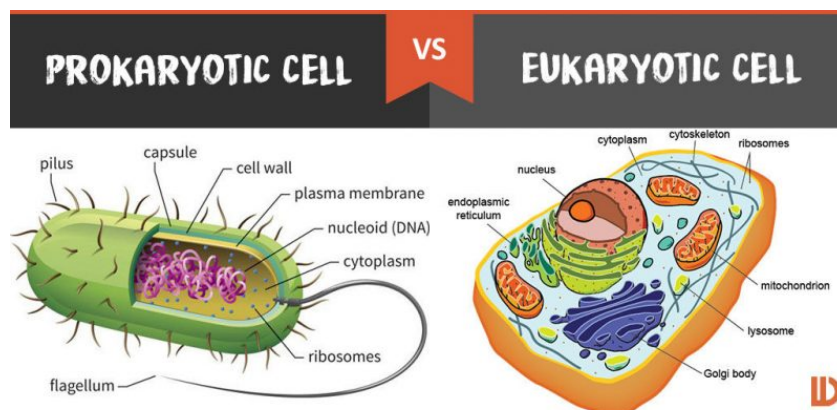


Cellular organization – Reference Summary

A cell is a smallest unit of life that is bound by a membrane and can self-replicate.

There are two types of cells: eukaryotic cells (such as the cells that make up plants and animals) and prokaryotic cells (such as bacteria cells).

An organism that is made up of one or more eukaryotic cells is called a eukaryote, and an organism whose cells are prokaryotic is called a prokaryote. In this way, plants and animals can be referred to as eukaryotes and bacteria are examples of prokaryotes.



Organelles

An organelle is defined as a specialized structure within a cell that serves a specific function.

The chart below lists eukaryotic organelles with a short summary of their functions. Pay particular note to the nucleus, mitochondria, and ribosomes.

Common Organelles of Eukaryotic Cells

Name	Function
<i>Organelles with membranes</i>	
Nucleus	Protecting, controlling access to DNA
Endoplasmic Reticulum (ER)	Routing, modifying new polypeptide chains; synthesizing lipids; other tasks
Golgi body	Modifying polypeptide chains; sorting, shipping proteins and lipids
Vesicle	Transporting, storing, or digesting substances in the cell, other functions
Mitochondrion	Making ATP by breaking down sugars
Chloroplast	Making sugars in plants and some protists
Lysosome	Intracellular digestion
Peroxisome	Inactivation of toxins
Vacuole	Storage
<i>Organelles without membranes</i>	
Ribosome	Assembling polypeptide chains
Centriole	Anchor for the cytoskeleton