

Inside a cell notes

Organelles are structures inside cells, organelles have special jobs.

Cytoplasm: The jelly like substance inside a cell.

Nucleus: Controls the activities within a cell, the nucleus is where DNA is stored. Every cell has a copy of the DNA.

Mitochondria: Take oxygen and glucose to produce energy which can be used by the cell as well as water and the waste product carbon dioxide. This process is called **cellular respiration**. If you add up all the work of all the mitochondria in all the cells in your body it is called **metabolism**.

Vacuoles: Storage compartments, sometimes these store waste. In plant cells there is usually only one large vacuole, in animal cells there are usually many small vacuoles.

Ribosomes: Assembles proteins.

Proteins: Are what cells are made of, if cells are the building blocks of life, proteins are the building blocks of cells.

Endoplasmic Reticulum: A network of channels through which proteins are pushed, much like an assembly line. Many ribosomes are attached to the endoplasmic reticulum.

Golgi body: Sorts proteins which have been made by ribosomes and packs them into vesicles.

Vesicles: Move proteins, nutrients, and water around, in, and out of cells.

Cell membrane: A layer around the cell which controls what gets in and out of the cell.

Cell wall: A tough, rigid structure that surround the cell membrane in plant cells.

Chloroplasts: In plants take energy from the sun, carbon dioxide and water and change it into glucose and the waste product oxygen. This process is called **photosynthesis**.

Lyosome: Clean up the cell, break down old organelles.

Prokaryotic and Eukaryotic Cells

Eukaryotic Cells are complicated cells like animal and plant cells, they have organelles which are surrounded by membranes.

Prokaryotic cells are simpler cells like bacteria cells, their organelles are not surrounded by membranes, they do not have nucleuses.

Generally eukaryotic cells are much larger than prokaryotic.

Viruses

Viruses are non-living things which can't reproduce on their own but can trick a host cell to reproduce them.