

The World of Cells

2.1

I. What are cells made of?

- As small as cells are, they are made of even smaller parts, each doing a different job

Cell Theory

1. All living things are made of cells
2. Cells are the basic units of structure and function in living things
3. Cells come only from other living cells

Cell Theory

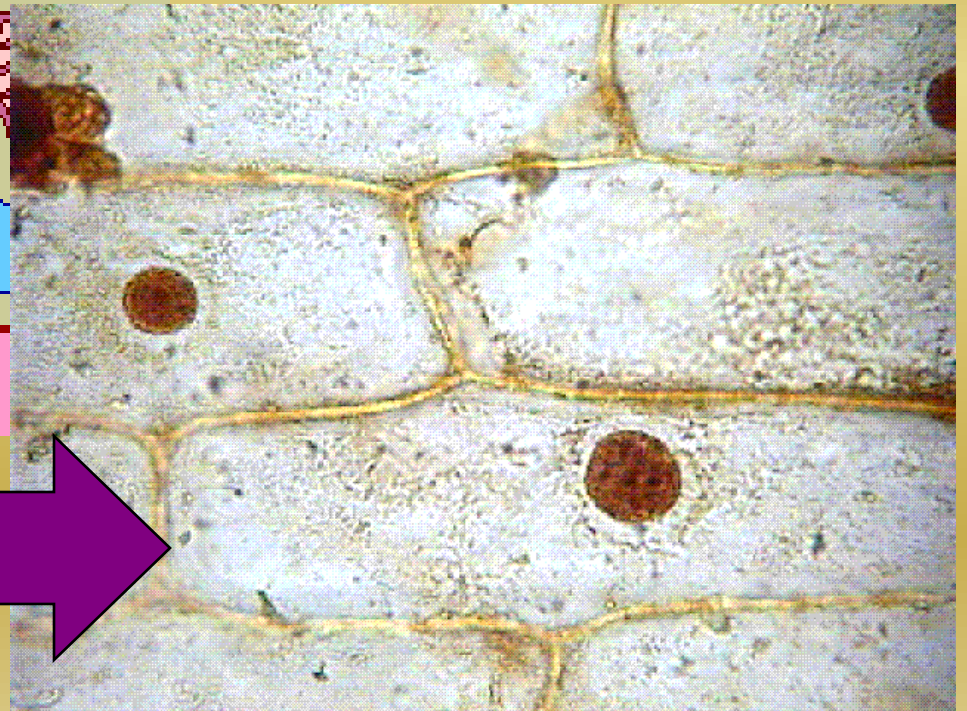
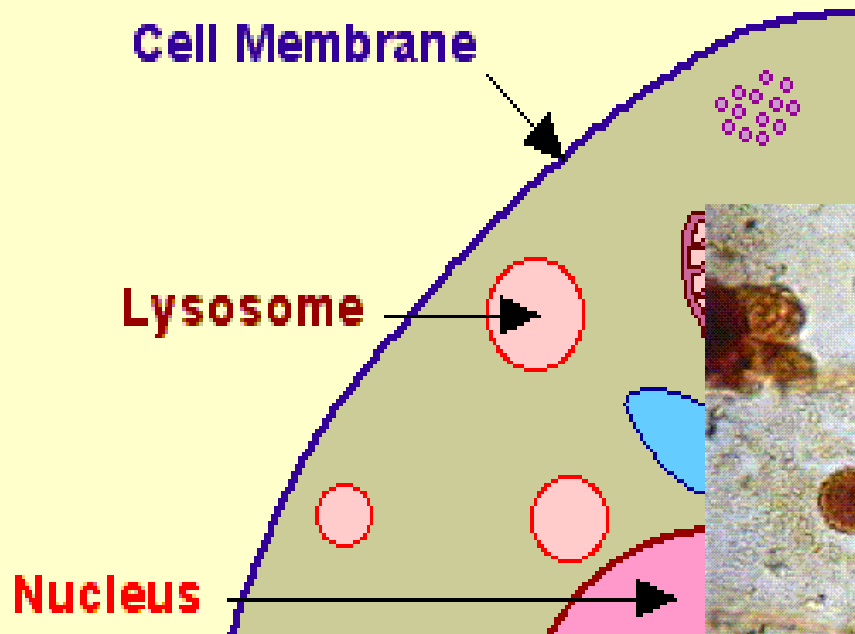


Robert Hooke

A. Outside the Cell

- The cell membrane is a flexible structure that holds the cell together. It helps control what enters and leaves the cell

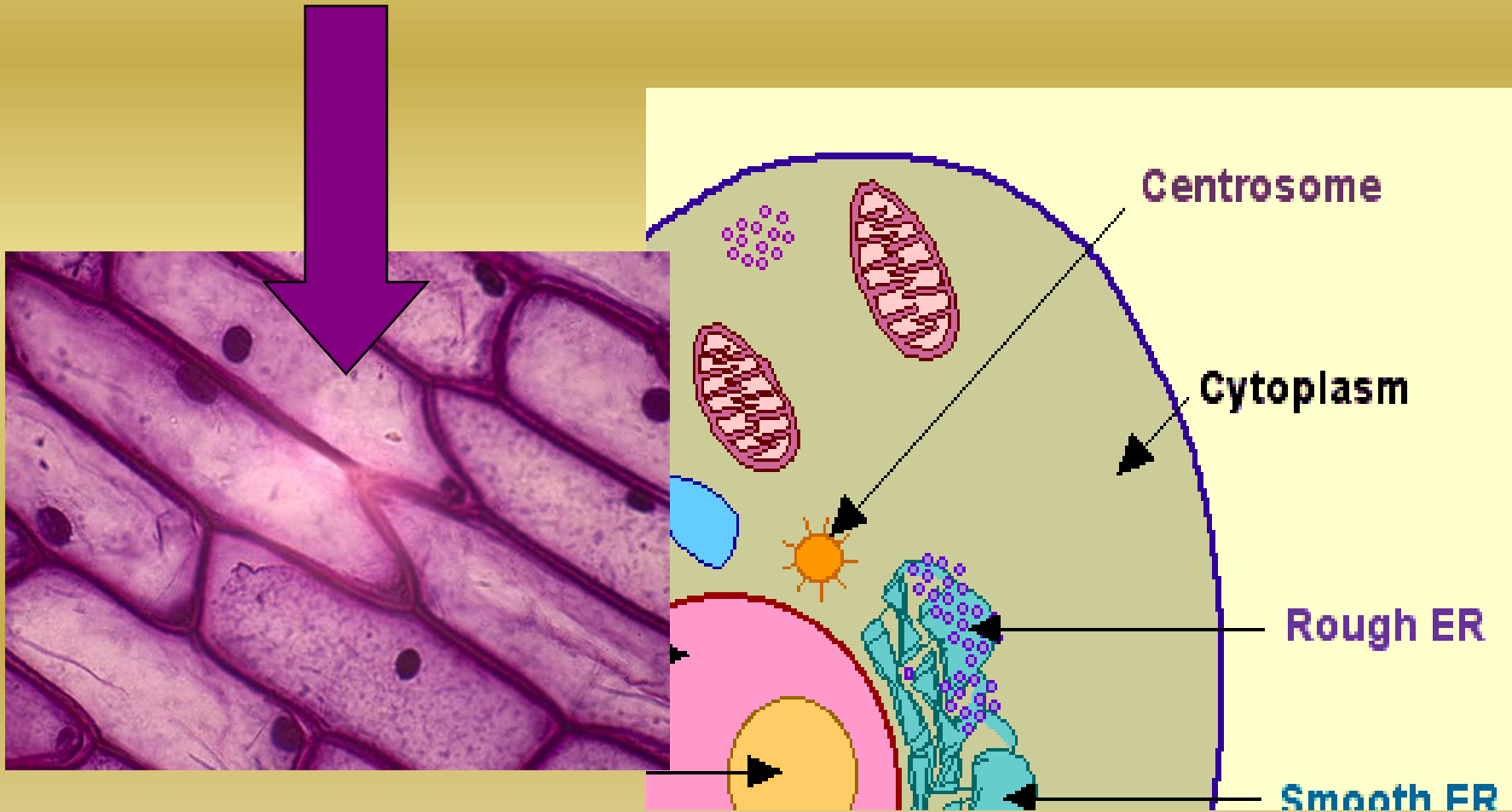
Cell Membrane



B. Inside the Cell

- Cytoplasm fills the inside of the cell, it is a gelatin like substance

Cytoplasm



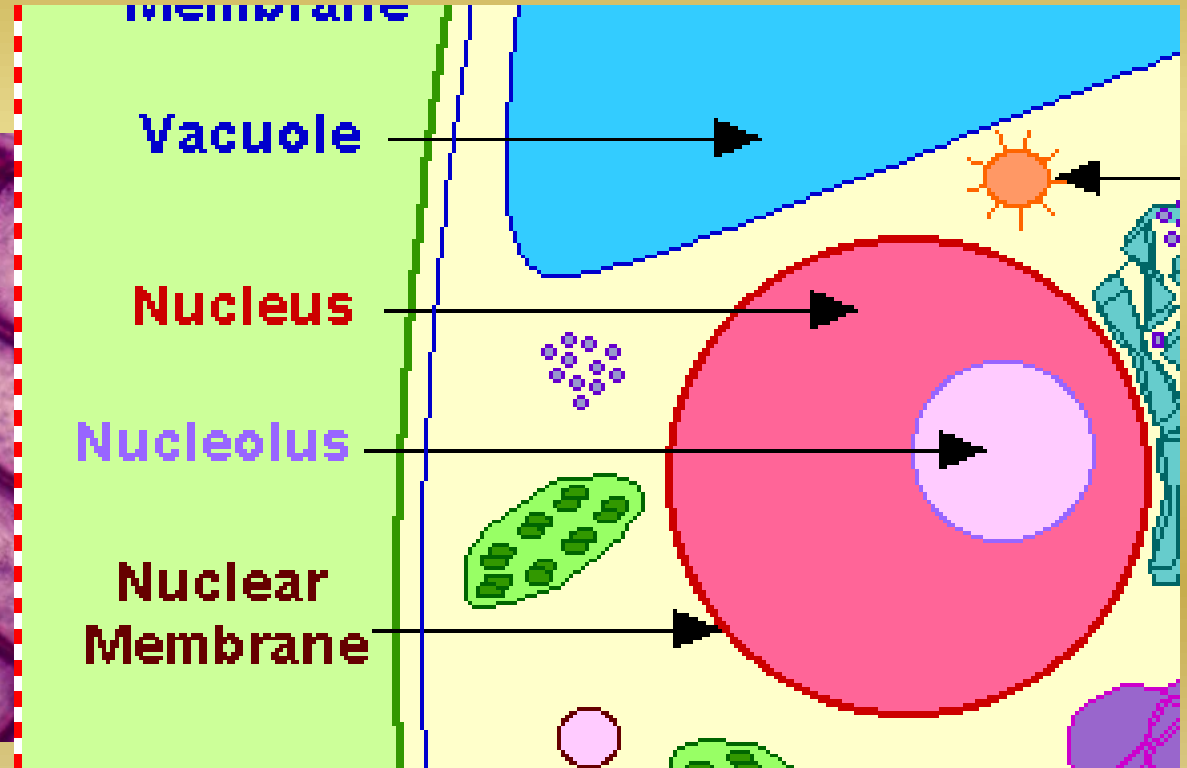
C. Organelles

- Organelles are specialized cell parts that move around in the cytoplasm and perform activities to keep the cell alive
- Bacteria cells do NOT have organelles

D. The Nucleus

- The nucleus is the cell's brain and it holds the hereditary material called chromosomes and directs most of the cell's activity
 - Chromosomes contain DNA. This determines which traits and organism will receive
 - Example: the color of your eyes

Nucleus

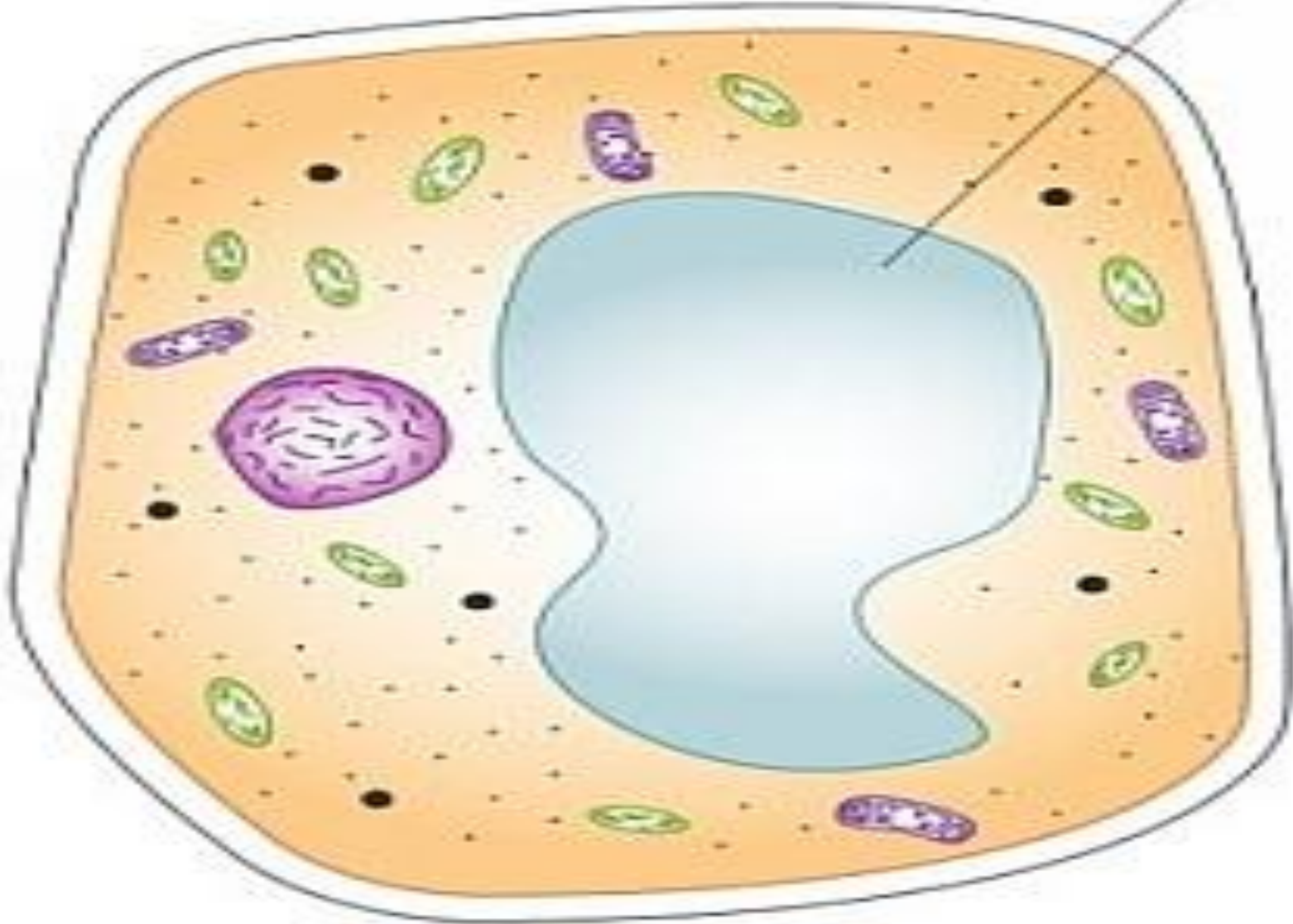


E. Storage

- Vacuoles are balloon like organelles that store substances for the cell

Vacuole

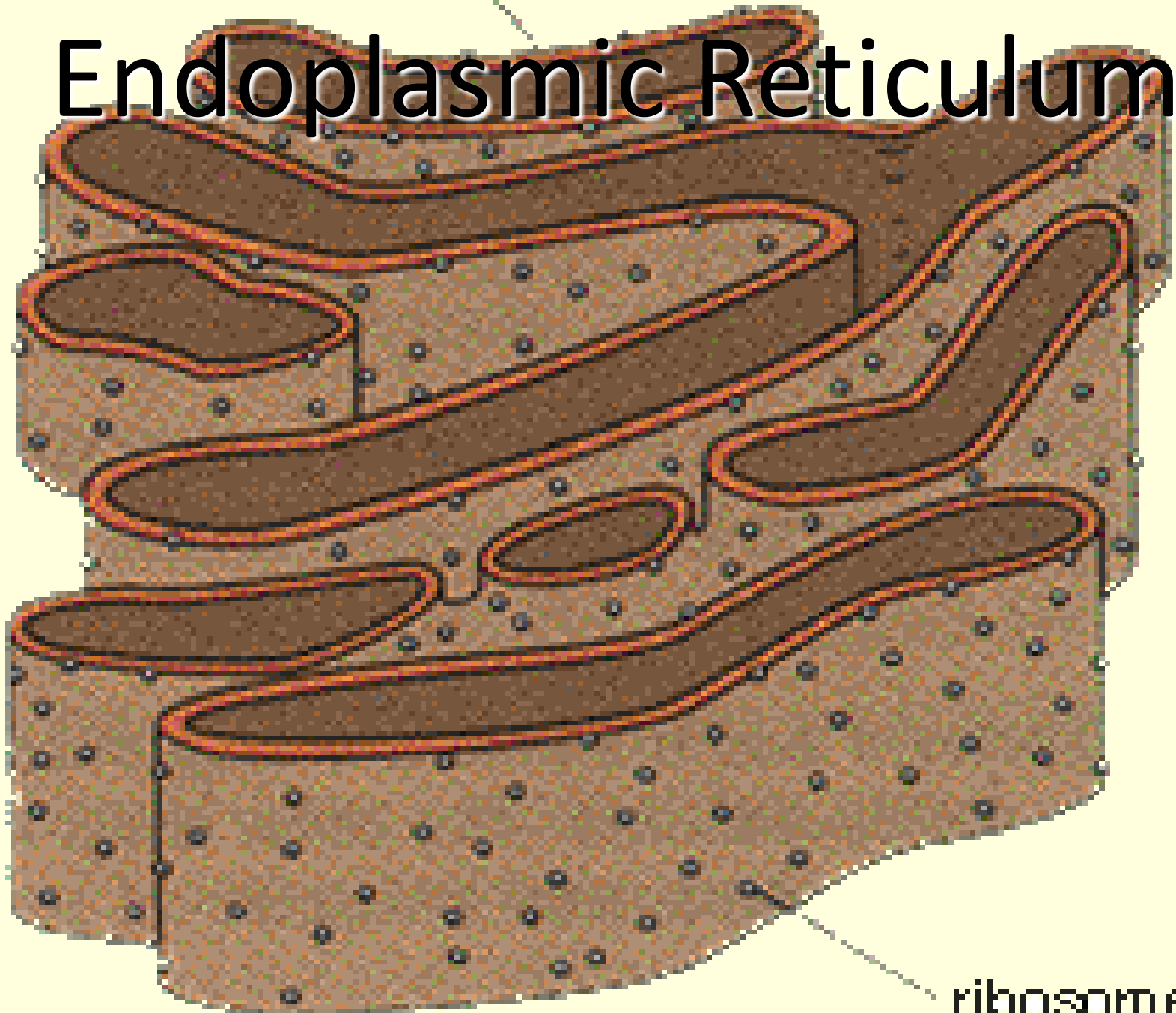
vacuole



F. Endoplasmic Reticulum

The endoplasmic reticulum carries proteins and other materials from one part of the cell to another.

Endoplasmic Reticulum



ribosome

II. Energy in the Cell

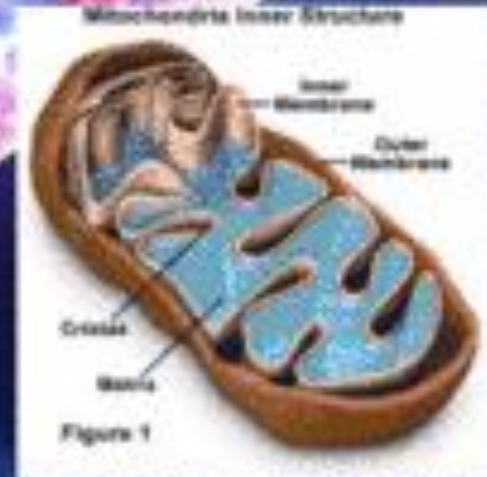
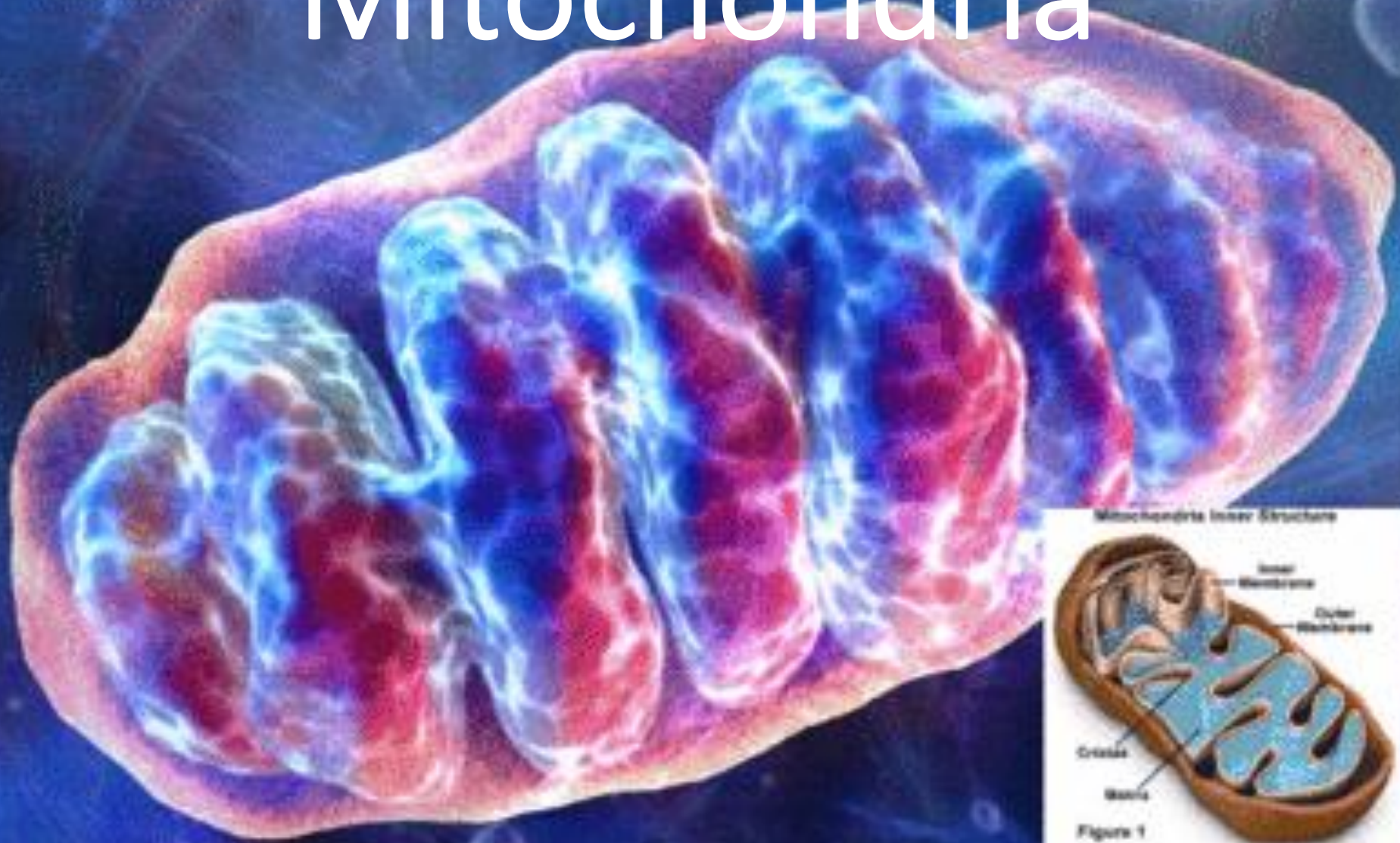
- The mitochondria is an organelle that makes energy for the cell through the process called cellular respiration

The Power House of the cell

- Cellular respiration is a series of chemical reaction that changes “food” into energy

mitochondria

Mitochondria

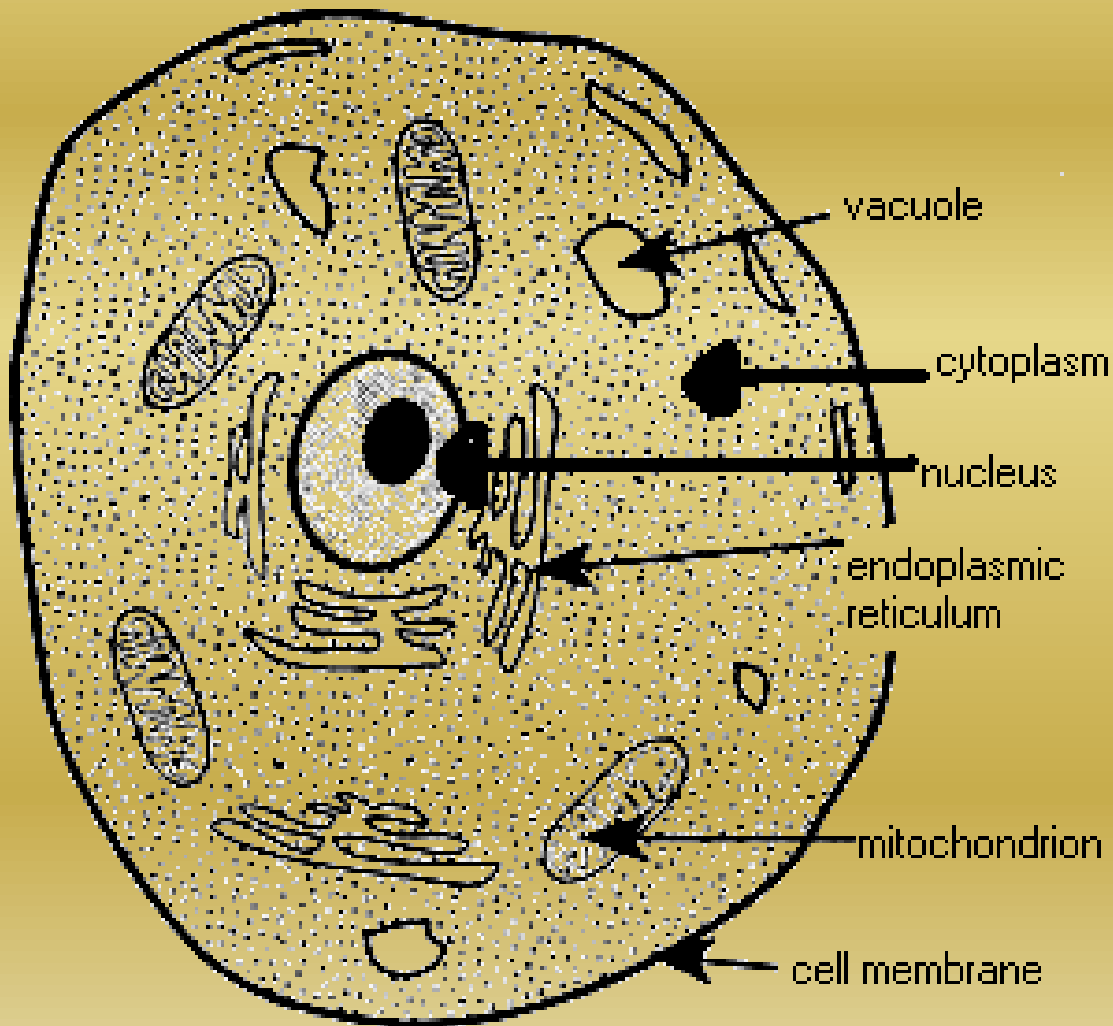


<http://www.microscopy.fsu.edu/cells/animals/mitochondria.html>

<http://www.hybridmedicalanimation.com/pages/chloroplast.html>

Draw an Animal Cell

Label and define the following parts:



- Cell membrane
- Vacuole
- Cytoplasm
- Nucleus
- ER
- Mitochondria

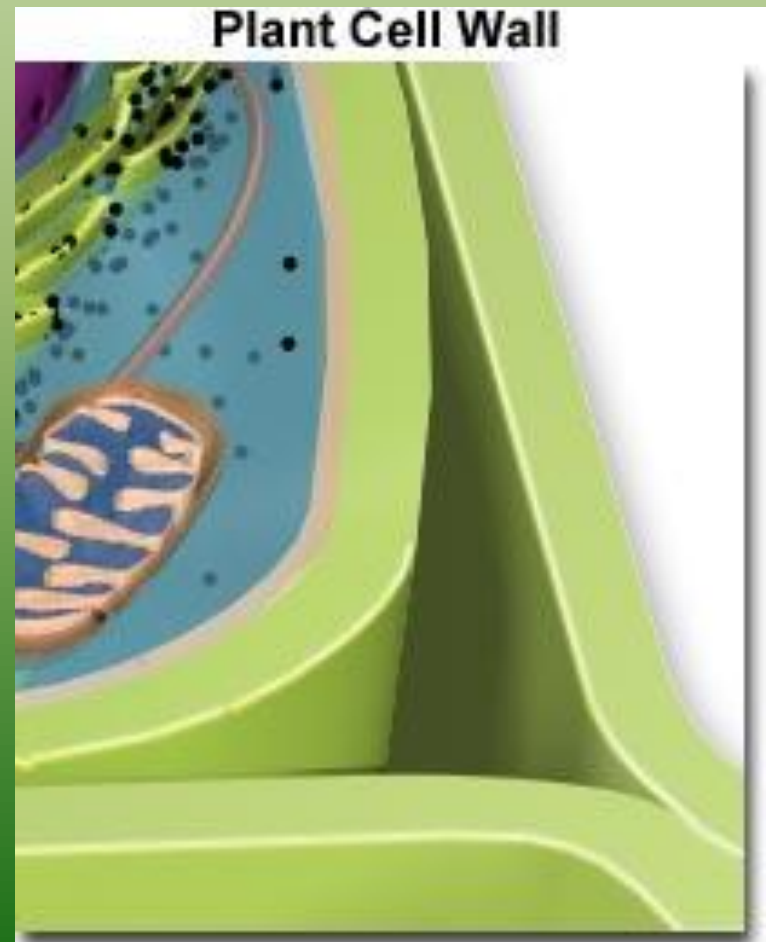
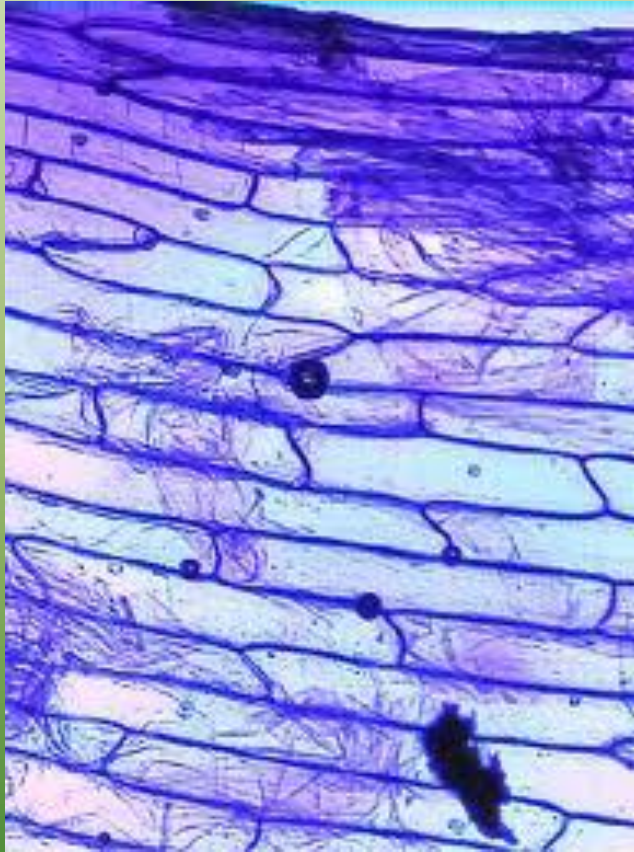
II. Plant Cells are different

- Plants, algae, fungi, and many types of bacteria have a cell wall - this supports and protects the cell

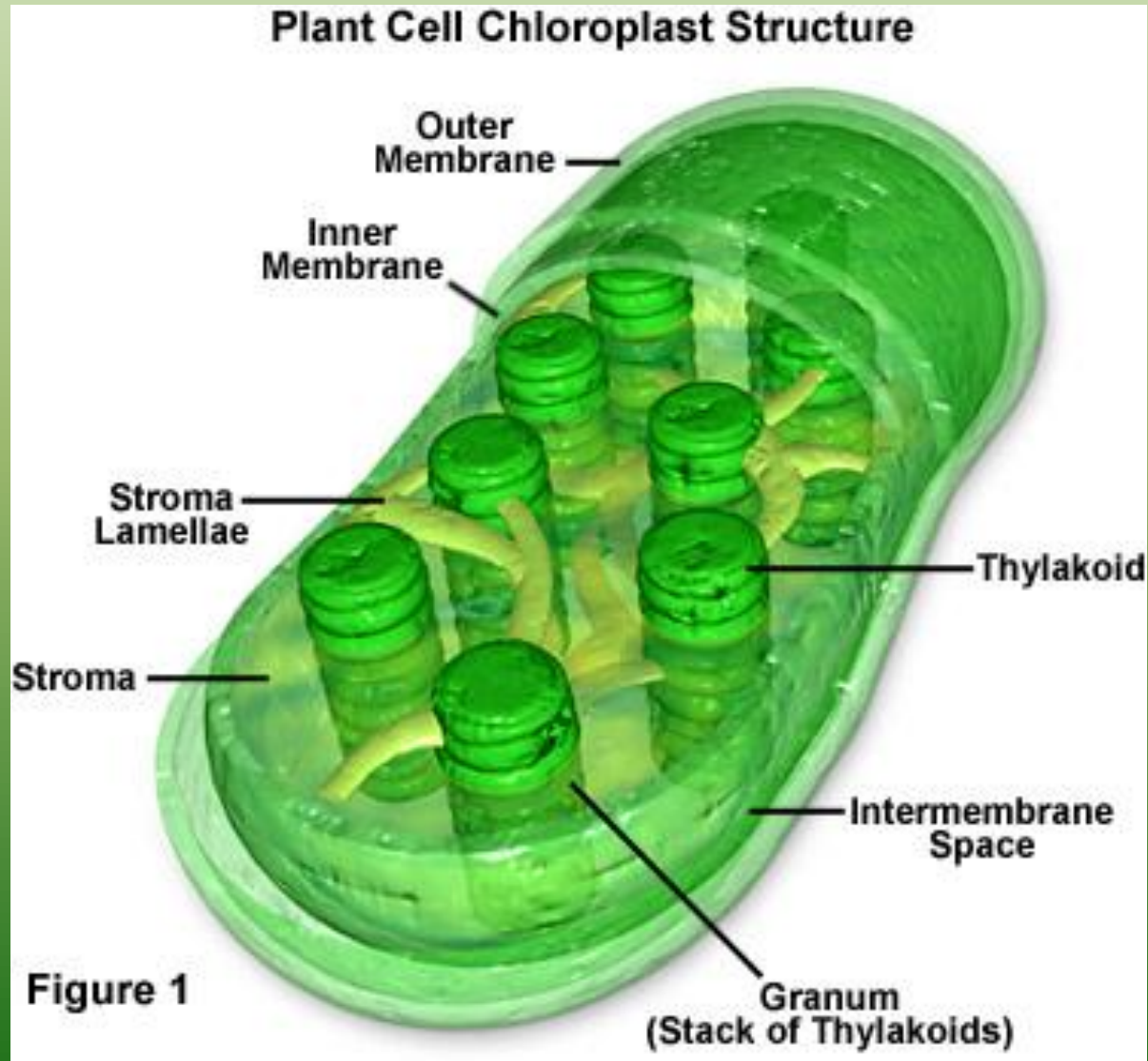
A. Plants make their own food

- Photosynthesis is when plants use the Sun to make their own food
- Chloroplasts are organelles inside PLANT CELLS that capture light and make food
 - This gives the plant its green color

Cell Wall

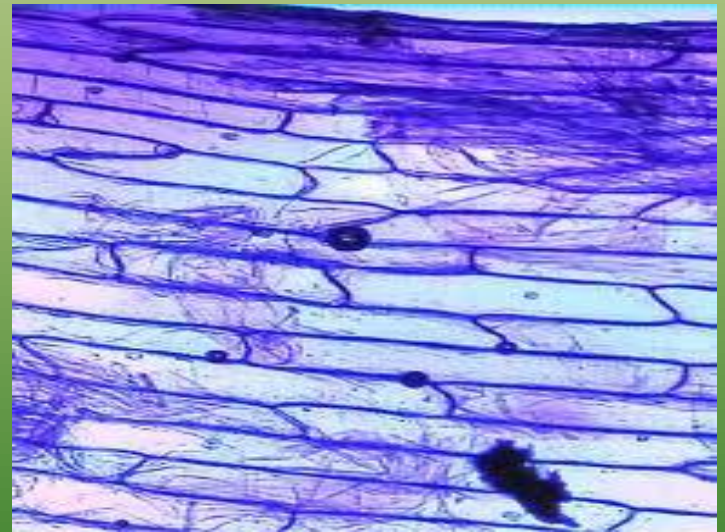


Chloroplast



Which is an animal cell and which is a plant cell?

How do you know?



Draw a Plant Cell

Label and define the following parts:

- Cell membrane
- Cell Wall
- Vacuole
- Cytoplasm
- Nucleus
- ER
- Mitochondria
- Chloroplast

