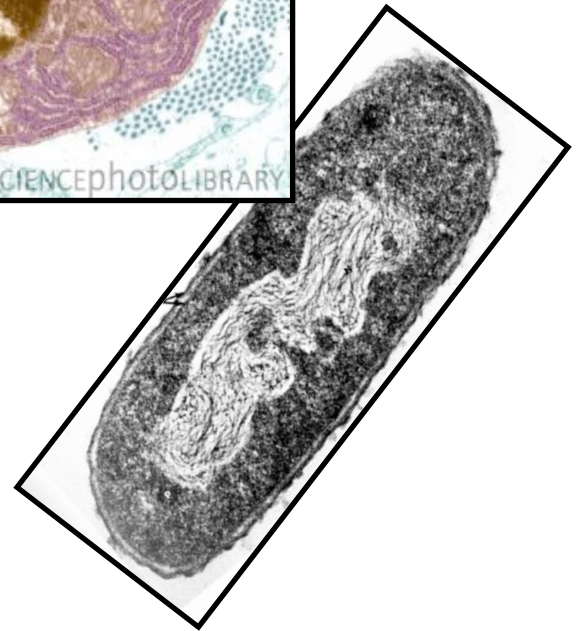


# Main Cell Parts

- Nucleus
- Cytoplasm
- Cell Membrane
- Cell Wall (plants/bacteria only)

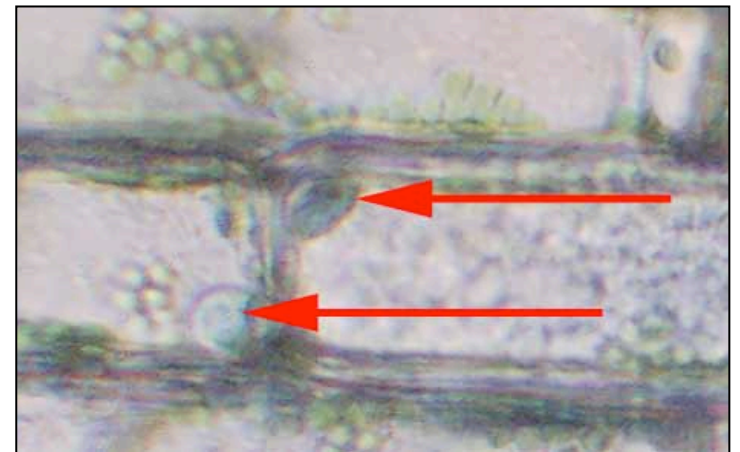
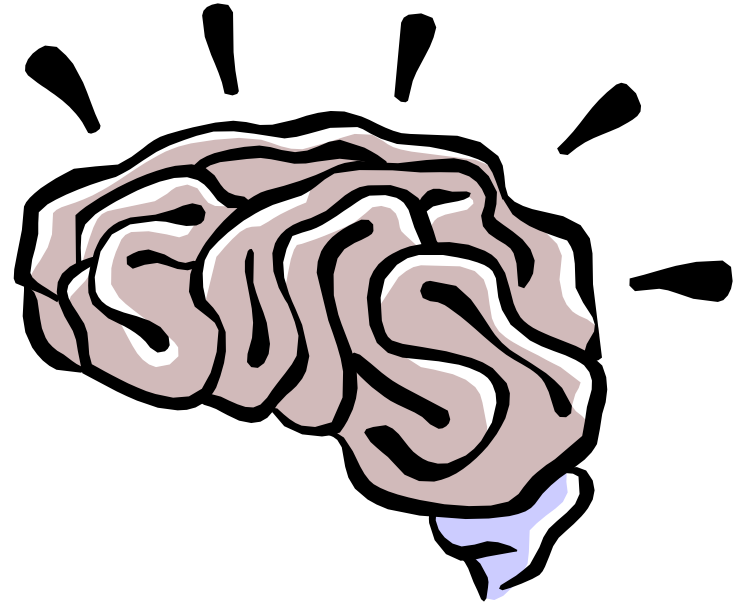


Images from:

- <http://course1.winona.edu/sberg/241f05/Lec-note/Cells.htm>
- <http://www.franklin.ma.us/auto/schools/sullivan/grade6/mrsallen1/cells/default.htm>
- <http://www.sciencephoto.com/media/80030/view>

# Nucleus – the “Control Center”

- The “brain” or control center of the cell
- Sends signals to other parts of the cell
- Don't forget:
  - Prokaryotes - no nucleus!
  - Eukaryotes - have nucleus

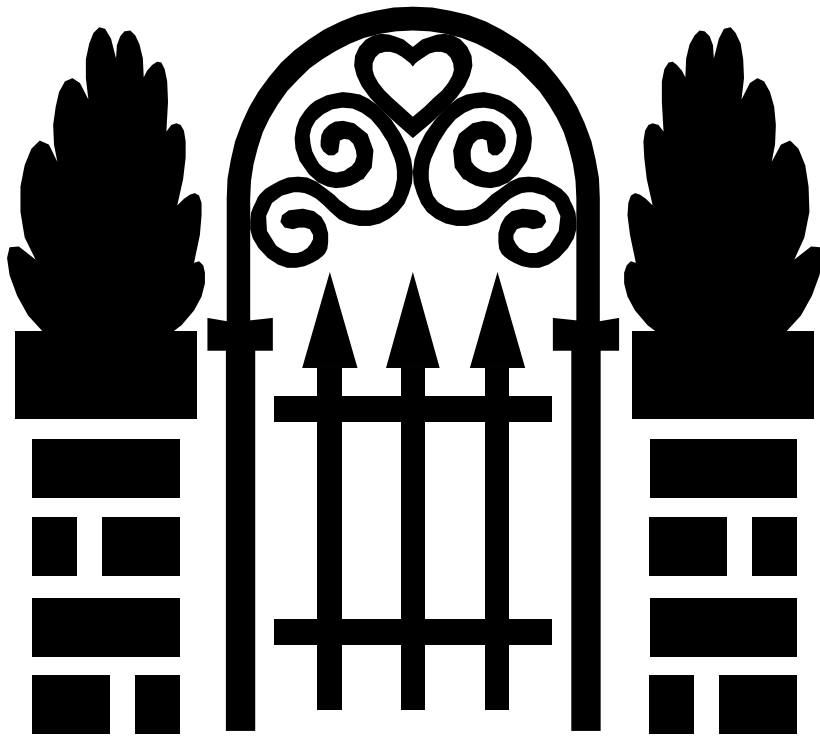


# Chromatin

- Made of double stranded DNA (nucleic acid)
- Contains all the instructions for the cell
- Copies itself whenever cell divides to make two cells
- Prokaryotes (bacteria) have slightly different nucleic acids



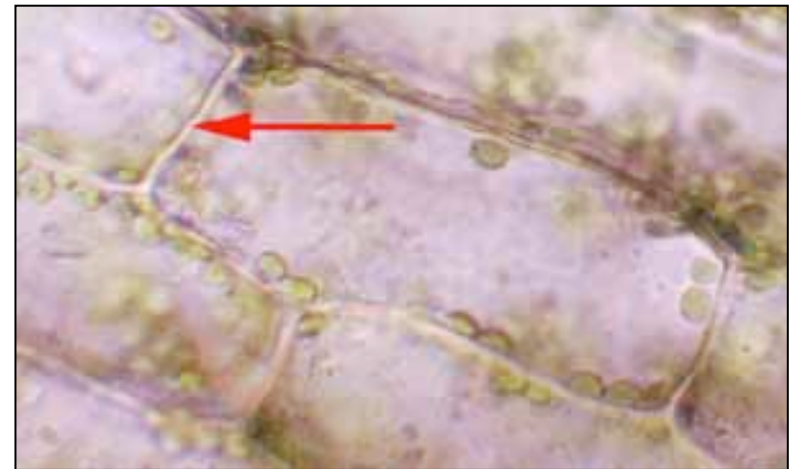
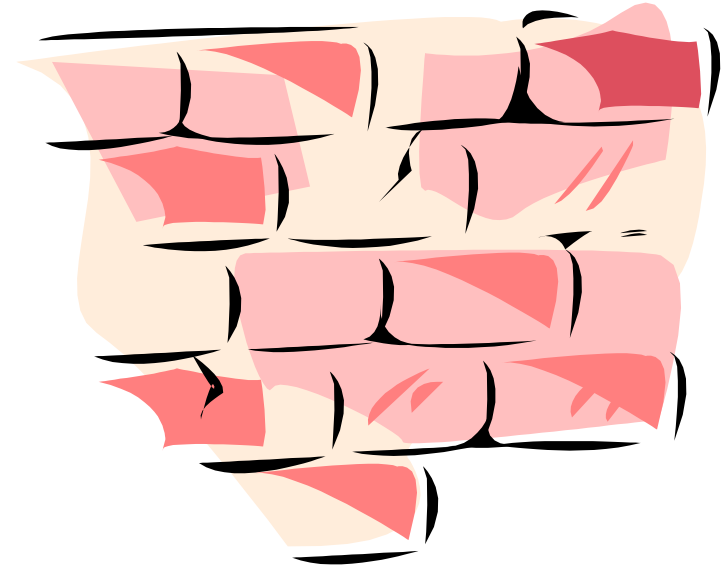
# Cell Membrane



- The “gate” of the cell
- In plant cells, it’s just inside the cell wall
- Controls what enters and leaves the cell
- Examples:  $O_2$ ,  $CO_2$ , water, glucose

# Cell Wall

- Provides structure and support to **plant** cells
- Plants don't have backbones, so they have cell walls for structure and support
- Prokaryotes (bacteria) also have cell walls



# Cytoplasm

- Cyto = cell, and . . . .  
Plasm = fluid, so . . . .
- Fluid throughout the cell
- Prevents the cell parts from drying out
- Think: “I’ ve been slimed by cytoplasm!”



# Main Organelles

- Organelles – ‘little organs’
- Carry out specific functions
- Found in varying amounts in different kinds of cells

# Mitochondria

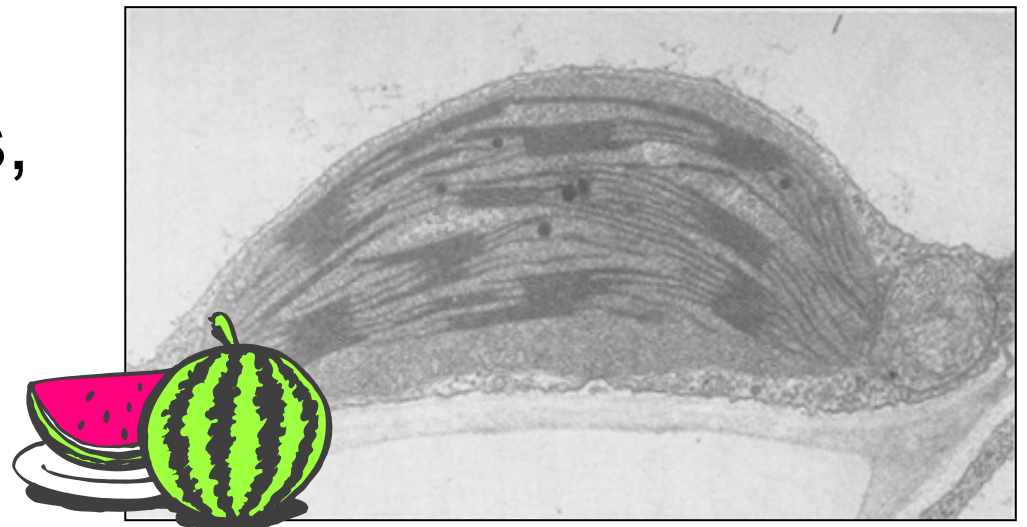
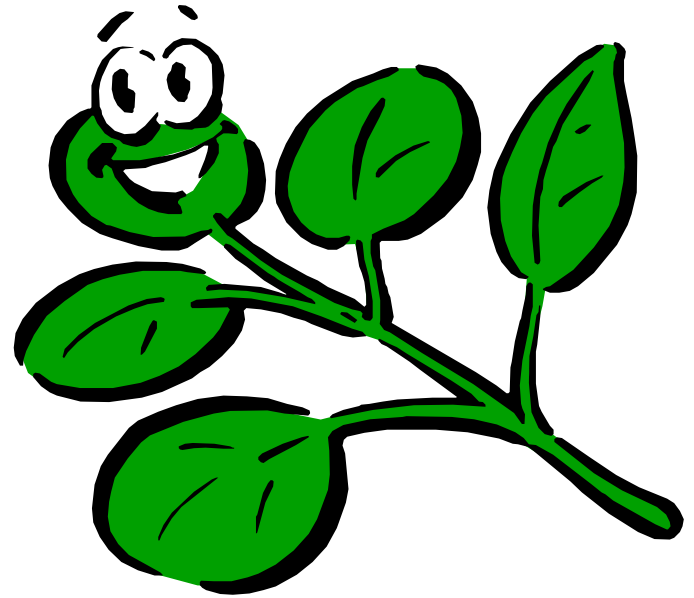


- The **powerhouse** of the cell!
- Releases energy from food
- Sort of looks like it has lightning bolts inside!
- Remember:  
**“Mighty Mitochondria”**



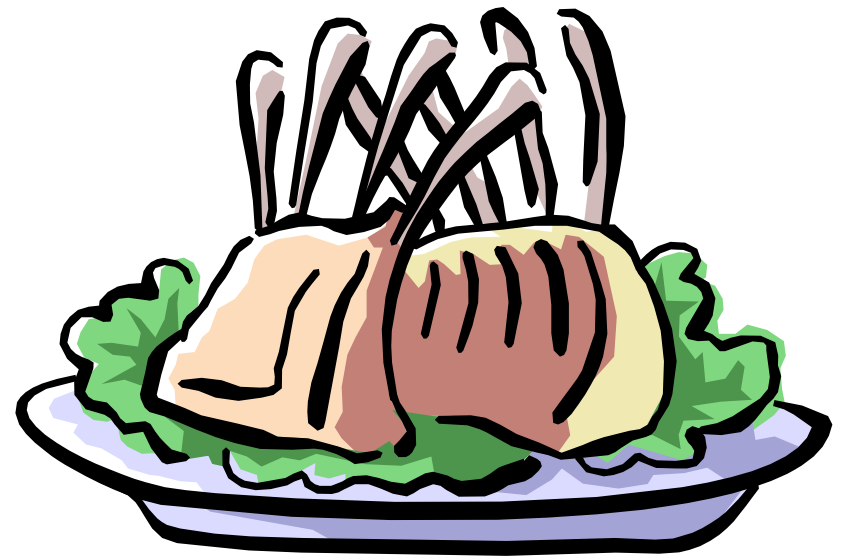
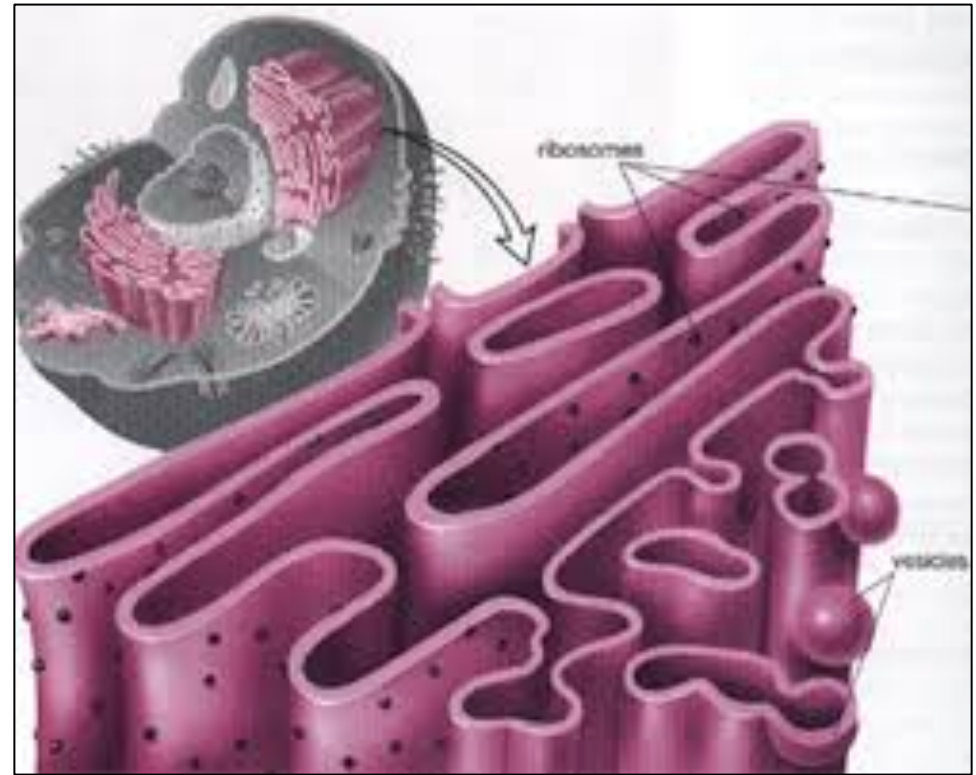
# Chloroplast

- Uses sunlight to make food – photosynthesis!
- Only found in **plant** cells, or algae
- Looks like it has stripes, kind of like a watermelon.

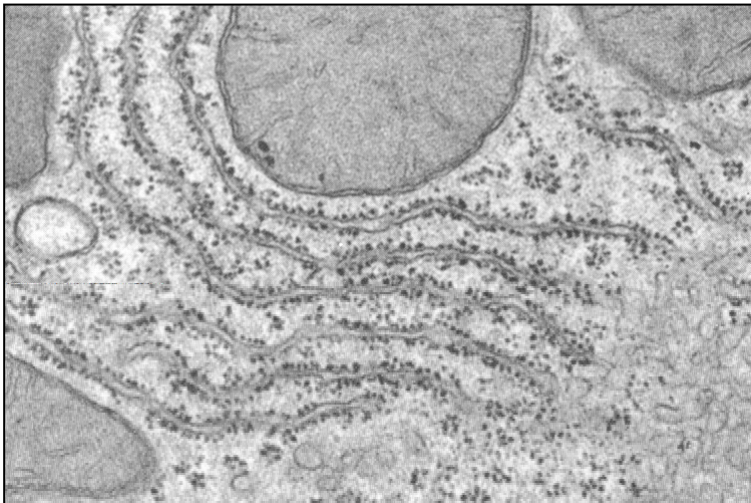


# Ribosomes

- Makes proteins for the cell
- The little dots on the endoplasmic reticulum, or they can float around by themselves
- Kind of looks like the meat on ribs
- Think: “ribs, protein... ribosomes!”

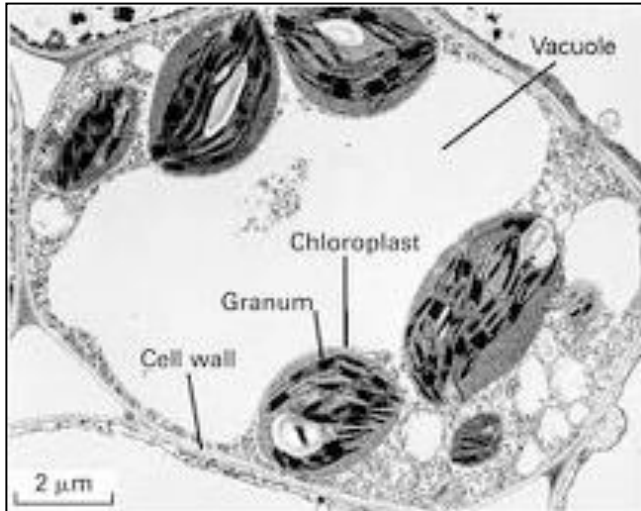
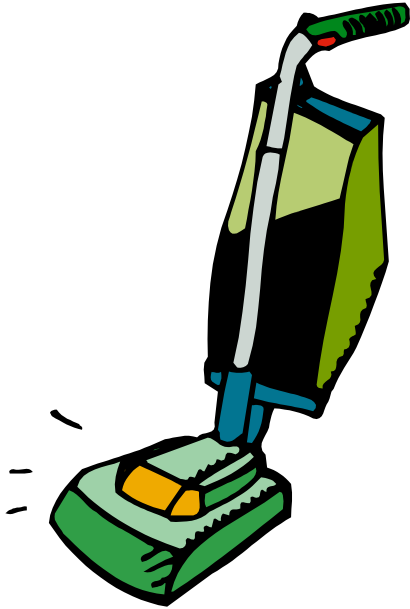


# Endoplasmic Reticulum



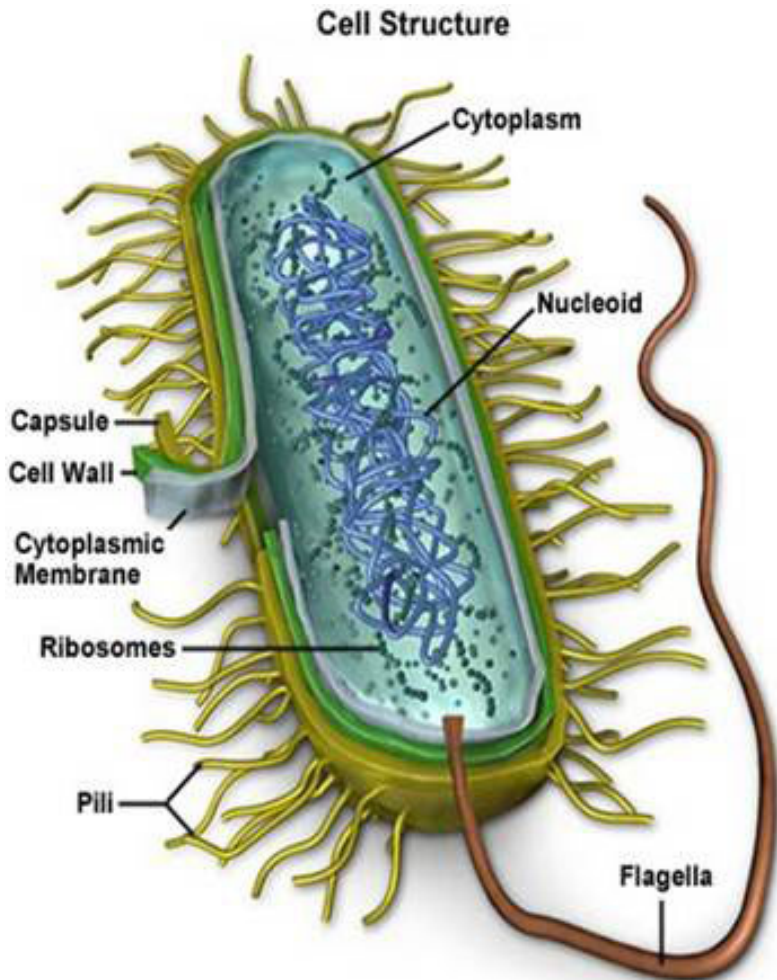
- Endo = inside, plasm = fluid, and reticula = grid or network
- Transports materials inside the cell - the “roads” of the cell
- The longest cell part
- Think: “longest cell part, long winding road, longest word I have to know!”

# Vacuole



- Stores water, food and waste
- Looks like a large, clear bubble
- Think of a vacuum sac... it stores all the water, food and waste it picks up!
- Helps provide support for plants

# Bacterial Cells



- Smaller than average plant or animal cell
- Has a cell wall, and cell membrane, and cytoplasm
- No nucleus - nucleic acids aren't contained
- Has ribosomes which make protein, but not other organelles