

Topic: cell the basic  
unit of life



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Topic: Cell - The Basic Unit of Life Cells are the basic unit of life; the microscopic building blocks from which the human body as well as the animals, insects and plants are constructed. Even though they are the smallest, they are highly complex.

Every adult body contains more than a hundred million cells, microscopic structures averaging only a hundredth of a millimeter in diameter. No one cell is capable of surviving on its own outside the body unless it is cultured in special conditions, but when grouped together into tissues, organs and systems of the body they work together in harmony to sustain life.

Cell theory consists of:

1. Cells are the basic units of life.
2. All organisms are made of one or more cells.
3. All cells arise from pre-existing cells. ( Addison, 1994).

This cell theory is very important because it emphasizes the similarity of all living systems. Today, the cell theory guides the work of many biologists and physicians as they study diseases, food production, population control and other problem of living systems.

All living things are made of cells, how large or small the organisms was, it was made of cells. According to scientists found that all things alive were composed of cells, including the tissues, organs of the human body. This was a major step in understanding life. It led to one of the foundation theories of biology. These tiny structures build up the skin, bones, muscles and all internal organs. Cells hold many functions in a human body. It performs both structural and functional role, it has variety of actions that sustain body tissues and organs.

The body cells vary greatly in shape, size, and detailed structure according

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to the jobs they have to do. Some cells are long and thin, some cells have thin walls and others have thick walls, and some cells are alive and others are dead! Dead cells can be useful to a multi cellular organism. In humans, dead cells contribute the structure of hair shafts and nails. In plants, dead cells provide stony protective layers in peach pits and the conductive elements of the xylem. Without the dead xylem elements, a plant would literally cook in the sun because it would lack the water to efficiently cool the leaves by evaporation of that water. Without the dead cells to bring minerals up with that water, plants would lack essential metal ions from the soil. These soil minerals include calcium, magnesium, iron, and zinc (more on those later in the course!). Our food would lack some of its essential nutrition were it not for these dead cells in plants!

Muscle cells, for example, are long and thin and contain fibers that can contract and relax, thus allowing the body to move. Many nerve cells are also long and thin, but are designed to transmit electrical impulses which compose the nerve messages, while the hexagonal cells of the liver are equipped to carry out a multitude of vital chemical processes. Doughnut-shape red blood cells transport oxygen and carbon dioxide round the body, while spherical cells in the pancreas make and replace the hormone insulin. Cells maintain life and reproduce themselves (Addison, 1994). The human body, which is made up of numerous cells, begins as a single, newly fertilized cell. Like the body itself, cells have a finite life span; they eventually die. Most of the body's cells divide and duplicate throughout life, but some cells either don't replenish themselves or do so in such small numbers that they cannot replace themselves fast enough to combat disease.

Therefore, life on Earth would not be possible was it not for the formation of

cells...

Works Cited:

Addison, P. 1994, Biology: The Cell,

Addison-Wesley Publishing Company Inc.