

ORGANELLE	LOCATION	DESCRIPTION	FUNCTION
cell wall	plant, fungi and bacteria but not animal	*outer layer *rigid, strong, stiff *made of cellulose	*support (grow tall) *protection *allows H ₂ O, O ₂ , CO ₂ to pass into and out of cell
cell membrane	both plant/animal All cells	*plant - inside cell wall *animal - outer layer; cholesterol *selectively permeable	*support *protection *controls movement of materials in/out of cell *barrier between cell and its environment *maintains homeostasis
Nucleus nucleus is absent in prokaryotic cells	both plant/animal	*large, oval generally .	*controls cell activities *key organelle which has the genetic material and is involved in multiplication of cell, growth and maintenance of cell.
nucleolus	All cells except prokaryotes	*Found inside cell's nucleus * may have more than one *disappears during cell division	* Make ribosomes, contains building blocks or mRNA, tRNA, rRNA
nuclear membrane	both plant/animal	*surrounds nucleus *selectively permeable	*Controls movement of materials in/out of nucleus
Centrioles	Animal cells	*paired structures near the nucleus *made of cylinder of microtubule pairs	*stparate chromosome pairs during mitosis
cytoplasm	both plant/animal All cells	*clear, thick, jellylike material (sytosol) * organelles found inside cell membrane *contains cytoskelon fibers	*supports /protects cell organelles
endoplasmic reticulum (E.R.) Smooth Rough	both plant/animal	*network of tubes or membranes No ribosomes Attached ribosome	*carries materials through cell Synthesis of fats/lipids Ribosomes synthesis proteins for export
ribosome	both plant/animal	*small bodies free or attached to E.R. *made of rRNA and protein	*synthesizes proteins

Mitochondria	both plant/animal	*bean-shaped *inner membranes Double membrane outer smooth inner folded into cristae	*breaks down sugar molecules into energy *site of aerobic cellular respiration
Golgi/golgi bodies / golgi apparatus	both plant/animal except Prokaryotes	These are the vacuoles or sac like structures. They occupy a considerable amount of cytoplasm. *stacks of flattened sacs	* to modify and package proteins for export *have cis and trans face
vacuole	plant - few/large animal - small	*fluid-filled sacs	* Vacuoles are pouches in the cell that store materials such as water, salts, proteins, and carbohydrates, waste products and toxic waste.. *store food, water, waste (plants need to store large amounts of food)
Vesicles	A lot of small bubble sacs in animals, large sac in the middle of plant cells	These are small-sized sac like structures. They are of different types lysosomes, peroxisomes.	*These help in storage and release of substances as required by the cell. For example lysosomes help in cell digestion when cell dies. Vacuoles function is to store water.
lysosome	plant - uncommon animal - common	*small, round, with a membrane	*breaks down larger food molecules into smaller molecules *digests old cell parts
chloroplast	plant, not animal	*green, oval usually containing chlorophyll (green pigment)	*uses energy from sun to make food for the plant (photosynthesis)
Cilia	Animal cells and protozoa	Have a 9-2 arrangement of microtubules *short but numerous	Movement of cell
flagellum	Bacteria cells and protozoan Sex cells	*Have a 9-2 arrangement of microtubules *long but few in number	movement
Micro-tubules = cytoskeleton	All cells	*micro-tubules provide structural strength. * These are filamentous extensions in cytoplasm.	* the cell has a fixed structure and does not collapse * form the cyto-skeleton *moves organelles within the cell

http://www.biologyjunction.com/cell_functions.htm