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**LESSON**  
**PART 3**



# UNIT 2

# OUR BODY AND NEEDS

## LESSON-3

## Human Body

### BEFORE WE PROCEED

- ❖ How does our body work ?
- ❖ Why does the heart beat ?
- ❖ What makes us think ?
- ❖ How does our body get fuel to work ?



### SAY ALOUD

unique machine, nervous system, skeletal system, muscular system, neurons, digestive system, intestine

### Let us find out more about human body

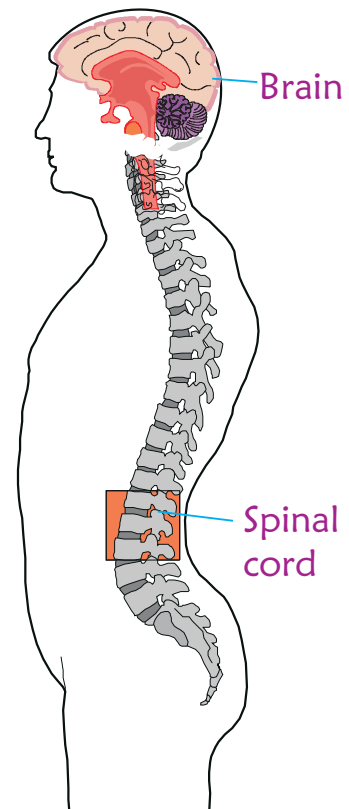
Human body is a unique machine made up of bones and muscles. It is a wonderful machine. It can efficiently perform many functions at a time. To carry out these functions, many organs of the human body work together as members of a system.

Now let us know about different systems of human body.

#### 1. The Nervous System

Our nervous system is made up of brain, spinal cord and nerves. Our sense organs receive information from our surroundings and pass it to the spinal cord or brain.

All the activities of the body are controlled by the nervous system. It enables the body to move. It helps in speaking, thinking, learning and remembering. Actions that are controlled by the spinal cord are sudden and are called reflex actions. Blinking of the eyes, watering of the mouth at the sight or smell of food are examples of reflex actions.



Nervous System

### Do you know?

Any cell of any part of the body when damaged is replaced by a new cell but that does not happen in case of the neurons. Neurons once damaged cannot be replaced.



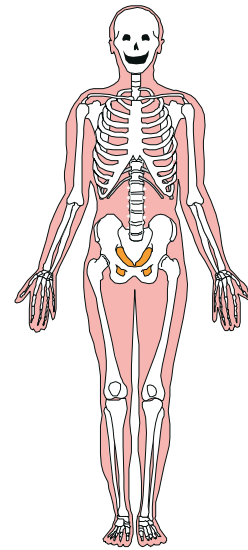
## Do you know?

Study of bones is known as osteology .

### 2. The Skeletal System

Shape of our body is the result of the framework of our bones. This framework gives support to our body and keeps our internal organs like heart, lungs and brain safe.

This framework is called skeletal system. Human skeleton is made up of 206 bones of different sizes and shapes. Different bones of the body join together in various ways. The strong and flexible tissues holding the joints together are called ligaments.



Skeletal System

### 3. The Muscular System

The major part of our body is made up of muscles. Various organs of our body move due to these muscles. About 650 muscles of different types lie in our body. Contraction and expansion of the muscles help our body to perform the actions like walking, speaking, running etc.

The muscles help us to smile, chew our food, push food into the stomach and also make heart beat etc.



Muscular System

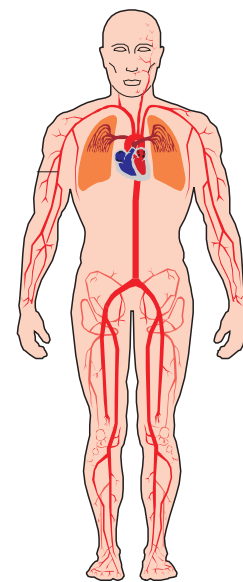
**Muscles work in pairs :** A good example of a pair of muscles working together can be seen in the human arm.

The muscle at the front of the arm is called the biceps muscle. The muscle at the back of the arm is called the triceps muscle. When the biceps muscle is contracted, the triceps muscle is relaxed. When the triceps muscle is contracted, the biceps muscle is relaxed.

Contraction of the biceps muscle bends the arm. Contraction of the triceps muscle straightens the arm.

### 4. The Circulatory System

The circulatory system carries blood throughout the body. Blood transports food and oxygen to cells and carries away carbon dioxide and other wastes. The cells cannot live without a continuous supply of oxygen and digested food. The circulatory system also carries disease-fighting substances that help protect the body.



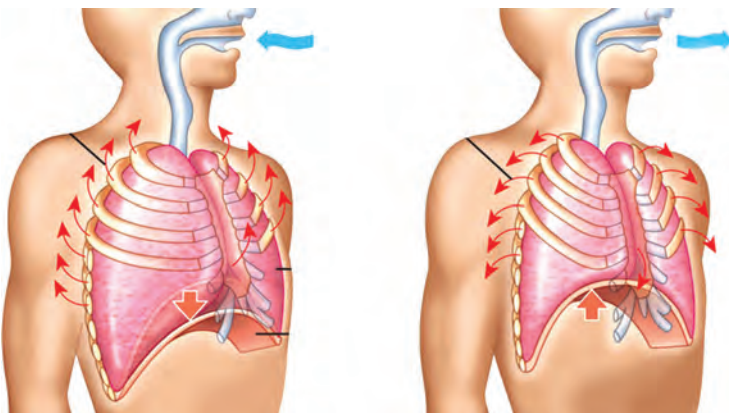
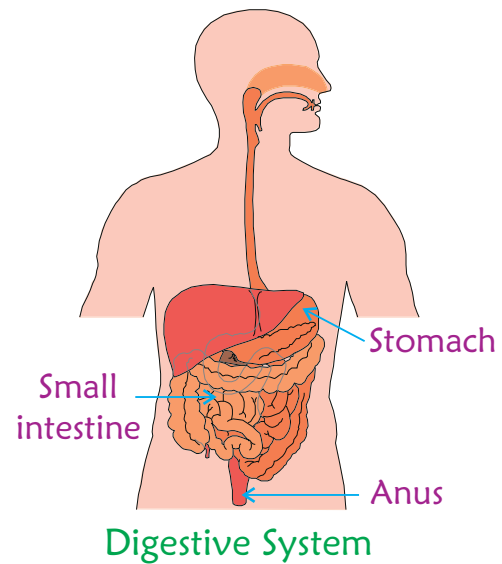
Circulatory System



## 5. The Digestive System

The changing of food into a simple form is called digestion. The food we eat mixes with saliva, a juice secreted by salivary glands in the mouth. It remains in the stomach for about four hours. From the stomach, the food moves to the small intestine.

In these organs, food is broken into a simpler form by digestive juices. In the small intestine, the simpler form of food is absorbed and used by the body cells. The undigested food goes to the large intestine and it is finally thrown out of the body through the anus.



Breathing System

## 6. The Breathing System

Air enters our body through the nose. The hairs, in the nose trap the dust particles and germs present in the air. The oxygen we breathe in burns the food we eat and gives us energy. The air we breathe out has carbon dioxide and water vapour.

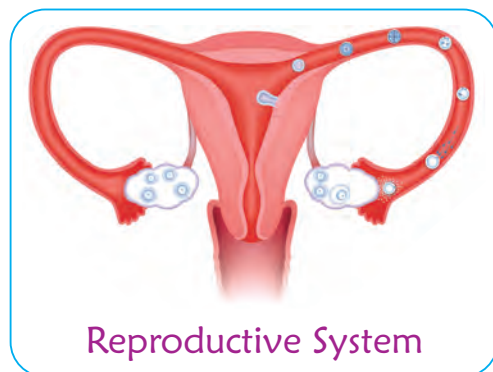
### *Do you know?*

The process of breathing is called respiration.

## 7. The Reproductive System

The organs of this system help to produce babies. All living beings multiply themselves in numbers. It means they can produce their own kind. This process is called reproduction.

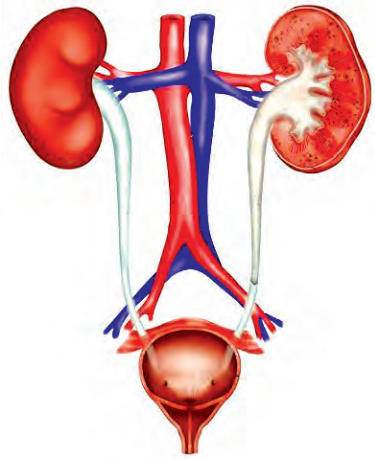
All living beings do not reproduce in the same way. Some animals like cat, dog, horse, cow etc. give birth to young ones. Some animals like birds, fish etc. lay eggs, hatch them and the young ones come out. These young ones resemble their parents.



### *Do you know?*

The process of young ones coming out of eggs is called hatching.





Excretory System

## 8. The Excretory System

This system removes the waste material from the body. The two kidneys throw out waste in the form of urine. The skin also removes excess water and salt in the form of sweat.

### *Do you know?*

A disease known as leprosy is a skin disease. The patient loses sense of touch and cannot feel any pain.

## Sense organs

The organs which make us aware of our surroundings through our sense are called sense organs. They are, in fact, like windows of the brain to the outer world. The five sense organs of our body are eyes, ears, nose, tongue and skin.

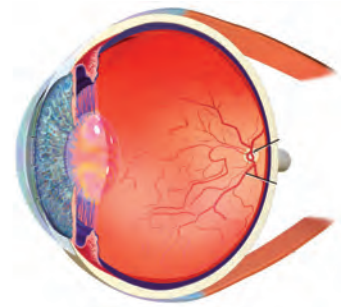
### 1. Eyes

Eyes help us in seeing the objects around us. Our body has several features to protect them. The eye-brows prevent sweat from running into the eyes. The eye-lashes protect the eyes from dirt. The eye-lids protect the eyes from injury.

#### Care of Eyes :

The eyes are very delicate organs. So, they need special care :

- ◆ Wash and clean your eyes regularly with cold water.
- ◆ Never work in dim light.
- ◆ Do not read while lying down or in a moving vehicle.
- ◆ Don't watch T.V. sitting near it or for many hours.



Eye

### 2. Ears

Ears help us in hearing. The ear is divided into three parts. The outer ear, the middle ear and the inner ear. The outer ear catches and directs sound waves to the inner ear.

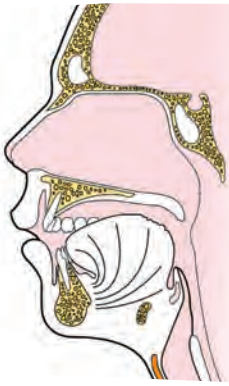
#### Care of Ears :

- ◆ Ear should be protected from hard blows.
- ◆ Avoid very loud noises.
- ◆ Do not clean your ears with a matchstick or hair pin.
- ◆ Use an ear bud to clean ears.



Ear





Nose

### 3. Nose

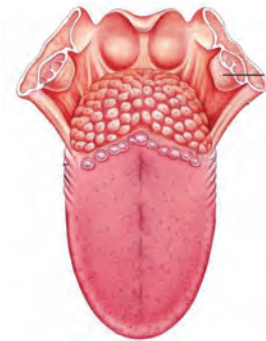
It helps us to smell a variety of objects – from flowers to rotten eggs. The sense of smell and the sense of taste are interlinked. The nerve endings in the upper part of the nose are sensitive to smell.

#### Care of Nose :

- ◆ Keep your nostrils clean by blowing your nose gently.
- ◆ Use nasal drops or inhale steam to clean a blocked nose.

### 4. Tongue

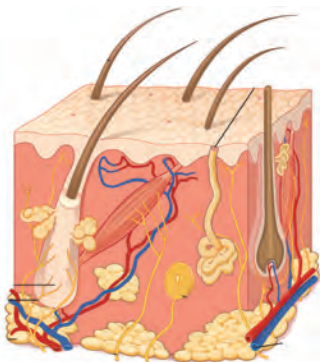
Tongue helps us in tasting things and helps us to speak. The surface of the tongue has many taste buds. These taste buds have nerve endings which carry the message to the brain to help us detect the taste of various food items. Different regions of the tongue are sensitive to different tastes like sweet, sour, salty and bitter.



Tongue

#### Care of Tongue

- ◆ Always use a proper tongue cleaner to clean your tongue.
- ◆ Always chew your food slowly. See that your tongue does not come between your teeth, otherwise you will cut it.
- ◆ Do not eat / drink too hot or too cold foods.



Skin

### 5. Skin

The skin forms a covering for the entire body surface and protects the internal organs. There are tiny nerve endings in our skin. These nerve endings help us to feel things. They also help us to detect cold, heat and pain.

#### Care of Skin

- ◆ Take a bath twice daily. Use a good soap to remove dust and sweat from the skin.
- ◆ If there is any cut or scratch on the skin, treat it with an antiseptic lotion / cream to prevent the growth of germs.

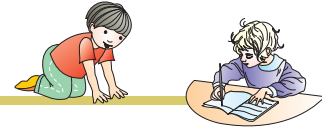


## Key Ideas

- ★ *The skeletal and muscular systems help our body to move.*
- ★ *All activities of the body are controlled by the nervous system.*
- ★ *The cells cannot live without a continuous supply of fresh food.*
- ★ *Changing of food into a simpler form is called digestion.*
- ★ *The excretory system removes waste from the body.*



# LET'S WRITE TOGETHER



## A. Answer these questions :

1. What are the functions of the skeletal system ?
2. What is nervous system ?
3. Name the various parts of the digestive system.
4. Name the organs of the body which help in removing waste.
5. How does the reproductive system help the living beings ?

## B. Complete the sentences :

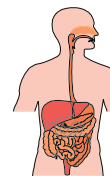
1. Human body is a unique \_\_\_\_\_.
2. \_\_\_\_\_ helps us in tasting things and helps us to \_\_\_\_\_.
3. The air we breathe out has \_\_\_\_\_ gas.
4. All the activities of the body are controlled by the \_\_\_\_\_.
5. The \_\_\_\_\_ throw out waste in the form of urine.

## C. Which system of the body is linked with these words ?

1. Urine \_\_\_\_\_
2. Air \_\_\_\_\_
3. Food \_\_\_\_\_
4. Blood \_\_\_\_\_
5. Support \_\_\_\_\_

## D. Match the following :

- |                       |     |     |
|-----------------------|-----|-----|
| 1. Muscular System    | ( ) | (A) |
| 2. Excretory system   | ( ) | (B) |
| 3. Digestive system   | ( ) | (C) |
| 4. Respiratory system | ( ) | (D) |



## LET US DO

Listen to a friend's heart-beat using a stethoscope or a roll of newspaper and write about your experience :

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**Fun**  
Activity



Collect different X-ray films and make a list of different bones :

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## GLOSSARY

Unique	- being the only one of its kind
Nervous system	- the system of all the nerves in the body
Neuron	- a cell that carries information within the brain and between the brain and other parts of the body
Cell	- the smallest unit of living matter that can exist on its own
Muscle	- a piece of body tissue that can contract and relax in order to move a particular part of the body
Saliva	- the liquid that is produced in your mouth that helps you to swallow food

