

# Biology for Kids

## The Cell



The cell is the basic unit of life. Some organisms are made up of a single cell, like bacteria, while others are made up of trillions of cells. Human beings are made up of cells, too.

### Different Types of Cells

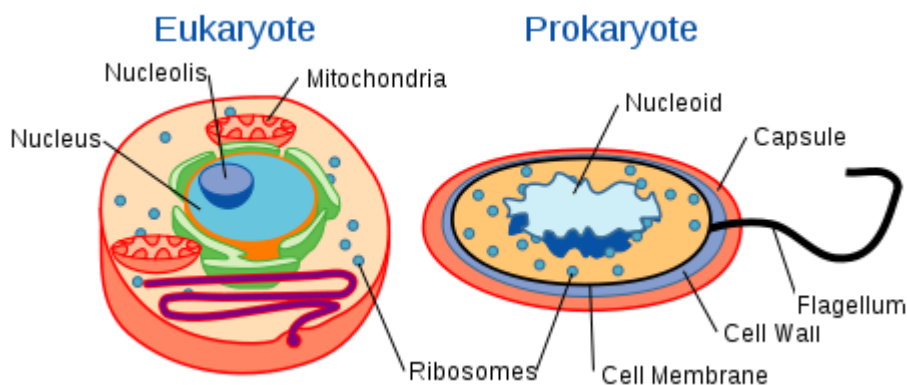
There are lots of different types of cells. Each type of cell is different and performs a different function. In the human body, we have nerve cells which can be as long as from our feet to our spinal cord. Nerve cells help to transport messages around the body. We also have billions of tiny little brain cells which help us think and muscle cells which help us move around. There are many more cells in our body that help us to function and stay alive.

Although there are lots of different kinds of cells, they are often divided into two main categories: prokaryotic and eukaryotic.

**Prokaryotic Cells** - The prokaryotic cell is a simple, small cell with no nucleus. Organisms made from prokaryotic cells are very small, such as bacteria. There are three main regions of the prokaryotic cell:

- 1) The outside protection or "envelope" of the cell. This is made up of the cell wall, membrane, and capsule.
- 2) The flagella, which are a whip-like appendages that can help the cell to move. Note: not all prokaryotic cells have flagella.
- 3) The inside of the cell called the cytoplasmic region. This region includes the nucleoid, cytoplasm, and ribosomes.

**Eukaryotic Cells** - These cells are typically a lot bigger and more complex than prokaryotic cells. They have a defined cell nucleus which houses the cell's DNA. These are the types of cells we find in plants and animals.



### Parts of the Cell

There are a lot of parts and functions to some cells. Here are some of the main components many cells have:

- **Membrane** - This is the outer boundary of the cell. Sort of like the skin. It allows some substances in and keeps others out.
- **Mitochondria** - This is where the cell gets its energy. In the human body, food we have digested reacts with oxygen in the mitochondria to make energy for the cell.
- **Ribosomes** - Ribosomes are like tiny factories that make different things the cell needs to function, like proteins.
- **Nucleus** - The nucleus is the brains of the cell. It uses chromosomes to instruct the rest of the cell what to do next.
- **Cytoplasm** - This is the stuff that fills up the rest of the cell. The other components of the cell float around in the cytoplasm. It's mostly water.
- **Lysosomes** - These guys clean up the place getting rid of waste and other unwanted substances that may get into the cell.

The machines inside the cell like the nucleus, ribosomes, and lysosomes are called organelles.

### **Fun Facts About Cells**

- They were discovered by the scientist Robert Hooke.
- One of the largest known cells is the ostrich egg which can weigh over three pounds.
- When many cells of the same kind are together in a group, it's call tissue.
- The word cell comes from the Latin word cellula, which means small compartment.
- Humans actually carry more bacteria cells than human cells. Yuck!