

Notes Chapter 1 Lesson 2

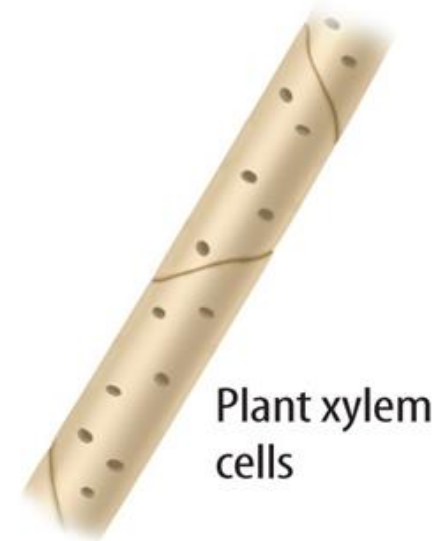
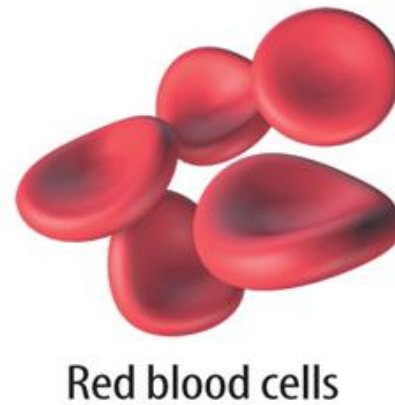
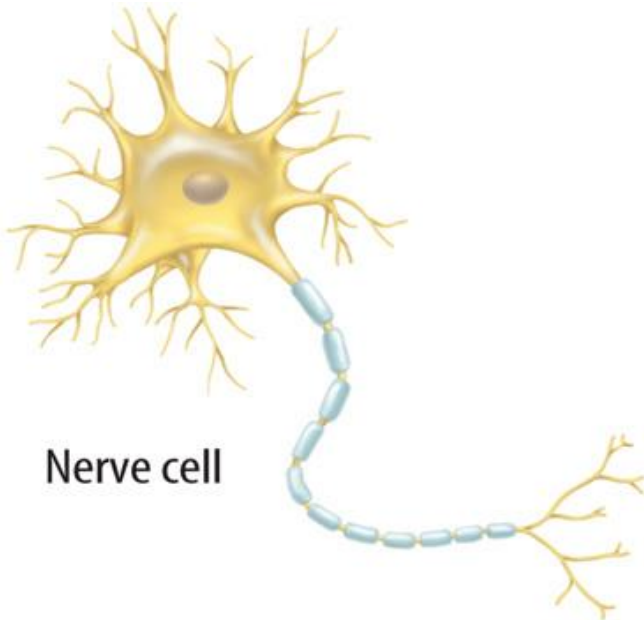
Cell Theory and Robert Hooke!

- Video (3:32)
- https://www.youtube.com/watch?v=dscY_2QQbKU



Cell Shape

- Cell shape and size is related to function.

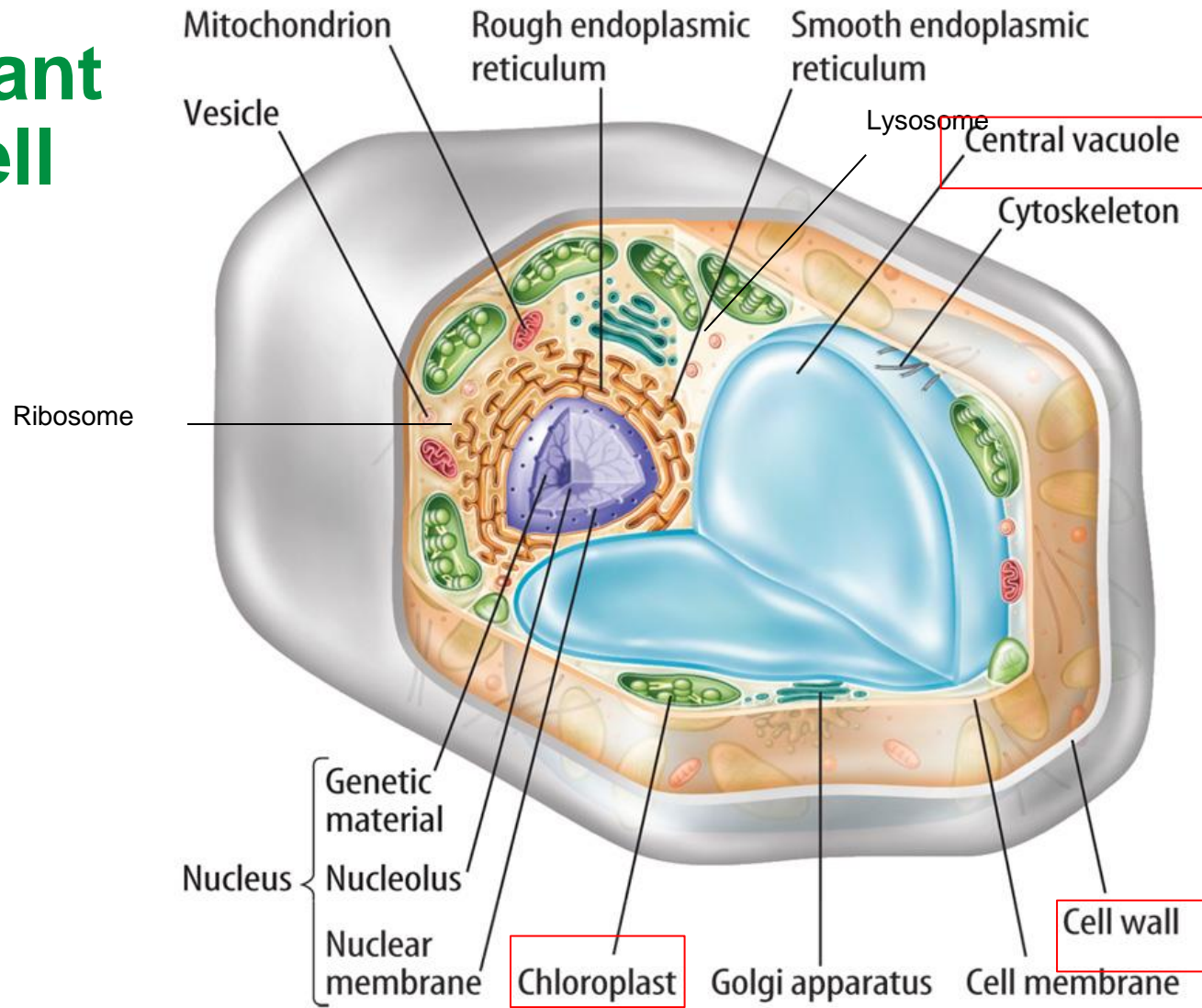


Parts of a Cell Song!!!

- Video (3min)
- <https://www.youtube.com/watch?v=rABKB5aS2Zg>



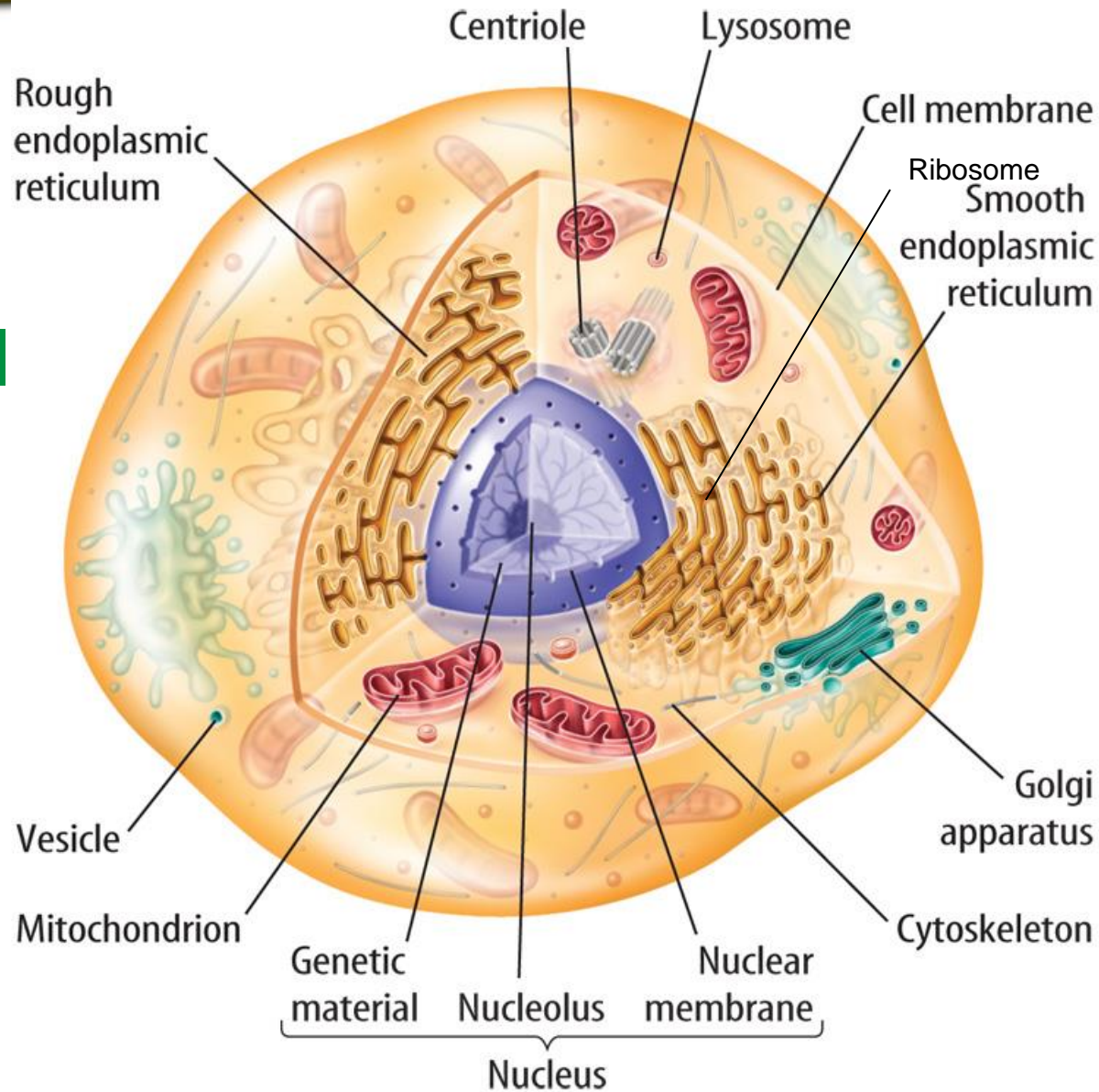
Plant Cell



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Animal Cell

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Cells Cells they're made of organelles

- Rap
- http://www.teachertube.com/viewVideo.php?video_id=248477

Table 2 Cell Structure

Cell Structure	Example	Function	Cell Type
Cell membrane			
Cell wall			
Flagellum			
Cilium			
Cytoskeleton			
Nucleus			
Ribosome			
Endoplasmic reticulum			
Mitochondrion			
Chloroplast			
Golgi apparatus			
Vesicle			
Lysosome			
Central vacuole			

Use the following slides
to fill in the table!

ANSWERS IN TEXT
BOOK PAGE 63

Cell Membrane

- Protective outer covering
- Selectively permeable
- Flexible layer of phospholipids



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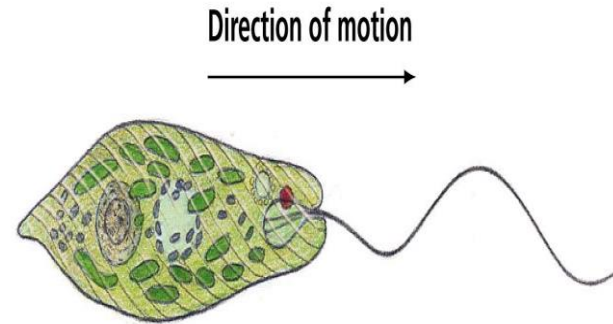
Cell Wall

- Found in plants, fungi, some bacteria
- Surrounds cell membrane
- Supports and protects the cell
- Plant cell walls made mostly of cellulose.

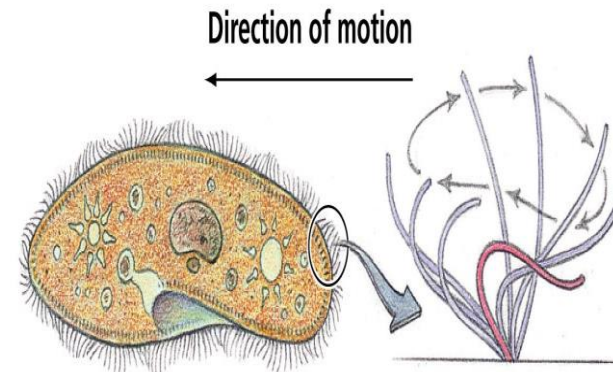


Cell Appendages

- Flagellum—“Whip-like” looks like a tail
 - Only One on a cell
- Cilium --occur in large numbers
 - Sometimes used to move
 - Sometimes used to help fluid move across the surface of a cell.



(a) Flagella



(b) Cilia

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Cytoskeleton

- Network of fibers responsible for:
 - Muscle contraction
 - Cell division
 - Cell movement
 - Maintenance of cell shape



Cytoplasm

- Consists of mostly water.
- Structures and substances in cell are suspended in the cytoplasm.



Cell Organelles

- Structures suspended in the cytoplasm
- Have specific functions
- Not found in single-celled organisms



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Nucleus

- Contains genetic material for making all the molecules of a cell
- Surrounded by a membrane
- Contains nucleolus



Genetic Material in the Nucleus

- Long chains of DNA are coiled into **chromosomes**.
- The same kind of organisms have the same number of chromosomes in each cell.



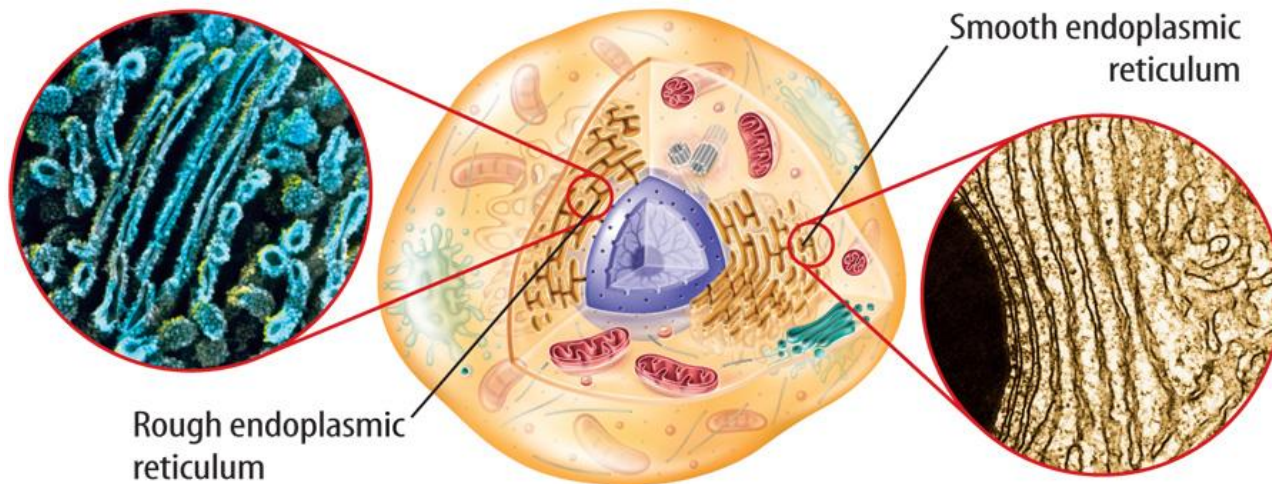
Ribosomes

- Cells manufacture proteins within the ribosome organelle.
- Not membrane-bound
- Found in all cells
- Made in nucleolus and move into cytoplasm
- May be attached to the endoplasmic reticulum



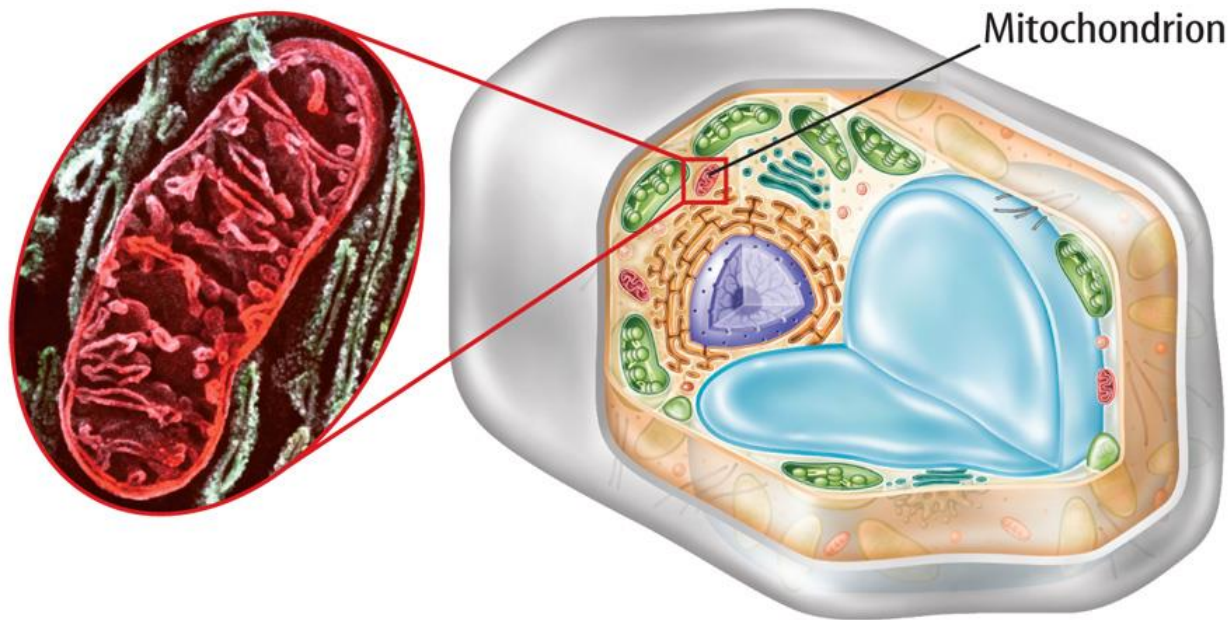
Endoplasmic reticulum

- Highly-folded membrane connected to the nucleic membrane
 - Rough ER
 - Smooth ER



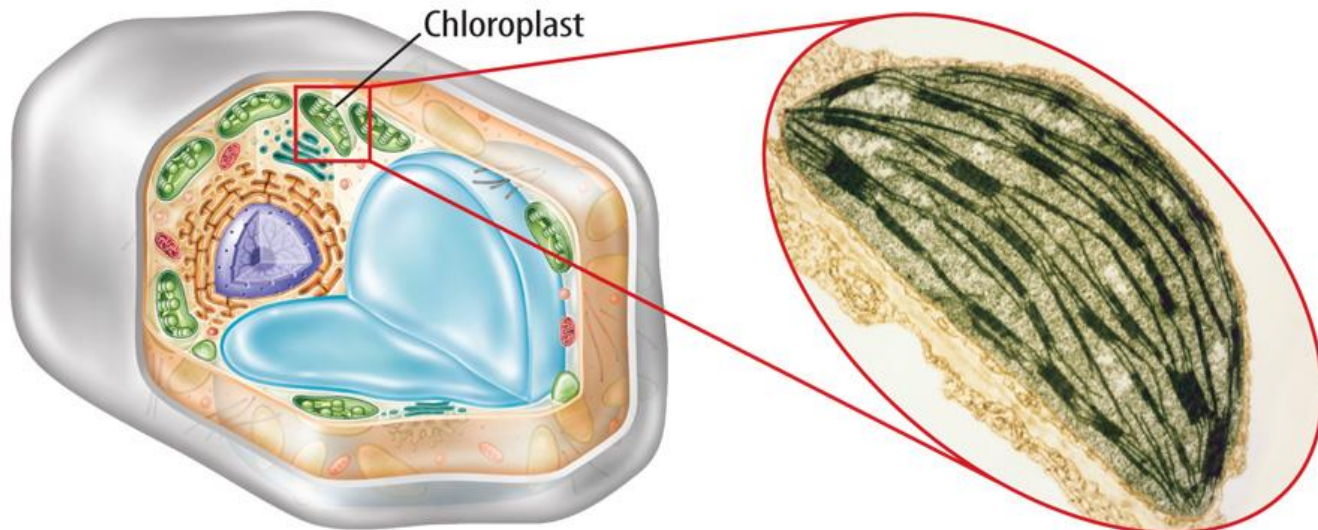
Energy Processing

- Food energy is transformed into usable energy inside **mitochondria**.



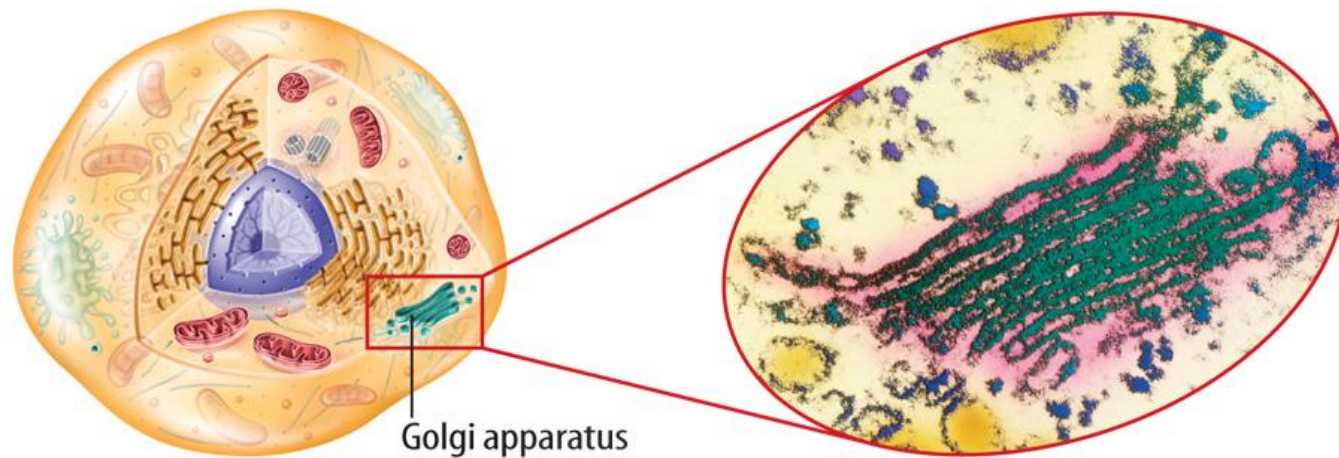
Energy Processing (cont.)

- **Chloroplasts** use light energy to make food.
- They are found in nearly all plants and some single-celled organisms.



Processing, Transporting, and Sorting

- Golgi apparatus
 - makes, sorts, and ships molecules
 - modifies, stores, and directs molecules made in the ER



Processing, Transporting, and Sorting

(cont.)

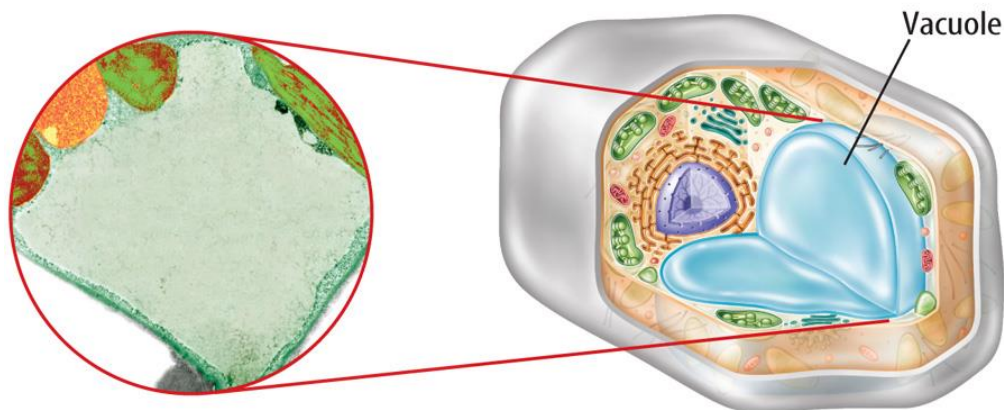
- Vesicles
 - transport molecules through cytoplasm
 - transport molecules to cell membrane for release



Processing, Transporting, and Sorting

(cont.)

- Vacuoles can store food, water, or waste products
- **Lysosomes** store digestive enzymes in animal cells.
- **Central vacuoles** store water in plants cells.

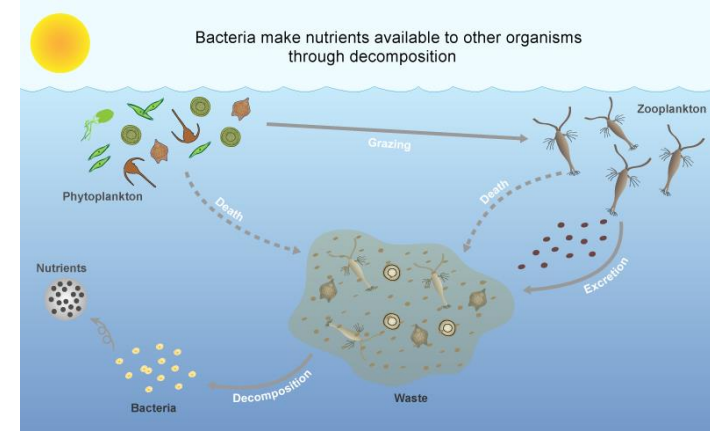
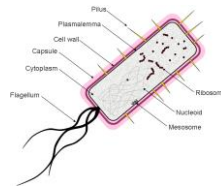


Cheek Cells



Prokaryotic Cells

- Single-celled organisms known as bacteria
 - Can be harmful (*Salmonella*)
 - Can be beneficial (*Streptomyces*)
 - Essential to environmental processes such as decomposition



Brain
POP™ **Bacteria**

[Click here to learn more!](#)

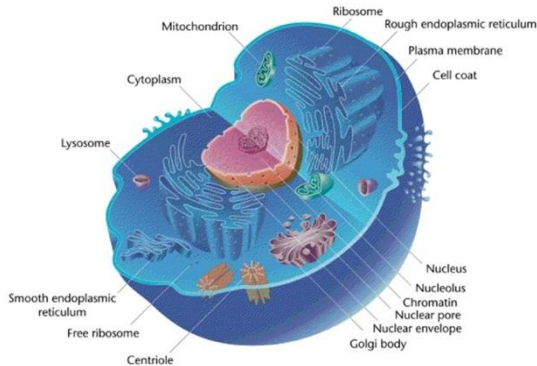


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Eukaryotic Cells

- Larger than prokaryotic cells
- Include protists, fungi, plants, and animals
- May have evolved from prokaryotic cells

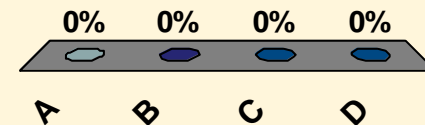


LESSON 2 Review



What is the function of a flagellum?

- A** transport nutrients
- B** maintain cell shape
- C** store molecules
- D** cell movement



Resources

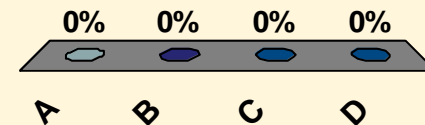


LESSON 2 Review



What do mitochondria use to make energy?

- A** food molecules
- B** light energy
- C** water
- D** air



Resources

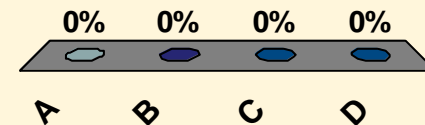


LESSON 2 Review



What is another name for prokaryotes?

- A eukaryotes
- B chloroplasts
- C** bacteria
- D mitochondria



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