

KNOWLEDGE



1. The cell is the basic unit of life. It is the smallest unit of an organism that can perform all the functions of life. Cells are present in all living organisms. Some organisms are made of only one cell, while others are made of many cells. The study of cells is called cytology.

2. Cells are surrounded by a cell membrane. This membrane is made of phospholipids and proteins. It controls the entry and exit of substances into and out of the cell. The cell membrane is selectively permeable, meaning that it allows some substances to pass through while blocking others.

3. Inside the cell, there are various organelles that perform different functions. The nucleus is the control center of the cell, containing the genetic material (DNA). Other organelles include the mitochondrion, which produces energy for the cell, and the Golgi apparatus, which processes and transports proteins. There are also lysosomes, which break down waste materials, and vacuoles, which store water and other substances. In plant cells, there is also a large central vacuole and chloroplasts, which are responsible for photosynthesis.

4. The cell wall is a rigid structure that surrounds the cell membrane in plant cells. It is made of cellulose and provides structural support and protection. The cell wall is thicker in some parts of the cell, such as the corners, and thinner in other parts. It also helps to maintain the shape of the cell and prevent it from bursting or shrinking.

5. The cytoplasm is the fluid-filled space inside the cell. It contains various organelles and is the site of many cellular processes. The cytoplasm is composed of water, salts, and organic molecules. It is constantly moving, and this movement helps to transport substances throughout the cell.