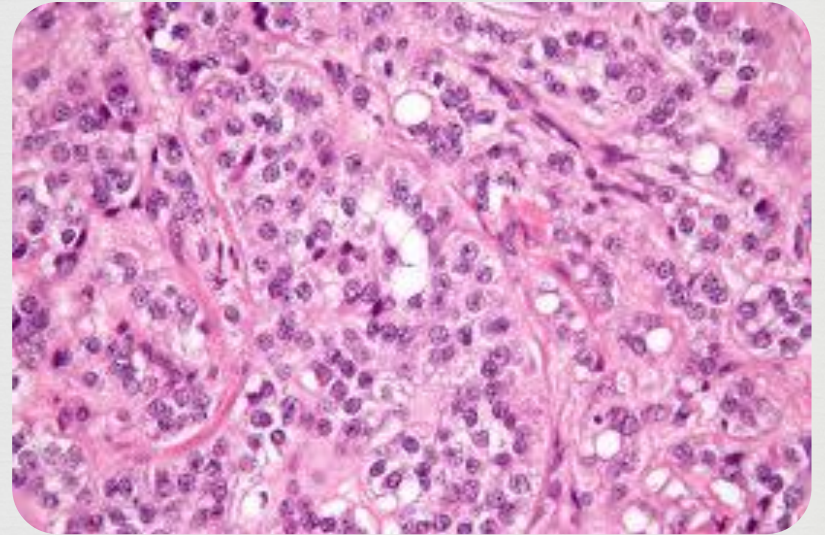
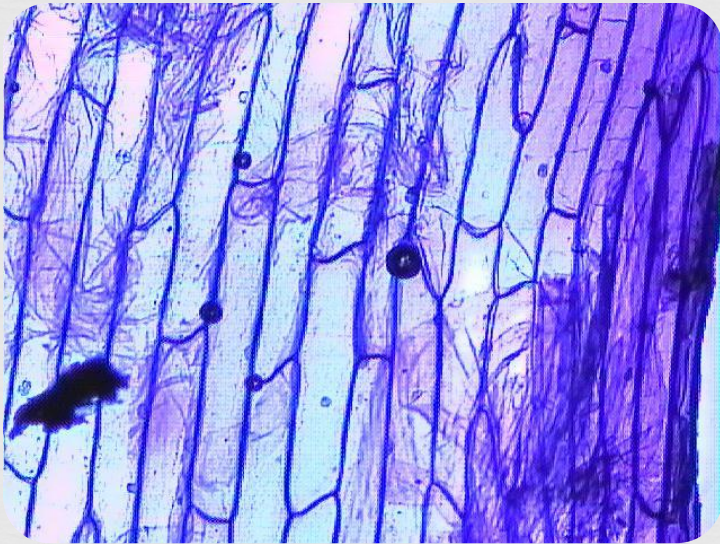


# Plant vs Animal Cells



# What they have in common:

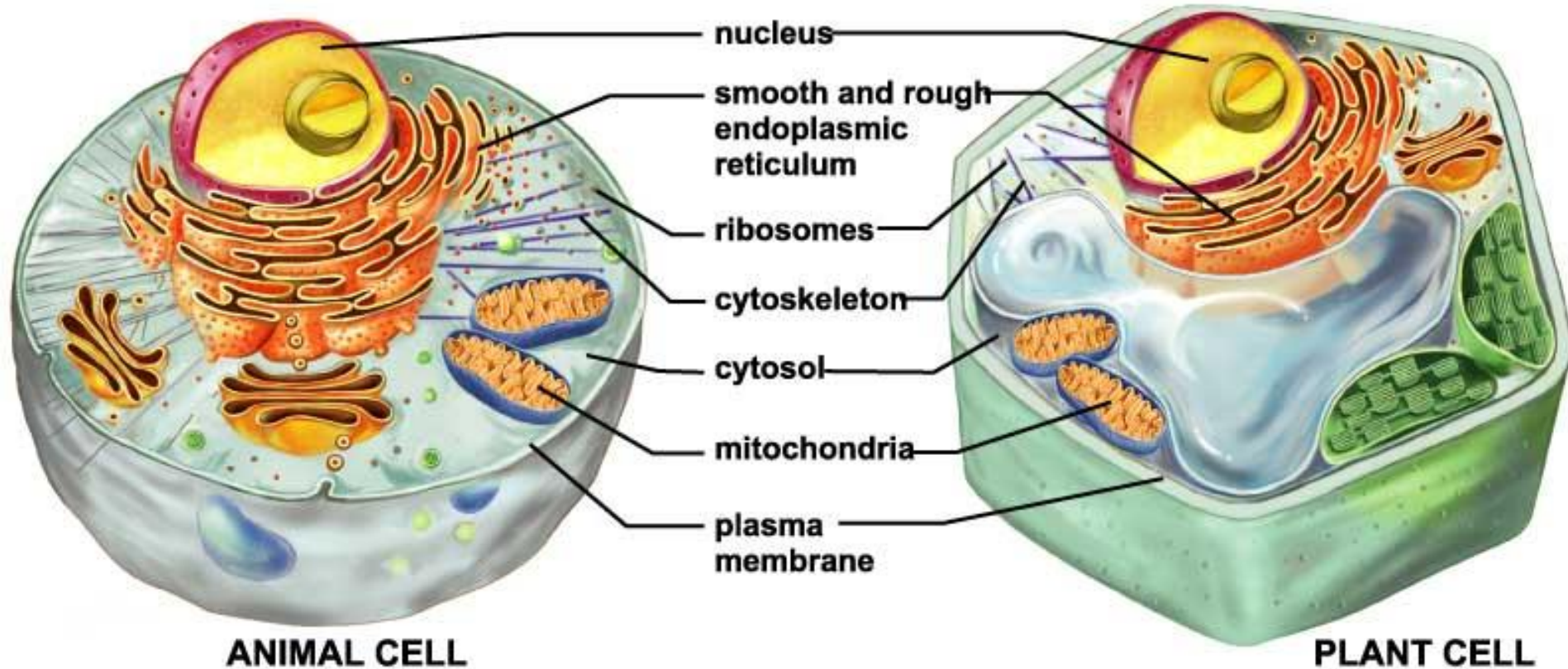
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1. Both have a cell membrane.
2. Both are the more advanced cells with a nucleus with DNA inside.
3. Both have many of the common organelles.
4. Both have mitochondria for cellular respiration or making energy

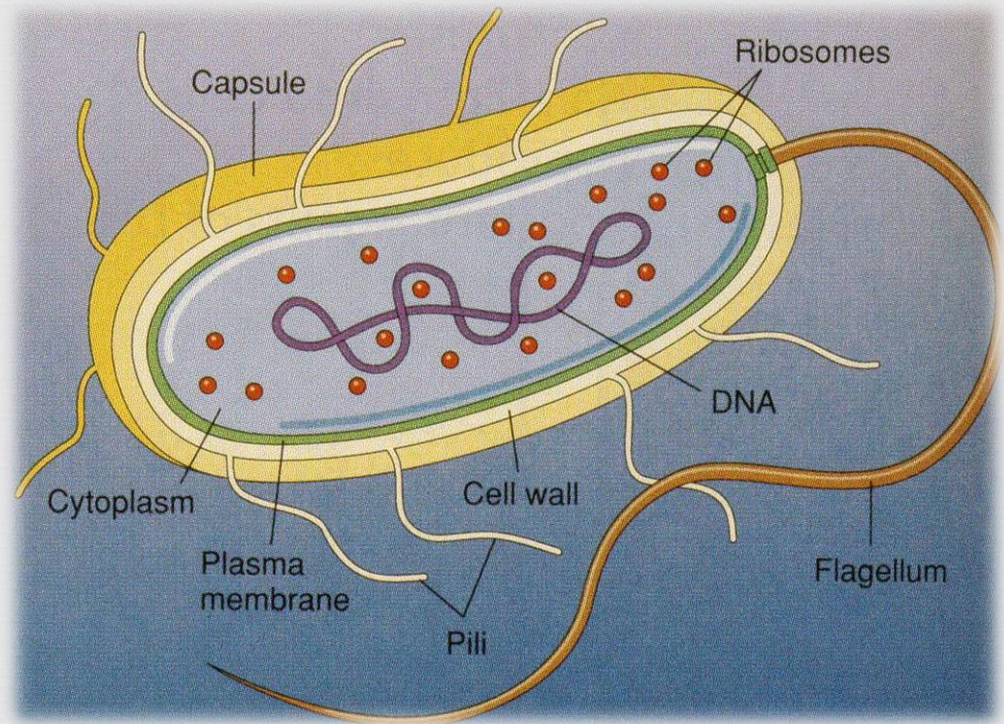


# Common structures in Plant and Animal Cells



# Primitive Cells (Prokaryotic cells)

- ❧ Lack a nuclear membrane
- ❧ DNA is free floating in cytoplasm
- ❧ Ex. Bacteria





# Organelles mainly in Plants Cells

## Cell Wall

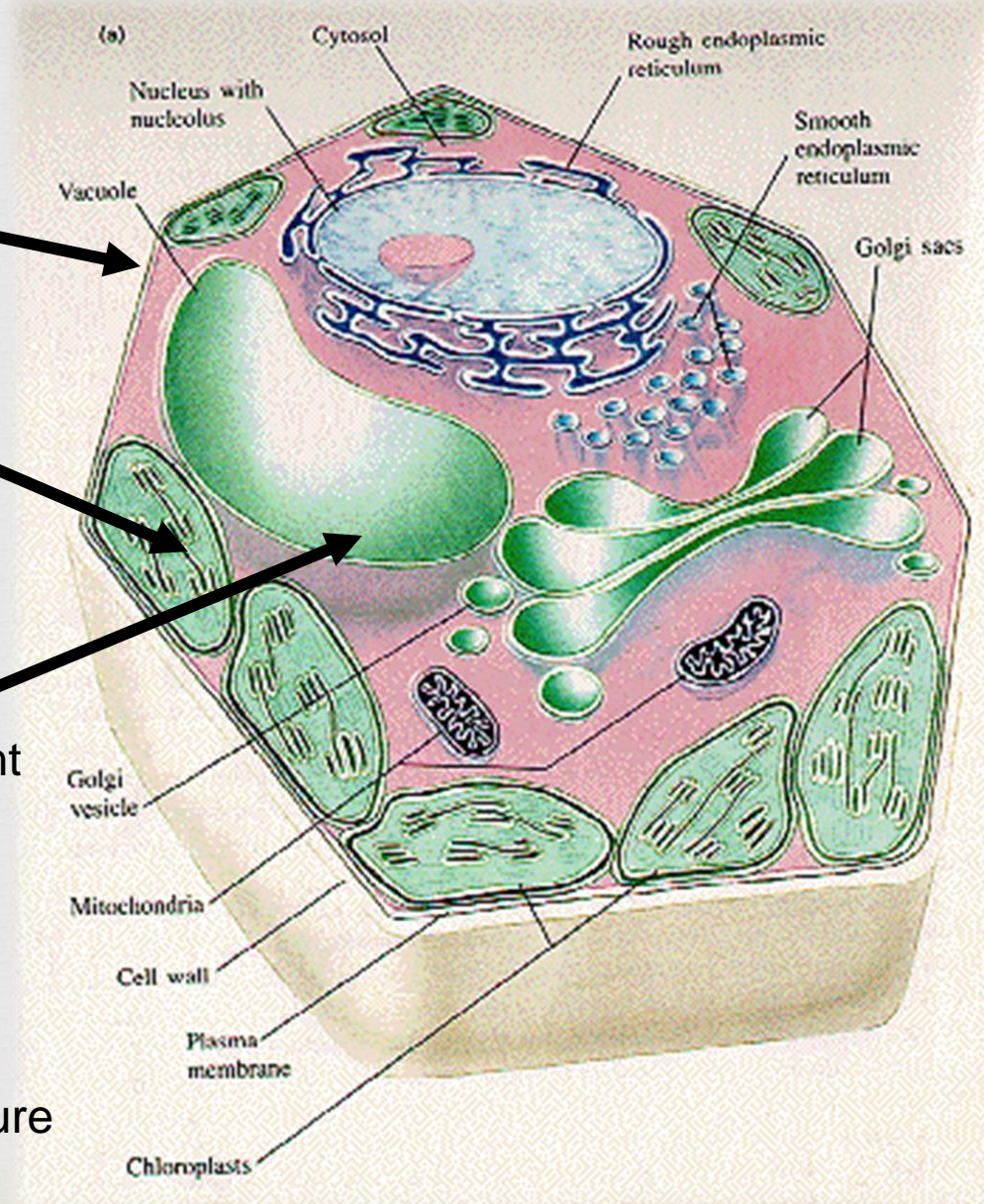
For strength and protection

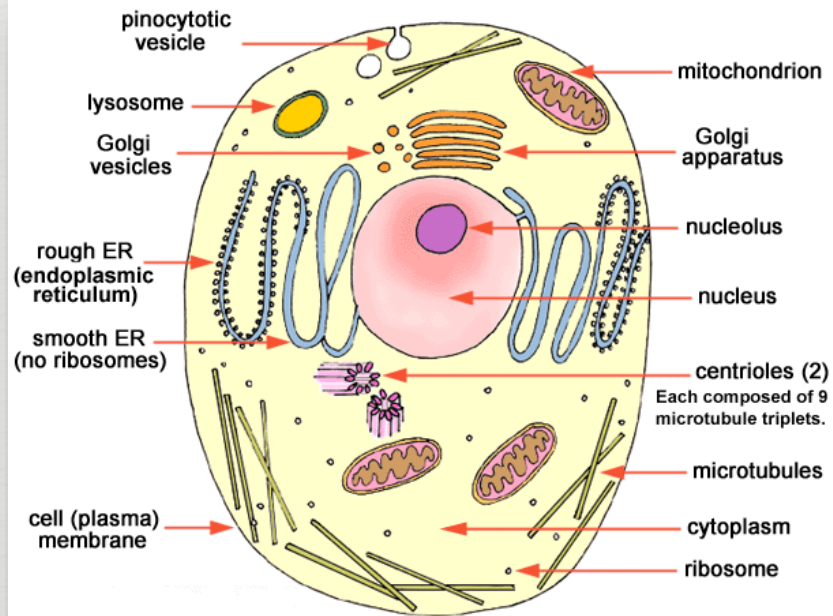
## Chloroplasts

Make food using molecules and sunlight

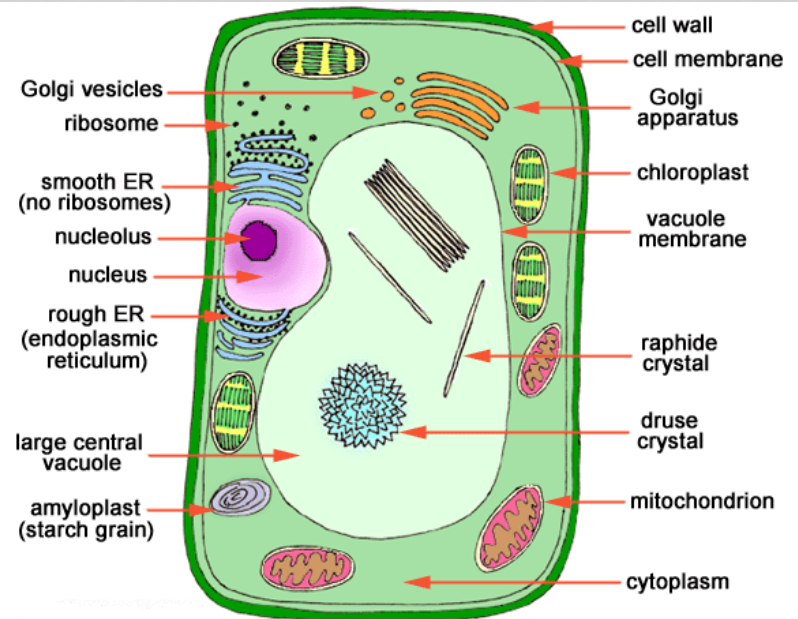
## Larger Vacuoles

Stores water and adds inner cell pressure





**ANIMAL CELL**



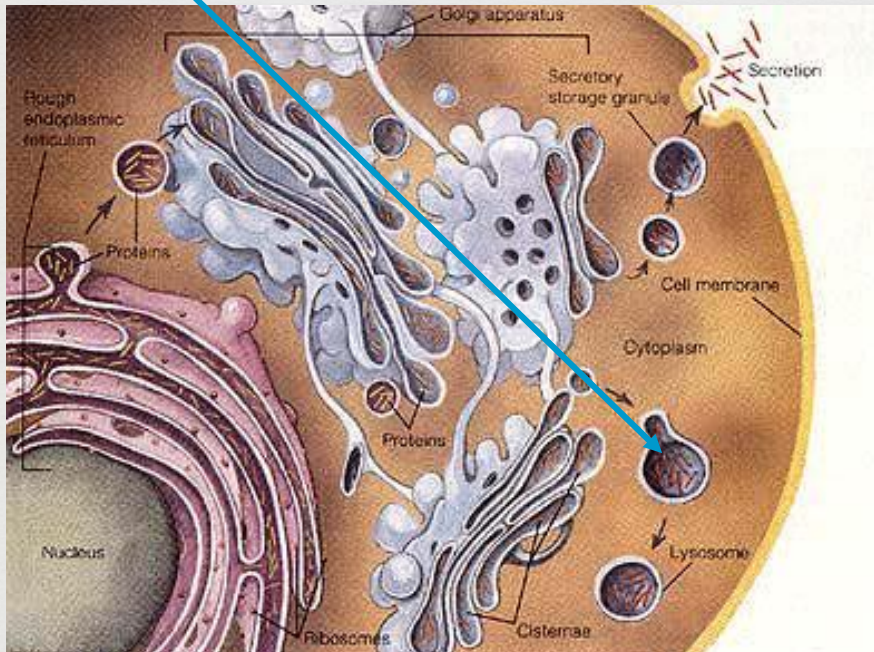
**PLANT CELL**



# Organelles mainly in animal cells



- ❧ Lysosomes – contain digestive enzymes
- ❧ Centrioles – function during cell division



# Plant Cells vs.

# Animal Cells

- Have a Cell Wall

- Do not have Cell Wall

- Have Chloroplasts

- Do not have chloroplasts

- Have very large Vacuoles

- Vacuoles are small

- No visible centrioles

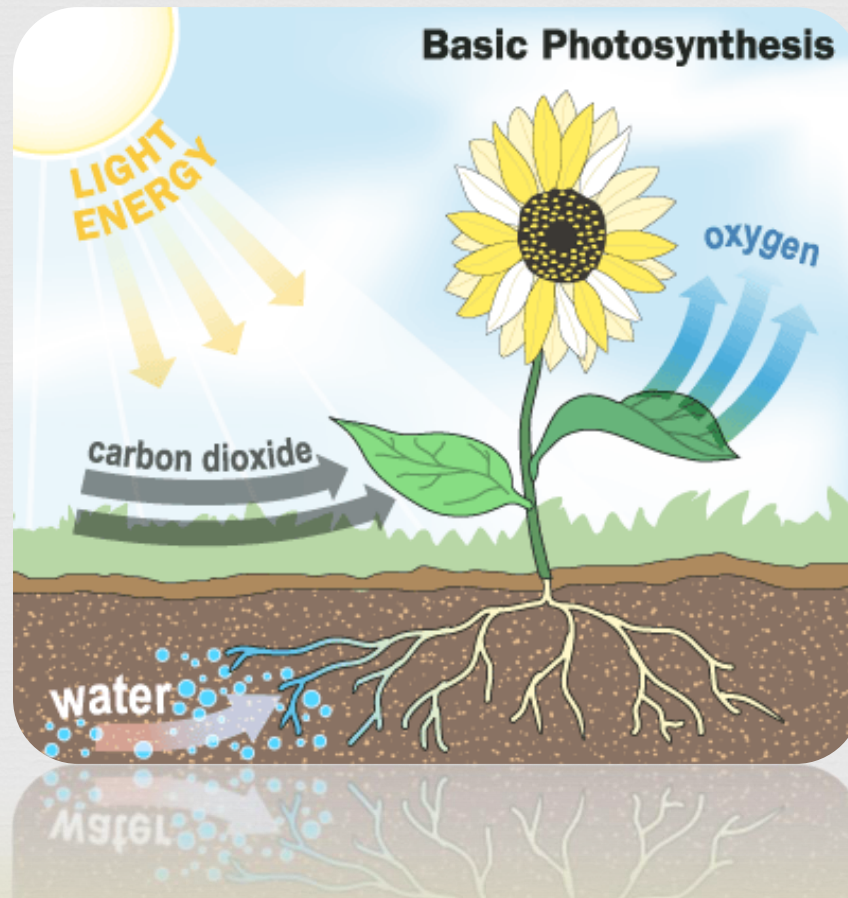
- Centrioles Visible

- Fewer lysosomes

- More lysosomes



# The Most important chemical reaction in the world !!!!!



# PHOTOSYNTHESIS



- ❧ Converting light energy into food
- ❧ The food is Glucose (a sugar)
- ❧ The reactants are water and carbon dioxide
- ❧ Giving off oxygen as a waste product



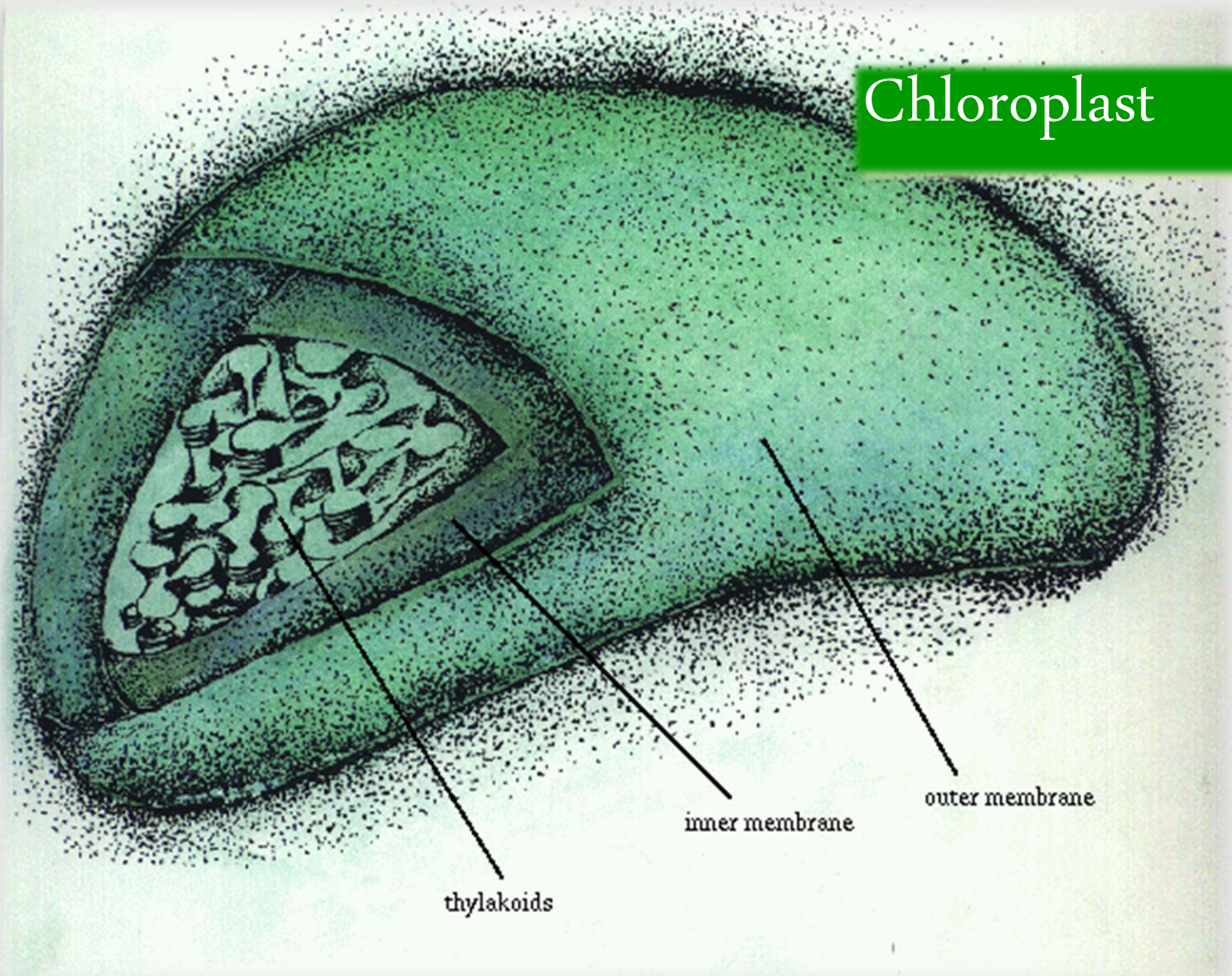
# Chemical Equation



Can you write this as a chemical formula?

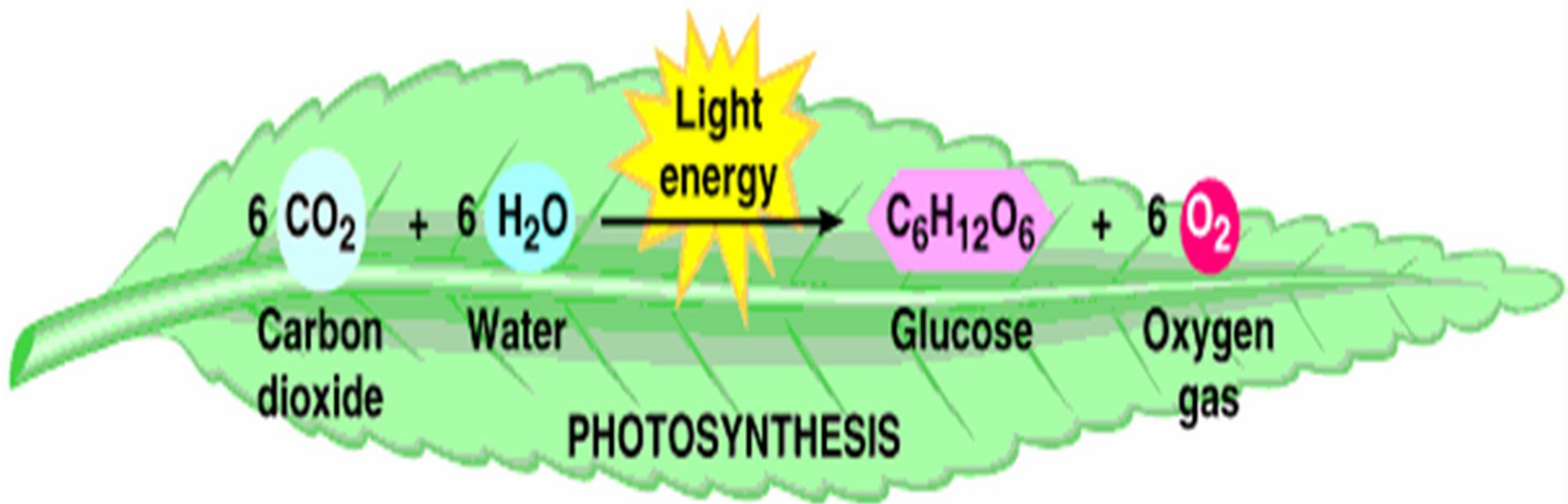


# Chloroplast





# Photosynthesis



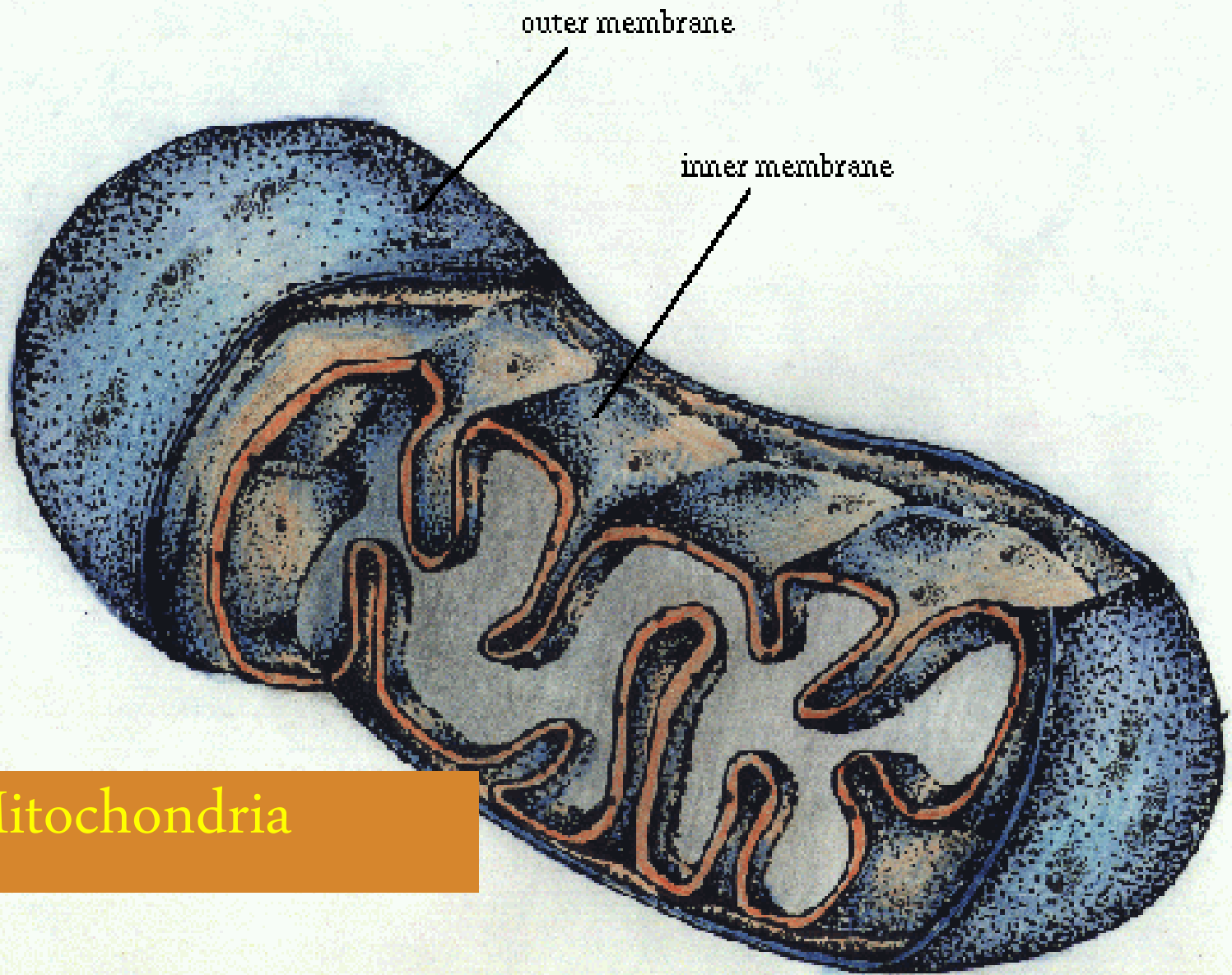
# 2 most important reaction in the world.....

# Cellular Respiration

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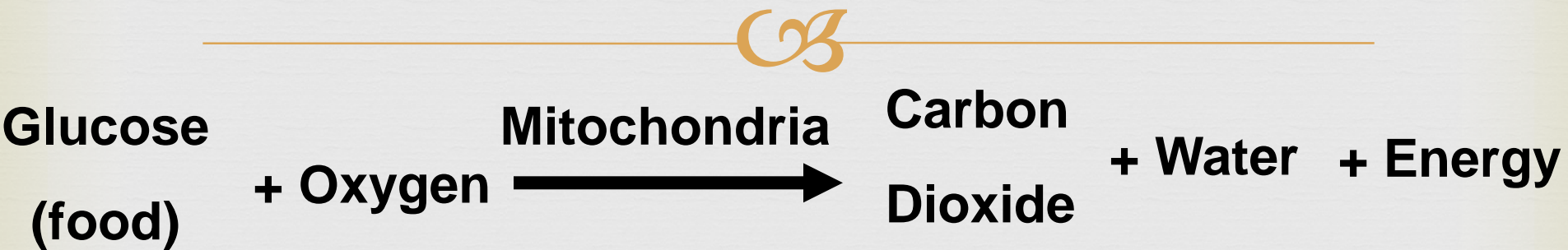
- ⌘ Burning food in the mitochondria when oxygen is present
- ⌘ Releasing ATP energy
- ⌘ Producing carbon dioxide as a waste product
- ⌘ Happens in both plants and animal cells





Mitochondria

# Chemical Equation –Cellular Respiration



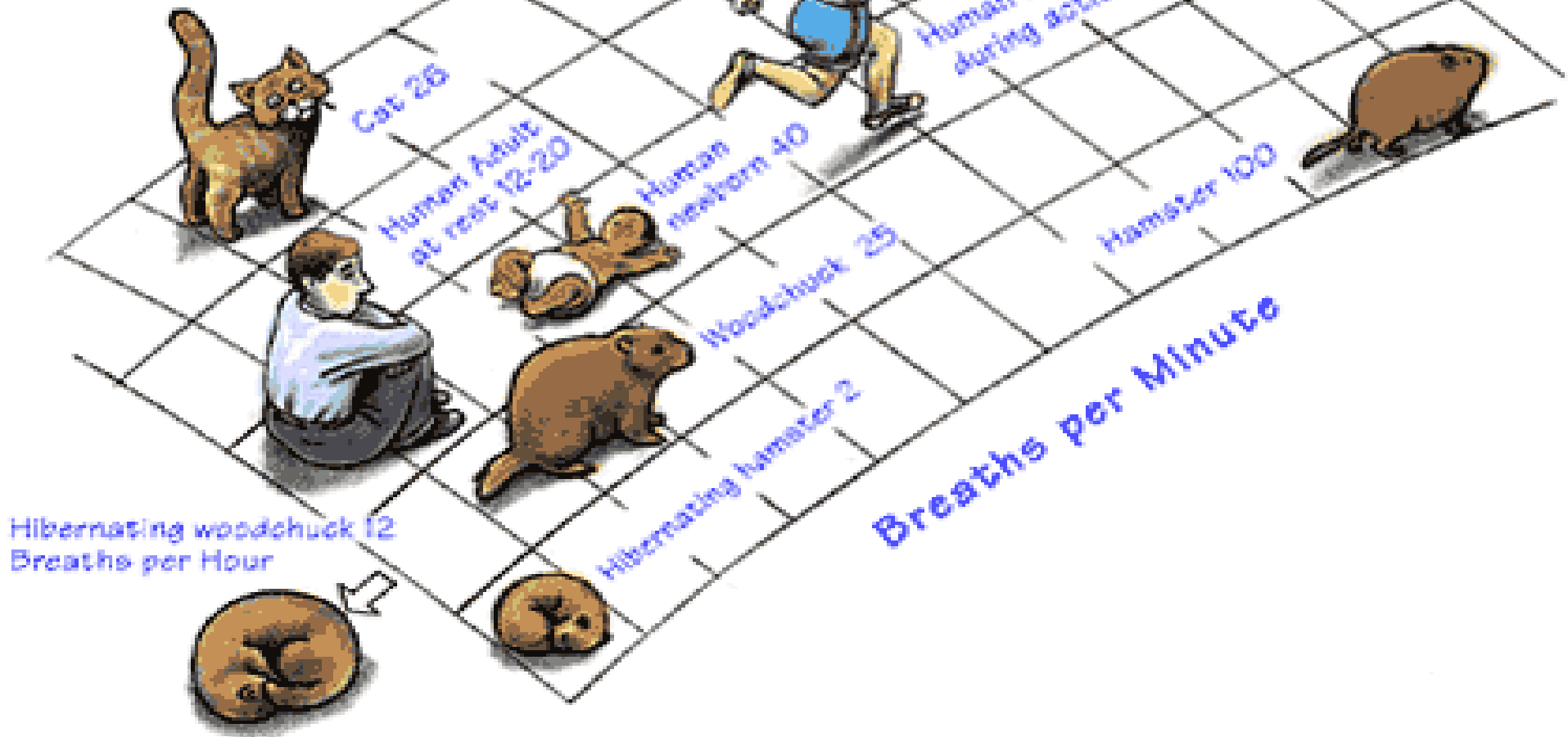
Can you write this as a chemical formula?



**ATP is energy that the cell can use**



Number of breaths  
tells you how fast  
you are making  
energy



# Comparison of both



## PHOTOSYNTHESIS

Make food

Give off oxygen

Use sunlight

Use CO<sub>2</sub>

## RESPIRATION

Break apart food

Use oxygen

Make cell energy

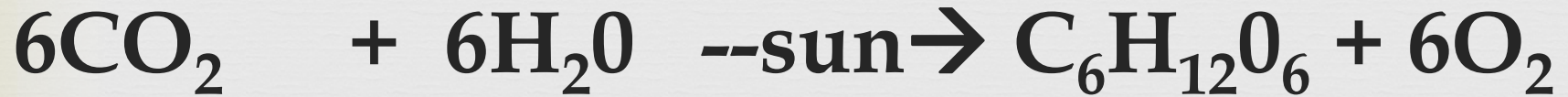
Give off CO<sub>2</sub>



# Equation Comparison:



Photosynthesis



Respiration



**At what organelle do each occur?**