

All About Cells

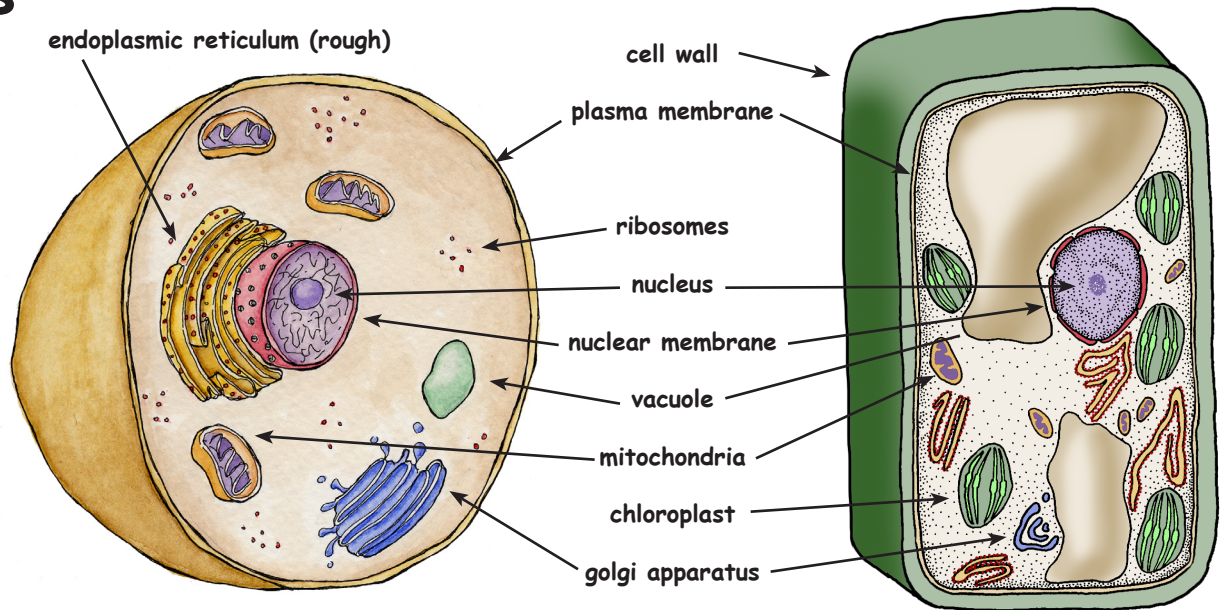
Animals Cell and Organelles

Plant Cell and Organelles

Organs

Cells

Function



Each cell has a protective outside layer called the plasma membrane. The plasma membrane lets certain things into the cell that it needs, but keeps other things out. This is called semipermeable. Inside the cell is a watery medium that everything floats in called cytoplasm. The cytoplasm contains all the working parts of the cell, the organelles.

Each organelle has a job. The nucleus has our DNA that contains all our genetic information. The DNA is found on structures in the nucleus called chromosomes. There are 23 pairs (46 total) of chromosomes in each nucleus of each cell. The nucleus is surrounded by a nuclear membrane, which controls what goes in and out. Little grains floating around inside the cell are ribosomes, where proteins are made. Rough endoplasmic reticulum (rough ER) is a bunch of folded membrane pathways spotted with ribosomes. Together the ribosomes and the rough ER make new proteins and new membranes that the cell needs. Smooth Endoplasmic Reticulum (smooth ER) has no ribosomes on it and makes containers called vesicles that are used to move things around inside the cell. Golgi apparatus are made up of flat vesicles that package up things that need to leave the cell, like hormones. Lysosomes are vesicles that have digestive enzymes inside them and break down the things that the cell doesn't need. They also kill bacteria that invades the body. Vacuoles are membrane sacs for storing things. Mitochondria have a double membrane that folds in on itself forming little fingers called cristae. They break down sugar to make ATP, which is used by the cell as energy. All the organelles are working together to keep things in the body in balance (equilibrium).

Plants are made up of cells too. Plant cells are a bit different from animal cells. For one thing, plant cells have a thick cell wall surrounding the plasma membrane. Their vacuoles, which store water, are much larger. They have chloroplasts, the organelles that carry out photosynthesis, to make energy for the plant using sunlight, water and carbon dioxide.

CITING RESEARCH REFERENCES

Amsel, Sheri. "Digestive System." The Large Intestine. Exploring Nature Educational Resource. © 2005 - 2009. November 20, 2009. <<http://exploringnature.org/db/detail.php?dbID=20&detID=42>>