

# LESSON 9

tissue  
organ  
organ system

skeletal system  
muscular system  
digestive system

circulatory system  
respiratory system

excretory system  
nervous system

*What do a fish, your pet dog, your friend, and a bird have in common? Yes, they are all alive. They also have body systems that perform similar functions. What are some of these common body systems?*

## The Structure of Living Things

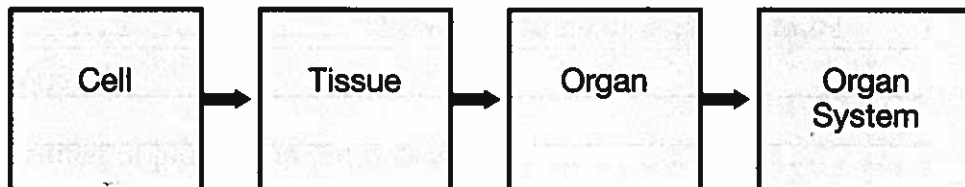
A cell is the smallest unit of life. Some organisms have a single cell that performs all life functions. Other organisms have many different types of cells that do different jobs.

### Tissues, Organs, and Systems

A group of similar cells that do one job is a **tissue**. For example, in animals, nerve cells form nerve tissue. Its job is to carry messages throughout the body.

Related tissues can group together to form an **organ**, a body part that performs a certain function. In animals, the bones, eyes, and skin are examples of organs.

A still larger group is made up of organs working together in an **organ system**. An organ system performs one or more major life functions.



## Systems for Support and Movement

The **skeletal system** is all the bones of the body and the tissue that connects the bones. The bones support the body and give it shape. The **muscular system** includes all the muscles of the body. Some muscles attach to bones and allow movement. Other muscles operate organs such as the heart.

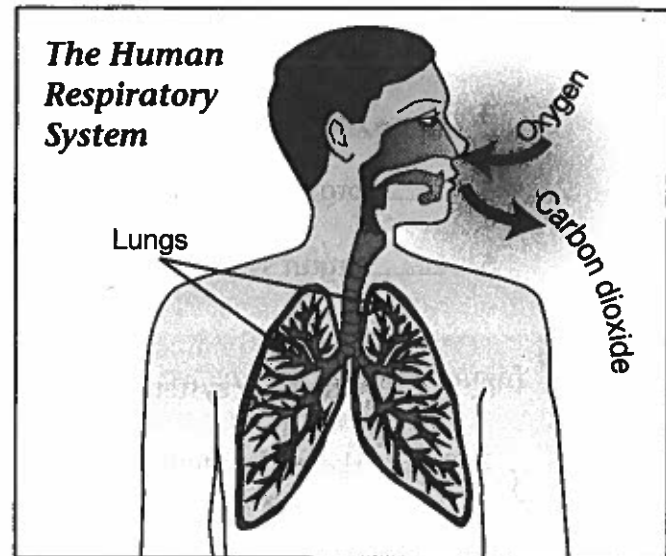
## The Digestive System

The **digestive system** breaks down food for energy. The organs of the digestive system include the stomach and the intestines. They change food into nutrients the body can use.

## Systems for Circulation and Breathing

The **circulatory system** moves blood to and from all the cells of the body. The main organ of the circulatory system is the heart.

The **respiratory system** controls breathing, and its main organs are the lungs. The lungs inhale oxygen, which moves into the blood to produce energy in the cells. The lungs exhale the gas carbon dioxide.



## The Excretory System

The **excretory system** is in charge of removing wastes from the body. The kidneys, the main organs of this system, take wastes out of the blood. The skin passes water, salt, and sweat out of the body. The lungs remove carbon dioxide.

## The Nervous System

The **nervous system** controls the body's responses. For example, this system signals heat when you are near a fire. The nervous system includes the brain and the nerve tissue that connects to all parts of the body.

### My Science Vocabulary

Go to page 96 to list other words you have learned about the structure of living things.



tissue	skeletal system	circulatory system	excretory system
organ	muscular system	respiratory system	nervous system
organ system	digestive system		

**A. Match each word with its meaning. Write the letter of the correct meaning on the line in front of each word.**

- |                             |   |
|-----------------------------|---|
| 1. _____ tissue             | a. a group of organs working together to perform one or more major life functions |
| 2. _____ circulatory system | b. the organ system that controls breathing                                       |
| 3. _____ nervous system     | c. the organ system that breaks down food for energy                              |
| 4. _____ organ              | d. a group of similar cells that do one job                                       |
| 5. _____ organ system       | e. a group of related tissues that performs a certain function                    |
| 6. _____ excretory system   | f. the organ system that controls the body's responses                            |
| 7. _____ skeletal system    | g. the bones and the tissue that connects them                                    |
| 8. _____ digestive system   | h. the organ system that moves blood through the body                             |
| 9. _____ respiratory system | i. all the muscles of the body  |
| 10. _____ muscular system   | j. the organ system that removes wastes from the body                             |



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**B. Circle the word that makes sense in each sentence. Then write the word.**

1. The system responsible for removing wastes from the body is the (excretory system, muscular system). \_\_\_\_\_
2. Physical support for the body is provided by the (nervous system, skeletal system). \_\_\_\_\_
3. The brain is the main organ of the (respiratory system, nervous system).  
\_\_\_\_\_
4. A group of like cells that do one job is a (tissue, organ system).  
\_\_\_\_\_
5. The lungs are the main organ of the (respiratory system, circulatory system).  
\_\_\_\_\_
6. The kidneys, skin, and lungs work together in an (organ system, tissue) to rid the body of wastes. \_\_\_\_\_
7. The system in charge of breaking down food for energy is the (skeletal system, digestive system). \_\_\_\_\_
8. Related tissues can group together to form an (organ, excretory system).  
\_\_\_\_\_
9. Some muscles in the (nervous system, muscular system) operate organs such as the heart. \_\_\_\_\_
10. Blood moves throughout the body because of the (digestive system, circulatory system). \_\_\_\_\_

**WORD ROOT**

The word **system** comes from the Greek word **systema**, which means "a whole made up of different parts."



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**C. Choose the correct vocabulary word to complete each sentence.**

1. Nerve cells group together to form nerve \_\_\_\_\_ ,  
which carries messages throughout the body.
2. The heart is the main organ of the \_\_\_\_\_ .
3. In the \_\_\_\_\_ , the skin passes water, salt, and sweat  
out of the body.
4. The muscles of the \_\_\_\_\_ may move bones or  
operate organs.
5. When you are near a fire, your \_\_\_\_\_ signals heat.
6. The system that supports an animal's body and gives it shape  
is the \_\_\_\_\_ .
7. Breathing in oxygen and breathing out carbon dioxide  
is a function of the \_\_\_\_\_ .
8. The digestive system is an \_\_\_\_\_ that includes the  
stomach and intestines.
9. Food is broken down into nutrients the body can use by the  
\_\_\_\_\_ .
10. A bone is an \_\_\_\_\_ , made of bone tissue.

