Animal Cell:

1. Cell Membrane

Cell Membrane is a biological membrane that separates the interior of all cells from the outside environment. It allows what goes out and goes in from the cell.

1. Nucleus

The function of nucleus is to maintain the integrity of these genes and to control the activities of the cell.

1. Nuclear Envelope

The function of Nuclear envelope is serves as the physical barrier, separating the contents of the nucleus (DNA in particular) from the cytosol (cytoplasm).

1. Nuclear Pore

Nuclear pores are large protein complexes that cross the nuclear envelope, which is the double membrane surrounding the eukaryotic cell nucleus.

1. Nucleolus

It contains all the DNA of the cell. This is used as instructions to create the building blocks of the cell (proteins). It is often referred to as the brain of the cell as it controls what goes on. It is also used for cellular reproduction.

1. Chromatin

The function of Chromatin is to package DNA into a smaller volume to fit in the cell, to strengthen the DNA to allow mitosis and meiosis and prevent DNA damage, and to control gene expression and DNA replication.

1. Cytoplasm

The cytoplasm forms the ground substance of the cell. It fills the interior of the cell.

The main function of the cytoplasm is to hold the cell organelles of the cell.

1. Mitochondrion

Mitochondrion are involved in a range of other processes, such as [signaling](http://en.wikipedia.org/wiki/Cell_signaling), [cellular differentiation](http://en.wikipedia.org/wiki/Cellular_differentiation), [cell death](http://en.wikipedia.org/wiki/Apoptosis), as well as the control of the [cell cycle](http://en.wikipedia.org/wiki/Cell_cycle) and [cell growth](http://en.wikipedia.org/wiki/Cell_growth). It provides energy.

1. Golgi Complex

The Golgi apparatus is integral in modifying, sorting, and packaging these macromolecules for cell secretion (exocytosis) or use within the cell. It primarily modifies proteins delivered from the rough endoplasmic reticulum but is also involved in the transport of lipids around the cell, and the creation of lysosomes. In this respect it can be thought of as similar to a post office; it packages and labels items which it then sends to different parts of the cell.

1. Centriole

Centrioles are a very important part of centrosomes, which are involved in organizing microfilaments in the cytoplasm. The position of the centriole determines the position of the nucleus and plays a crucial role in the spatial arrangement of the cell.

1. Microtubule

The function of microtubules is to move granules, organelles like mitochondria, vesicles, and chromosomes via a special protein through a cell. It's sort of like a conveyor belt within a cell

1. Vacuole

* Vacuoles perform mostly subordinate roles, assisting in larger processes of exocytosis and endocytosis.
* Isolating materials that might be harmful or a threat to the cell
* Containing waste products
* Containing water in plant cells
* Maintaining internal hydrostatic pressure or turgor within the cell
* Maintaining an acidic internal pH
* Containing small molecules
* Exporting unwanted substances from the cell
* Allows plants to support structures such as leaves and flowers due to the pressure of the central vacuole

In seeds, stored proteins needed for germination are kept in 'protein bodies', which are modified vacuoles.

1. Lysosome

Lysosomes function as the digestive system of the cell, serving both to degrade material taken up from outside the cell and to digest obsolete components of the cell itself.

1. Microfilament

Microfilaments are highly versatile, functioning in cell crawling, amoeboid movement, and changes in cell shape. It maintains the structural function of the cell.

1. Ribosome

Ribosomes are responsible for assembling the proteins of the cell

1. Endoplasmic Reticulum

Rough endoplasmic reticula synthesize proteins, while smooth endoplasmic reticula synthesize lipids and steroids, metabolize carbohydrates and steroids (but not lipids), and regulate calcium concentration, drug metabolism, and attachment of receptors on cell membrane proteins

Plant cell

1. Cell Membrane

It's a layer of protection, and it allows objects to pass through it

1. Cell wall

Cell walls are made of specialized sugars called cellulose. Cellulose provides a protected framework for a plant cell to survive.

1. Vacuole

The plant vacuole stores food, water, and wastes. It gives support to soft structures, such as leaves.

1. Chloroplast

Chloroplasts, in conjunction with chlorophyll, give plants their green color. They consist of 3 membranes, the inter membrane space, outer membrane, and the thylakoids

1. Golgi complex

Shipping system in the cell that sends things to places

1. Ribosome

Ribosomes are the sites where amino acids are assembled into proteins.

1. Endoplasmic reticulum

Tubular network fused to nuclear membrane

Goes through cytoplasm onto cell membrane

1. Mitochondrion

Generate most of the cell's supply of cells energy

1. Microfilament

Common to all eukaryotic cells, these filaments are primarily structural in function and are an important component of the cytoskeleton.

1. Lysosome

It helps to supply some hydrolytic enzyme for various metabolic activities of plant.

1. Nucleus

Cell and it contains the cell's DNA in its chromosomes.

1. Nuclear envelope

The nuclear envelope also serves as the physical barrier, separating the contents of the nucleus (DNA in particular) from the cytosol (cytoplasm).

1. Nuclear pore

Regulate in and out movement of only specific substances