

Write one important fact from each paragraph in this space.

Science Shorts -7

What is a Cell?

The Great Pyramids of Egypt are made of stone blocks. Buildings are put together with bricks. Birds build their nests with grass and twigs. Everything is made up of smaller parts . . . EVEN YOU!

All living things are made up of small parts called cells. The cell is the basic unit of structure in all living things. Because all living things are made up of cells, cells often are called “the building blocks of life.” The cell also is the basic unit of function in living things. All cells carry out the life processes.

Some organisms, such as bacteria, are made up of only one cell. Larger organisms have many more cells. A person, for example, is made up of trillions of cells. Can you imagine how many cells a whale must have?

Cells come in many sizes. More are microscopic. Some cells, however, can be seen easily. For example, a chicken’s egg is a single cell. Would you need a microscope to see a chicken’s egg? Cells also come in many shapes. For example, a muscle has a different shape than a nerve cell. Skin cells have a different shape than fat cells.

The cell itself is made up of smaller parts. Most cells have three main parts: the cell membrane, the nucleus and the cytoplasm. All of the parts are made up of a living substance called protoplasm. Protoplasm is mostly water. Protoplasm also contains dissolved salts and other compounds.

The cell membrane is like a thin skin that covers the cell. It protects the cell and gives it shape. The cell membrane has tiny holes in it. Materials such as oxygen and nutrients enter and leave the cell through these tiny holes. The nucleus is inside the cell. It controls everything that happens in the cell. The nucleus is like the “boss” of the cell. The nucleus usually is near the center of a cell. The cytoplasm is a jelly-like substance located between the nucleus and the cell membrane. It fills most of the inside of the cell. Like the cell membrane, the cytoplasm helps give a cell its shape. Most life functions take place in the cytoplasm.

Plant cells and animal cells are not exactly alike. Plant cells have certain parts that animal cells do not. These parts are a cell wall and chloroplasts. The cell wall surrounds the cell membrane of a plant cell. It is more rigid than the cell membrane and gives the plant cell its stiffness. Chloroplasts are found in the cytoplasm. They contain a green substance called chlorophyll that is used by plants to make food during photosynthesis.

Complete the chart by placing a yes or no in the space provided.

	Animal Cell	Plant Cell
1. Does it have a nucleus?		
2. Does it have chloroplasts?		
3. Does it have a cell membrane?		
4. Does it have a cell wall?		
5. Does it have chlorophyll?		
6. Does it have cytoplasm?		

Fill in the blanks using the words from the word bank below.

- The “building blocks” of living things are _____.
- A plant cell has two parts that animal cells do not have. They are the _____ and the _____.
- The _____ is the control center of the cell.
- Chloroplasts contain a green substance called _____.
- A cell carries out all of the _____.
- Cells vary in _____ and _____.
- _____ are organisms with only one cell.
- You must use a _____ to view most cells.
- All parts of the cell are made of _____.

WORD BANK			
size	chlorophyll	cells	life processes
nucleus	chloroplasts	bacteria	cell wall
microscope	shape	protoplasm	