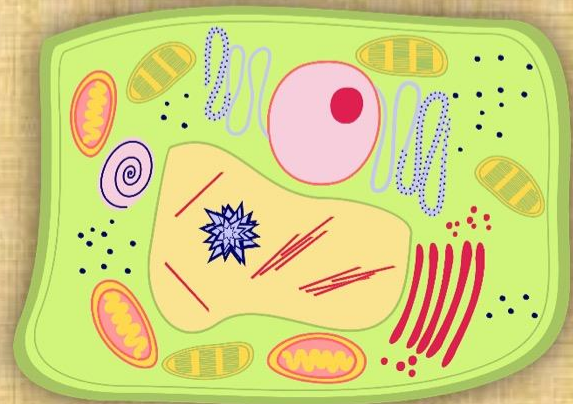
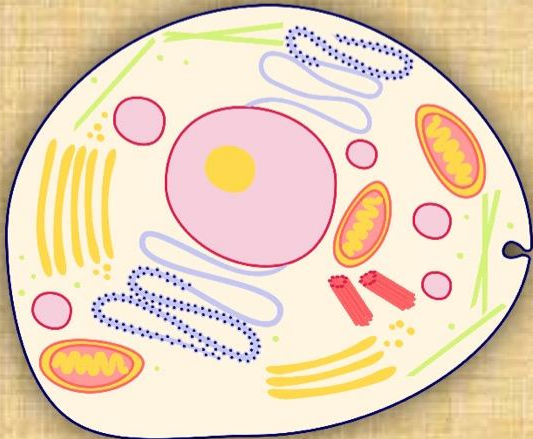


Plant and Animal Cells

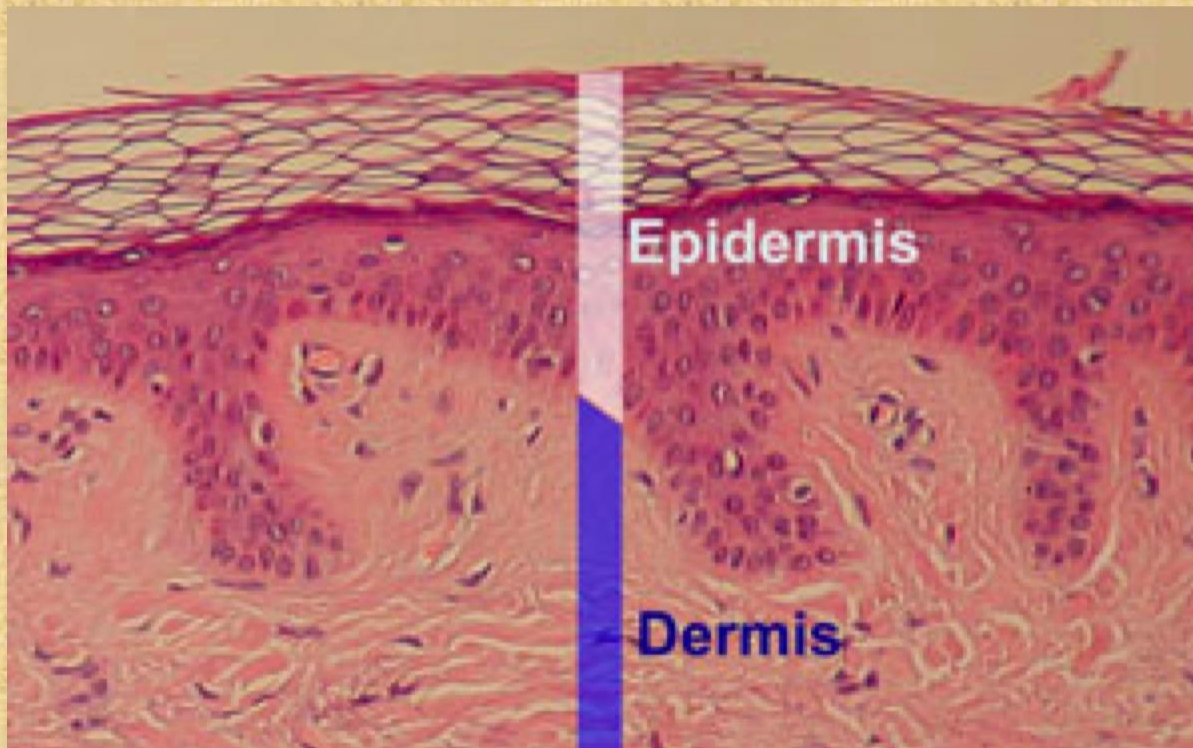


Making Observations...

- Observe the back of your hand with a magnifying glass.
 - What do you see?
 - What if you were to look at your hand under a microscope?



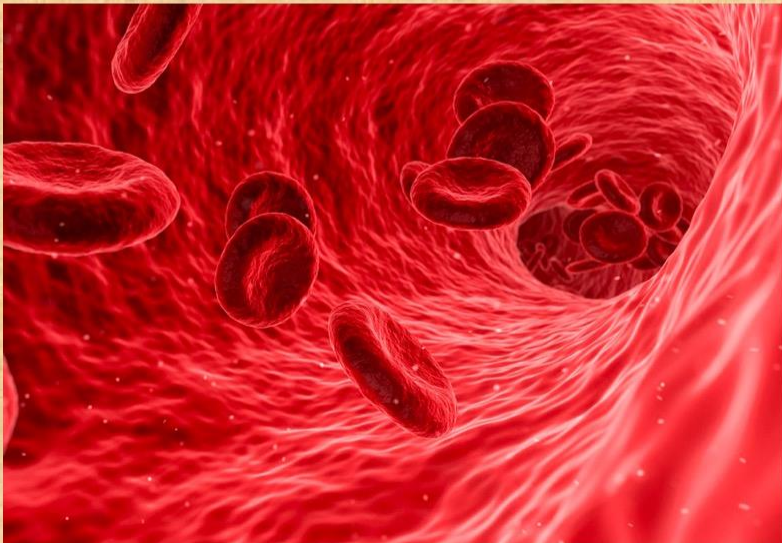
Your skin under a microscope:



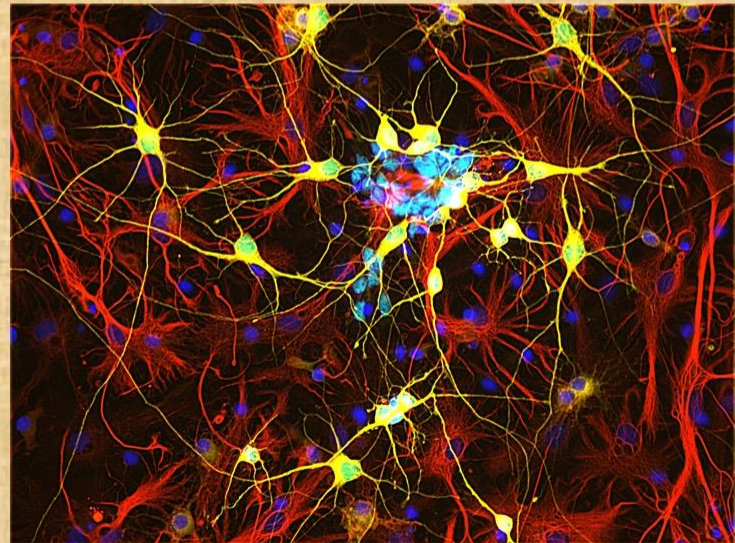
Your skin
is made
up of skin
cells!

Human Cells

Humans are made up of 200 different types of cells and have trillions of cells in their bodies!



Red Blood Cells



Brain Cells



<http://viewpure.com/gFuEo2ccTPA?start=0&end=0>

If the video doesn't work, here is the original: <https://www.youtube.com/watch?v=gFuEo2ccTPA>

Cells

Cells can only be seen with a microscope.



How were cells discovered?



<https://safeshare.tv/x/ss5c86e24d2d338#>

Cork



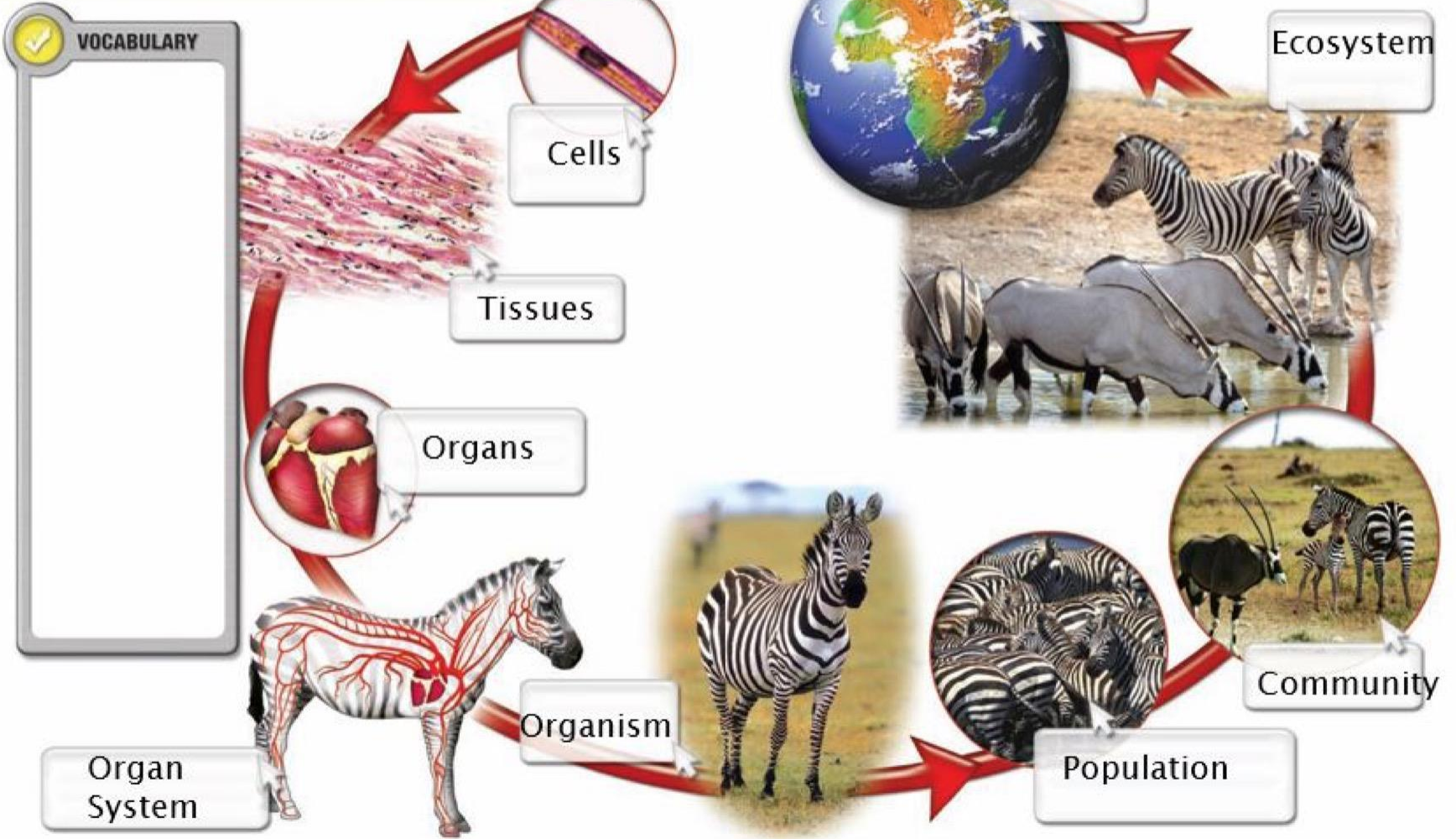
Cork Under a Microscope

The Cell Theory

1. All living things are made of cells.
2. All of the processes of life take places in cells
 - Cells take in oxygen, give off carbon dioxide, and make the energy you need.
3. New cells come from existing cells.

What is this called?

ORGANIZATION OF LIVING THINGS



Let's look at the different parts in plant and animal cells:

plants



animals



ALL LIVING THINGS ARE CLASSIFIED INTO 6 DIFFERENT KINGDOMS:

Animals



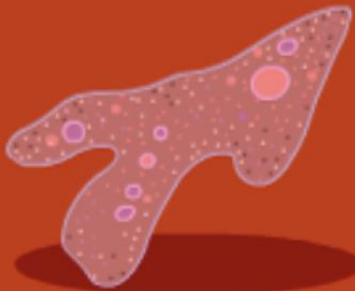
plants



fungi



protists



Eubacteria

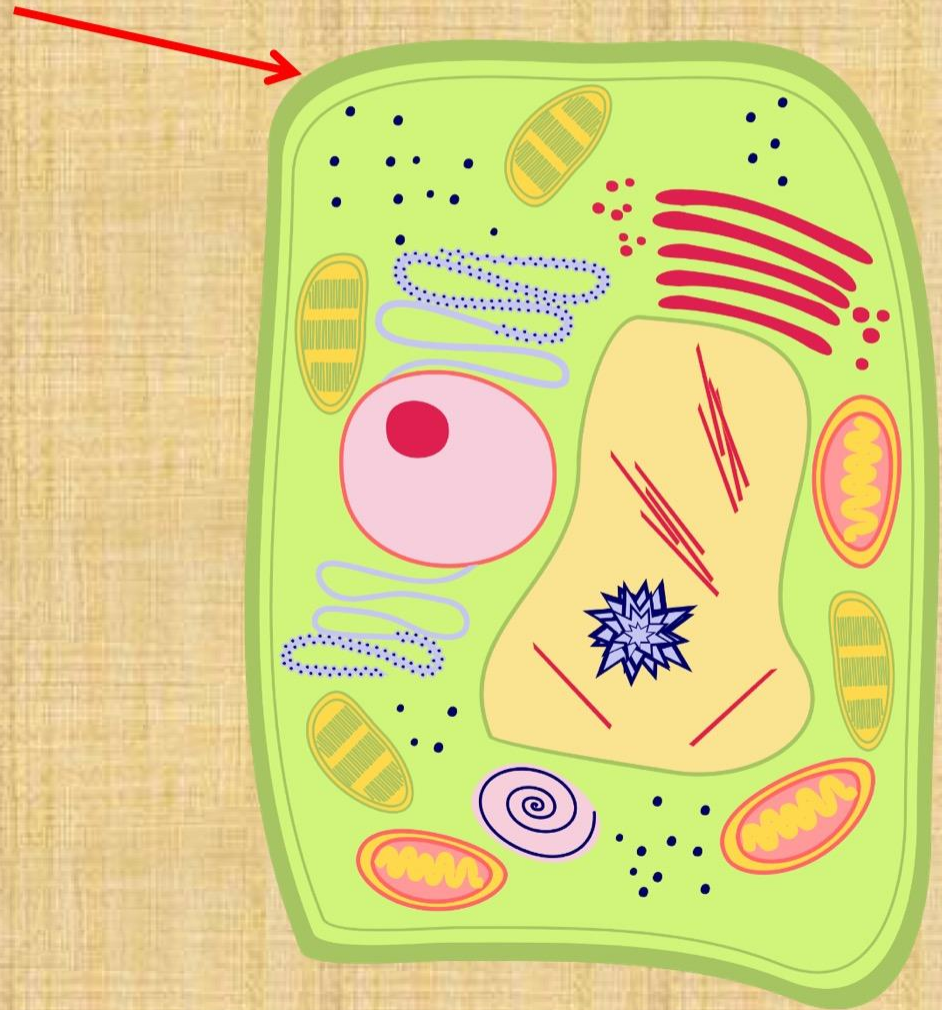


Archaeobacteria



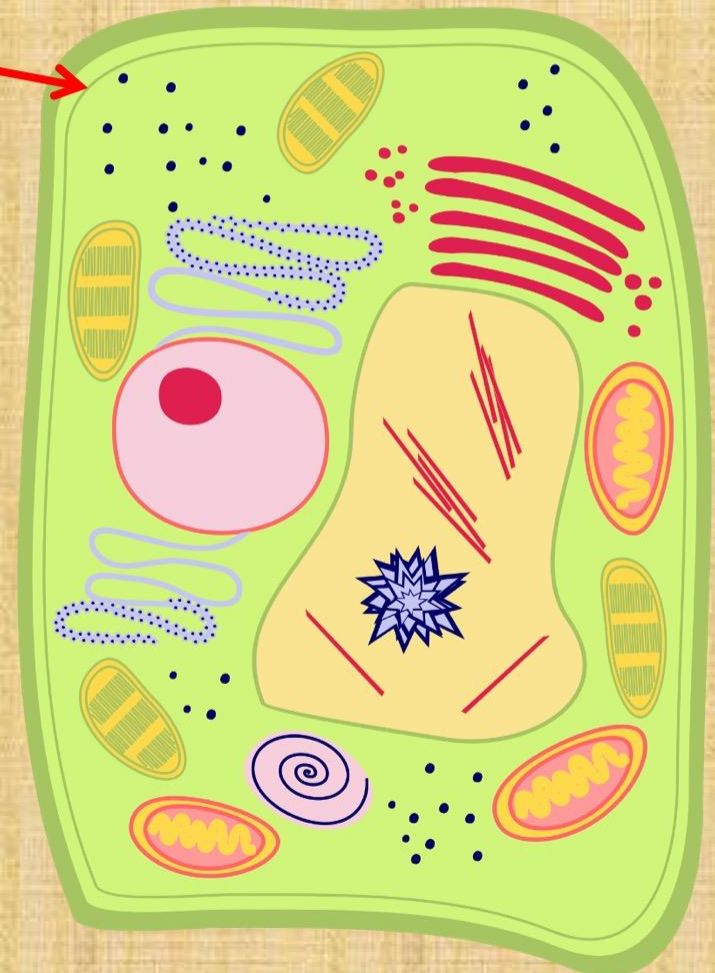
Plant Cells

- A cell wall surrounds the plant cell
 - It protects the cell
 - Helps cells stick to each other and give the plant its shape
 - The stiff cell walls of plants prevent the shape from changing
 - Cell wall is like the plant's skeleton



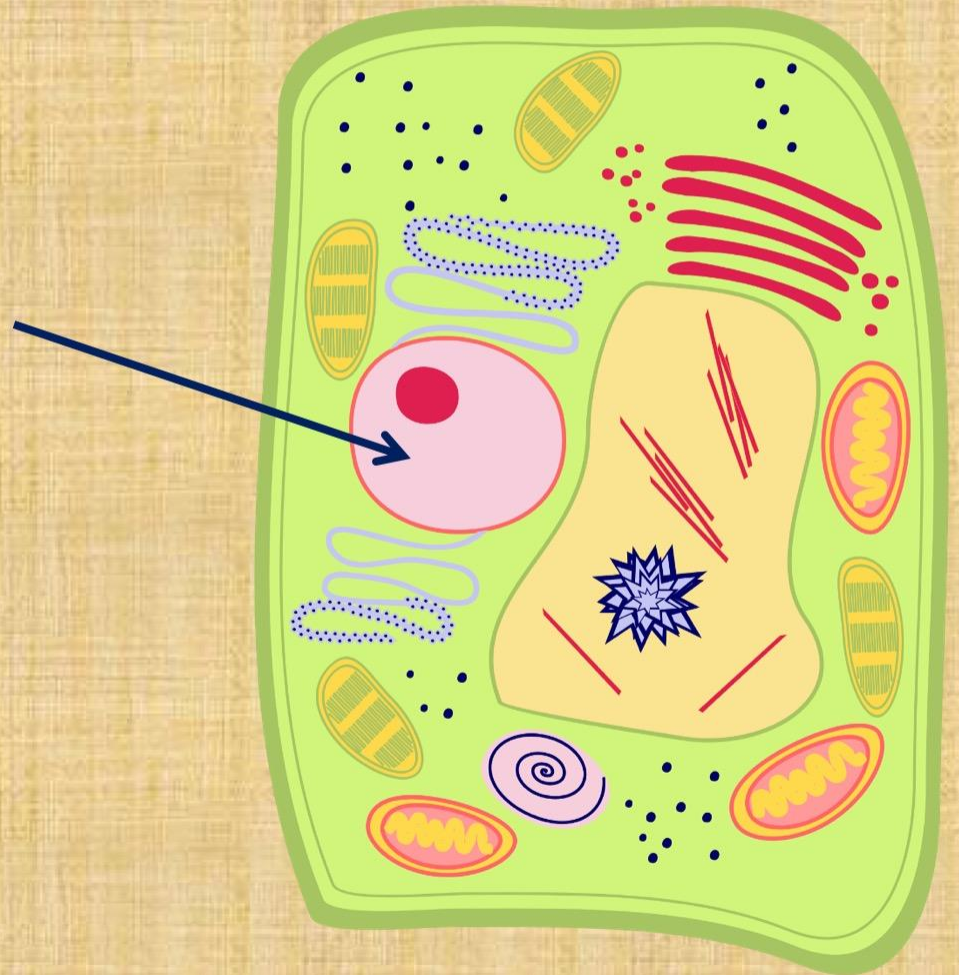
Plant Cells

- The cell membrane allows water and nutrients to pass into the cell
 - Also allows waste to pass out of the cell
 - Stops some materials from coming inside and injuring it



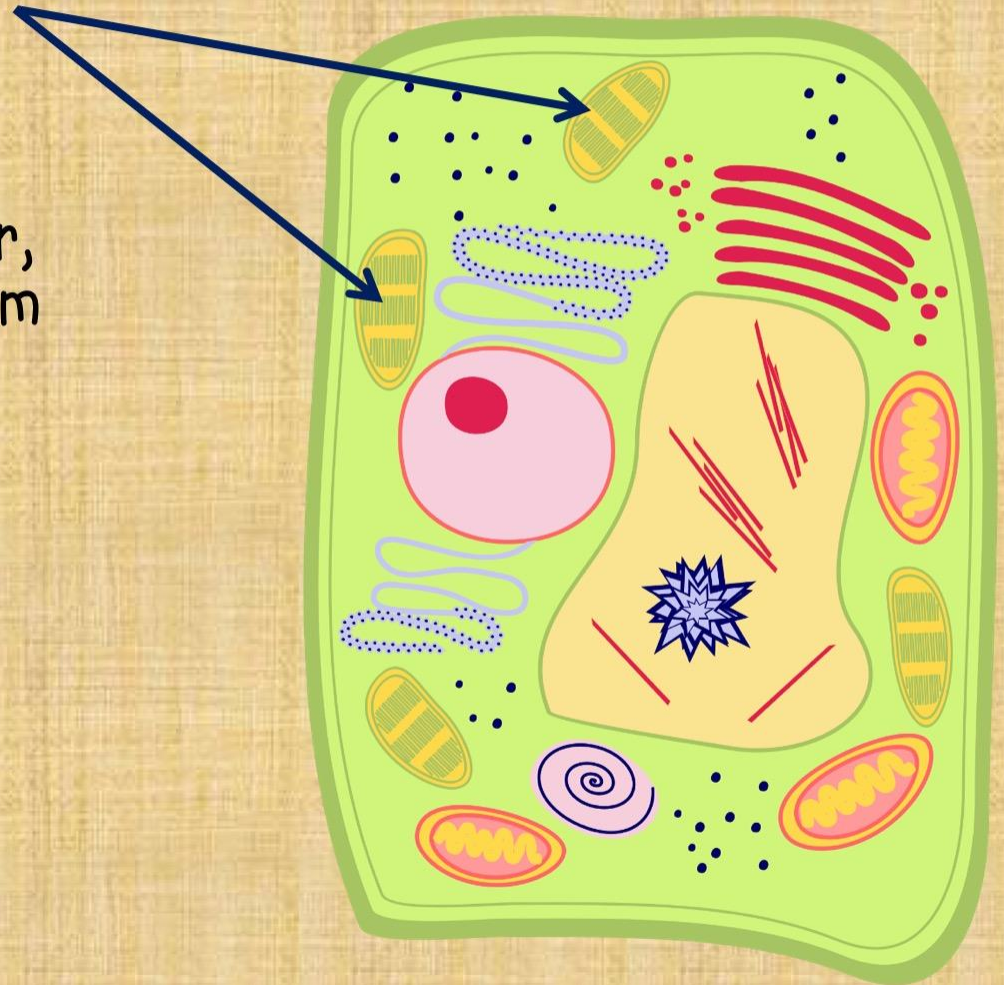
Plant Cells

- Nucleus – located in the center of the cell and controls the cell's growth (the brain)
 - Contains the plant's genes (tells the plant what it is)



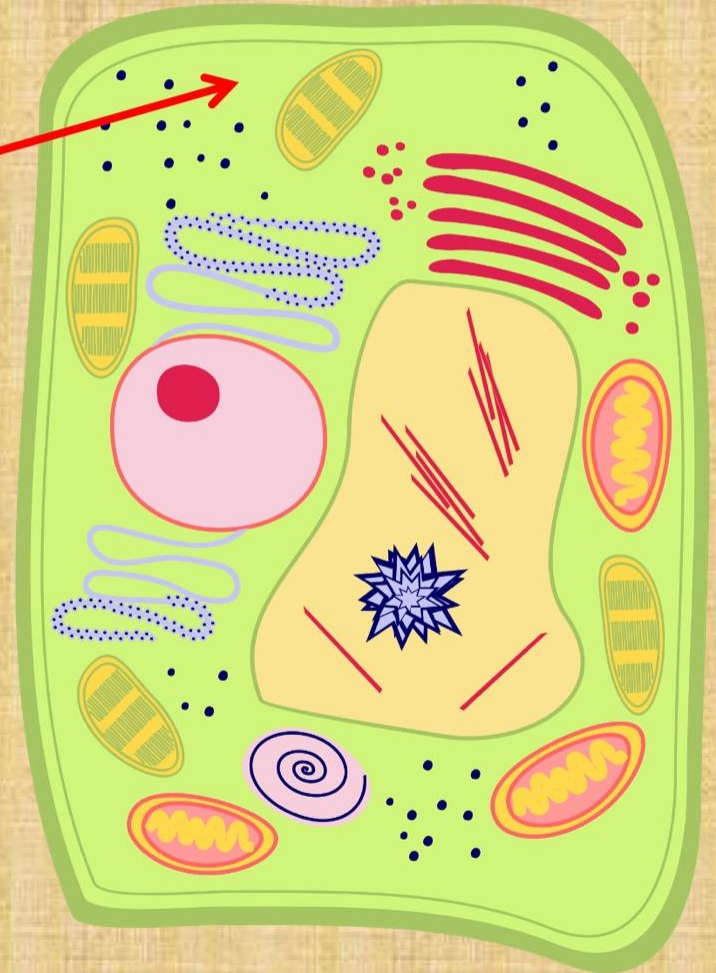
Plant Cells

- Green chloroplasts produce food for the plant
 - Combine sunlight, water, and carbon dioxide from the air to produce sugars
 - These sugars give the plant energy to grow and bloom
 - They are green because they contain chlorophyll (absorbs and takes in energy from the sun)



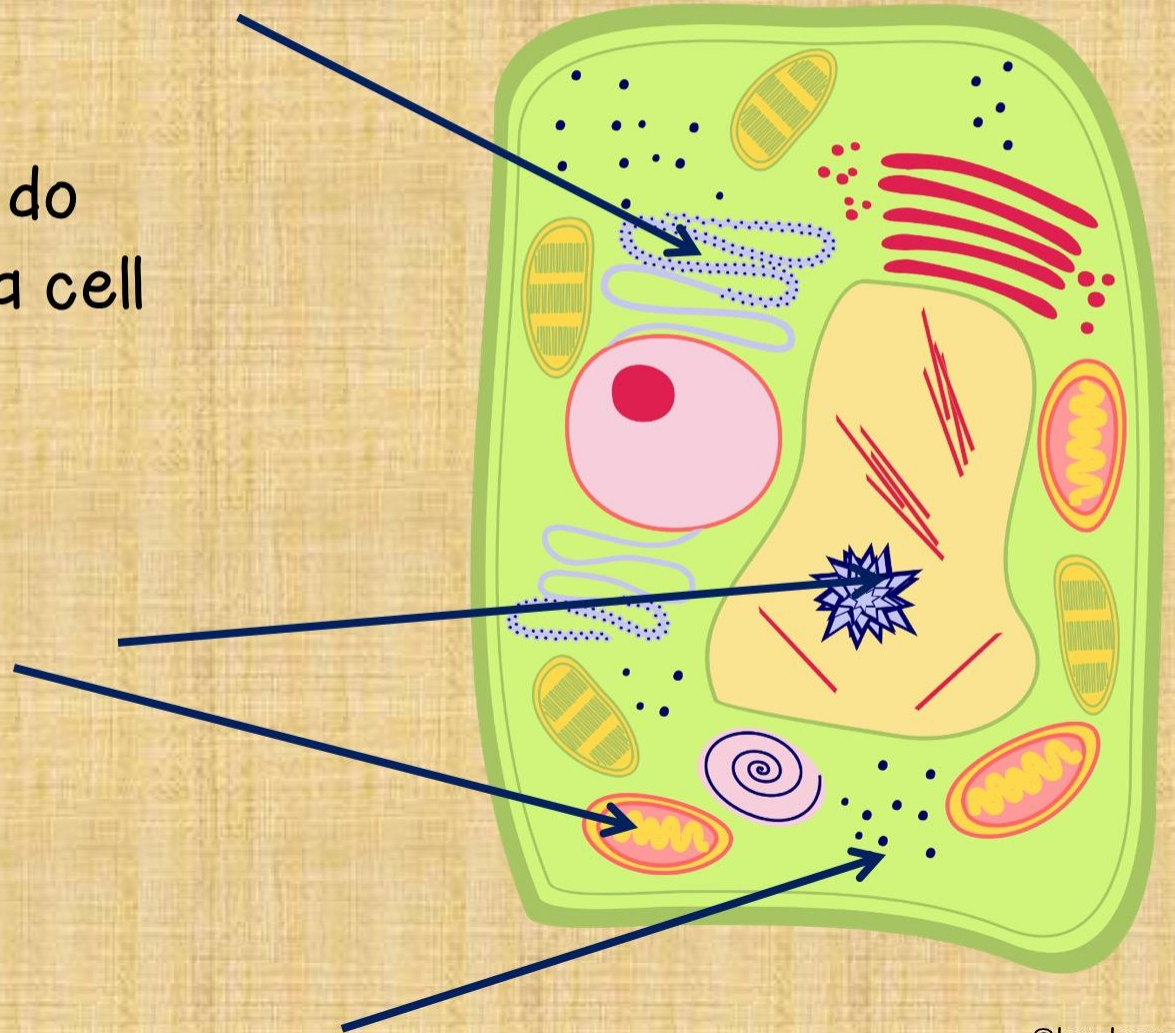
Plant Cells

- The rest of the plant cell is filled with cytoplasm
 - Jelly-like substance
 - Helps to keep all organelles in place
 - Much of the cell's work takes place here



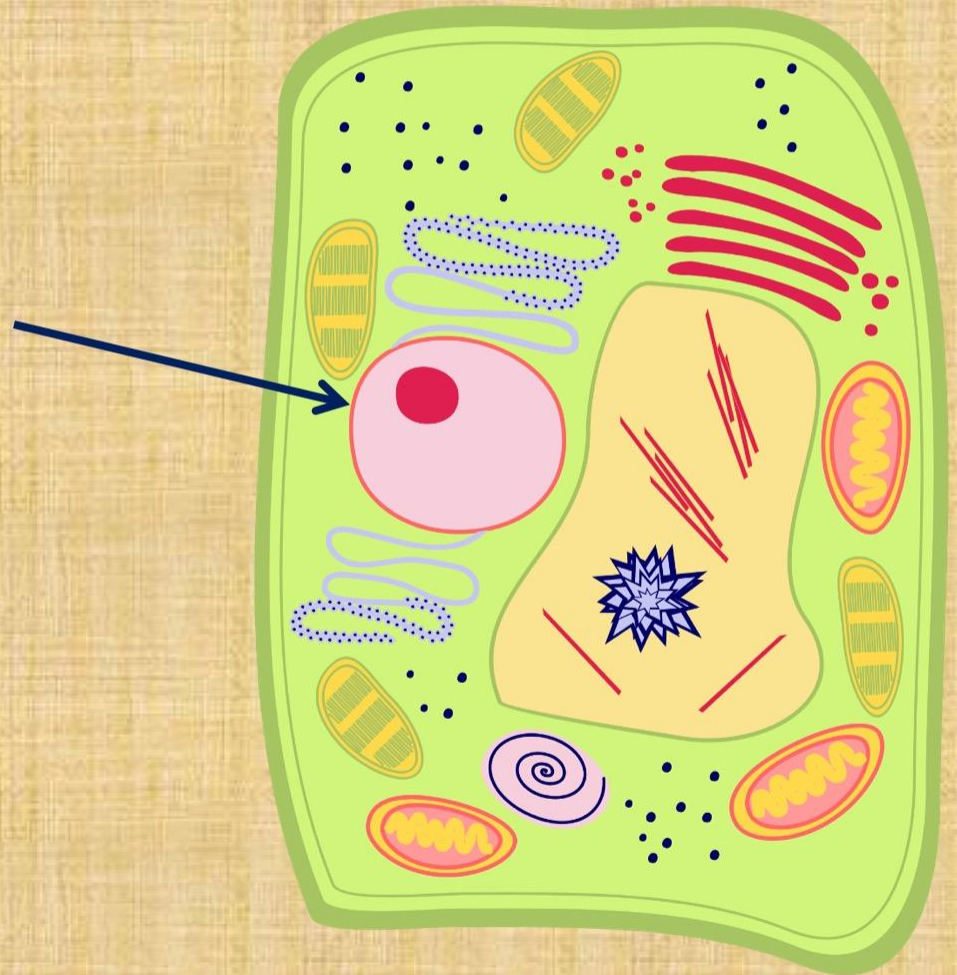
Plant Cells

- Organelles
 - Other small structures that do certain jobs in a cell



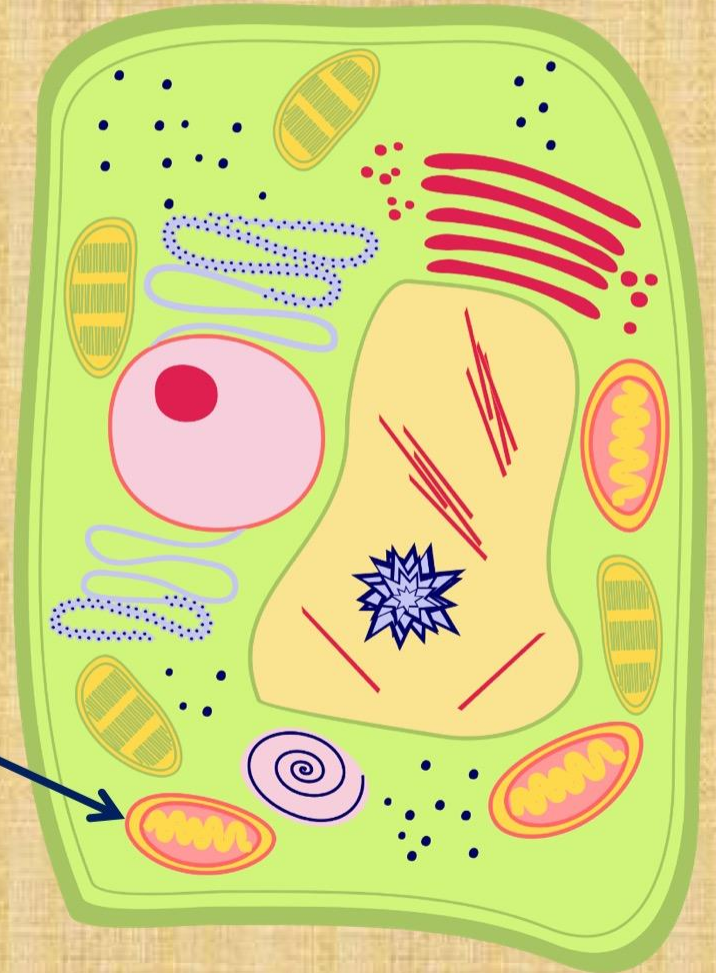
Other Organelles

- Nuclear Membrane – surrounds the nucleus and separates the nucleus from the cell's cytoplasm.
 - Regulates what can and cannot enter the nucleus.



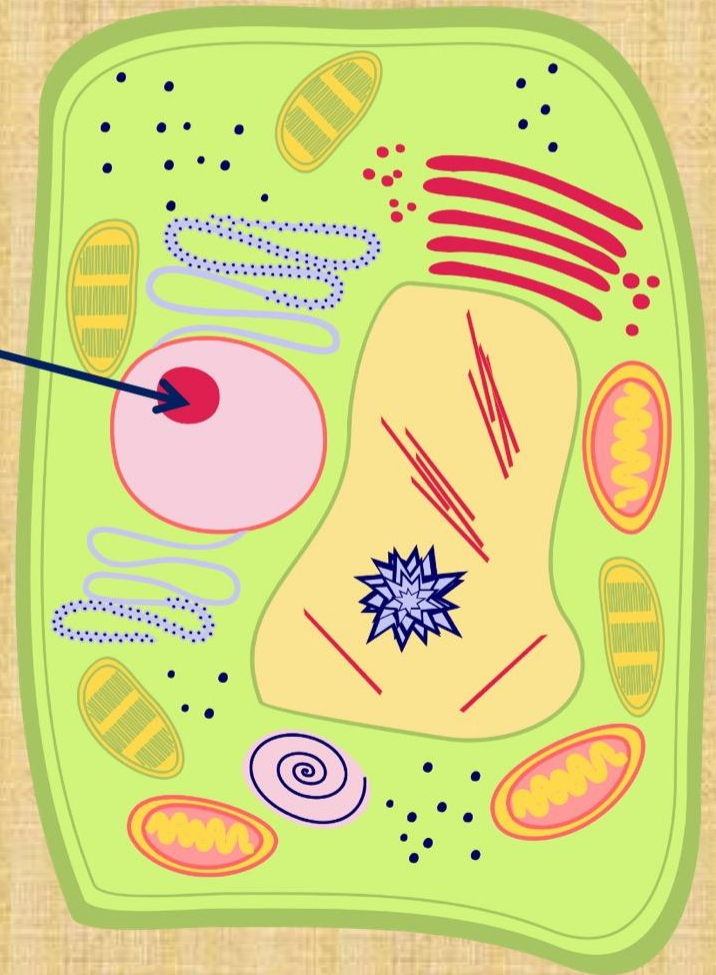
Other Organelles

- Mitochondria
 - Performs cell respiration
 - Combines glucose and oxygen to form water and carbon dioxide
 - Provides energy for the cell



Other Organelles

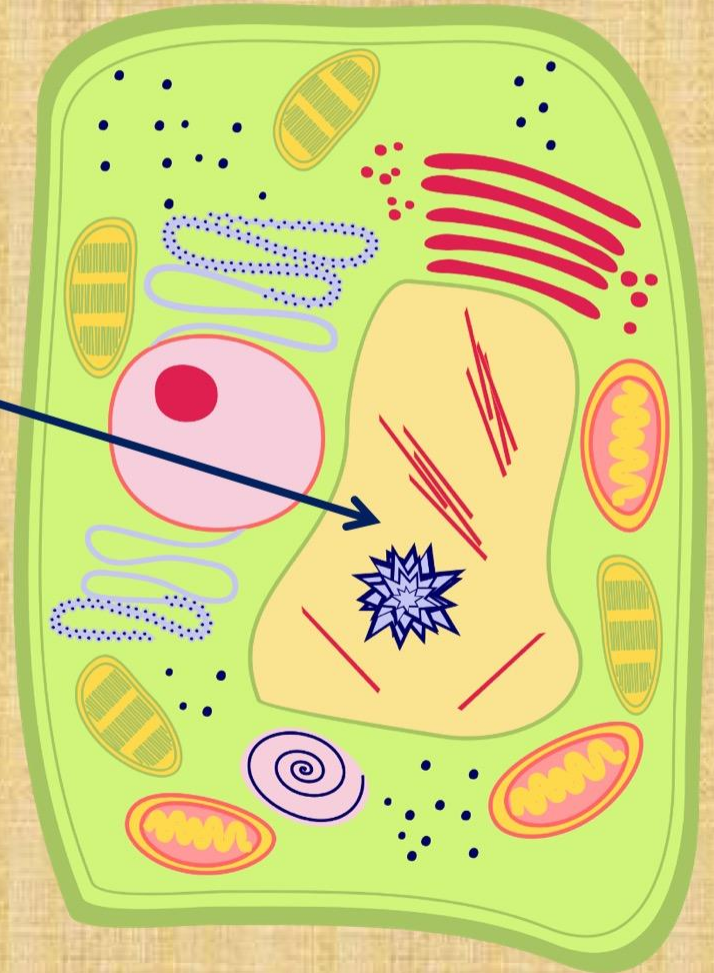
- Chromosomes
 - They carry all of the information used to help a cell grow, thrive, and reproduce.
 - Chromosomes are made up of **DNA**. Segments of DNA in specific patterns are called **genes**. Your genes make you who you are.



Other Organelles

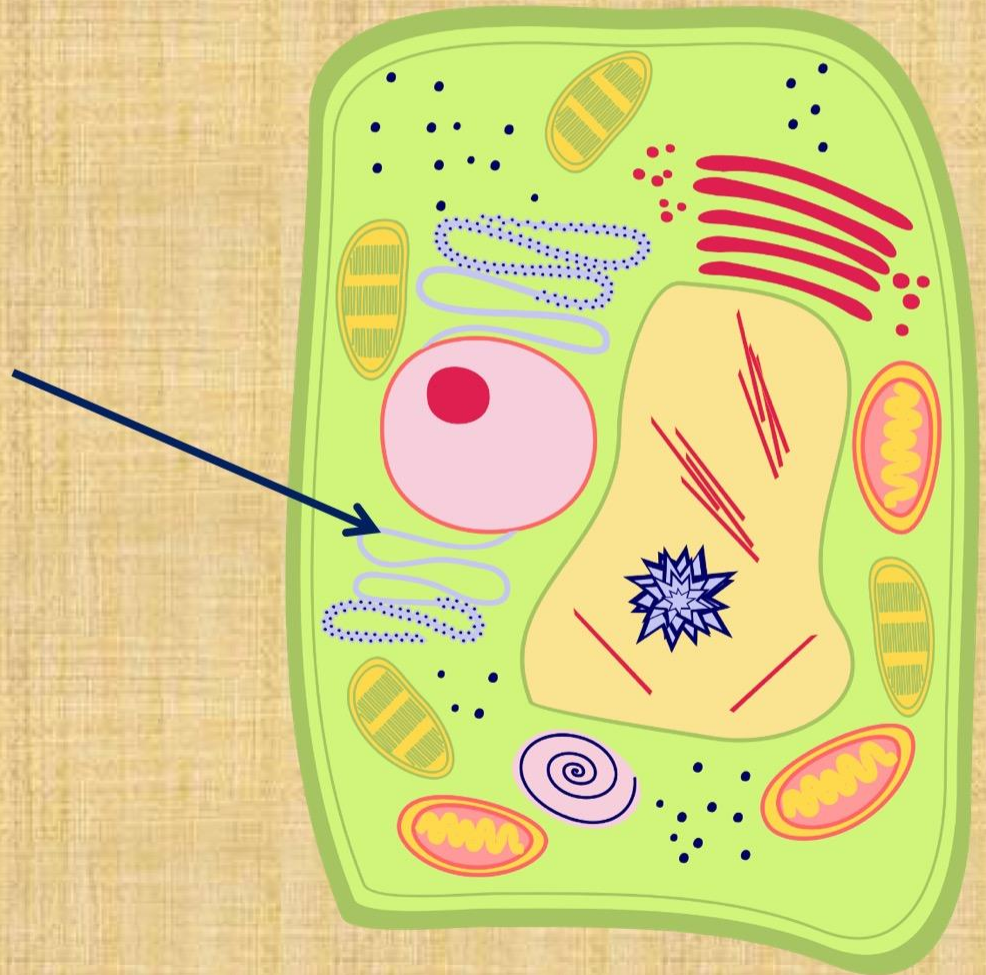
- Vacuoles

- Storage bubbles found in cells.
- Vacuoles might store food or any variety of nutrients a cell might need to survive.
- They can even store waste products so the rest of the cell is protected from contamination. Eventually, those waste products will be sent out of the cell.



Other Organelles

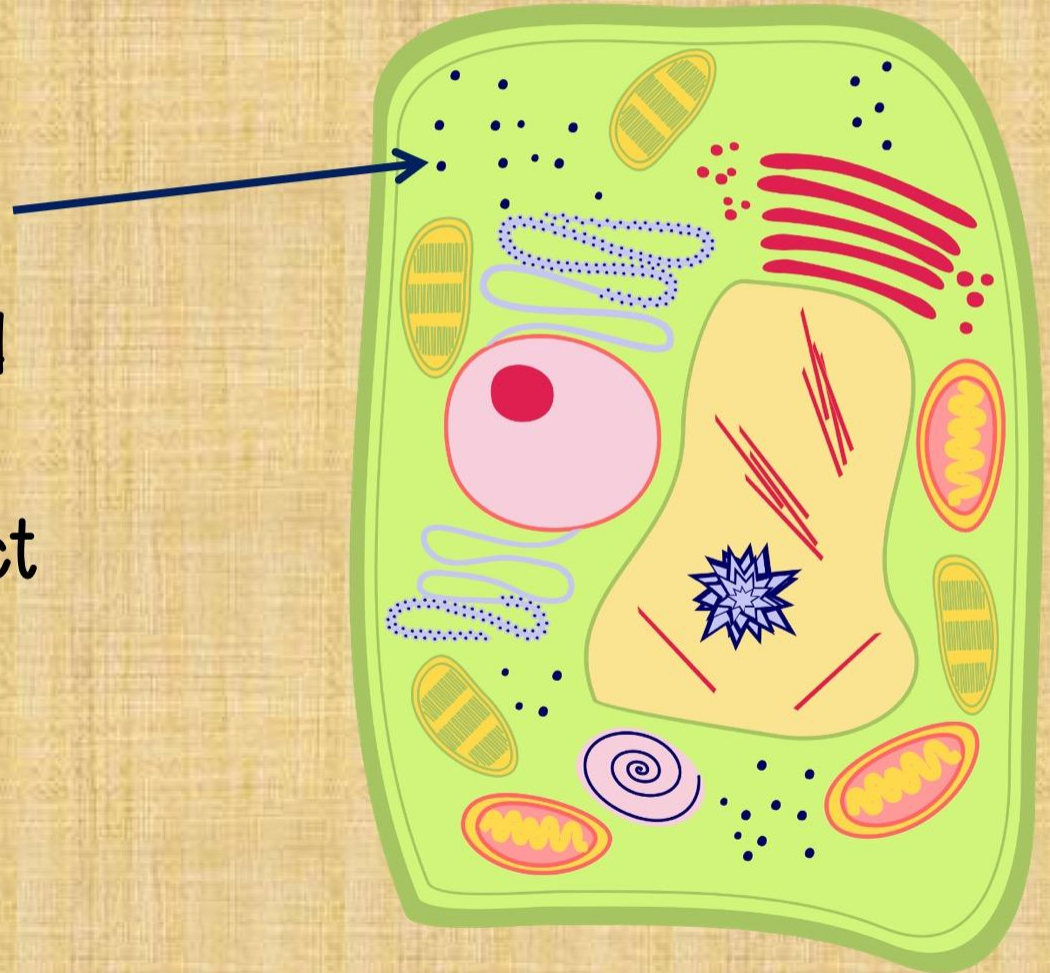
- Endoplasmic Reticulum
 - While the function of the nucleus is to act as the cell brain, the Endoplasmic Reticulum functions as a manufacturing and packaging system.
 - It TRANSPORTS material in the cell.



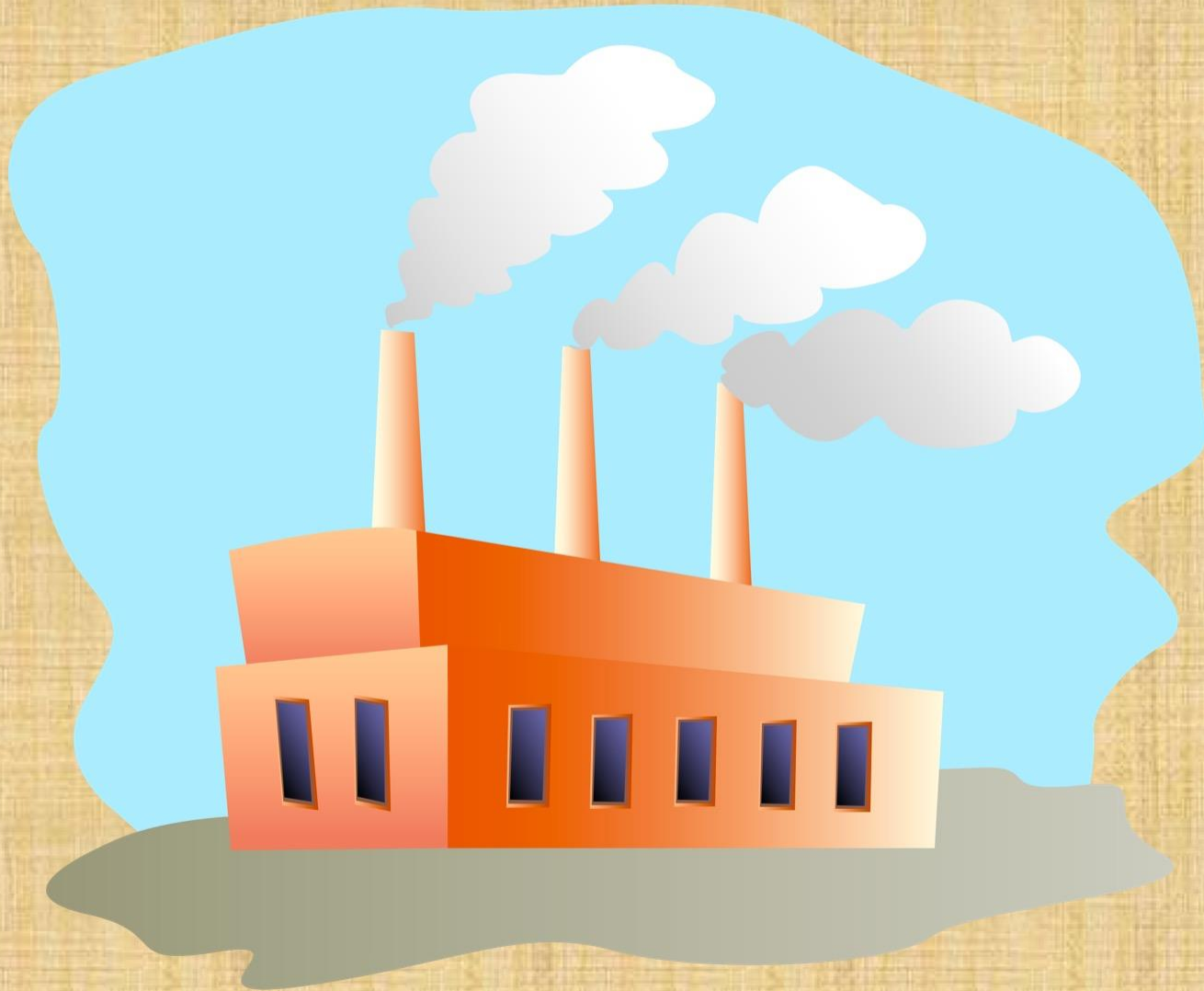
Other Organelles

- Ribosomes

- Ribosomes make proteins.
- Protein is needed in a cell to repair damage and direct chemical processes.



How are the parts of a cell like a factory?



A Few Misconceptions...

1. Cells are not colorful (except for the chloroplasts). Scientists often use dye to make different parts stand out.
2. Cells come in MANY different shapes and sizes.

Plants

Plant Cells

Print

The cells of plants include several parts, such as the cell body, cytoplasm, mitochondria, nucleus, vacuole, cell membrane, cell wall, and chloroplasts. Only plant cells have plant walls and chloroplasts.

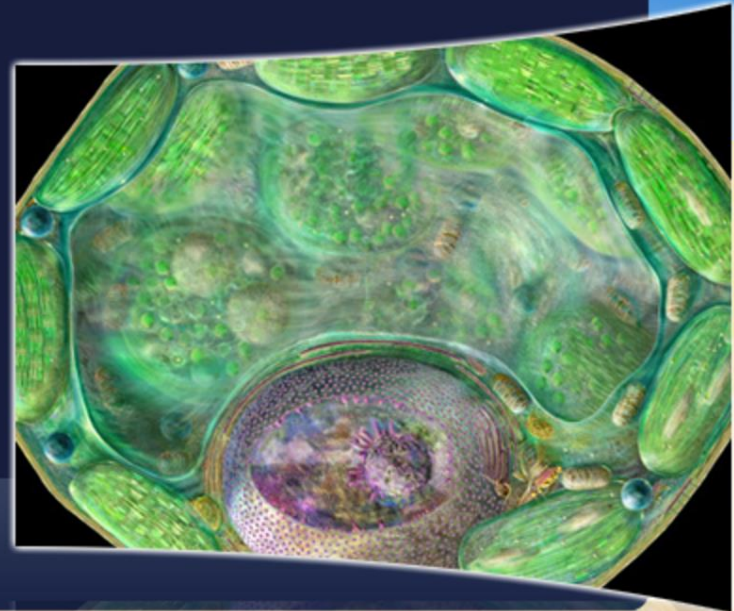
Slide Show

Sing Karaoke

Test Yourself

Key Vocabulary

- cell
- nucleus
- reproduce
- organelle
- chromosome



<http://studyjams.scholastic.com/studyjams/jams/science/plants/plant-cells.htm>