

Cells, Tissues, and Organs

Our bodies are made of cells, tissues, and organs. The cell is the smallest unit of life. All living things are made of cells. One kind of cell makes one kind of tissue. Only hair cells can make hair tissue. Only nerve cells can make nerve tissue. Only sweat gland cells can make sweat gland tissue. Our bodies have many different kinds of cells because we have many different kinds of tissue.

Tissues are large groups of cells all doing the same job. The different kinds of tissues are classified into four groups, epithelial tissue, connective tissue, nerve tissue, and muscle tissue. Within each group are many kinds of tissue, but they are similar in the job they do. Epithelial tissue's job is to protect the body from injury and infection. This group includes the skin and the inner surfaces of the body such as the surface of the lungs, stomach, intestines, and blood vessels.

Connective tissue supports our bodies. Bone, cartilage, and fatty tissue are in this group. These tissues are strong and yet usually can stretch to hold our bodies together. Connective tissue gives our bodies a frame.

Nerve tissues are also called ganglia. They are the information networks for our bodies. Nerves send information from one part of our bodies to another. They have long branching dendrites that connect one cell to another. Impulses pass along the dendrites from cell to cell as they collect information from our sensory organs or pass information to other organs.

Three types of muscle cells are combined to make the muscle tissue group. All these muscle tissues contract and relax. The voluntary muscles are striated muscle tissue. We move these muscles by choice. They are the muscles attached to our skeletons. Smooth muscle tissue makes involuntary muscles. We do not choose to move these muscles, but they move on their own. These muscles are inside our bodies in our organs. The muscles of our lungs, stomach, and intestines are made of smooth muscle tissue. Cardiac muscle tissue is the third type of muscle tissue. Cardiac muscle tissue makes our hearts.

Organs are groups of tissues that work together to do a job. Our skin is made of hair tissue, oil and sweat gland tissues, nerve tissue, blood tissue, and many other tissues to make the organ called skin. Our eyes are made of nerve tissue, blood vessel tissue, muscle tissue, lens tissue, pupil tissue, and many more types of tissue to make the organ called eyes.

Our bodies are made of cells, which make tissue, which make organs.

Name _____

Date _____

Cells, Tissues, and Organs Comprehension Questions

1. What is the main idea of this article?

2. What kind of cells makes lung tissue?

3. Are the cardiac muscles of our hearts voluntary or involuntary muscles?
How do you know?

4. Why are nerve tissues called the information network of our bodies?

5. One sentence in the article states, "Our eyes are made of nerves tissue, blood vessel tissue, muscle tissue, lens tissue, pupil tissue, and many more types of tissue to make the organ called eyes." What fact is this detail supporting?

Cells, Tissues, and Organs Comprehension Questions

Answer Key

Student answers need not be in the exact wording as the answers provided, but must convey the same information.

1. What is the main idea of this article?

Our bodies are made of cells, tissues, and organs. (Main idea)

2. What kind of cells makes lung tissue?

Lung tissue is made of lung cells. (Implicit idea)

3. Are the cardiac muscles of our hearts voluntary or involuntary muscles? How do you know?

Cardiac muscles are involuntary because they work without us telling them to. They move on their own. (Implicit and explicit ideas)

4. Why are nerve tissues called the information network of our bodies?

They send information from one part of our bodies to another. (Explicit idea)

5. One sentence in the article states, “Our eyes are made of nerves tissue, blood vessel tissue, muscle tissue, lens tissue, pupil tissue, and many more types of tissue to make the organ called eyes.” What fact is this detail supporting?

Organs are groups of tissues that work together to do a job. (Connects important ideas with corresponding details)

Cells, Tissues, and Organs Outline

- I. Cells
 - A. Smallest unit
 - B. Make tissue
- II. Tissue
 - A. Epithelial
 - 1. Protect body from injury and infection
 - 2. Skin and organ surfaces
 - B. Connective
 - 1. Supports body
 - 2. Bone, cartilage, fat
 - C. Nerve (ganglia)
 - 1. Moves information
 - 2. Dendrites
 - D. Muscle
 - 1. Striated
 - a. Voluntary
 - b. Attached to bones
 - 2. Smooth
 - a. Involuntary
 - b. Inside organs
 - 3. Cardiac
 - a. Involuntary
 - b. Heart
 - E. Make organs
- III. Organ
 - A. Does one job
 - B. Made from many tissues