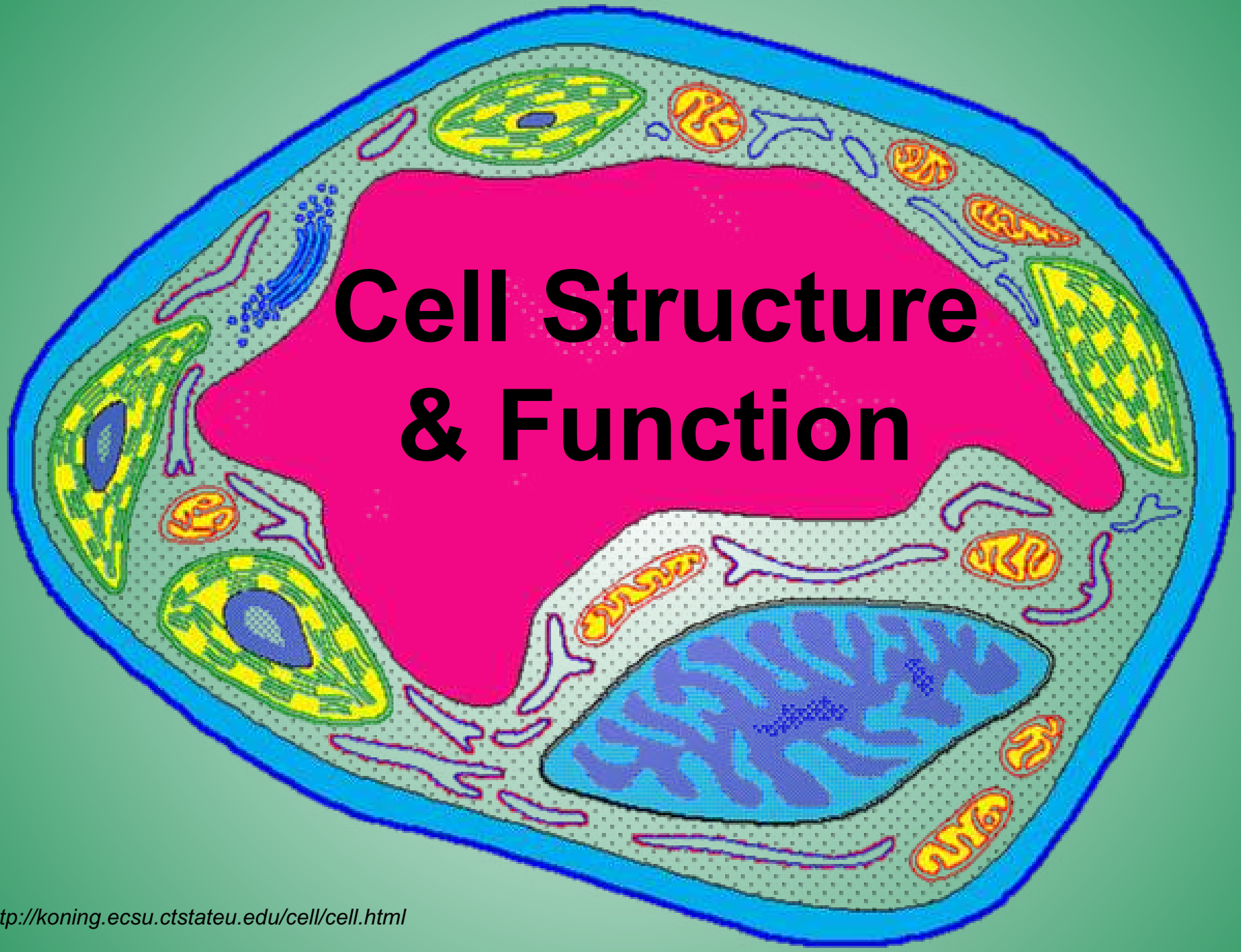
Warm-Up

- Please take out your item analysis that we did in lab yesterday as well as your interactive notebook.



http://koning.ecsu.ctstateu.edu/cell/cell.html

Cell Theory

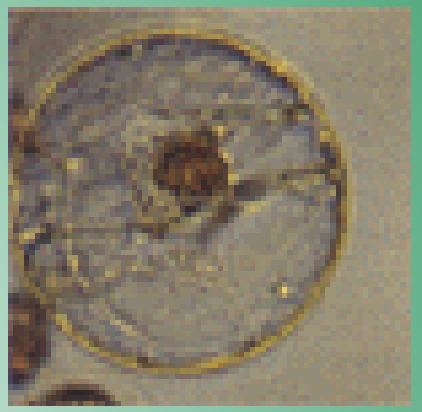
- All living things are made up of cells.
- Cells are the smallest working units of all living things.
- All cells come from preexisting cells through cell division.

Definition of Cell

A cell is the smallest unit that is capable of performing life functions.

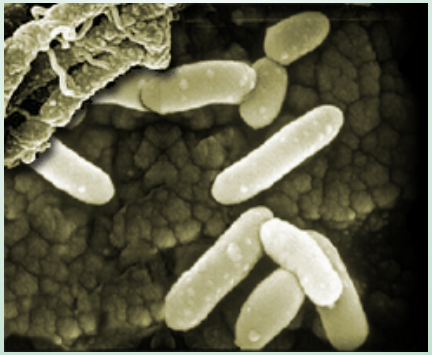
Examples of Cells

Amoeba Proteus



Plant Stem

Bacteria



Red Blood Cell

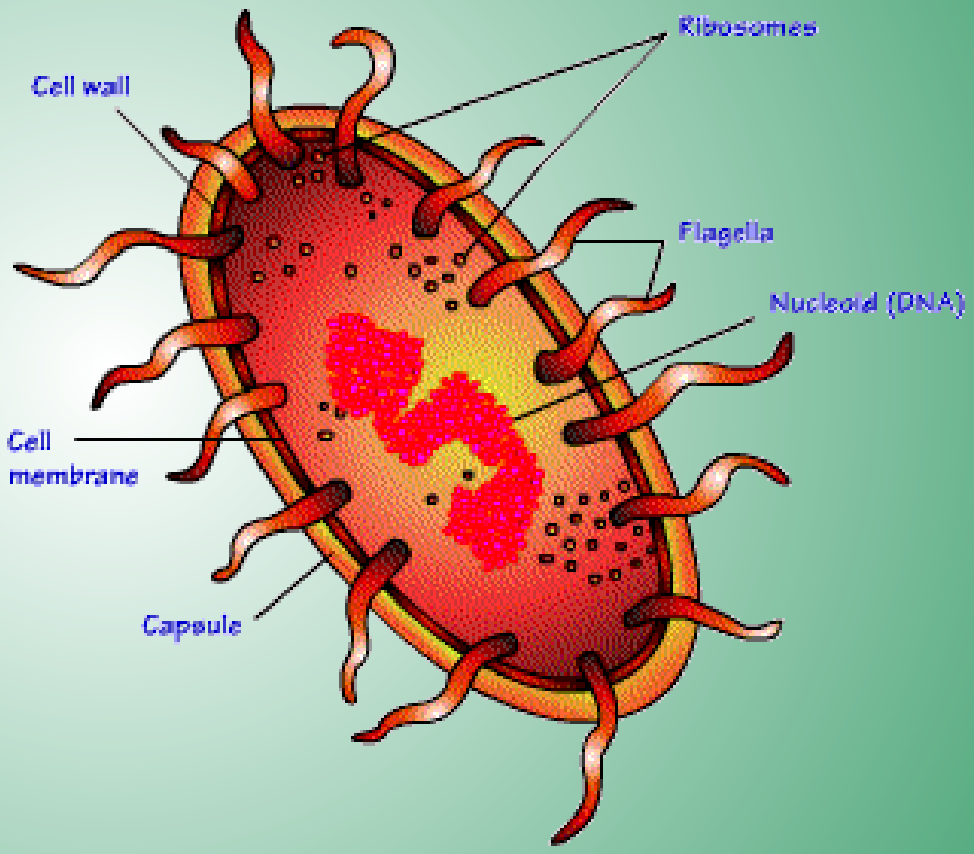
Nerve Cell

Two Types of Cells

- Prokaryotic (no nucleus)
- Eukaryotic (contains a nucleus)

Prokaryotic

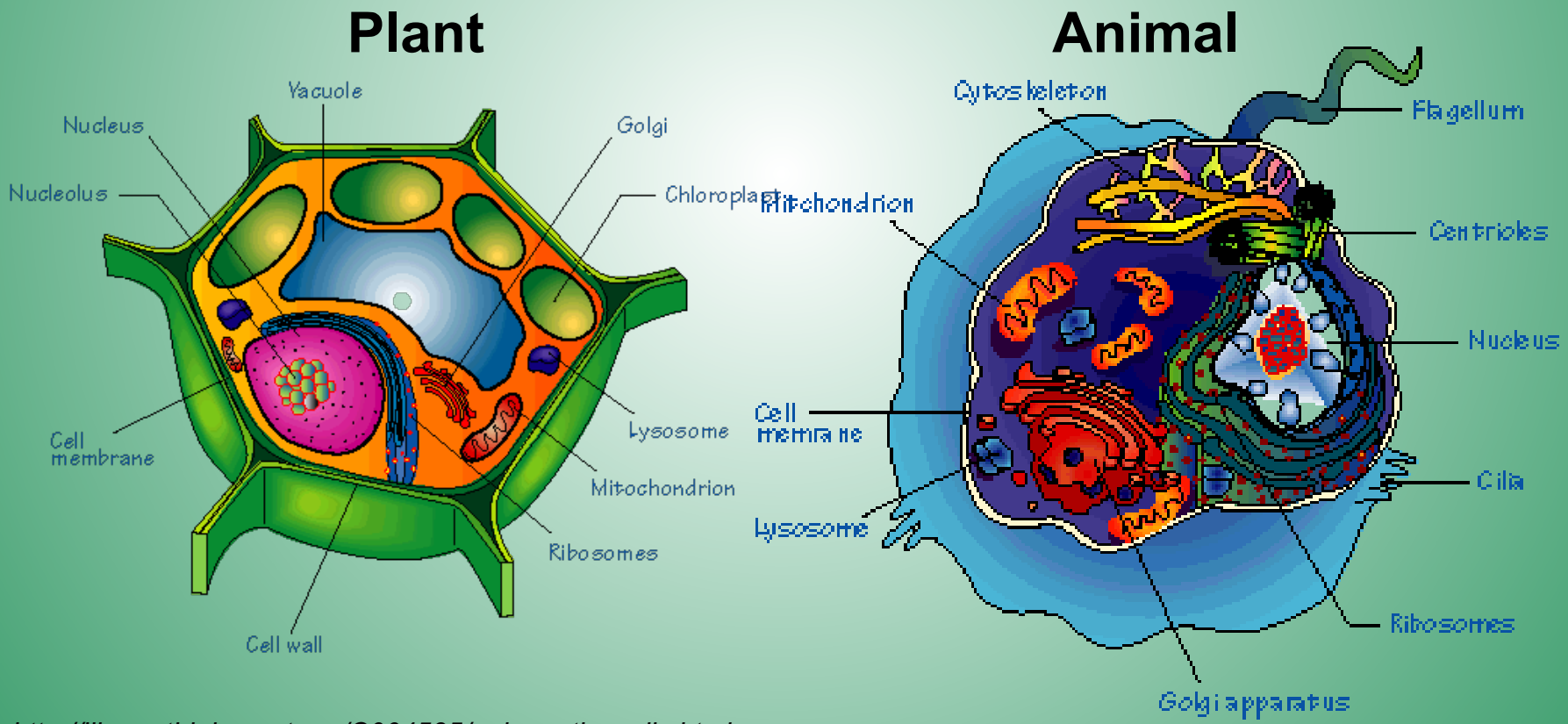
- Do not have structures surrounded by membranes
- Few internal structures
- One-celled organisms, Bacteria



http://library.thinkquest.org/C004535/prokaryotic_cells.html

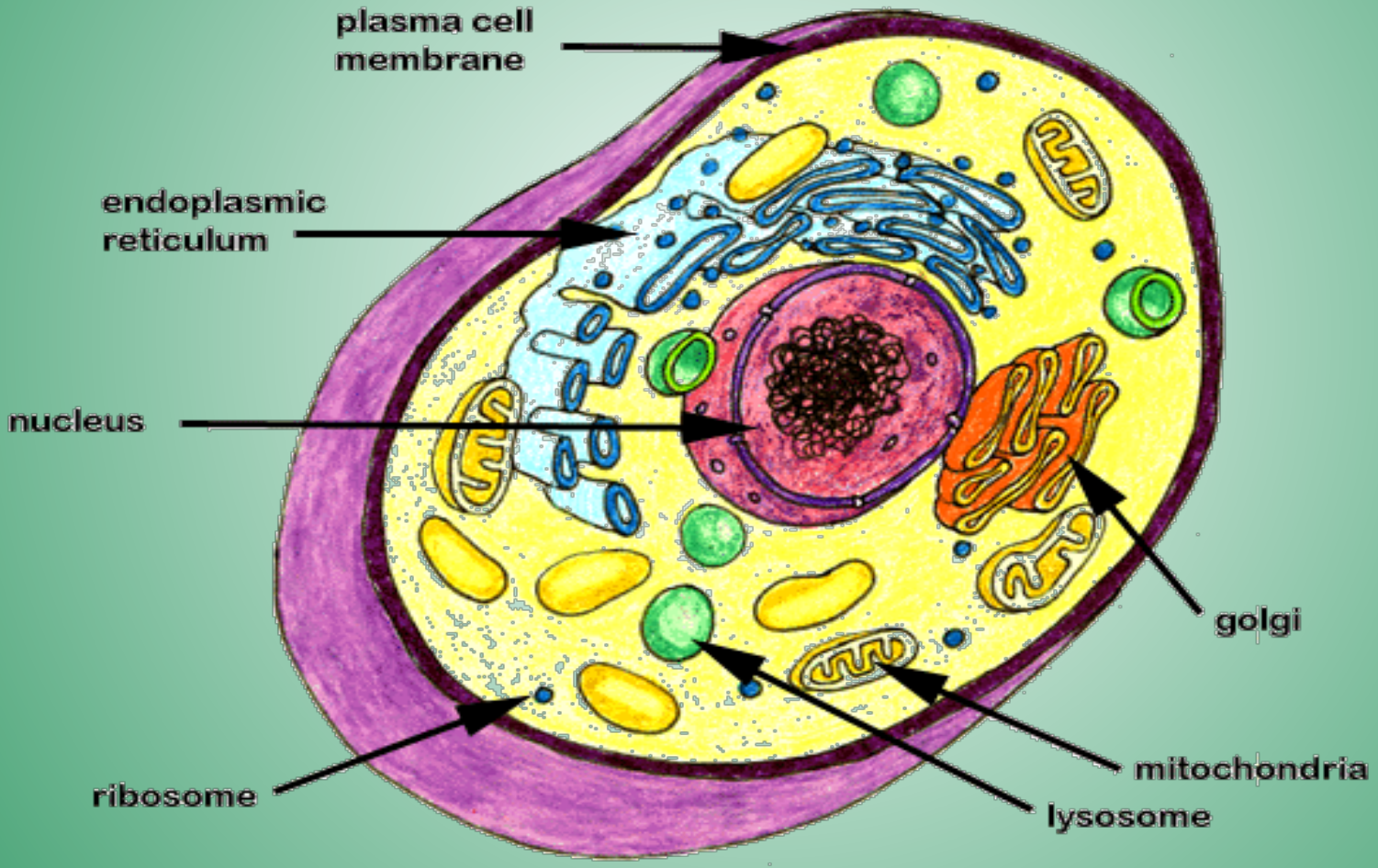
Eukaryotic

- Contain *organelles* surrounded by membranes
- Most living organisms



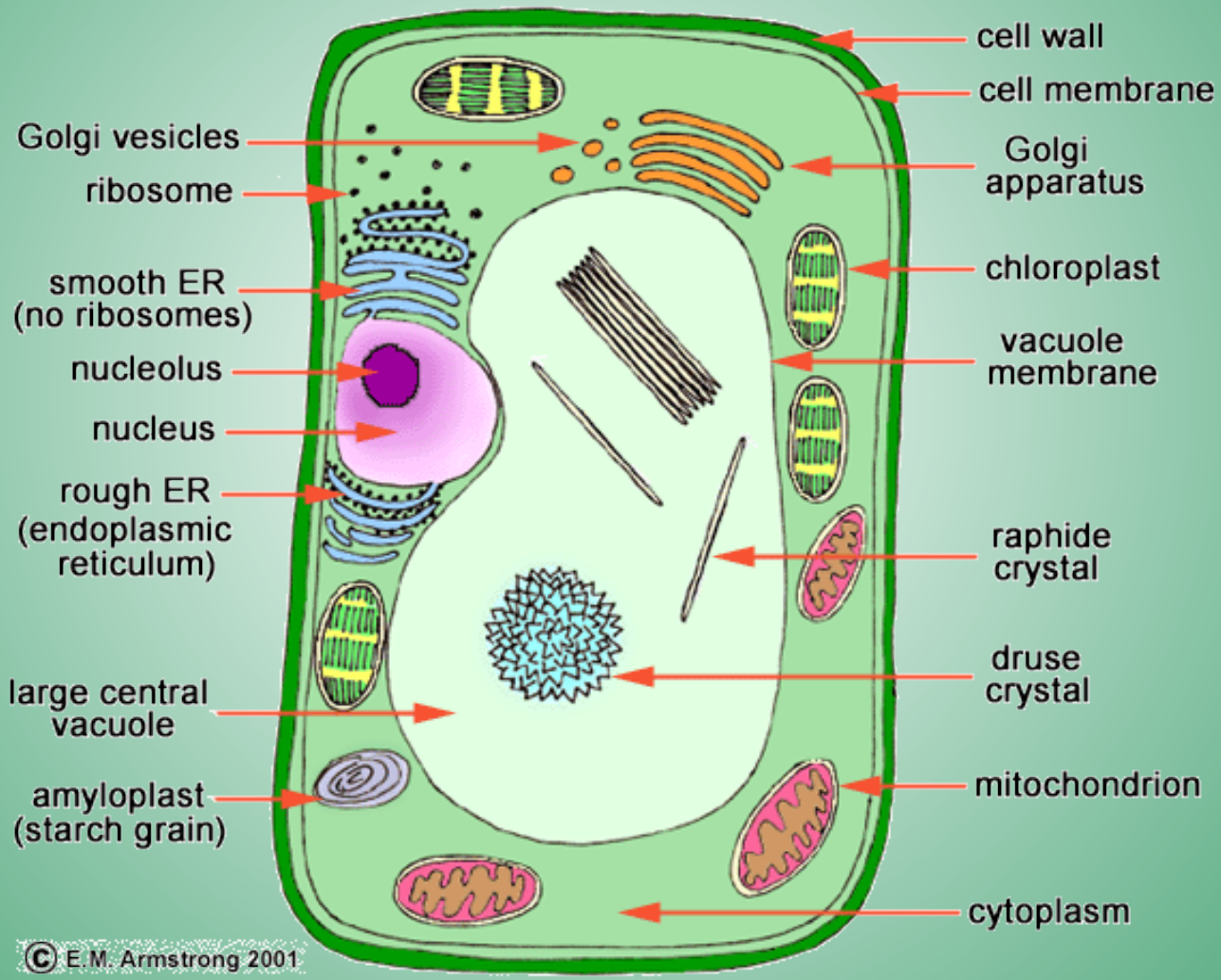
http://library.thinkquest.org/C004535/eukaryotic_cells.html

“Typical” Animal Cell



http://web.jjay.cuny.edu/~acarpi/NSC/images/cell.gif

“Typical” Plant Cell



http://waynesword.palomar.edu/images/plant3.gif

Warm-Up

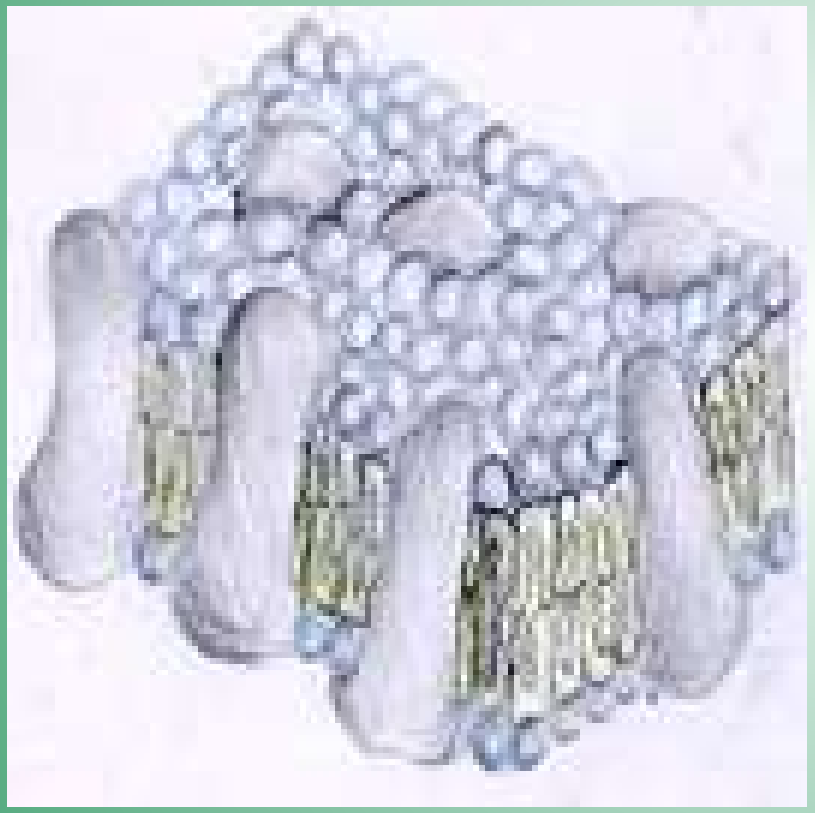
- Get out your power point cell note-taking worksheet from yesterday.

Cell Parts

Organelles

Surrounding the Cell

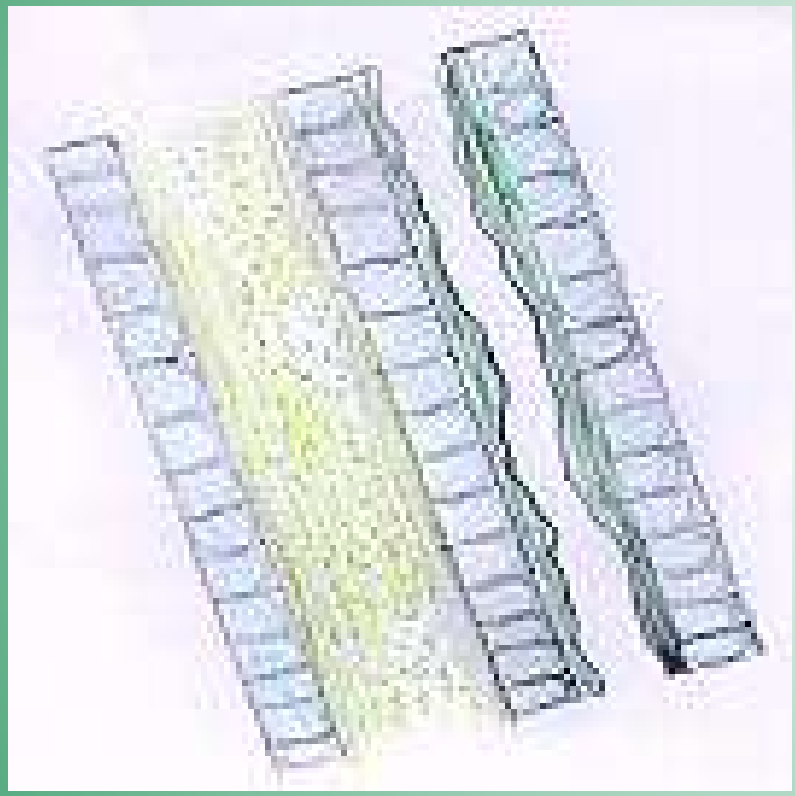
Cell Membrane



- Outer membrane of cell that controls movement in and out of the cell
- Double layer

http://library.thinkquest.org/12413/structures.html

Cell Wall



- Only in plant cells & bacteria
- Outer membrane that supports & protects cells
- Made of cellulose

http://library.thinkquest.org/12413/structures.html

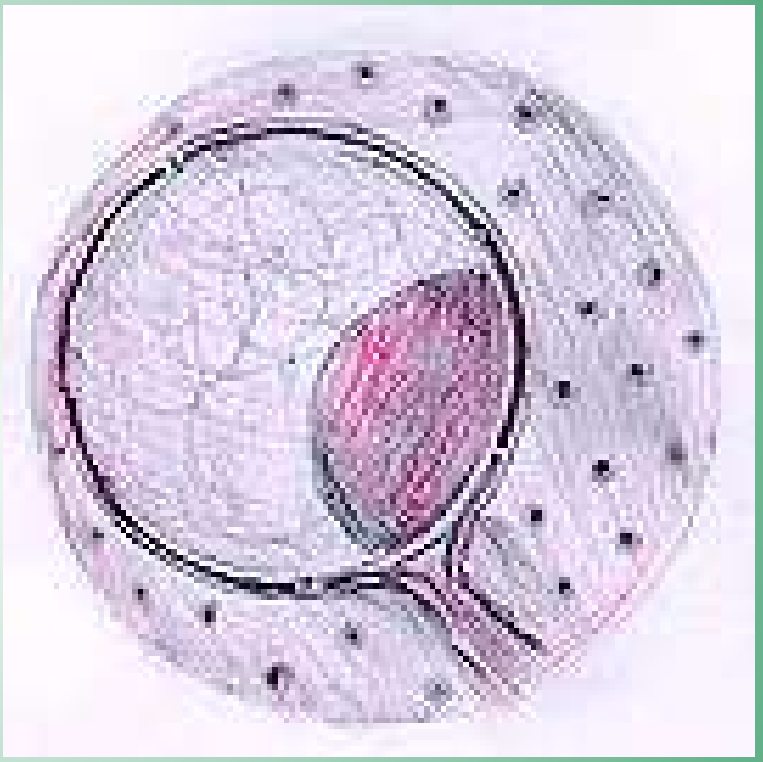
Inside the Cell

Nucleus

- Directs cell activities
- Separated from cytoplasm by nuclear membrane
- Contains genetic material – DNA
- A structure called the nucleolus is also found in the nucleus.

Nuclear Membrane

- Surrounds nucleus
- Made of two layers
- Openings allow material to enter and leave nucleus



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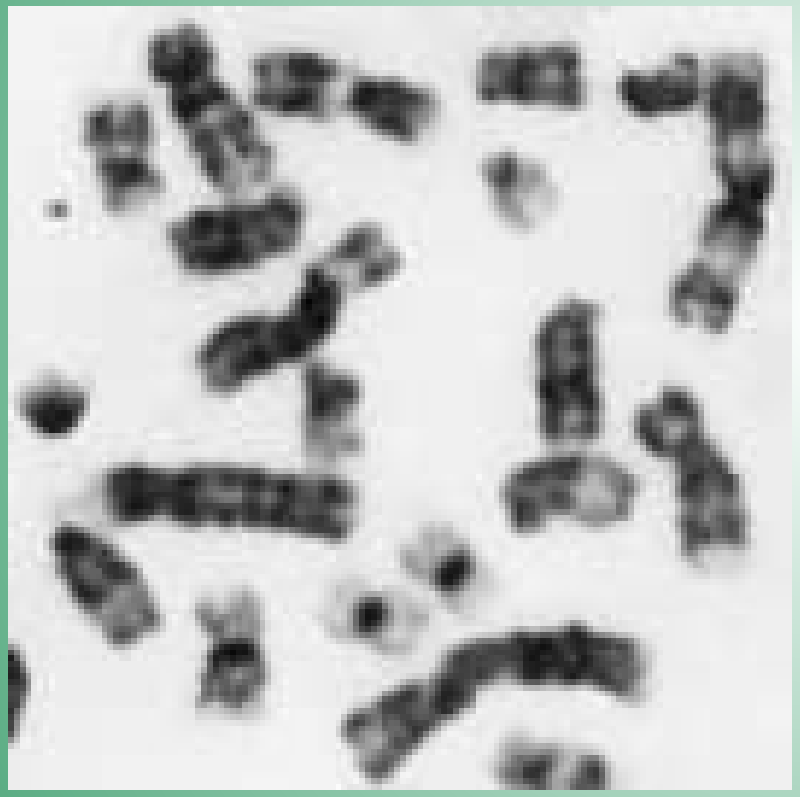
Chromosomes

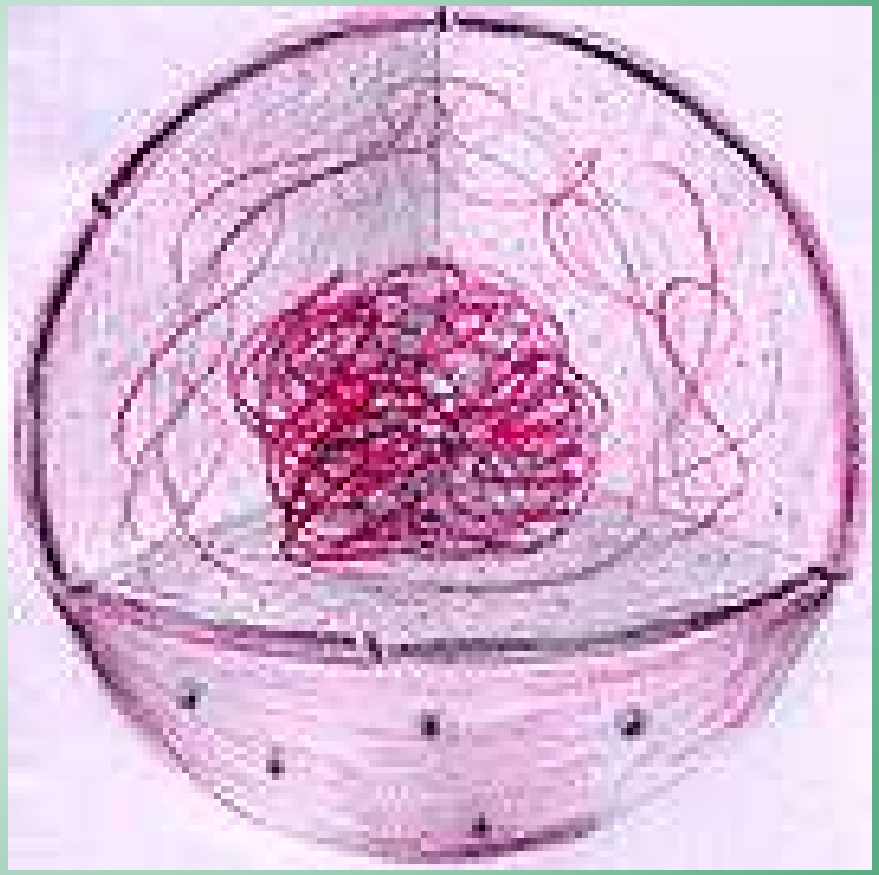


- In nucleus
- Made of DNA
- Contain instructions for traits & characteristics

http://library.thinkquest.org/12413/structures.html

Nucleolus

- Inside nucleus
- Contains RNA to build proteins



http://library.thinkquest.org/12413/structures.html

Cytoplasm

- Gel-like mixture
- Surrounded by cell membrane
- Contains hereditary material

Endoplasmic Reticulum

- Moves materials around in cell
- Smooth type: lacks ribosomes
- Rough type (pictured): ribosomes embedded in surface

http://library.thinkquest.org/12413/structures.html

Ribosomes

- Each cell contains thousands
- Make proteins
- Found on Rough E.R & floating throughout the cell

http://library.thinkquest.org/12413/structures.html

Mitochondria

- Produces energy through chemical reactions – breaking down fats & carbohydrates
- Controls level of water and other materials in cell
- Recycles and decomposes proteins, fats, and carbohydrates

http://library.thinkquest.org/12413/structures.html

Golgi Bodies

- Protein 'packaging plant'
- Move materials within the cell
- Move materials out of the cell

http://library.thinkquest.org/12413/structures.html

Lysosome

- Digestive 'plant' for proteins, fats, and carbohydrates
- Removes waste
- Cell breaks down if lysosome explodes

http://library.thinkquest.org/12413/structures.html

Vacuoles

- Membrane-bound sacs for storage, digestion, and waste removal
- Contains water solution
- Help plants maintain shape
- Found only in plants

http://library.thinkquest.org/12413/structures.html

Chloroplast

- Usually found in plant cells
- Contains green chlorophyll
- Where photosynthesis takes place

http://library.thinkquest.org/12413/structures.html