



SNS COLLEGE OF NURSING

Coimbatore-35

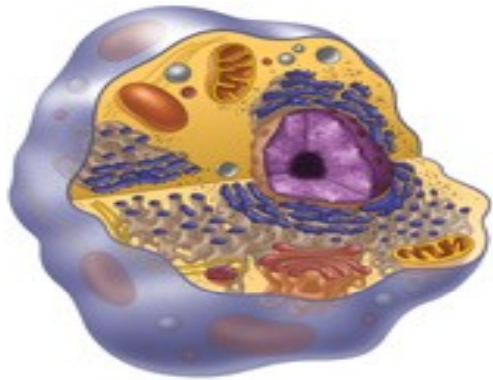
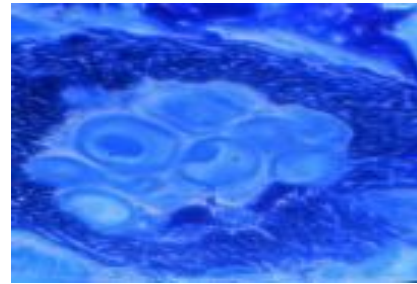


BIOCHEMISTRY

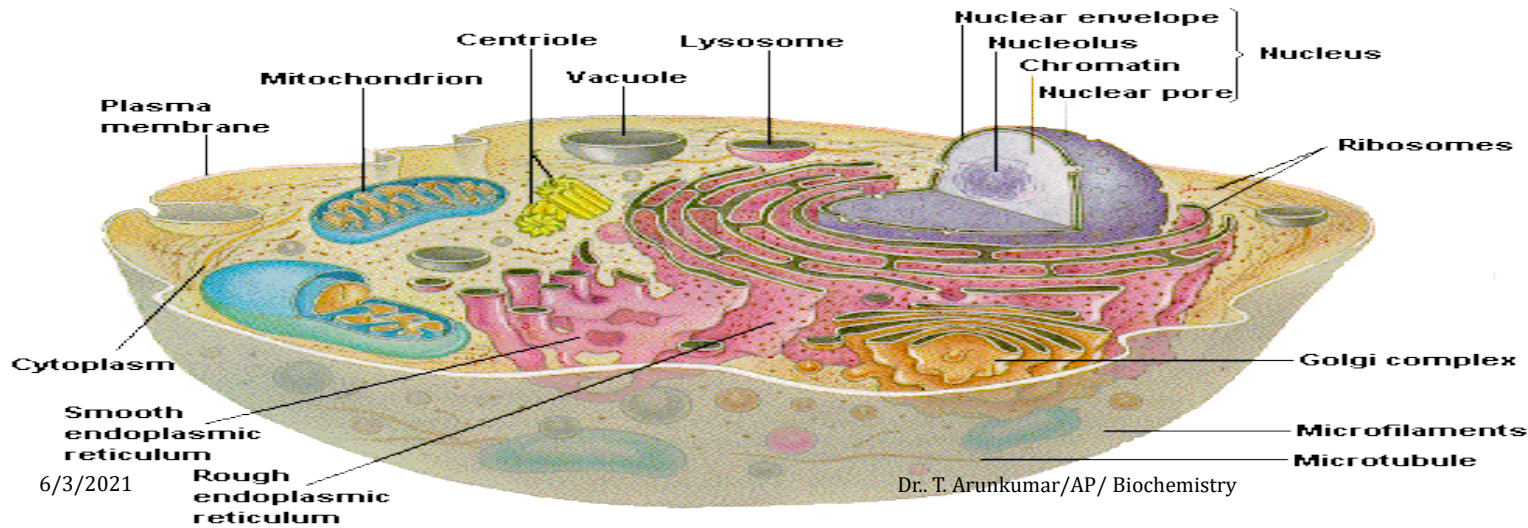
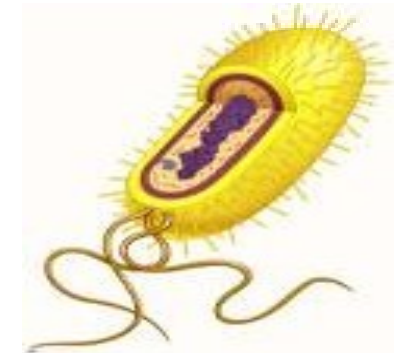
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UNIT 1 – Cell





Cells: The Basic Units of Life



6/3/2021

Dr. T. Arunkumar/AP/ Biochemistry



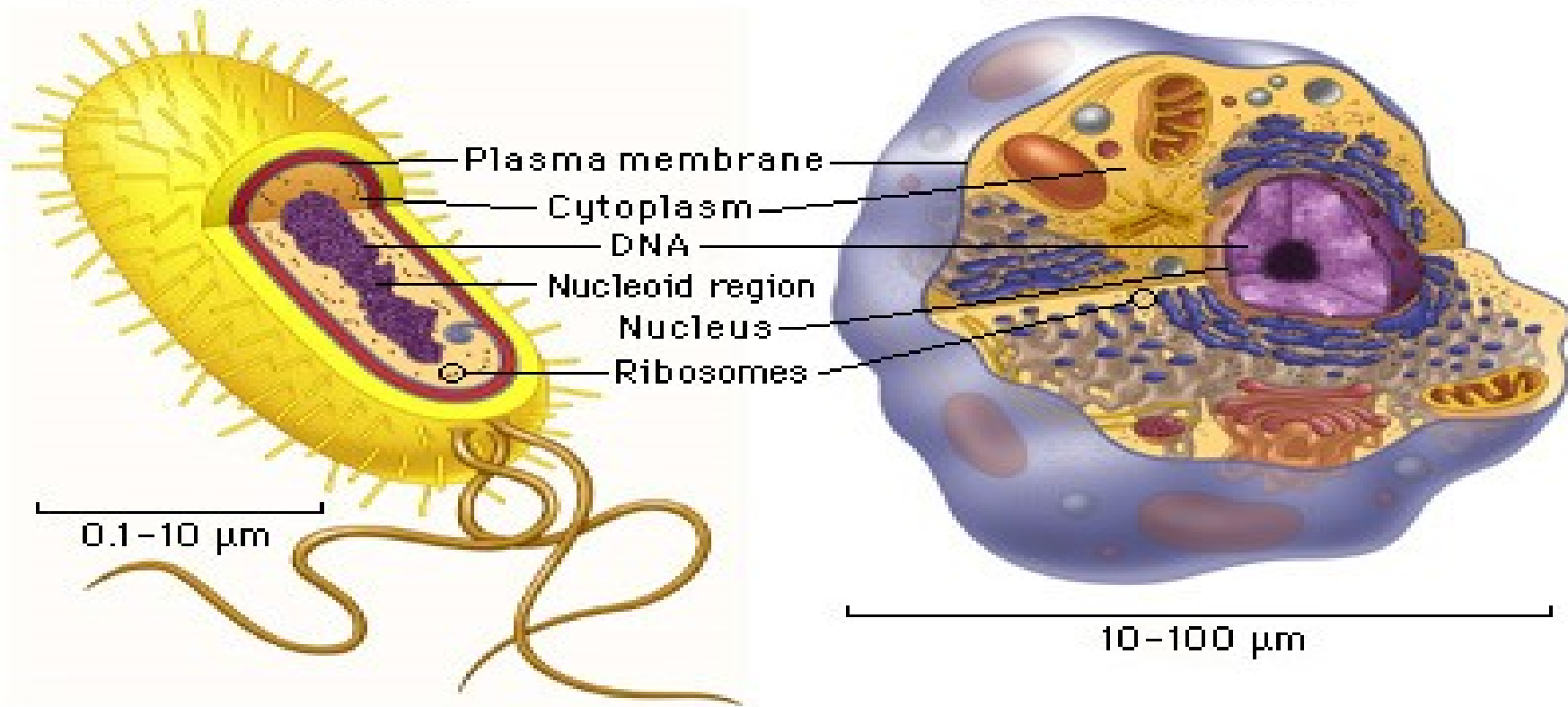
The Cell Theory

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



Prokaryotic cell

Eukaryotic cell



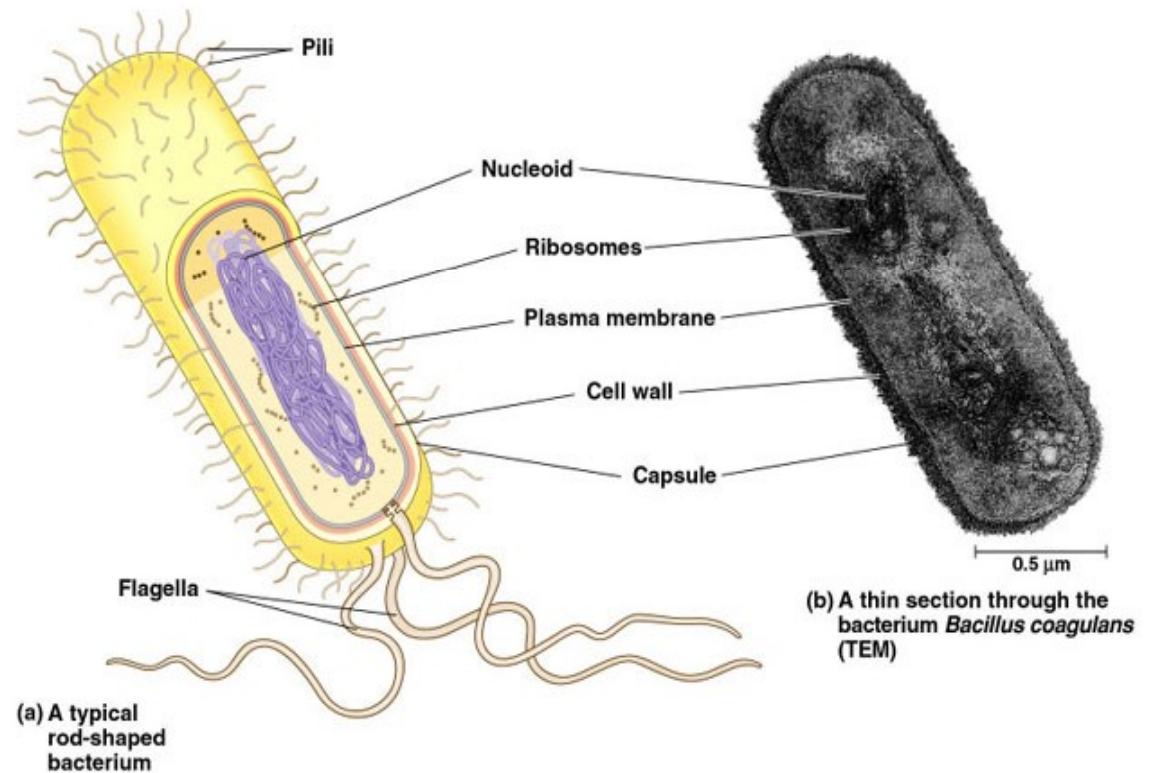


Two Types of Cells



Prokaryotic Cells:

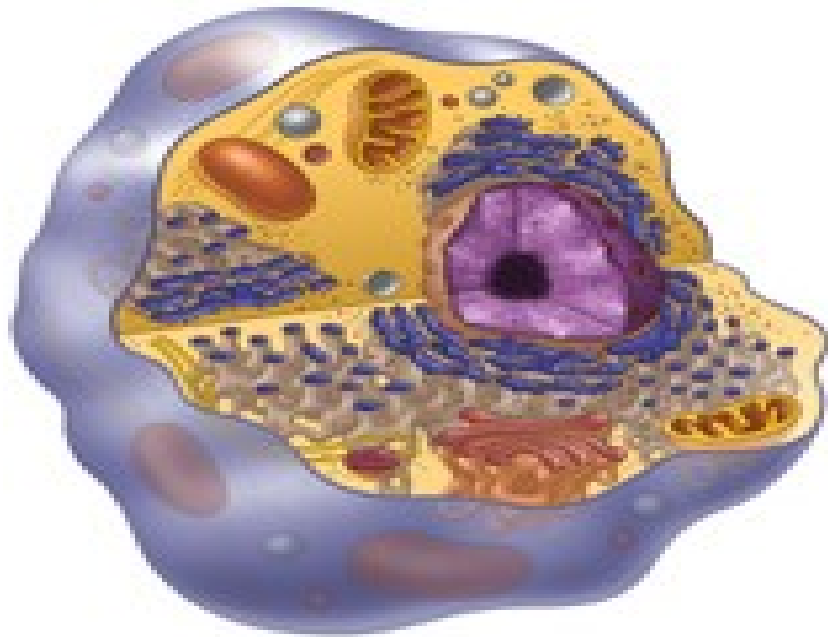
Have no membrane covered nucleus
Have no membrane - covered organelles
Have circular DNA
Are bacteria



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Two Types of Cells



Eukaryotic Cells:

Have a nucleus

Have a membrane - covered organelles

Have linear DNA

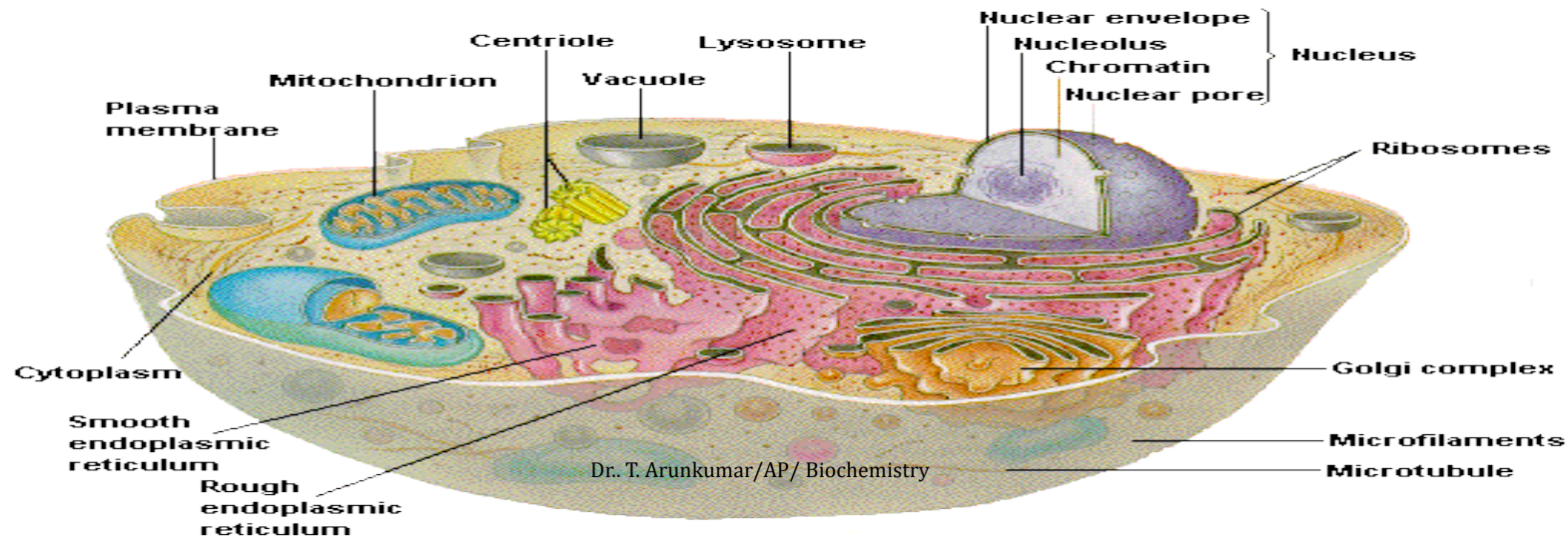
Are all other cells



Organelles



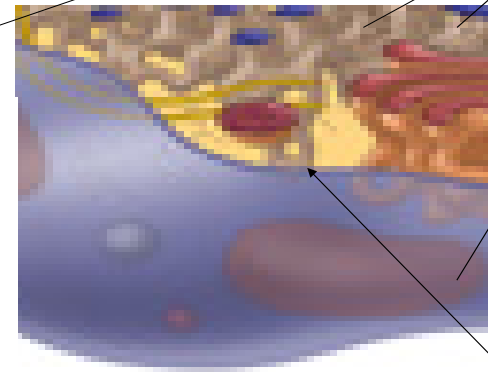
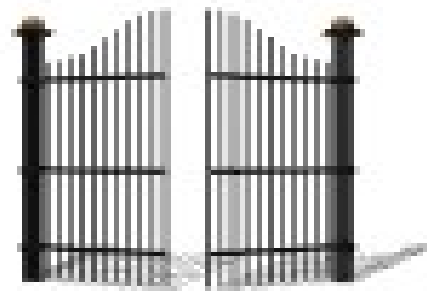
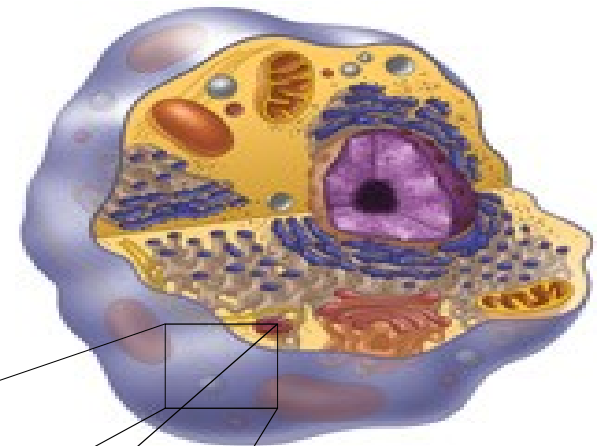
Organelles are structures that enable the cell to live, grow and reproduce.





Cell Membrane

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



Cell Membrane 8



What's the Difference?

So what are two things that Plant cells have that animal cells don't?



?

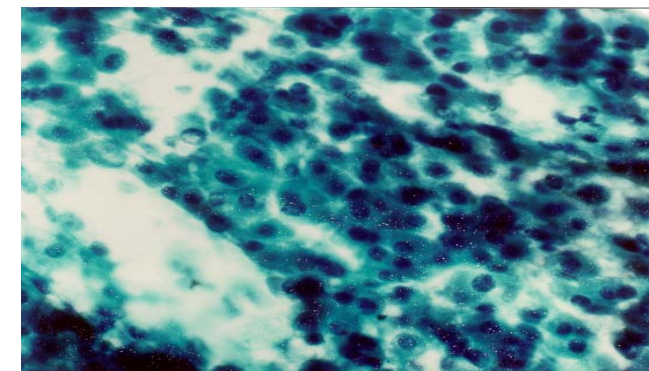
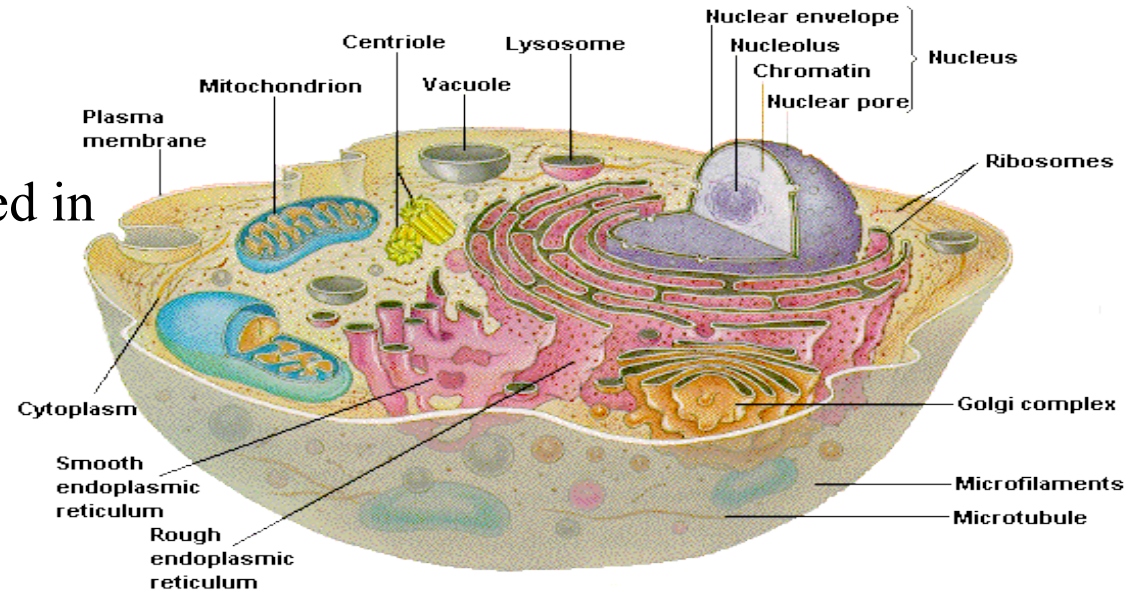


Chloroplasts, vacuoles, & Cell Walls



Cytoplasm

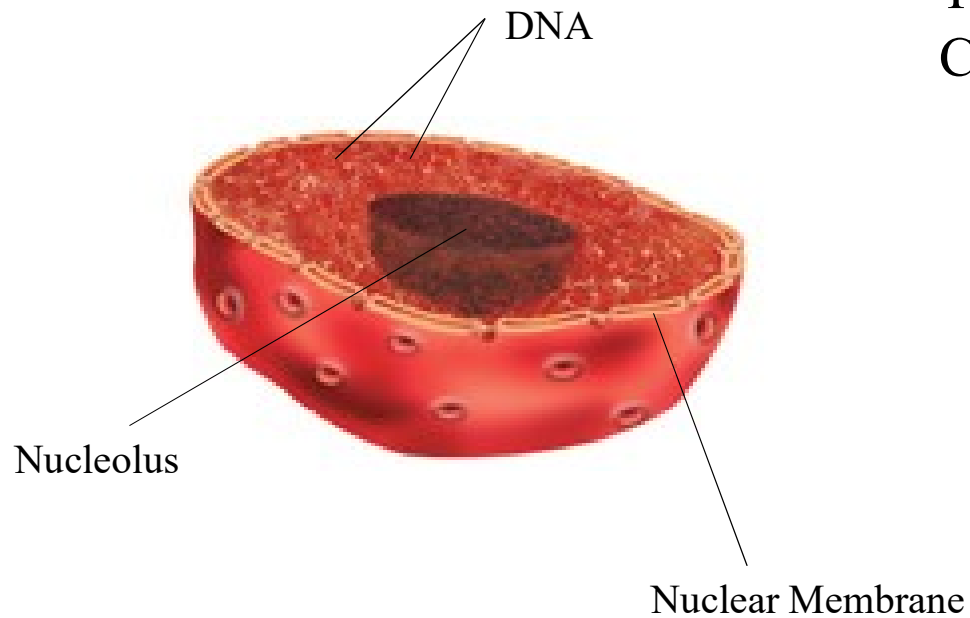
Cytoplasm a jelly-like fluid contained in the cell that holds the organelles.





The Nucleus

The control center of the cell contains the Cell's DNA

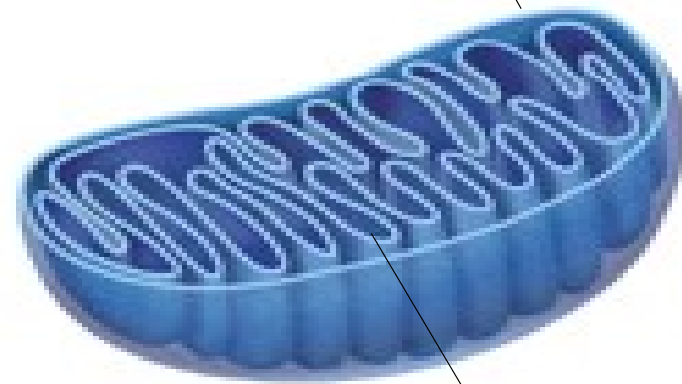




Mitochondria

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

Outer Membrane



Inner Membrane

“Electric company of the cell”



Ribosomes

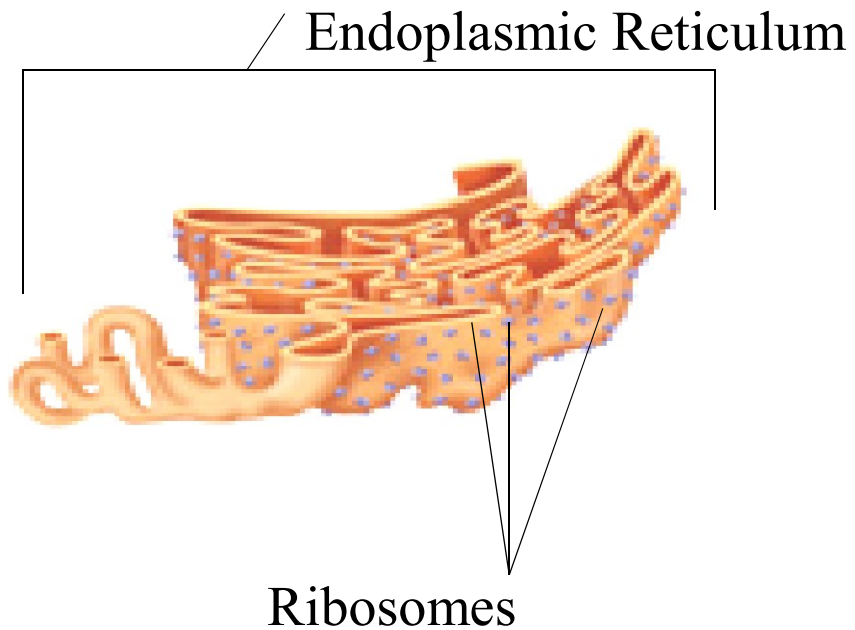
Site where proteins are made
Cell parts are made of proteins



“Factories of the cell”



Endoplasmic Reticulum



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



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”

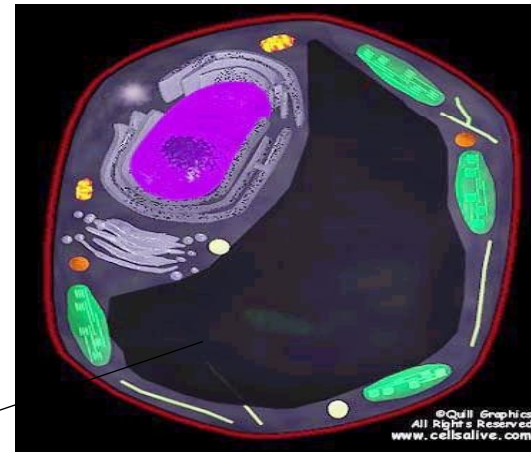




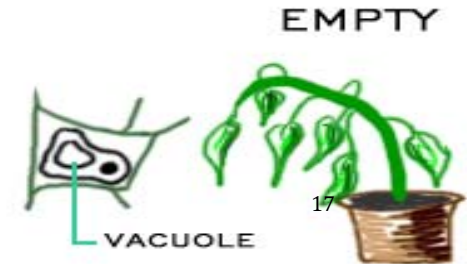
Vacuole

Stores water, food & wastes

Vacuole



Vacuole is largest organelle
plant cell





Plant or Animal Cell?

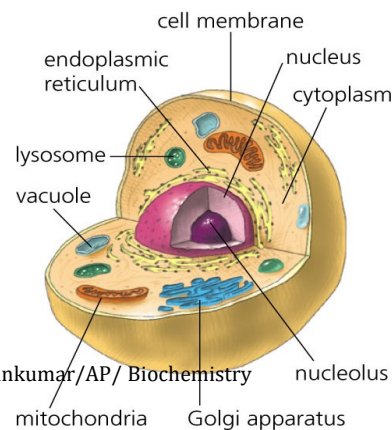
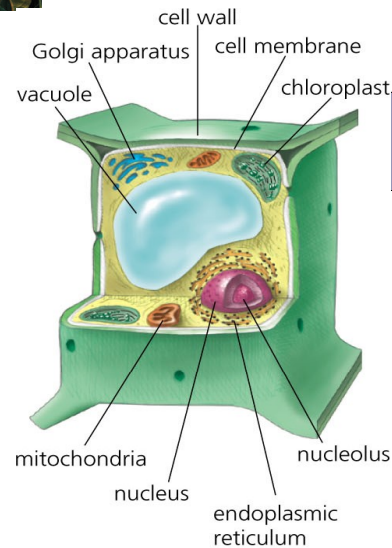


Found in Plant and Animal cells:

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

Found only in Plant Cells:

- Chloroplasts
- Cell Wall

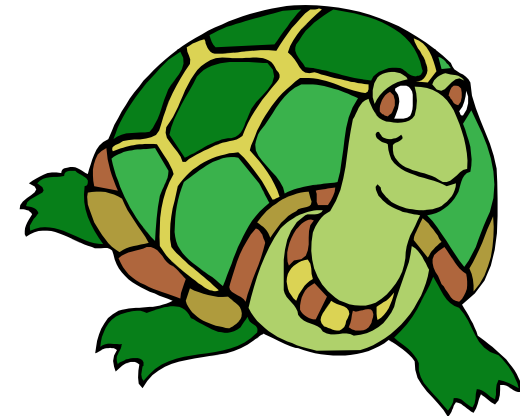




Now, let's review...

Cell Membrane
Chromosomes
Mitochondria

Cell Wall Chloroplasts
Nuclear Membrane Nucleus
Cytoplasm Vacuoles





References

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2. <https://www.bottledwater.org/content/water%E2%80%99s-role-your-body>
3. <https://www.otsuka.co.jp/en/nutraceutical/about/rehydration/water/body-fluid>

Thank You