# Cell Organelle Notes

The basic units of structure and function of living things are **CELLS**.
The structures that make up a cell are called **ORGANELLES**. While looking at a slice of cork under the microscope, Robert Hooke discovered **CELLS**.

## Structures and Functions of Cell Organelle

The cytoplasm looks like **Jello. (a jelly like substance.**
Cytoplasm is constantly moving.

The cell membrane is found in both **PLANT** and **ANIMAL** cells. It has two main jobs,
**1. CHOOSE WHAT COMES IN AND OUT OF THE CELL.**
**2. PROVIDE A PROTECTIVE COVERING TO KEEP THE ORGANELLES INSIDE.**

Examples of things that pass in and out of the cell membrane are **FOOD, WATER, WASTES.**
In a plant cell the cell membrane is found **UNDER THE CELL WALL. THE CELL WALL IS ON THE OUTSIDE OF A PLANT CELL.**
In an animal cell the cell membrane is found **ON THE OUTSIDE OF THE CELL. IT IS THE OUTER COVERING OF AN ANIMAL CELL.**

The nucleus is the control center of the cell. Inside the nucleus you will find **CHROMOSOMES**
Chromosomes direct all activities of the cell including **HEREDITY, RECIPE FOR PROTEINS, DIRECT ALL MAJOR ACTIVITIES FOR THE CELL.**
Chromosomes are made of **DNA (DEOXYRIBONUCLEIC ACID)**

The mitochondria are known as the **POWERHOUSE** of the cell. They provide the cell with **ENERGY**.

Ribosomes are also found in both **PLANT** and **ANIMAL** cells. Their main function is to **READ THE RECIPE FROM THE DNA TO MAKE PROTEINS**. They can be found attached to the **ER** or floating in the **CYTOPLASM** .

**The endoplasmic reticulum or for short the E.R, is found in both PLANT and ANIMAL cells. One of its functions is to PROVIDE TRANSPORTATION FOR THE MOVEMENT OF THE RIBOSOMES.**

**Lysosomes are considered the CLEAN UP CREWS for the cell. They have two main functions. One is to DIGEST OLD CELL PARTS**
The other is to **USE ENZYMES TO BREAK DOWN WASTE.**

Vacuoles are found in **PLANT** and **ANIMAL** cells The only difference is in plant cells there is usually only 1 **LARGE** vacuole. In animal cells there are more vacuoles and they are **SMALLER** Chloroplast is only found in **PLANT** cells.

They contain green chlorophyll. Chlorophyll captures the **ENERGY** from the sun which helps the plant in the process of **PHOTOSYNTHESIS**. Photosynthesis is the process of plants making their own food.

In multicellular organisms cells work together. Cells join together to form **TISSUES** Tissues work together to form **ORGANS**. Together organs make up **ORGAN SYSTEMS** and organ systems make up **AN ORGANISM**. One organ system in your body is the **DIGESTIVE**, it is responsible for **DIGESTING FOOD.**

Therefore, the main differences between plant and animal cells are:

**1. PLANT CELLS ARE MORE SQUARE SHAPED**
**2. PLANT CELLS CONTAIN CHLOROPLAST**
**3. PLANT CELLS HAVE ONE REALLY LARGE VACUOLE**
**4. PLANT CELLS PERFORM PHOTOSYNTHESIS**
**5. PLANT CELLS HAVE A CELL WALL.**
**6. THE OUTER COVERING OF A PLANT CELL IS THE CELL WALL. THE OUTER COVERING OF AN ANIMAL CELL IS THE CELL MEMBRANE.**