

# How Are Animal Cells Organized?

Specialized cells are useful in animals because they have many different body parts. A monkey's fur, for example, looks nothing like its eyes or teeth. How does the body organize cells so that each body part works to serve the whole animal?

Cells that are specialized to do different jobs are organized first into **tissues**. Tissues are groups of the same kind of cells. A muscle tissue, for example, is made of muscle cells. Different kinds of tissues are grouped to form **organs**. A stomach is an organ made of many different tissues, including muscle tissues, nerve tissues, and blood tissues. Organs are grouped into **organ systems**. The stomach is part of the **digestive system**. Other organs in the digestive system are the tongue and intestines. Organ systems make it possible for thousands of things to happen in an animal's body at the same time.

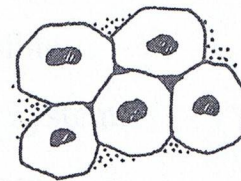
Several important organ systems appear in most animals. The **skeletal system** includes tissues like bones that provide support. The bones work with muscles in the **muscular system** to make movement possible. The brain, spinal cord, and nerves make up the **nervous system**. This system controls all other body systems. The nervous system makes an animal aware of what goes on in the world around it, and allows the animal to act on information from its surroundings. The digestive system takes in food and changes it to a form cells can use. The **respiratory system** depends on the lungs and windpipe to take in oxygen and remove carbon dioxide from the body. The **excretory system**, which includes the kidneys and bladder, removes waste from the body. All of these systems need the blood in the **circulatory system** to deliver food and oxygen and to remove wastes.

## The Cell Organization Plan

A bone cell



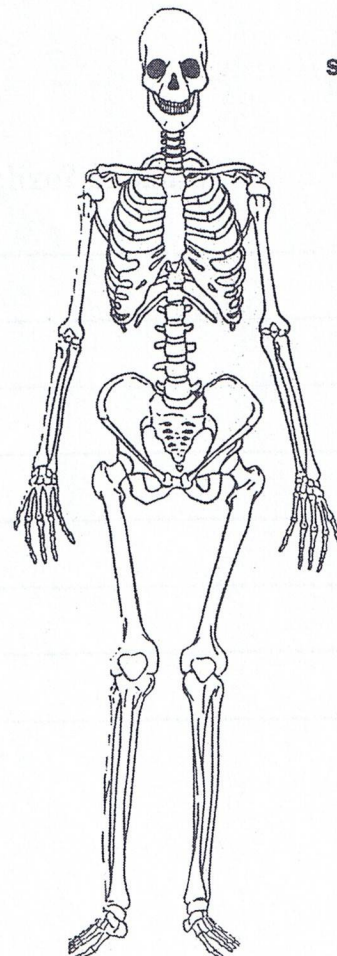
Bone tissue



A bone



A skeleton





**A.**

Underline the correct word or words in each sentence.

1. A group of nerve cells is an example of (tissue, an organ, an organ system).
2. The spinal cord is an example of (tissue, an organ, an organ system).
3. The brain, spinal cord, and nerves are an example of (tissue, an organ, an organ system).

**B.**

Draw a line from the name of each system to the words that describe it.

- |                       |  |
|-----------------------|--|
| 1. circulatory system | supports and gives shape to the body       |
| 2. digestive system   | makes movement possible                    |
| 3. excretory system   | controls all other body systems            |
| 4. muscular system    | delivers food and oxygen                   |
| 5. nervous system     | changes food into useful forms             |
| 6. respiratory system | removes wastes                             |
| 7. skeletal system    | takes in oxygen and removes carbon dioxide |

**C.**

Write one or more sentences to answer the question.

What would happen if cells in the body did not specialize? Explain.

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