# Ms. Leo’s Cell Part Definitions

**cell membrane**: The cell membrane is a thin semi-permeable membrane that surrounds the cytoplasm of a cell. Its function is to protect the inside of the cell by allowing certain substances into the cell while keeping other substances out.

**cell wall**: the rigid layer that surrounds plant cells. It provides structural support and prevents over-expansion when water enters the cell.

**centriole**: cylindrical structures composed of groupings of microtubules. The main function of the centrioles is to help separate the chromosomes during cell division.

**chloroplast**: specialized organelles that contain a plant cell’s chlorophyll. The chloroplast makes sugars and starches for the plant cell via photosynthesis.

**cytoplasm**: the gel-like substance inside the cell that supports the organelles in the cell by storing materials that the cell needs to function .

**Golgi apparatus**: The Golgi apparatus collects, processes, and sorts molecules, and readies them for transport to other parts of the cell or out of the cell.

**lysosome**: specialized organelles that contain enzymes for molecular digestion. The lysosomes destroy worn-out or damaged organelles, get rid of waste materials, and protect the cell from foreign invaders.

**mitochondrion**: one of the largest organelles in a cell. They generate the energy that the cell needs (adenosine triphosphate—ATP)

**nucleolus**: is a non-membrane bound structure composed of proteins and nucleic acids. It is found within the nucleus. Its function is to make ribosomal RNA.

**nucleus**: the control center of the cell. It contains most of the cell's genetic material organized as DNA. The function of the nucleus is to house and protect the DNA, and also to control the activities of the cell by regulating gene expression.

**nuclear envelope**: a double membrane layer that surrounds the cell. It is dotted with thousands of nuclear pores which allow material (primarily RNA) to move into and out of the nucleus.

**plastid (chromoplast**): heterogeneous plastids responsible for pigment synthesis and storage. Also responsible for ripening fruits and changing of the color of leaves in autumn.

**plastid (leukoplast):** plastids specialized for bulk storage of starch, lipid, or protein. In many cell types leukoplasts do not have a major storage function. These leukoplasts synthesize fatty acids, amino acids, and tetrapyrrole compounds such as haem.

**rough endoplasmic reticulum**: an organelle of cells in eukaryotic organisms that forms an interconnected network of tubules. Messenger RNA exits the nucleus through small pores to enter the cytoplasm. At the ribosomes on the rough ER (which give it its bumpy texture),proteins are made. These proteins are then transferred to the Golgi where they are further processed and packaged into lysosomes and other organelles.

**ribosomes (attached):** organelles that consist of RNA an proteins. They are responsible for assembling the proteins which usually leave the cell. Attached ribosomes can be found in the rough ER.

**ribosomes (free):** organelles that consist of RNA an proteins. They are responsible for assembling the proteins of the cell. These proteins usually remain in the cell and are used by the cell.

**smooth endoplasmic reticulum**: an organelle of cells in eukaryotic organisms that forms an interconnected network of tubules It functions to synthesize lipids and steroids and break down carbohydrates.

**vacuole**: membrane-bound organelle having no basic shape or size (as its structure varies according to the needs of the cell). The function and importance of vacuoles varies greatly according to the type of cell. Vacuole functions include water, food and waste storage.