

# Cells study guide biology

[Science](#), [Biology](#)



Soon of existing cells. Janet Plow demonstrated that the cell membrane is a physical structure, not an interface between two liquids. Lynn Amaryllis proposed the idea that certain organelles were once free living themselves. Cell Theory: All living things are composed of cells. Cells are the basic units of structure and function in living things. New cells are produced from existing cells. 2 Types of Cells: Eukaryote are cells that contain nuclei. They contain a nucleus in which their genetic material is separated from the rest of the cell.

Prokaryote are cells that do not contain nuclei. They have genetic material that is not contained in a nucleus. Section: An organelle is a specialized structure that performs important cellular functions within an eukaryotic cell. A plant cell has a cell wall and a cell membrane while an animal cell has just a cell membrane. Organelles: Nucleus: Contains nearly all the cell's DNA & with it the coded instructions for making proteins & other important molecules. (Both) Ribosome: small particles of RNA & proteins found throughout the cytoplasm. Proteins are assembled on ribosome.

(Both) Endoplasmic Reticulum: internal membrane system, the site where lipid components of the cell membrane are assembled, along with proteins and other materials that are exported from the cell. (Both) Golgi apparatus modifies, sorts and packages proteins & other materials from the ERE for storage in the cell or secretion outside the cell. (Both) Lysosome: small organelles filled with enzymes. Breaks down lipids, carbohydrates & proteins into small molecules that can be used by the rest of the cell. Also involved in breaking down organelles that have outlived their usefulness.

A) Vacuoles: sack-like structures that store materials such as water, salts, proteins and carbohydrates. (P) Mitochondria: organelles that convert the chemical energy stored in food into compounds that are more convenient for the cell to use. Enclosed by two membranes (outer and inner) (Both) Chloroplasts: organelles that capture the energy from sunlight and convert it into chemical energy in a process called photosynthesis. (Plant) Cytoplasm: portion of the cell outside the nucleus. (Both) Cytokines: network of protein filaments that helps the cell to maintain its shape.

The cytokines is also involved in movement. The two principal protein filaments that make up the cytokines are nonconformists and microbes. (Both) Centurion: One out of two tiny structures located in the cytoplasm of animal cells near the nuclear envelope. (A) Cell Membrane: Regulates what enters & leaves the cell & also provides protection & support. (Both) Cell Wall: provides support and protection for the cell. (P) Both chloroplasts and mitochondria are surrounded by two membranes. They both contain their own genetic info in the form of small DNA molecules.