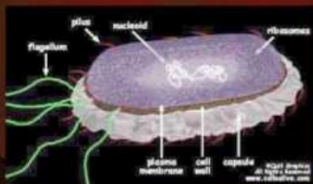


## 2 Types of Cells

-There are two types of cells:

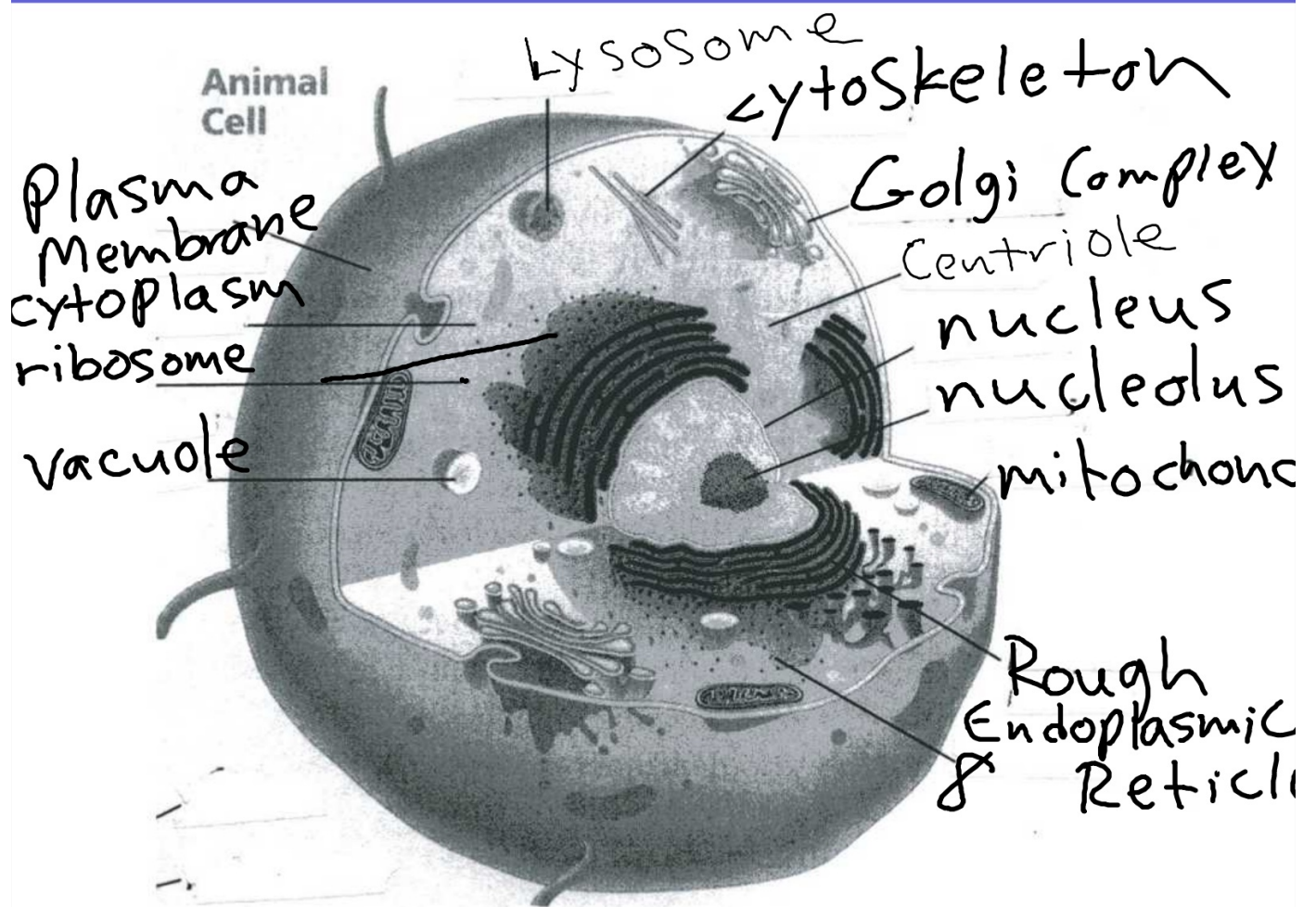
**Cell organelles:** structures that perform certain jobs within a cell (enclosed by a membrane)

1. Prokaryotic have no organelles (no nucleus).  
Ex: Bacteria

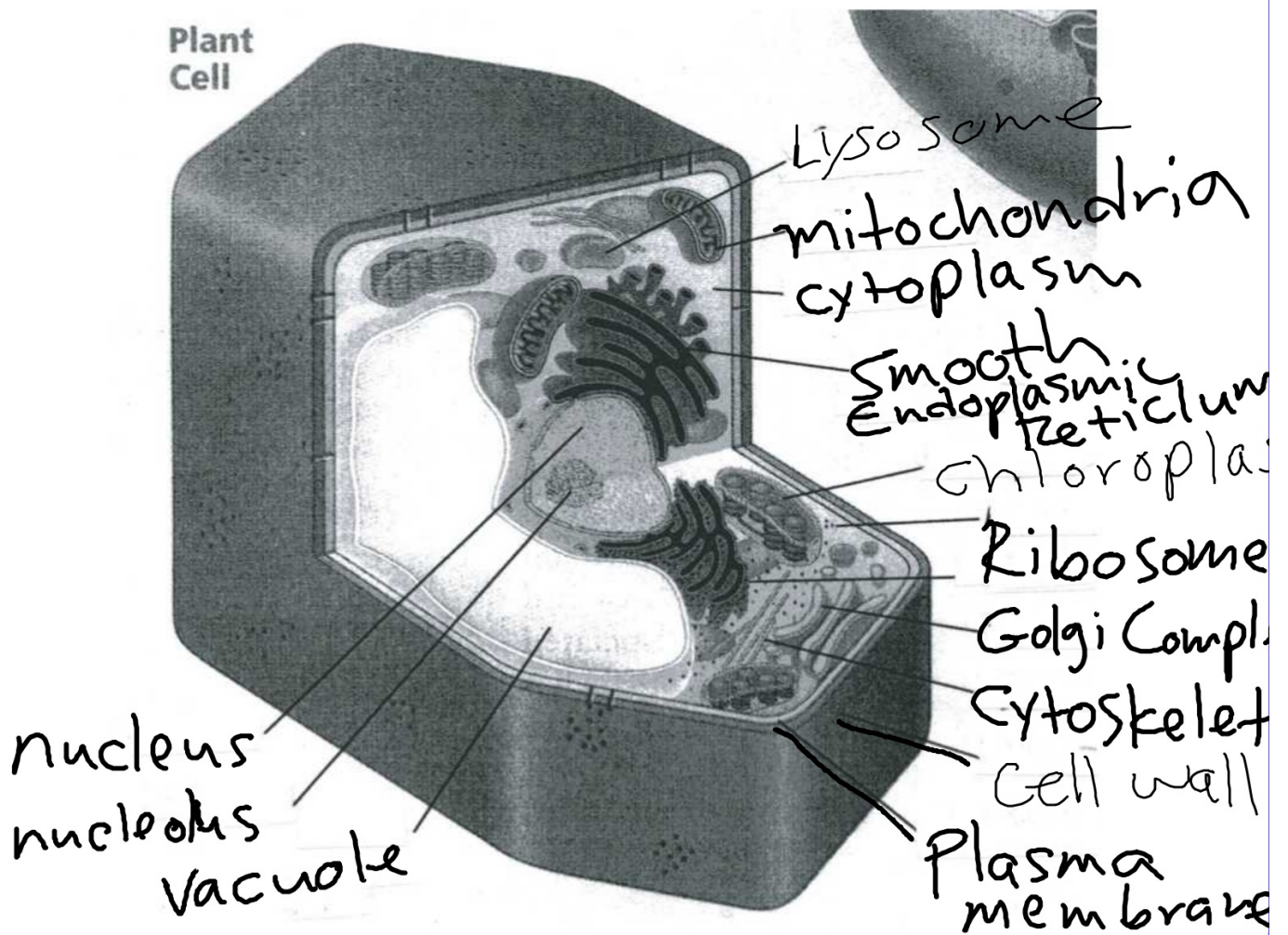


2. A Eukaryotic cell has organelles (nucleus).  
Ex: Plant and animal cells.





Plant  
Cell



## Do Now

- What is the main difference between plant and animal cells?

- Plants make own food
- Animals must eat



---

## Eukaryotic Cells: Plants and Animals Organelles

- 9/14/10
-

---

## Agenda

- 1. Do Now
  - 2. Objectives
  - 3. Plant cells vs. Animal Cells
  - 4. Organelles
  - 5. Closing
  - 6. Exit Slip
-

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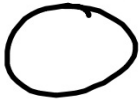
## Objectives

- SWBAT:
  - Content:
  - **Describe** the form (shape) and function (job) of all the major organelles
  - **Compare** and **Contrast** the form and function of plant and animal cells
  - Language: by **note taking** and applying your notes
-

## Plants vs. Animal Cells

### Animals Cells

- Cannot make own food
- Smaller than plant
- Round



### Plants Cells

- Can make own food
- Larger than plant
- Square



---

An abstract graphic featuring several overlapping circles in various shades of blue, ranging from light sky blue to a deep navy blue. The circles are positioned in the center of the slide, creating a layered effect. The text "II. Parts of the Cell" is written in a white, sans-serif font, centered within the overlapping circles.

## II. Parts of the Cell

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-The cell is made up of many **organelles:** structures that perform certain jobs within a cell (enclosed by a membrane)

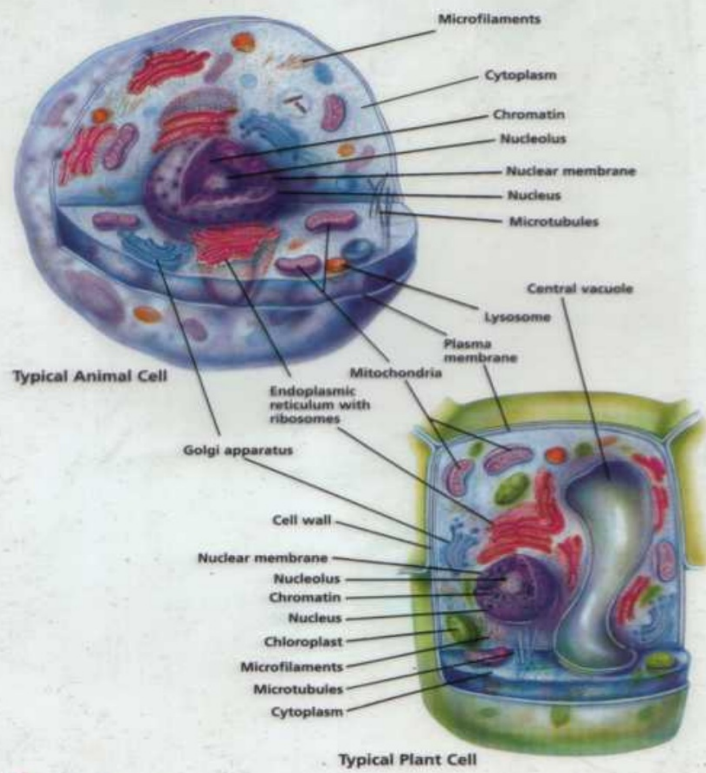
-Just like jobs in a factory, organelles do different specific jobs

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# Transparency 7 The Cell

## BASIC CONCEPTS

Use with Chapter 7,  
Section 7.3



# Organelles

1. Plasma Membrane :

2.

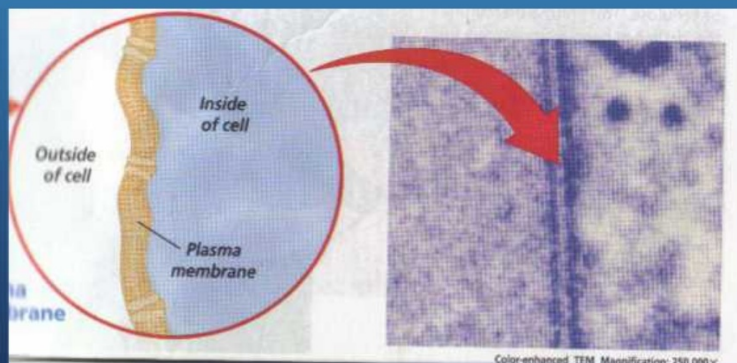
3.

## Plasma Membrane's Job in the Cell

- A thin sheet-like boundary between the cell and the outside environment

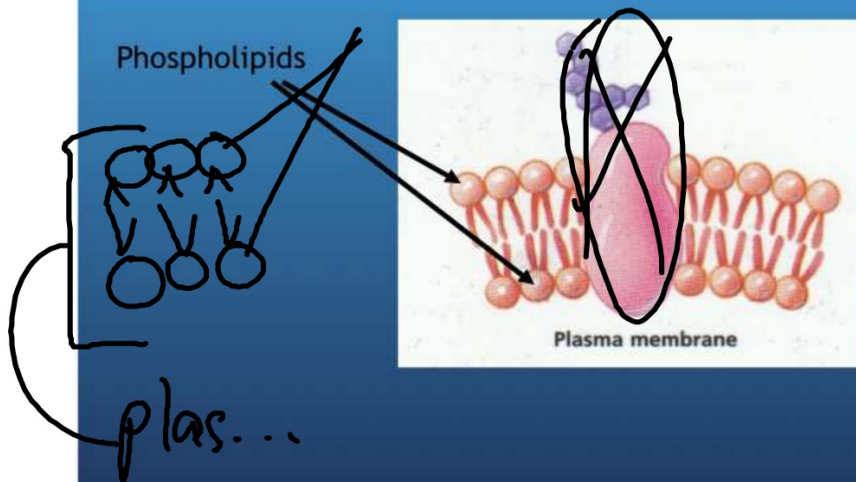
Job:

- Keeps a balance in the cell called homeostasis (balance)  
allows the cell to maintain



## Composition of the Plasma Membrane

-The plasma membrane is made up of two layers of phospholipids:

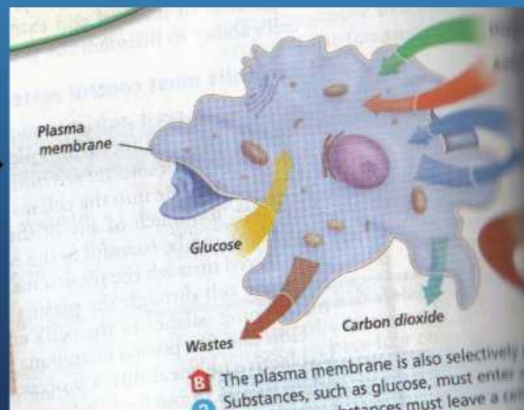




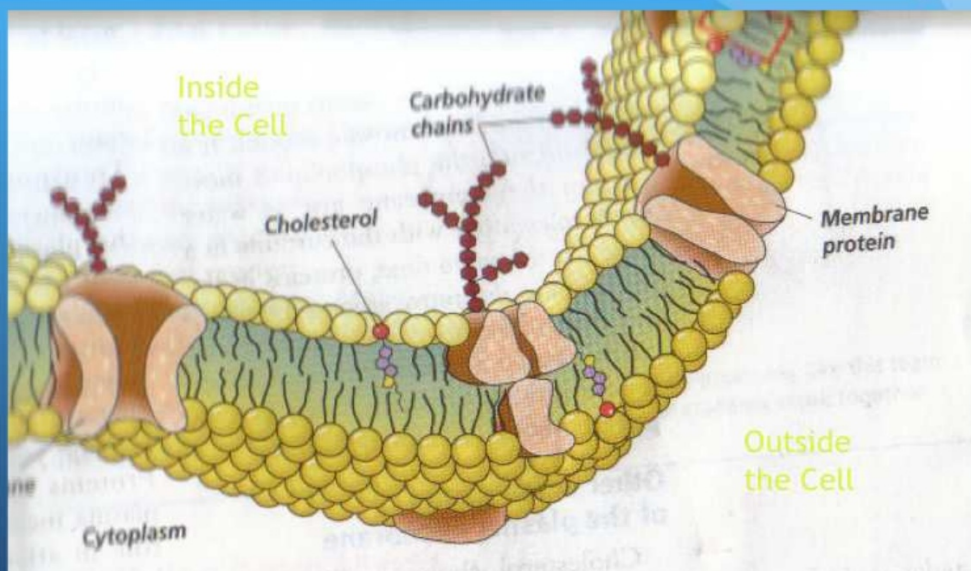
## Key Terms (Plasma membrane)

Selective permeability - when the plasma membrane only allows certain molecules into and out of the cell. This helps maintain homeostasis.

Selective Permeability→



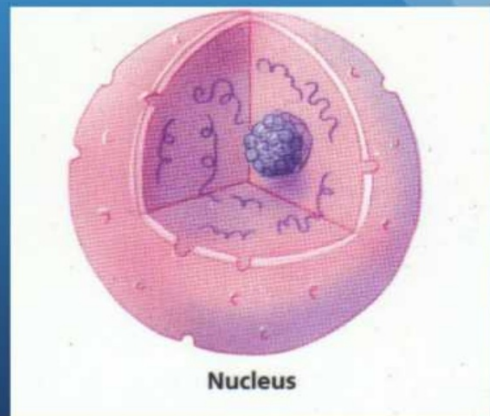
## Picture of the Plasma Membrane



## 2. Nucleus :

-the control center of the cell (boss)

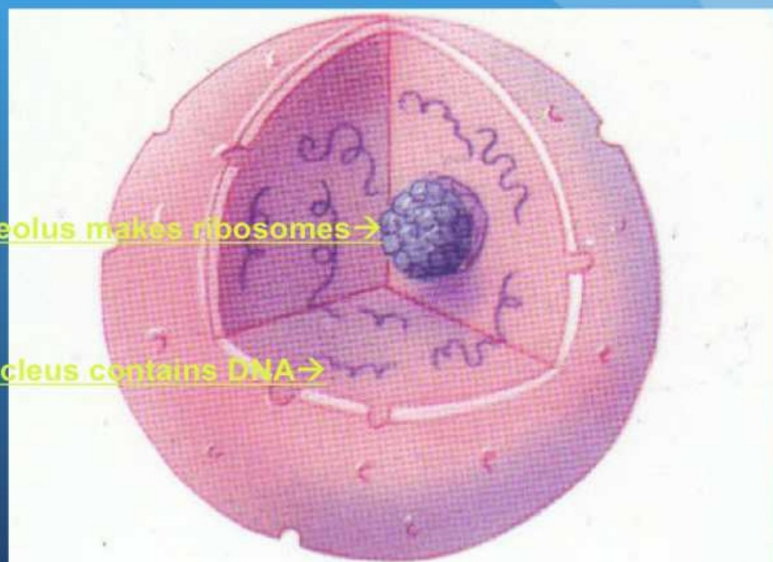
-stores DNA which contain directions for making proteins.



## Picture of the Nucleus

Nucleolus makes ribosomes→

— Nucleus contains DNA→



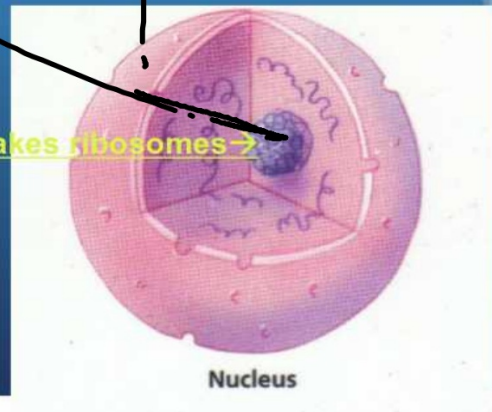
**Nucleus**

### 3 Nucleolus

- found inside the nucleus
- makes ribosomes

-Picture of the nucleolus:

Nucleolus makes ribosomes →





## Ribosomes:

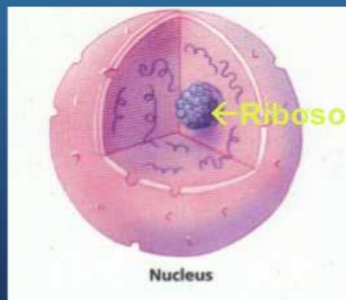
-make protein

~~make up of RNA~~

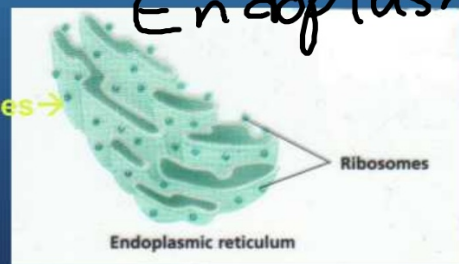
~~after ribosomes are made inside the nucleolus, they leave the nucleus by the nuclear pores and attach to the E.R. where they make proteins.~~

- after leave nucleolus and nucleus → attach to Endoplasmic R.

Picture of Ribosomes:



← Ribosomes →



## Endoplasmic Reticulum (E.R.)

-There are 2 kinds of E.R.:

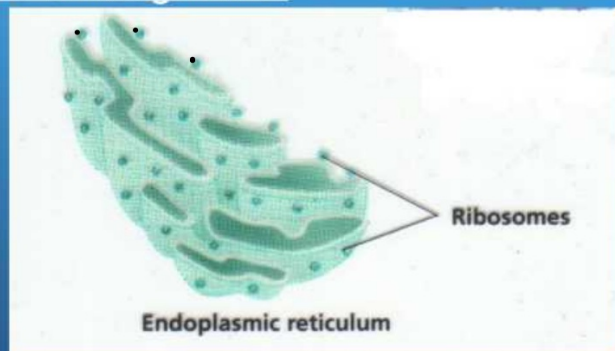
1. -Rough E.R. makes proteins.  
-has ribosomes connected
2. -Smooth E.R. makes lipids (fats).  
-does not have ribosomes

~~11~~ -The E.R. is made up of long tubes which provide a place for protein and lipid synthesis to occur.

-Synthesis means to make.

# Endoplasmic E.R. Reticulum

Picture of Rough E.R.:

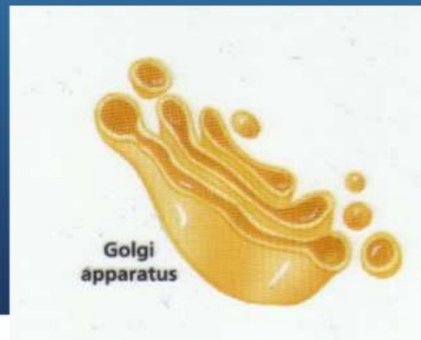


-Smooth E.R. looks the same except there are no ribosomes on it.

## 6. Golgi Complex

- sorts and packages proteins and lipids made in the E.R.  
~~for transport~~
- ~~made up of vesicles which send proteins and fats around the cell~~
- The Golgi Apparatus is like the post office of the cell!

Picture of  
the Golgi:



## 7. Mitochondria

-the "powerhouse" of the cell because it breaks down sugar into energy in the form of ATP.

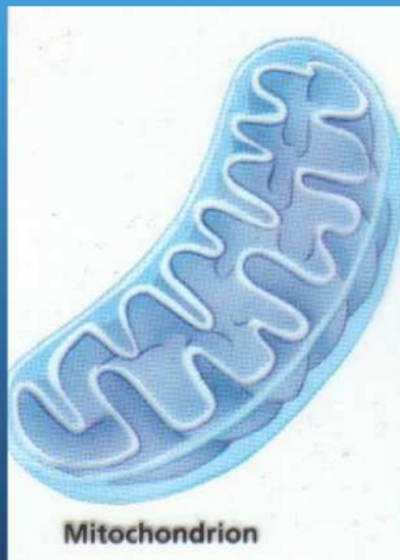
- its like the cell power plant

-is a double, membrane-bound structure

-ATP is the energy the cell can use to complete its life processes



## Picture of the Mitochondria



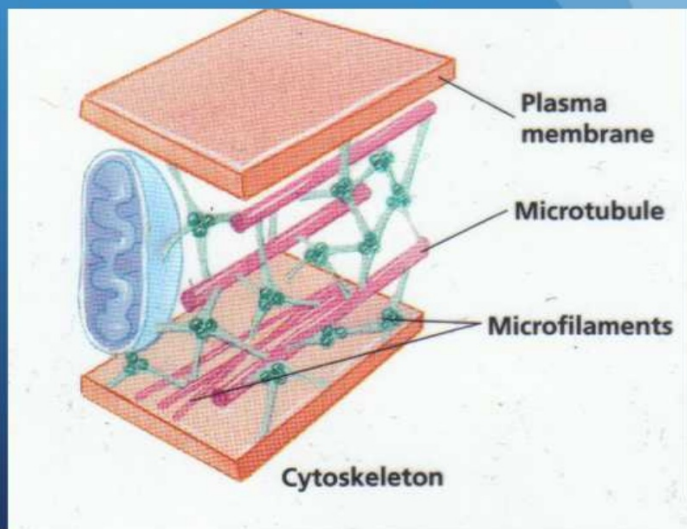
# Cytoskeleton (not an organelle)

- supports  
organelles  
inside the cell

- acts as the  
“skeleton” of  
the cell

- made up of  
microtubules  
and  
microfilaments

Picture of the Cytoskeleton:

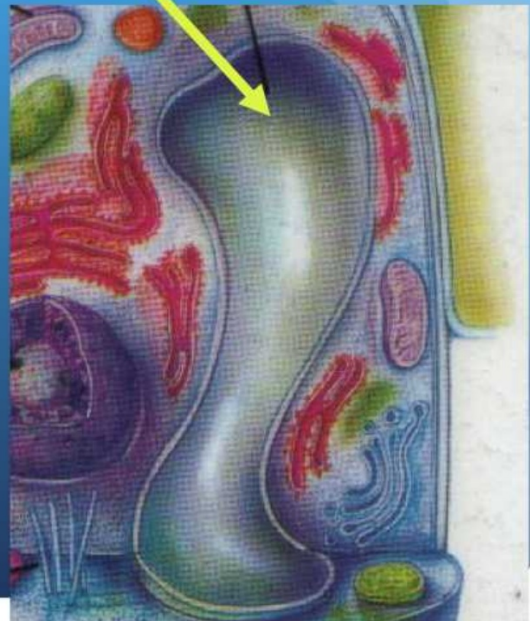


## 8. Vacuole

-stores food and water

-a bag-like structure

-Large vacuoles are only found in plants!

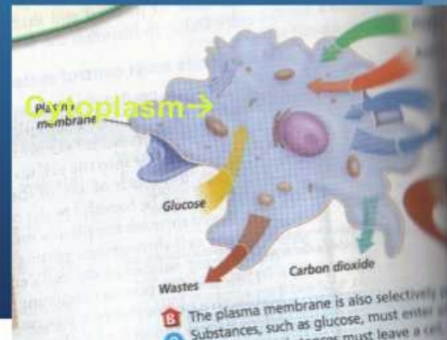


# Cytoplasm

~~provides support for the organelles~~

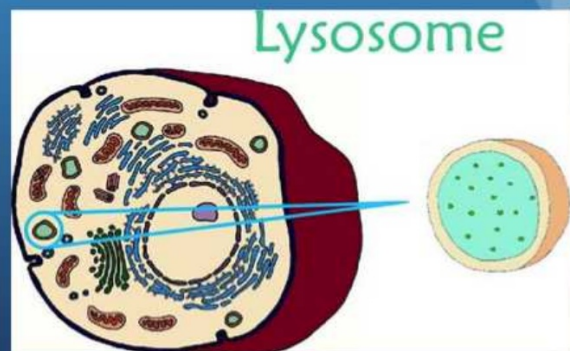
-jelly-like fluid inside the cell

-The cytoplasm moves around to provide nutrients to the different organelles inside the cell. The cytoplasm helps circulate materials inside the cell.



# Lysosome

- -contain digestive enzymes
- Digest old/worn out organelles, nutrient particles, viruses, bacteria

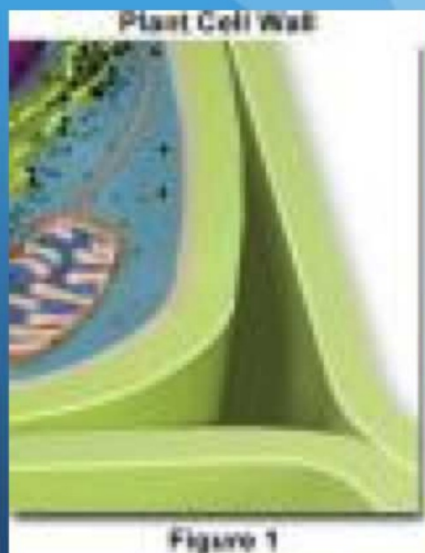


## Cell Wall

- protects the plant cell from damage
- gives a plant its shape
- made up of cellulose, very stiff!!!
- Only found in plants!



## Picture of a Cell Wall



## Chloroplasts

(only in plants)

-turns light energy into sugar

-made up of the chemical compound chlorophyll which gives plants their green color and helps with photosynthesis.

- photosynthesis happens in the chloroplast



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# Chloroplasts

-Photosynthesis occurs in chloroplasts. Photosynthesis is the process of turning light energy into sugar.

-Chloroplasts are only found in plant cells!!!

---

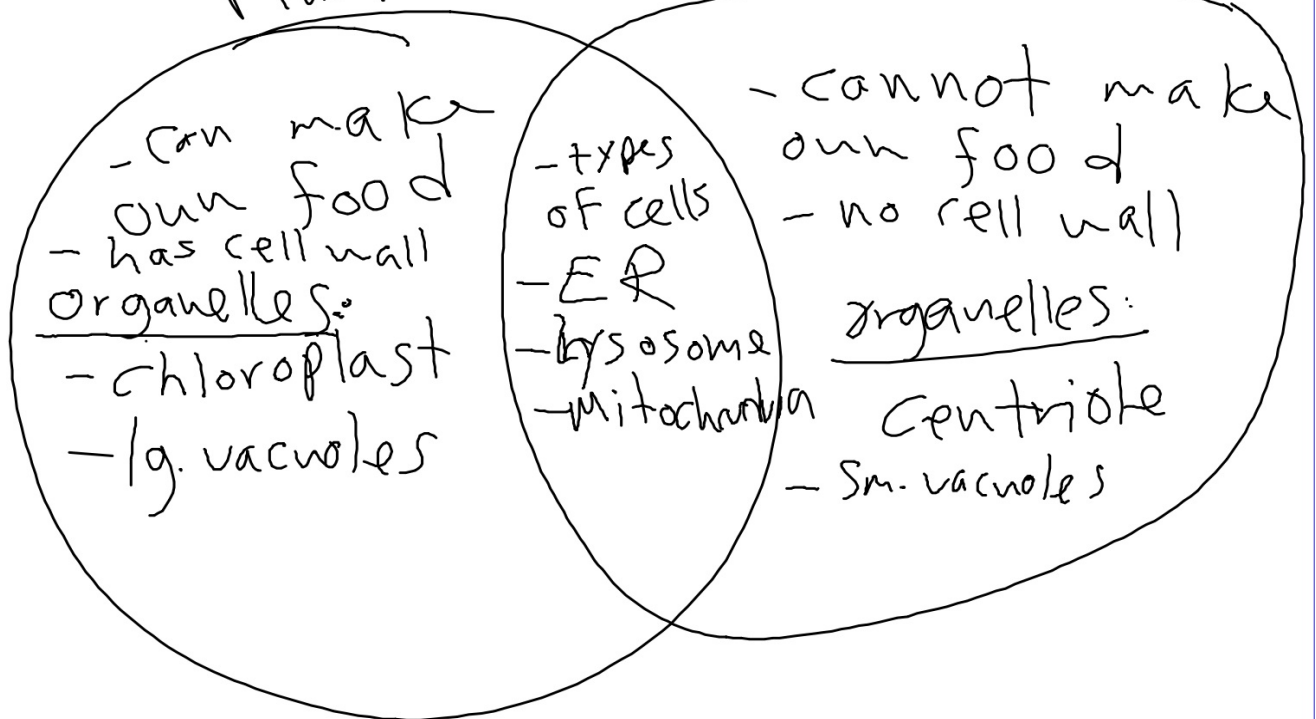
## Picture of a Chloroplast



# Plant vs. Animal cells

Plants

Animals



## Plant Cells vs. Animal Cells

### Plant Cells

have chloroplasts and cell walls

can make their own food through photosynthesis

have large vacuoles to store water

### Both Plant & Animal Cells

-both have:

Plasma membranes

Mitochondria

Cytoplasm

Nucleus'

Nucleolus'

Golgi

E.R.

DNA

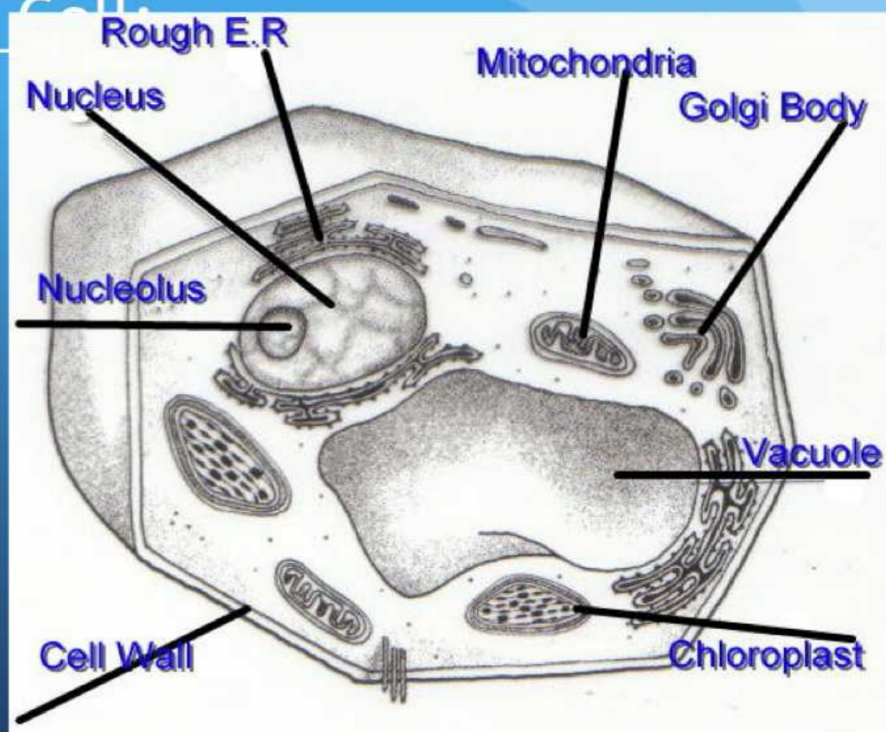
-both are living

### Animal Cells

-have centrioles used in cell division

-can't make their own food

## Plant Cells



## Animal Cell:

