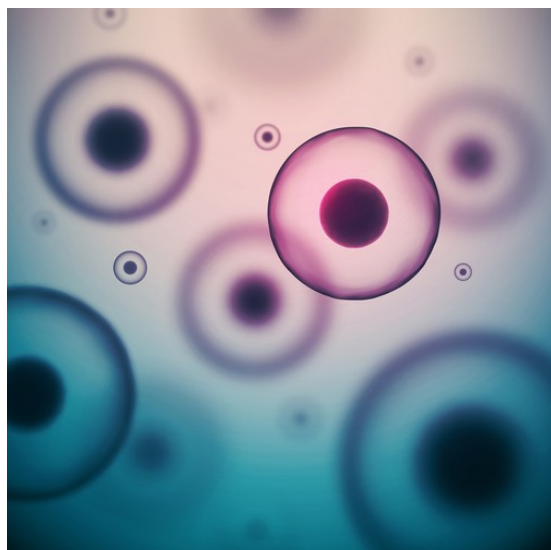


Name: _____

Cells: Building Blocks of Living Things

by Cindy Sherwood



To build a tower of blocks, you put one block on top of another until it creates a tall structure. With living things, there is a type of building block that does the same thing, creating the structure of who we are. This building block of all living things is called a cell.

A cell that is cut in half will not survive. That makes a cell very special. It is considered the smallest part of an organism that can survive on its own, so it is the most basic unit of life.

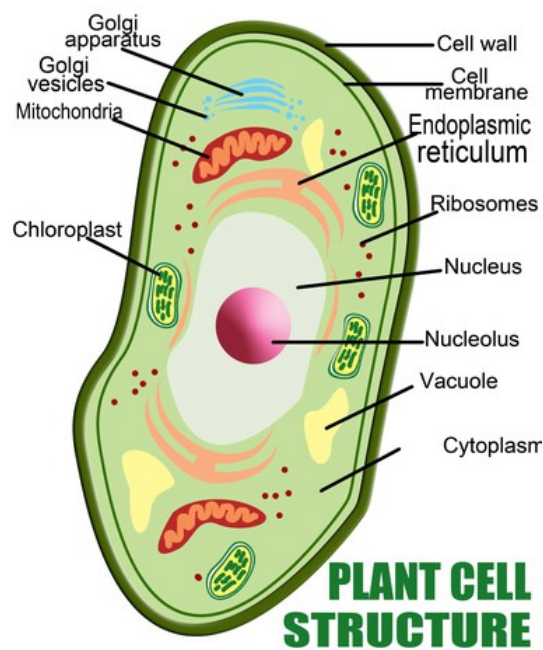
Trillions of cells join together to form a human being. But a single cell can also be alive. There are many very simple single-celled organisms, such as bacteria. They are the earliest and most primitive forms of life on earth.

Cells are extremely tiny. Even if you have perfect eyesight, you cannot see one, except with a microscope. So what does a cell look like? Imagine a kind of sack holding a watery, jelly-like material. The sack is held together by a membrane, the outer lining of the cell. This membrane separates one cell from others and protects it from its outside environment. The membrane also allows some materials to enter and leave the cell.

There are many different types of cells, which serve different purposes in how plants and animals function. There are cells that take in nutrients from food and other cells that turn those nutrients into energy. Some cells provide structure to an organism. Other cells can make copies of themselves. Certain types of cells contain organelles. Just like the name sounds, organelles are similar to small organs of the human body and perform specific tasks necessary for an organism to survive.

A human being may live to be a hundred years or older. But that does not mean all of our cells live that long. In fact, depending on the type of cell, some only live for a few days while others may live as long as a year. In fact, every single minute, about 300 million cells die in your body. But there is no need to worry you will run out of cells because so many die all the time. About 300 billion new cells are produced every day in the human body!

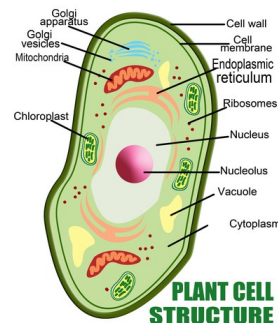
Another amazing aspect of cells is that they contain all the genetic material that helps determine who you are when you are born, such as your hair, eye, and skin color and whether you will grow up to be tall or short. Human cells contain 23 pairs of chromosomes with this genetic information. One pair of these chromosomes, which are known as the X and Y chromosomes, even determine if you are born as a boy or girl. Who could imagine that something as tiny as a cell could be so important to all of life!



Name: _____

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1. What would you find inside a human cell if you could inspect it closely?

- a. smaller living organisms
- b. genetic material
- c. bacteria
- d. smaller cells

2. According to the information in the article, will a human being have the same set of cells that he or she is born with when he or she is old? Why or why not?

3. Read the following statement.

Cells cannot survive without the support of other cells.

On the lines below, indicate whether this statement is true or false. Then explain why the statement is true, or why it is false.

4. In your own words, describe what some of the earliest life forms were like.

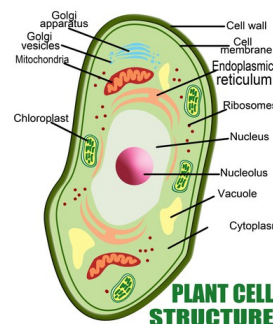
5. According to the information in the article, what does the membrane of a cell do?

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The following terms are vocabulary words from the article. Match the vocabulary word with its correct definition by writing the corresponding letter on the line.



- | | |
|----------------------|--|
| 1. _____ genetic | a. threadlike structures inside cells that carry genetic materials |
| 2. _____ primitive | b. an instrument that allows you to look closely at objects that are invisible to the human eye, including cells |
| 3. _____ organelles | c. remain alive |
| 4. _____ chromosomes | d. relating to genes; hereditary information that is passed from parent to child |
| 5. _____ nutrients | e. single-celled organisms that can cause some diseases |
| 6. _____ microscope | f. any specialized structures inside a cell that perform specific tasks; similar to organs |
| 7. _____ organism | g. the strength a living thing gains from absorbing nutrients |
| 8. _____ bacteria | h. ancient; prehistoric |
| 9. _____ survive | i. substances that provide the nourishment living things need to survive and grow |
| 10. _____ energy | j. an animal, plant, or single-celled living thing |

Name: _____

Cells: Building Blocks of Living Things

by Cindy Sherwood

In the article, "Cells: Building Blocks of Living Things," you learned that a cell is the most basic unit of life. Trillions of cells make up the human body, and each one has a special function that helps the body run smoothly.

Using the information in the article, and your science textbook, describe **three different types of cells** in the human body. Make sure you share the name of the cell, describe its function in the body, and provide any other interesting facts you find about that type of cell.

