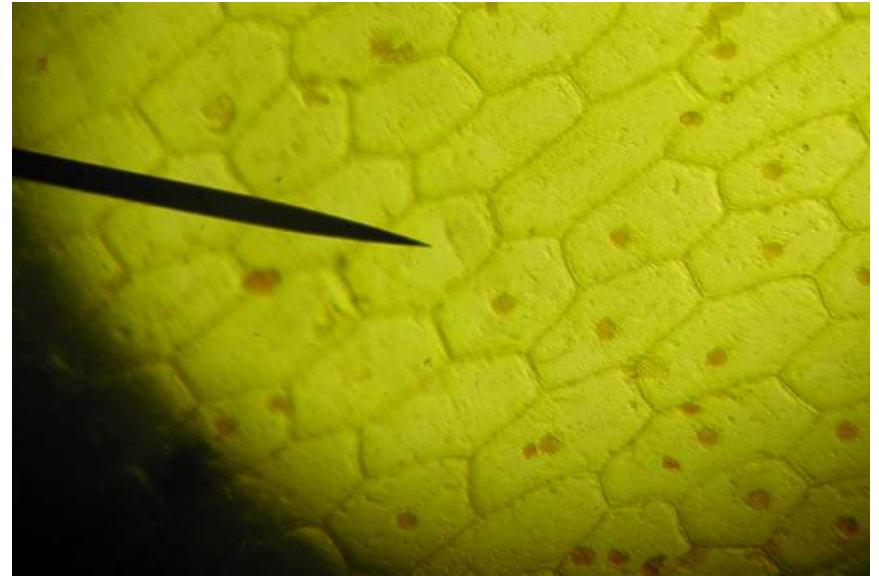


Figure 1

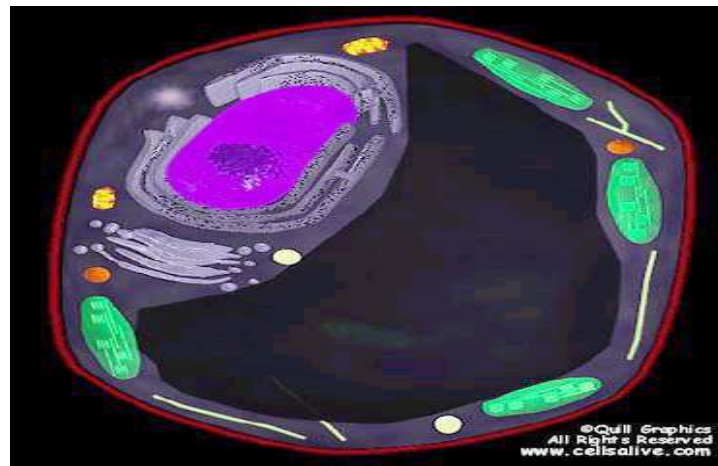
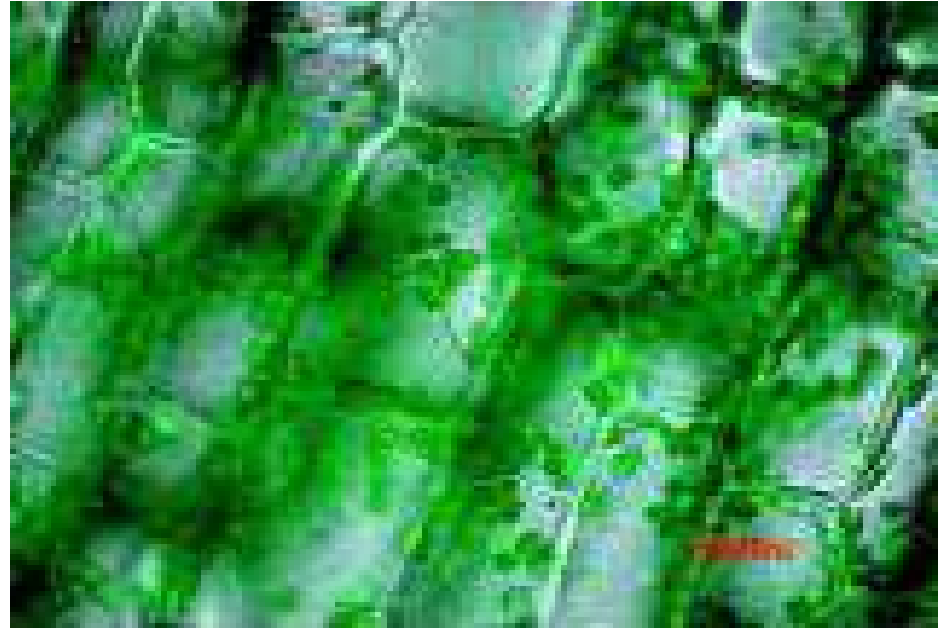


- Found only in plant cells
- Protects and supports the cell

Chloroplasts



- Found only in plant cells
- Contains chlorophyll (makes plants green)
- Where photosynthesis takes place





Plant or Animal Cell?



Found in Plant and Animal cells:

- Nucleus
- Golgi Complex
- Mitochondrion
- Lysosomes
- Endoplasmic Reticulum
- Cell Membrane
- Ribosomes
- Vacuoles

Found only in Plant Cells:

- Chloroplasts
- Cell Wall

