Cell Organelles

A City

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Mitochondria

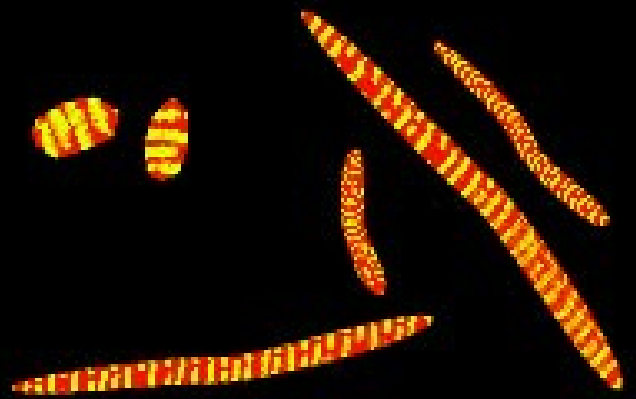
- Plant and animal cell

Power House - electricity company.

- Eukaryotic

:Provides the energy a cell needs to move, and do tasks.

- Much like an electrical company that provides energy for an entire city.



- Without a mitochondria your cells wouldn't be able to break down sugar. You would have high levels of sugar, which may lead to diabetes.

Rough Endoplasmic Reticulum

- Stores, separates, and serves as a cell's transports systems

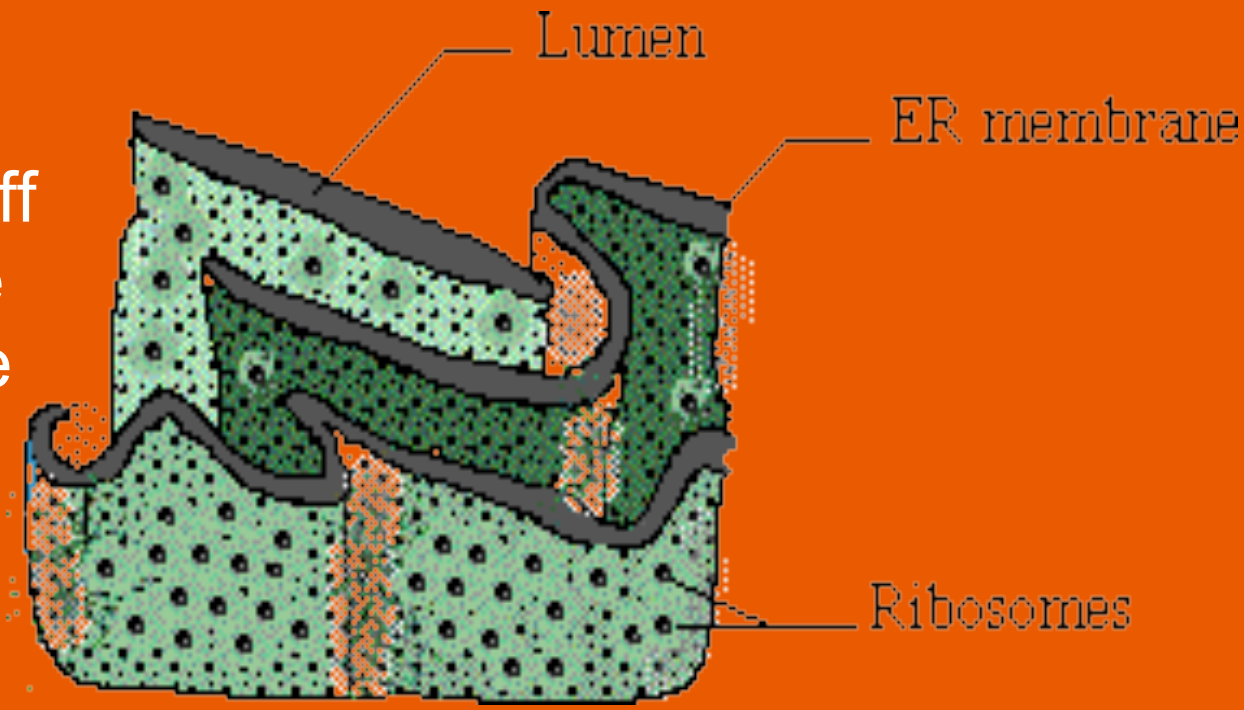
- Synthesize proteins

- Eukaryote

- If the ER wasn't there, proteins would not be produced and shipped off to the other organelles. The function of the cell would be disrupted and would not function normally.

- The Rough ER is much like a manufacturing company.

- **Plant** and **Animal** cells



Lysosome

The Garbage Man

- Lysosomes break down larger molecules into smaller molecules.
- They transport undigested materials to the cell membrane.

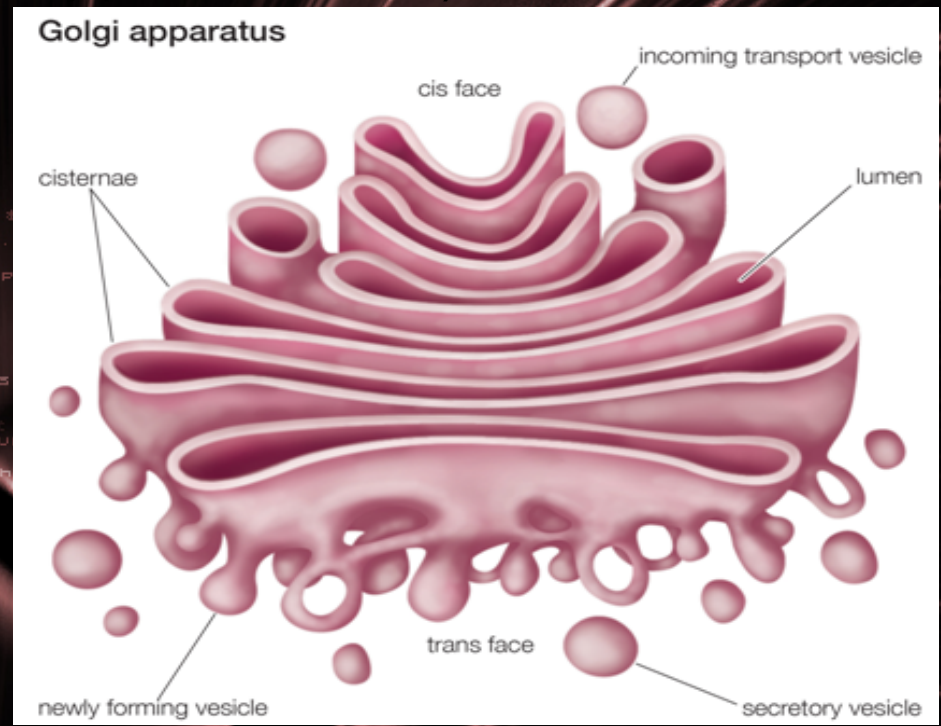
- If you didn't have lysosomes, ganglioside would build up on nervous tissue and results in the dementia, paralysis, blindness, and eventually death that is classic in any infant suffering from the disease.

Golgi Apparatus

Packaging Company (The Mailman)

- The Golgi Body is the protein packaging plant.

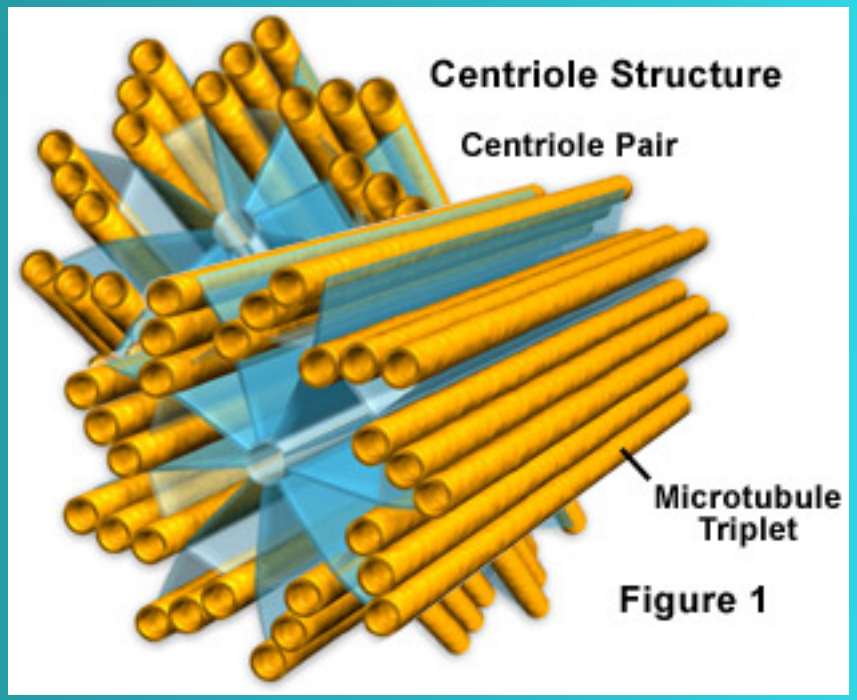
Its found universally in plant and animal cells.



- The Golgi body's job is to package products made by the ribosomes and ships them out of the cell. So with out the Golgi body the cell wouldn't having a shipping system and the cell be disorganized.

Centriole

The centriole is like an architect. It makes everything new.



Animal cell

Definition: They form spindle fibers to separate chromosomes during mitosis.

Centriole is found in most animal cells, it's also shaped like a tube.

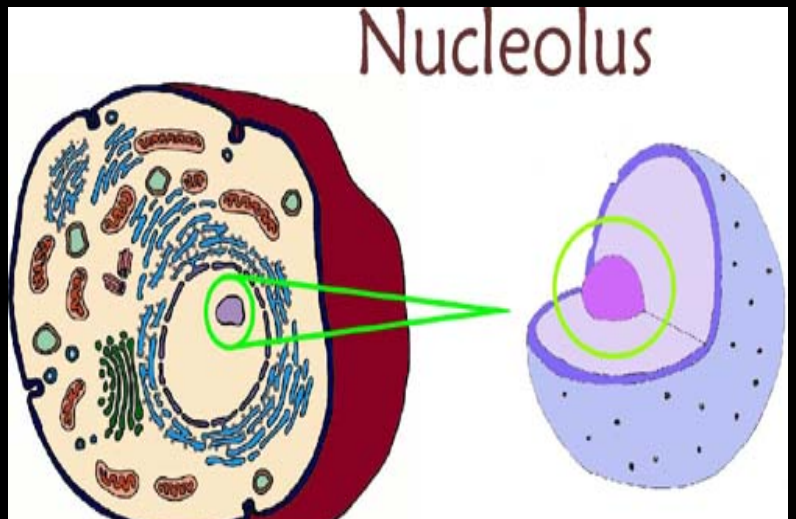
They function in cell division.

Nucleolus

- plant and animal cells

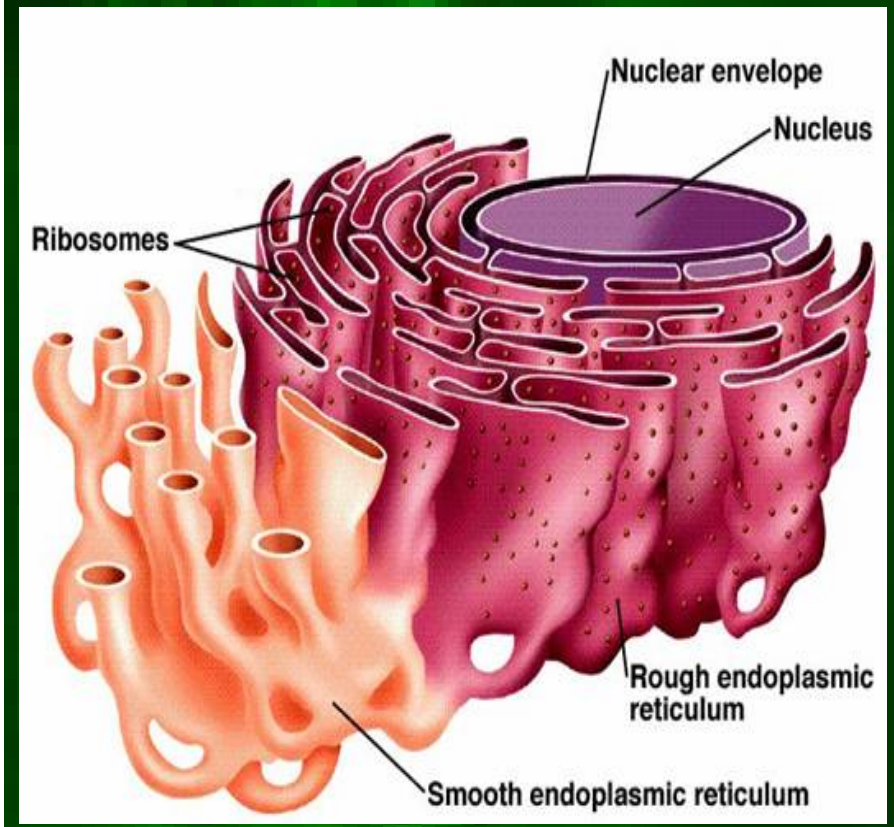
- Eukaryote

The nucleolus is like a Mayor or headquarters. It tells the rest of the organelle what to do



Smooth E. R.

Smooth E.R. is like a train. It drives all the cells and aids to make proteins.



Definition: It carries materials through cells and aids to make proteins.

The smooth E.R. functions like a pathway between the nuclear membrane and the cell membrane.

In both **plant** and **animal** cells

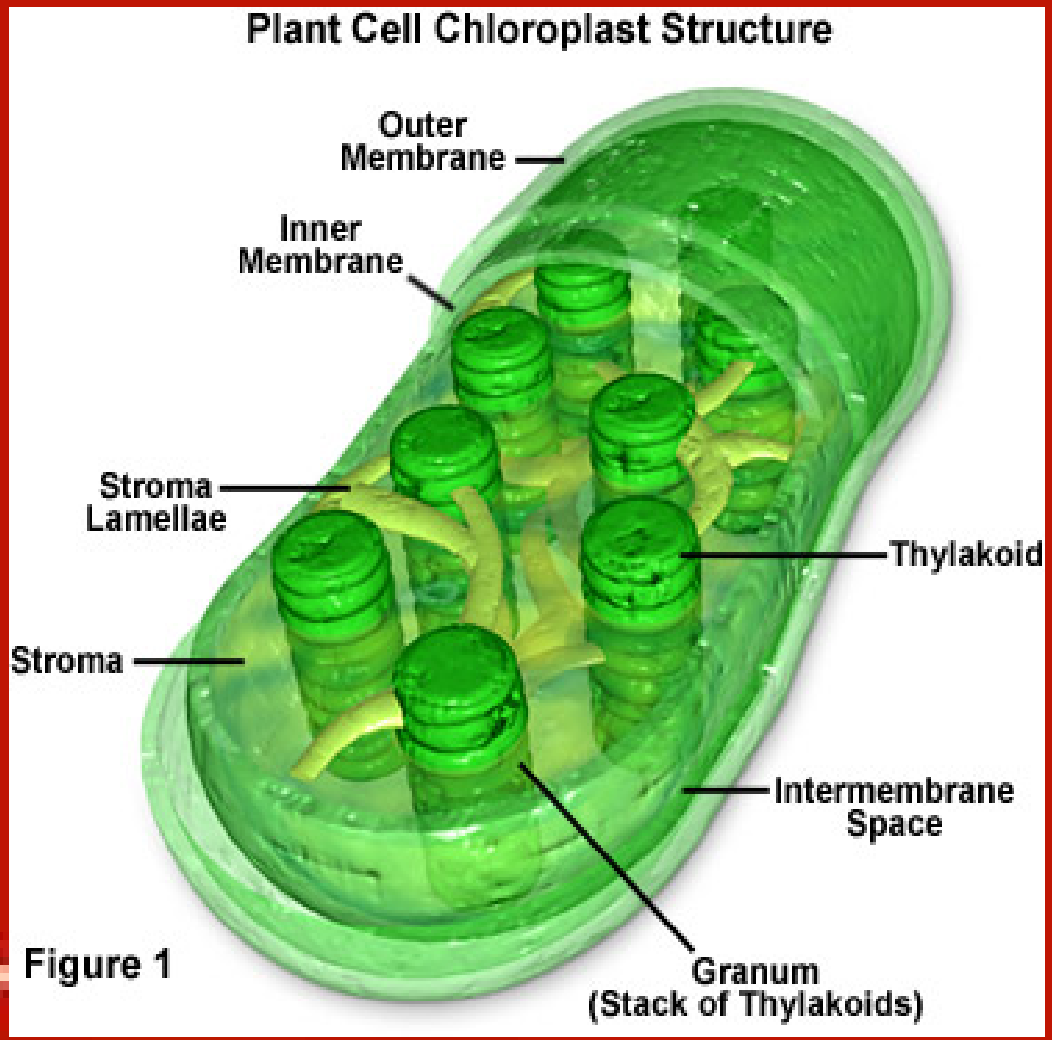
Chloroplast

Chloroplasts are like solar panels on buildings. It controls the lighting.

Definition: Captures light with photosynthesis.

Consists of a double membrane.

Chloroplast are in plant cells.



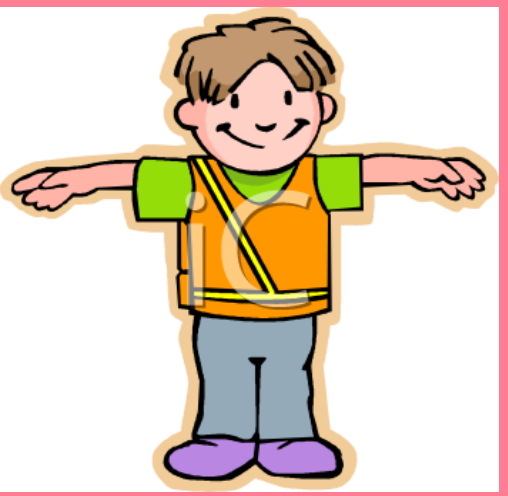
Cell Membrane

Much like a crossing guard, the cell membrane controls traffic.

It functions by accepting and releasing materials into and out of the cell.

The materials move across the cell membrane using diffusion, facilitated diffusion, and active transport, using flagella or cilia.

Flagella has only one or two arms attached, and has different force then cilia does.



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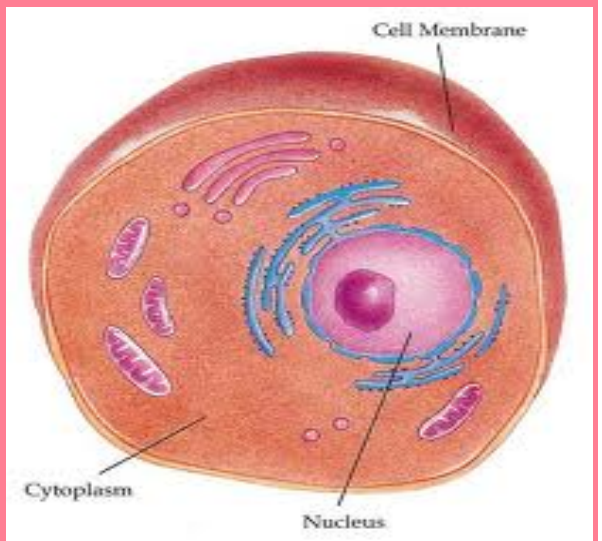


Cell membrane (continued)

Cilia propels the cell and also has many arms attached.

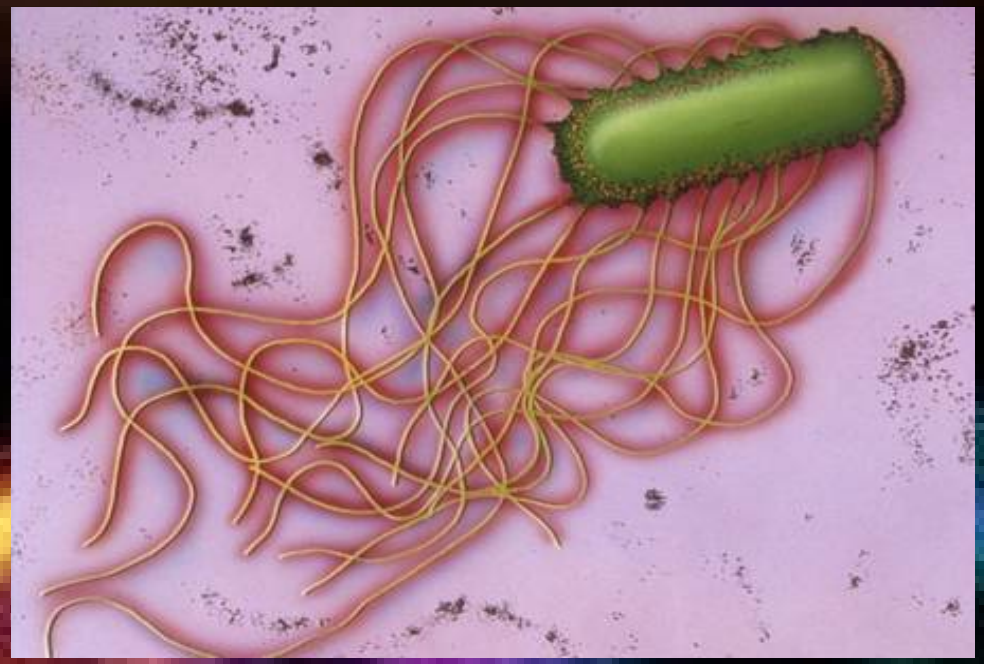
Without a membrane the cell would die.

Both prokaryotic and eukaryotic cells have a cell membrane.

ALL CELLS NEED A MEMBRANE

Flagella/Cilia

- A tail-like projection that protrudes from the cell body of certain prokaryotic and eukaryotic cells, and functions in locomotion



- Cilia is an organelle found in eukaryotic cells. Cilia are slender protuberances that project from the much larger cell body.