

Cells

Name:
Teacher:

Class:
Date:

Directions:

Read the passage below then answer the questions that accompany it using complete sentences and proper grammar.

Looking at yourself and other organisms, you can see hair, skin, and limbs. What you do not see is a vast array of tiny particles that make all of these things up. The name of the tiny parts that make these up are called cells.

Cells are the basic unit of structure and function in all living things. The smallest thing that is alive is one cell in size. Because they are generally too small to see with the eye, scientists use microscopes to study them.

Cells come in many shapes, size, and with different functions. In humans, the shape of a cell can tell a little about its function. A nerve cell is long and thin to allow transmission of impulses while skin cells are flat to protect the body.

Regardless of the type of cell, all cells have some specialized parts (called organelles) in common. The first is the presence of a single nucleus. The nucleus of the cell is the control center. It is surrounded by the nuclear membrane and contains the hereditary material, controlling cell reproduction and gene expression.

The cell membrane surrounds the cell. This selectively permeable membrane is vital to keeping the cell alive because it regulates what can go into or come out of the cell. Some things are able to flow into and out of the cell through the process of passive transport (like water), while other substances (such as glucose) rely on active transport to move in and out.

Mitochondria are another important cell organelle. It is the power house of the cell, creating energy through a process called cellular respiration. There can be many mitochondria in a single cell. This is dependent on the function of the cell and the amount of energy it needs to perform its function.

There are other organelles of the cell that are necessary as well. Some of these are the lysosomes, golgi bodies, vacuoles, and ribosomes. They are just as vital to the life of the cell as those mentioned even though their functions may not seem so.

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Questions:

1. Are all cells the same? Explain your answer.

2. What does the term selectively permeable mean? How does this relate to the function of the cell membrane?

3. Why is the nucleus so important to the cell?

4. What would happen if the mitochondria in the cell all died?

5. CHALLENGE: ON YOUR OWN

Give the function of the following organelles:

Lysosome: _____

Golgi Body: _____

Vacuole: _____

Ribosome: _____