

# Cell Organelles

# Organelles

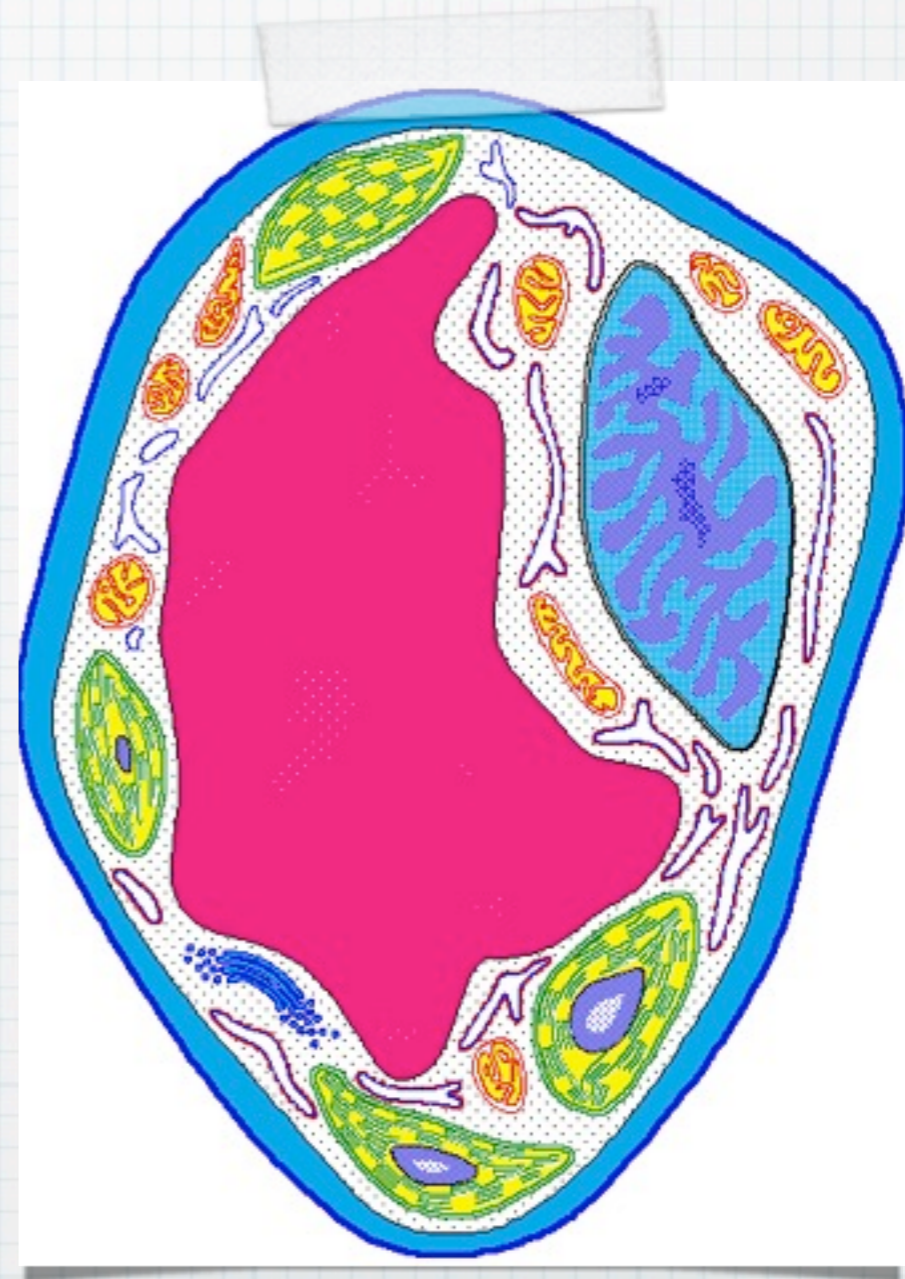
- \* All cells must carry out various cellular activities in order to live.
- \* Some of these activities include: obtaining and using energy, storing and transporting materials and reproducing.
- \* In eukaryotic cells, these jobs are carried out by specialized cell parts called organelles, which work together to keep the cell healthy

# Cytoplasm

- \* All organelles are suspended in this jelly-like liquid and many chemical reactions of the cell take place here.

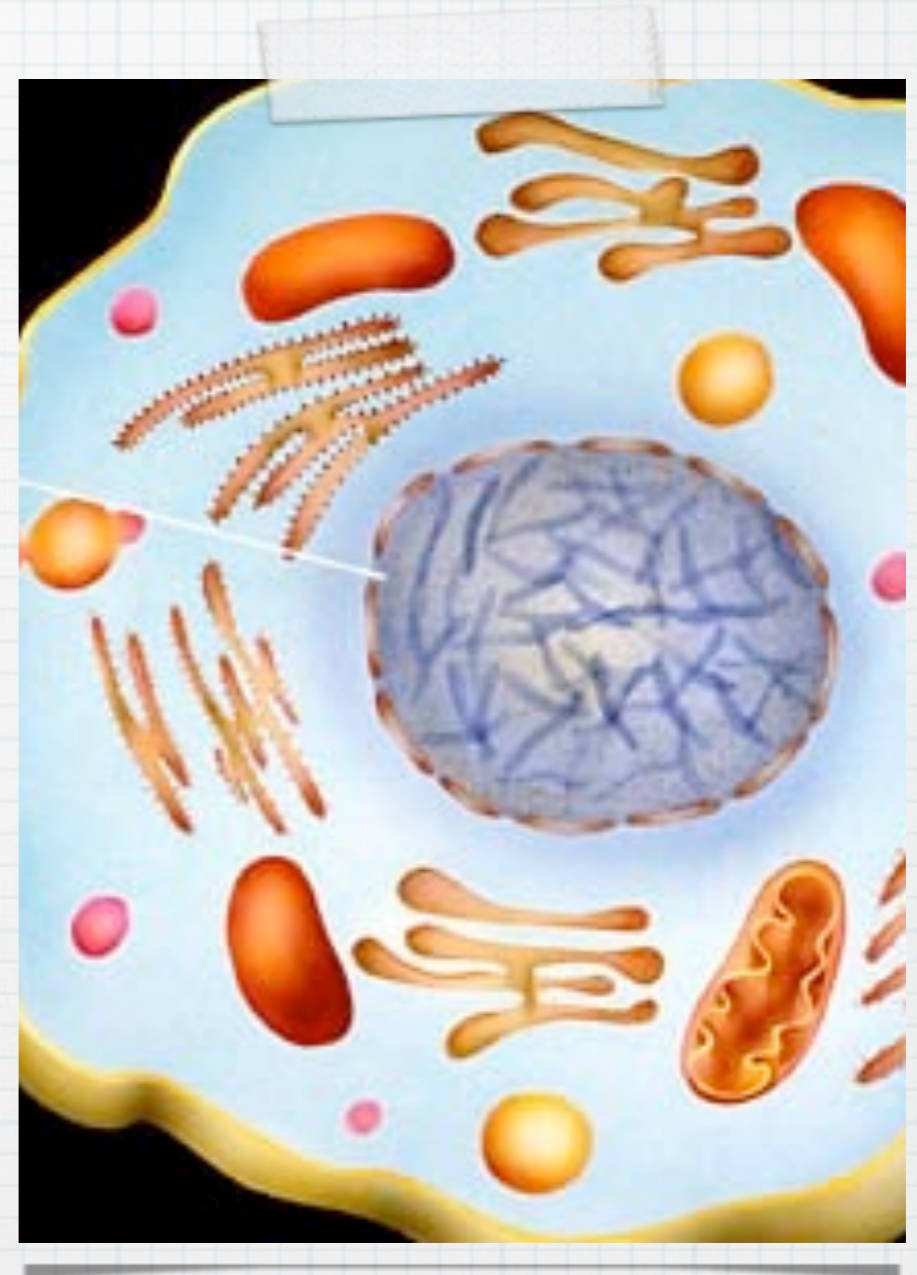
# Cell Membrane

- \* A cell membrane surrounds all cells and forms the outer barrier of the cell.
- \* It is flexible and contains 2 layers.
- \* The membrane allows only certain substances to pass through such as food, water, oxygen and waste.



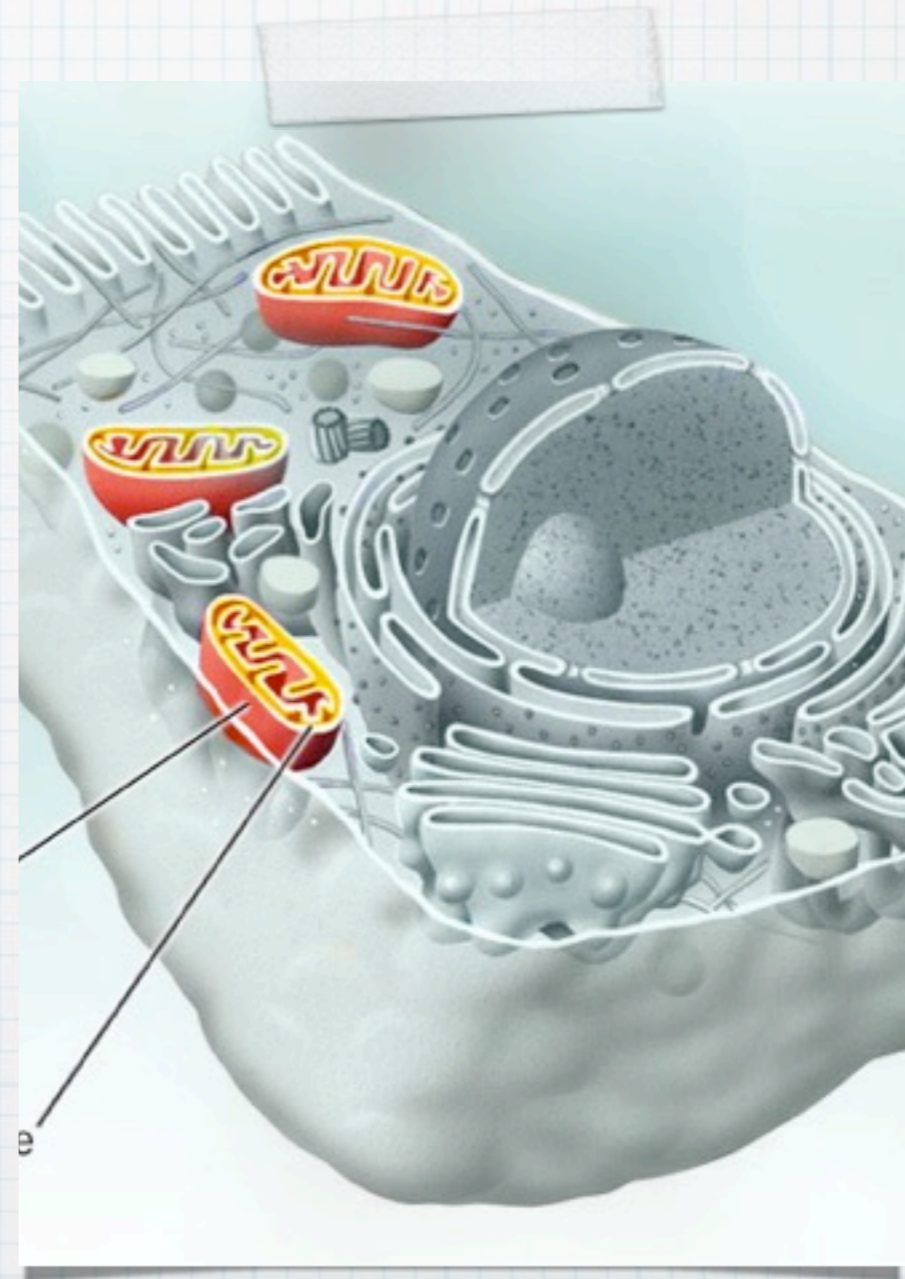
# Nucleus

- \* The nucleus is a large sphere found inside cells and it contains genetic information that controls all cell activities.
- \* The coded instructions for the cell are found within DNA (deoxyribonucleic acid) which is in the form of chromosomes, located inside the nucleus.



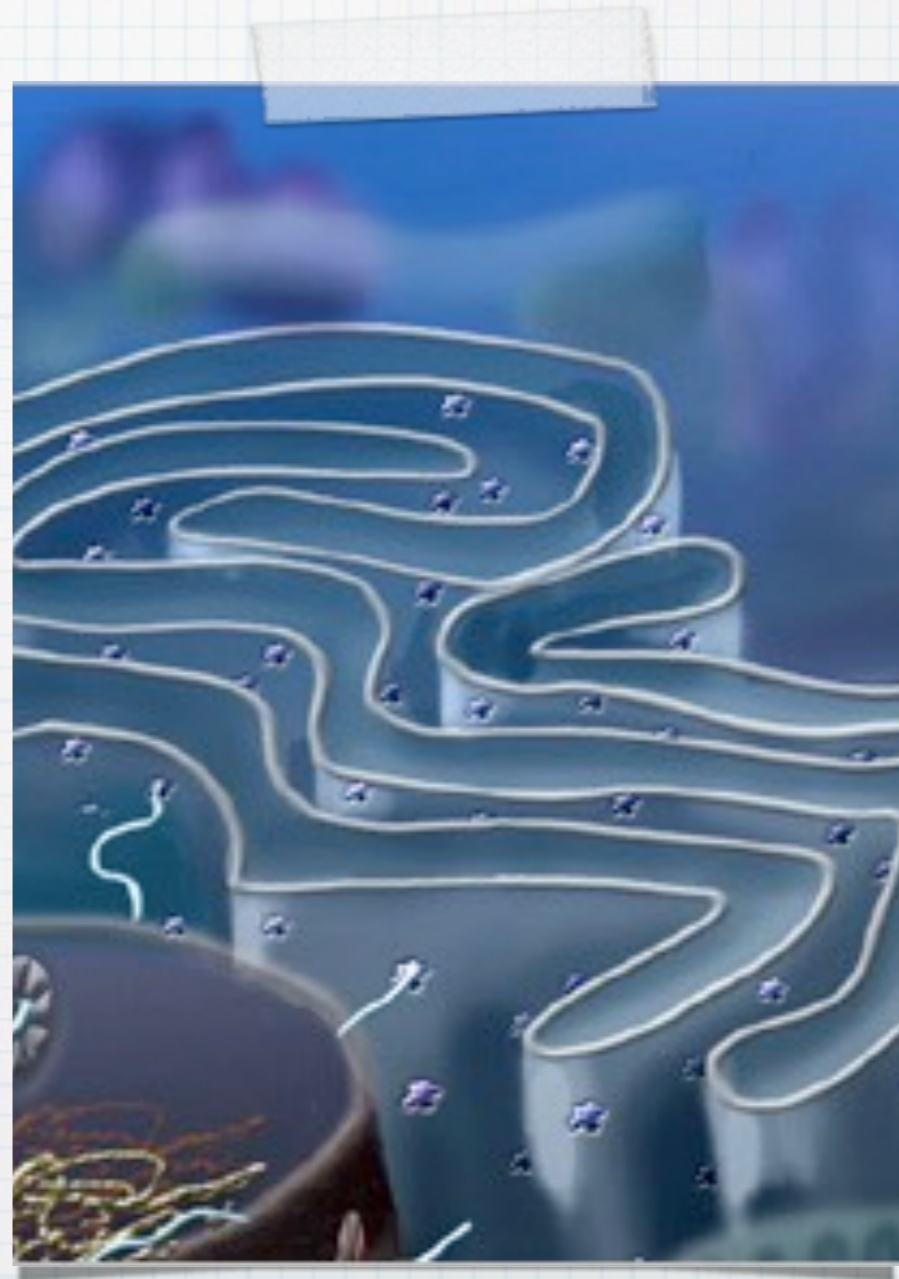
# Mitochondria

- \* Most cells contain many mitochondria.
- \* They are something like tiny “power plants” since their job is to provide energy through cell respiration.



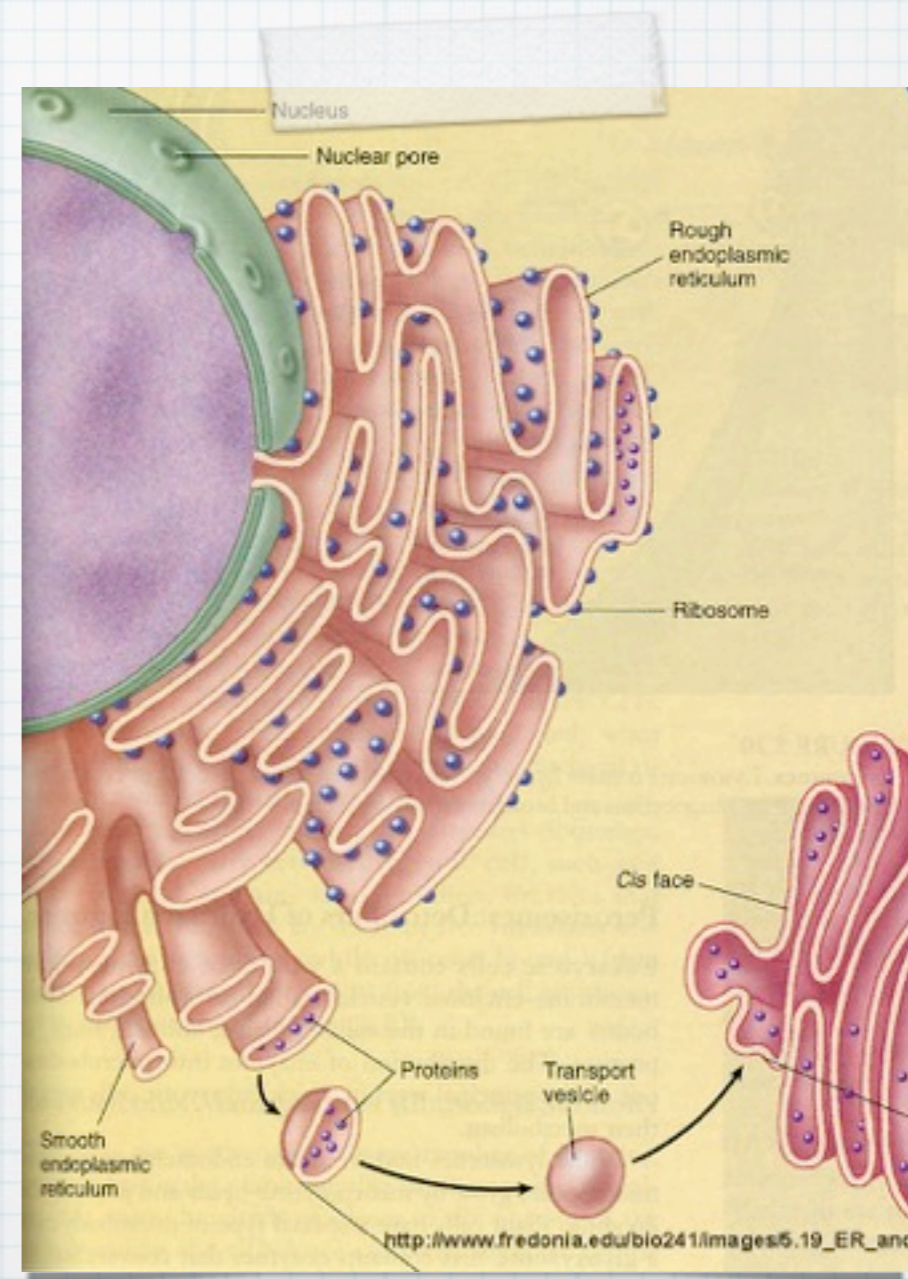
# Endoplasmic Reticulum

- \* This cell organelle consists of a system of interconnecting membrane tubes and pockets that may extend from the nucleus to the cell membrane.
- \* It's job is to transport materials such as proteins throughout the cell.



# Ribosomes

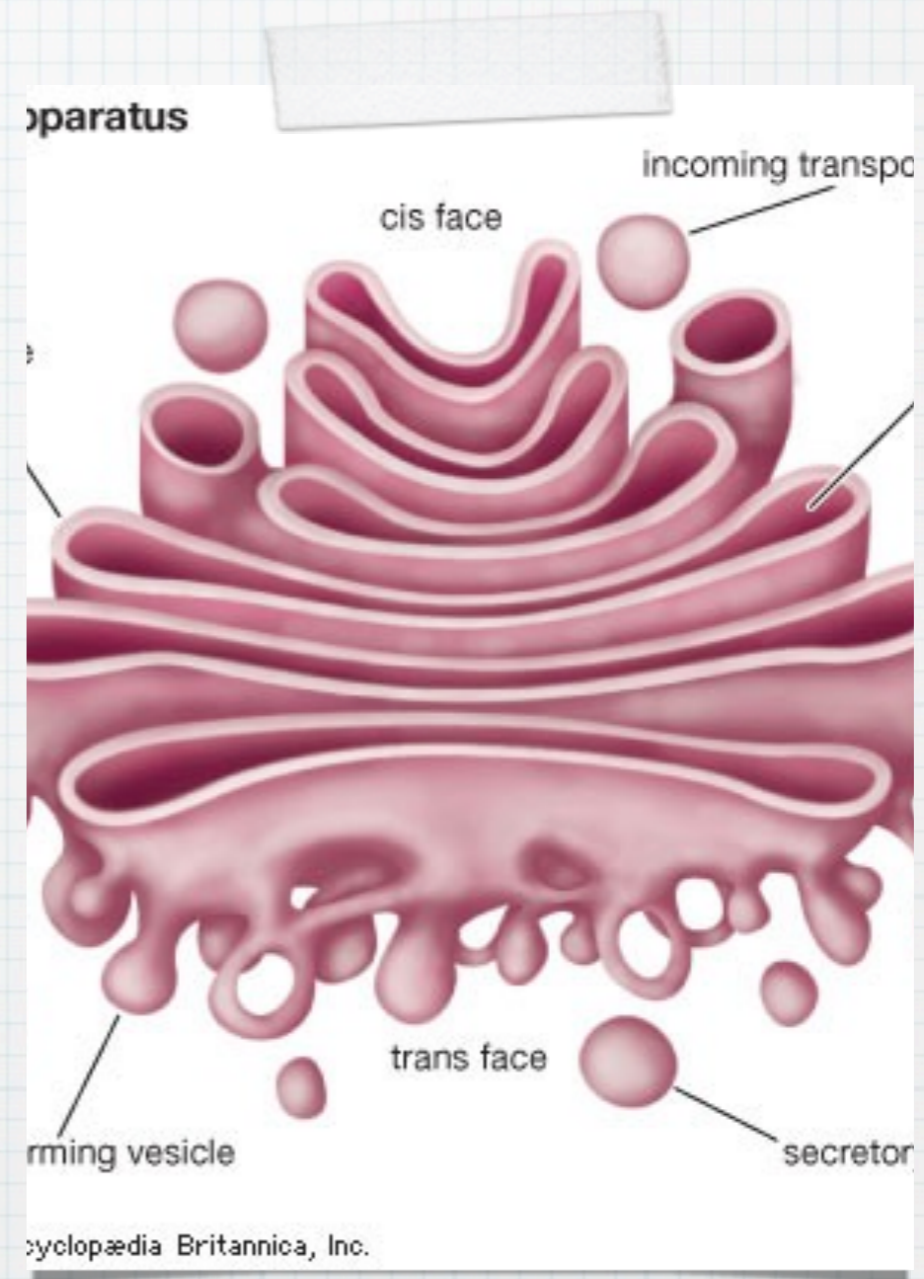
- \* These tiny organelles act as protein factories in order to produce the many necessary proteins making up living things.
- \* They can be attached to the endoplasmic reticulum or just float freely in the cytoplasm.





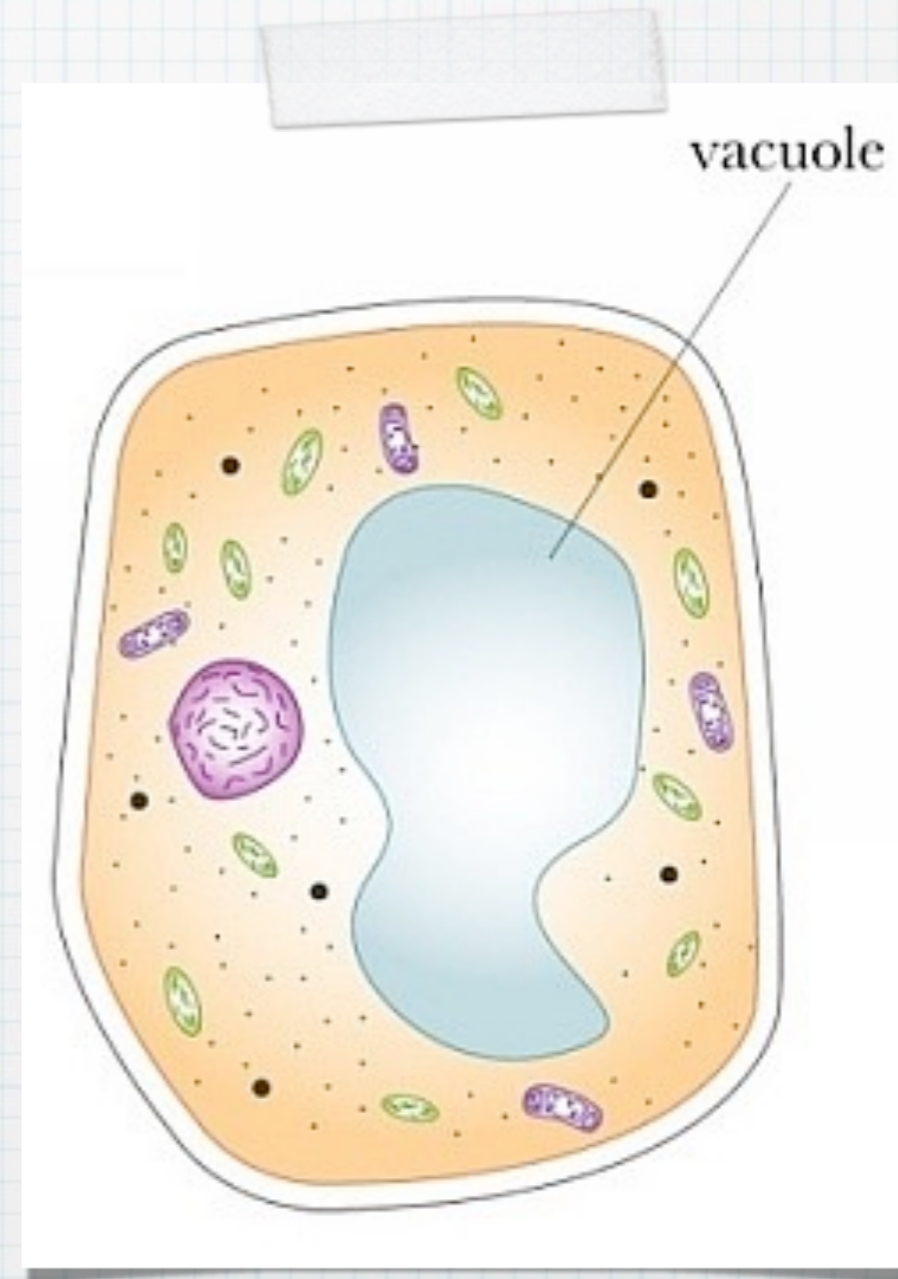
# Golgi Bodies

- \* These are stacked membrane sacs which collect and process materials to be removed from the cell.
- \* One of these materials is mucus which is then secreted out of the cell in order to line the intestines and airways.



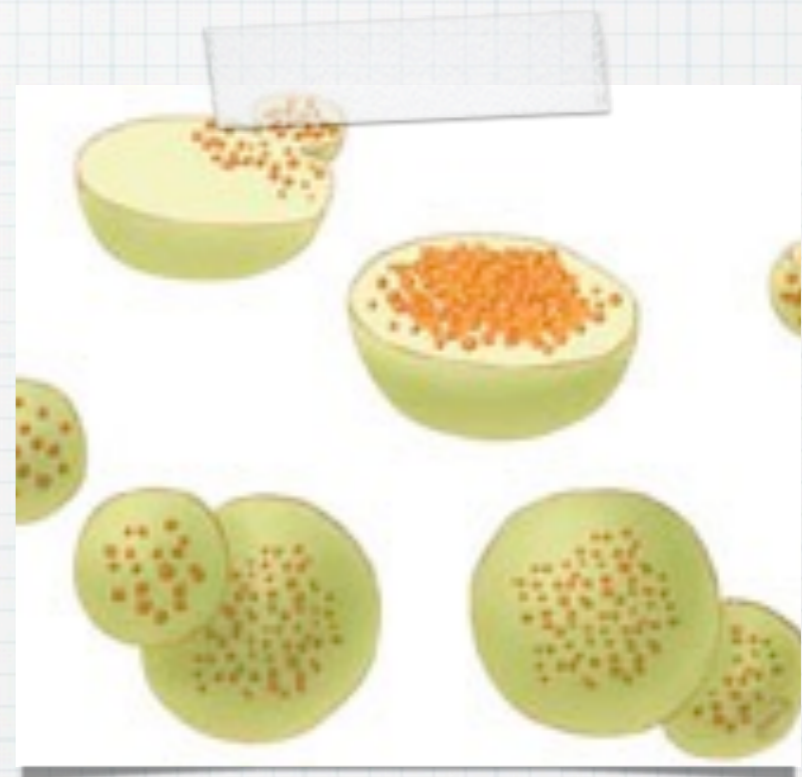
# Vacuoles

- \* A cell vacuole is a single membrane sac which encloses a fluid.
- \* Depending on the cell, the vacuole can have various functions such as:
  - \* 1) storage of food, water or other materials
  - \* 2) the removal of substances from the cell.



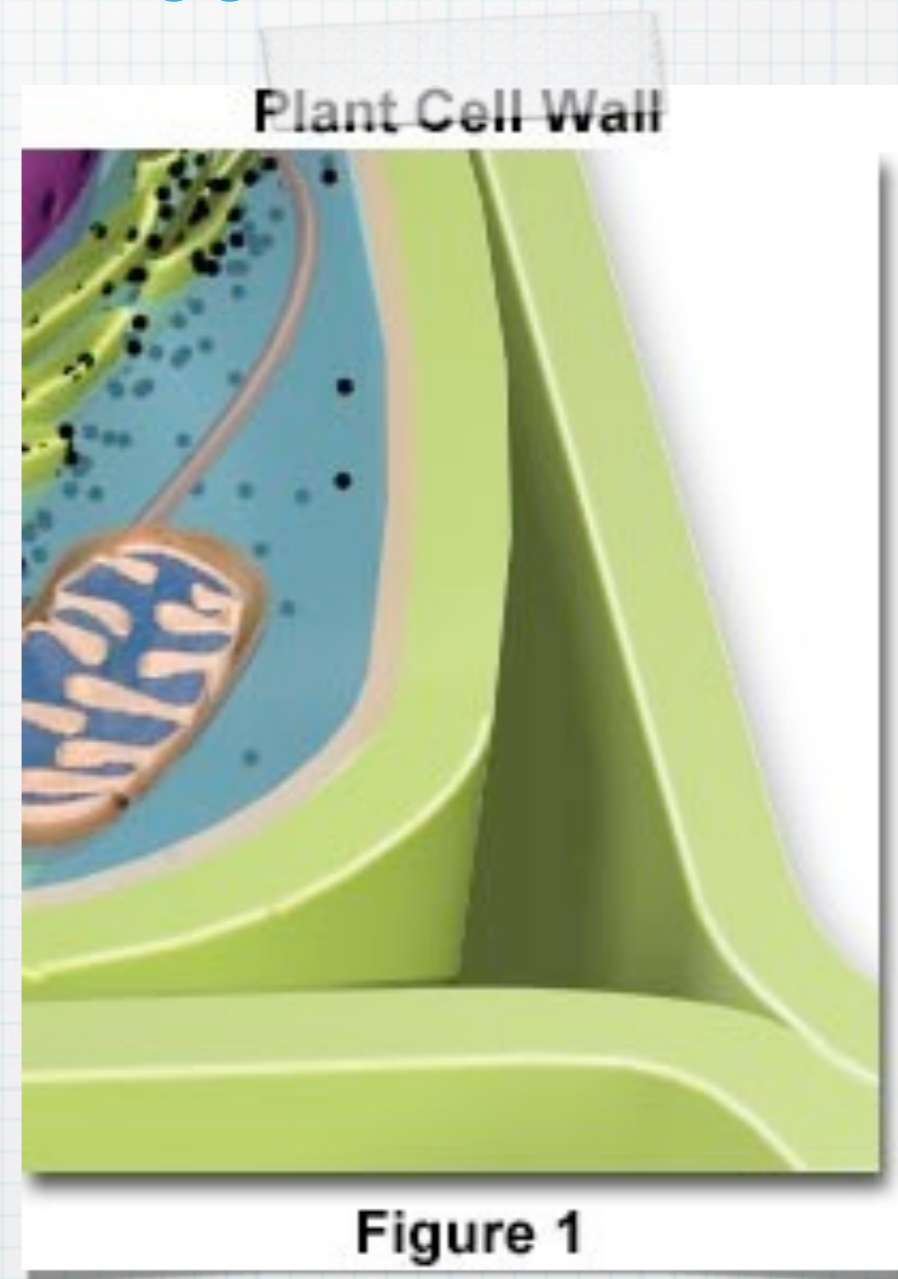
# Organelles only in Animal

- \* Lysosomes – These are vacuoles filled with digestive enzymes which can be released to break down food or recycle substances. (recycling plant?)



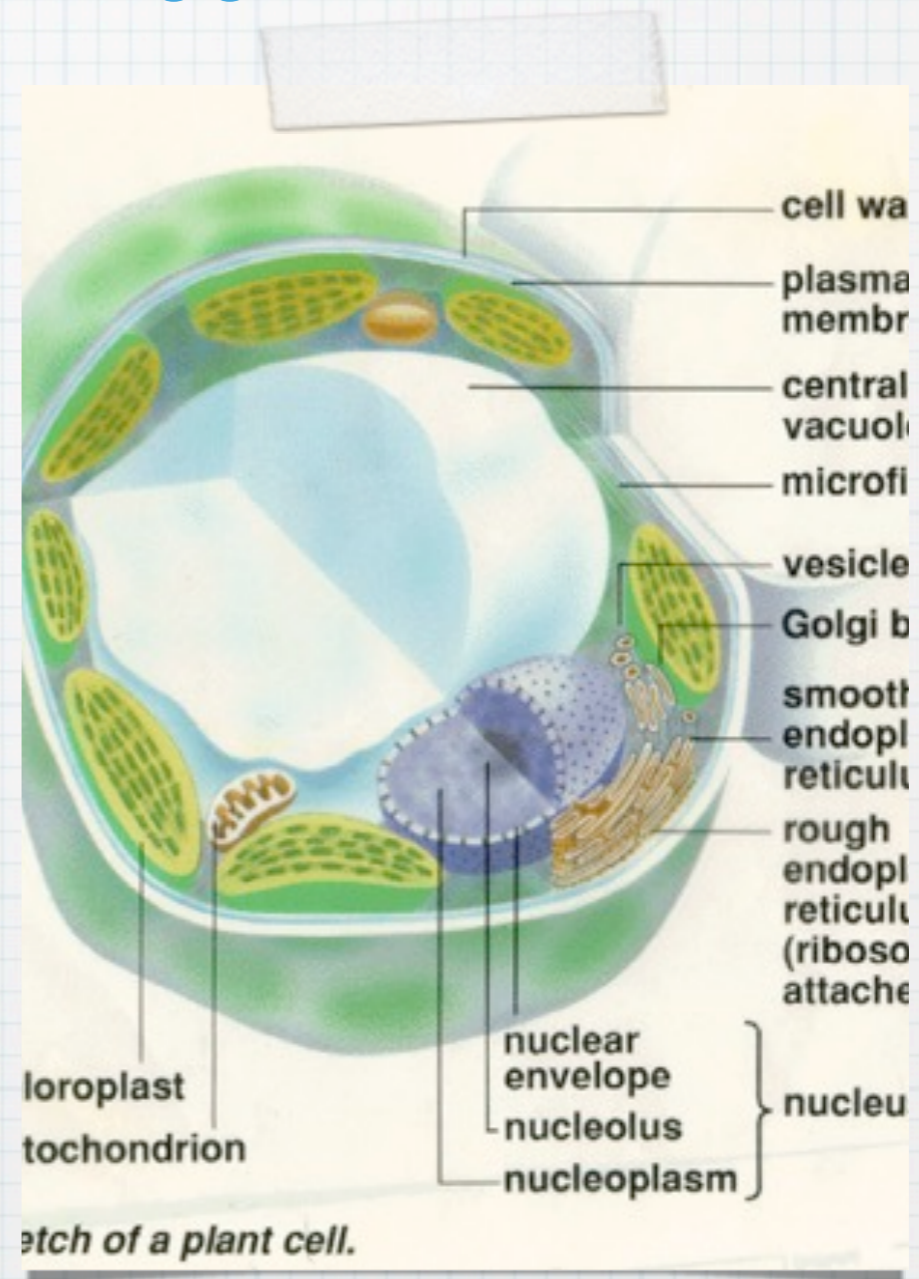
# Organelles Found in Plant Cells

- \* Cell Wall
- \* Plant cells have a rigid outer wall outside the cell membrane to provide structure and support.



# Organelles Found in Plant Cells

- \* Chloroplasts
- \* These organelles are used to carry out photosynthesis.
- \* They contain the green pigment chlorophyll which captures sunlight energy and uses it to turn carbon dioxide and water into food.



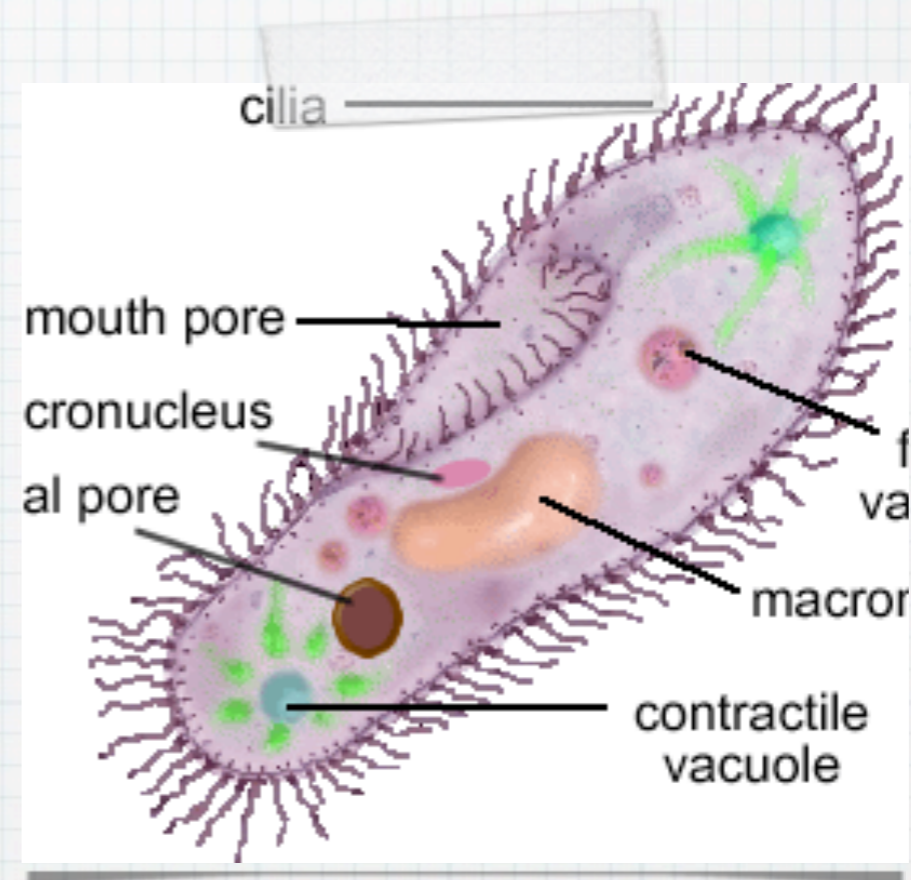
# Organelles Found in Only Some Cells

- \* Some cells have structures called flagella or cilia which help them to move.
- \* A flagellum is a tail-like whip that rotates in order to help a cell move from place to place.



# Organelles Found in Only Some Cells

- \* Cilia consist of many hair-like structures which help to move a cell or move things past a cell.



- \* eg. some bacteria