

Living things can have just one cell, or many. Single-celled organisms include things like bacteria, yeast, and algae. They do all the things that living things do, within just one cell. Multi-cellular organisms have literally billions of cells that work together to provide for the organism's needs.

Plant and animal cells both have structures called organelles. Many of the same organelles are found in both types of cells, but some of the organelles are unique to plants or animals. All cells have a control center called a nucleus. The nucleus stores a special molecule called DNA. The organism's traits, or characteristics, are controlled by the coding found in its DNA. All cells have a cell membrane, or covering, that surrounds the cell to protect it and control what goes in or out of the cell. Materials can move by diffusion, a process that contains materials in a gas or liquid, or osmosis, a special kind of diffusion that allows water to pass through the membrane, but keeps out many other materials. Plant cells have an extra layer called a cell wall that surrounds each cell's membrane. The cell wall is much stiffer to help the plant's stems stand up and support things like leaves and flowers. Cytoplasm is a thick fluid, kind of like jell-o, that fills the space between a cell's nucleus and its cell membrane.

Floating in and supported by the cytoplasm are the organelles, such as ribosomes, which make proteins; lysosomes (found mostly in animal cells), which break apart nutrients. The Golgi apparatus, which packages up proteins to get them ready to be sent to various parts of the body; vacuoles, which are like bags of fluid that cells use to store things until they are needed, or until they can be disposed of; mitochondria, which generate energy for the cell; the endoplasmic reticulum (ER), which is a system of tubes and passages for transporting materials, and chloroplasts (in plants only) which allow food to be made using sunlight and carbon dioxide. All the organelles work together to make sure that the cells, and ultimately, the living organism can do all the things that are necessary for survival.

I. Answer the following questions based on the reading passage (10/10):

1. What structure in plants allows them to perform photosynthesis?
✓ The structure in plants allows them to perform photosynthesis is the chloroplast.
2. Where do we find the DNA?
✓ We found the DNA in the nucleus.
3. What is the organelle that exist in plant cell only? What is the organelle that found in animal cell only?
✓ The organelle that exist in plant cell only is the chloroplast. The organelle that found in animal cell only is the lysosome.
4. What does the Golgi apparatus do?
✓ The Golgi apparatus packages up proteins to get them ready to be sent to various parts of the body.
5. Cite three types of Single-celled organisms.
✓ The three types of Single-celled organisms are bacteria, yeast, and algae.

II. Translate the following passage to French (5/5) :

Plant and animal cells both have structures called organelles. Many of the same organelles are found in both types of cells, but some of the organelles are unique to plants or animals. All cells have a control center called a nucleus.

Les cellules végétales et animales ont toutes les deux des structures appelées organites. Bon nombre des mêmes (plusieurs) organites se trouvent dans les deux types de cellules, mais certains des organites sont uniques (spéciales) aux (pour) plantes ou aux (pour) animaux. Toutes les cellules ont un centre de contrôle appelé noyau.

III. Connect the correct words to complete the sentence (5/5): Note that each wrong answer cancels a correct one.

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| 1. Plant cells have an extra layer called a ... | → | a) DNA |
| 2. Plant and animal cells both have structures called ... | → | b) Energy |
| 3. The nucleus stores a special molecule called ... | → | c) Organelles |
| 4. Mitochondria generate..... for the cell. | → | d) Diffusion |
| 5. Materials can move by .. | → | e) Cell wall |
| | | f) Muscle tissue |
| | | g) Cell |
| | | h) Cytoplasm |

Multi-cellular organisms have many cells that work together in specific ways, each group performing certain functions. When each group does its part, the organism gets everything that it needs.

A tissue is a large group of cells that all have the same purpose or function. Each kind of cell has characteristics such as shape, size, flexibility, color, and texture that make it uniquely that kind of cell. Nerve cells combine with other nerve cells to make nerve tissue. Muscle cells combine with other muscle cells to make muscle tissue. Bone cells combine with other bone cells to make bone tissue. An organ is a group of tissues that work together to do a certain job for the body. Some of the human body's organs include; the stomach, lungs, heart, kidneys, brain, and liver. When several different organs join to meet the organism's needs, they are working together in an organ system.

You are probably familiar with some of the human body systems. The respiratory system includes the lungs and all the body parts that allow us to breathe in air and exhale carbon dioxide. The circulatory system includes the heart and all the body parts that help move the blood around the body. The blood, in turn, carries nutrients and oxygen to all the cells of the body. The respiratory and circulatory systems work very closely together. The digestive system helps the body get nutrients from food that is eaten, and store energy for future use. The excretory system helps remove waste products that could harm the body otherwise.

Each of the body's systems is necessary for the overall health of the body. Like the body's building blocks, cells join to make tissues. Tissues join to make organs. Organs join to make systems. It's all organized to ensure the organism's survival.

I. Answer the following questions based on the reading passage (10/10):

- Why is it necessary for the respiratory and circulatory systems to work together?
✓ It is necessary for the respiratory and circulatory systems to work together , so all the cells of the body get oxygen.
- What is a tissue?
✓ A tissue is a large group of cells that all have the same purpose or function.
- Give the parts; that form the respiratory system according to the text?
✓ The parts; that form the respiratory system are the lungs and all the body parts that allow us to breathe in air and exhale carbon dioxide.
- What does the digestive system do in the body?
✓ The digestive system helps the body get nutrients from food that is eaten, and store energy for future use.
- Mention six organs the human body include?
✓ Six organs the human body include are; the stomach, lungs, heart, kidneys, brain, and liver.

II. Translate the following passage to French (5/5):

An organ is a group of tissues that work together to do a certain job for the body. Some of the human body's organs include the stomach, lungs, heart, kidneys and liver. Cells join to make tissues. Tissues join to make organs. Organs join to make systems.

Un organe est un groupe de tissus qui travaillent ensemble pour assurer un rôle bien précis dans le corps. Comme exemples des organes du corps humain, il y a l'estomac, les poumons, le cœur, les reins et le foie. Les cellules se rassemblent pour former des tissus. Les tissus se regroupent pour former des organes. Les organes s'associent pour former des systèmes.

III. Connect the correct words to complete the sentence (5/5): Note that each wrong answer cancels a correct one.

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| 1. Nerve cells combine with other nerve cells to make... | → | a) Systems |
| 2. Muscle cells combine with other muscle cells to make... | → | b) Nerve tissue |
| 3. Bone cells combine with other bone cells to make... | → | c) Organs |
| 4. Tissues join to make... | → | d) Bone tissue |
| 5. Organs join to make... | → | e) Muscle tissue |
| | | f) Multi-cellular organisms |
| | | g) Stomach |
| | | h) Lungs |

