



The Human Body

- Know about organ systems—
skeleton system, muscular system,

digestive system, respiratory
system, circulatory system,
nervous system, excretory system,
reproductive system



WARM-UP

1. Complete the crossword with the help of the picture clues. One has been done for you.

9



6



3



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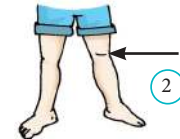
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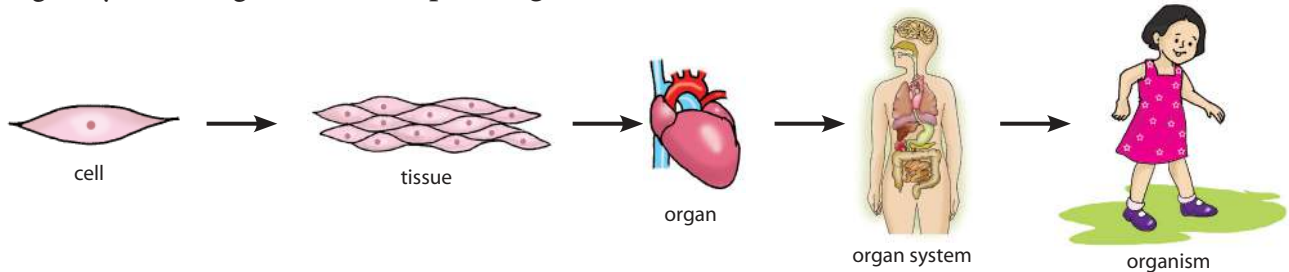
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Our body is like a machine. Just as a machine has many parts, our body also has many parts. The building blocks of our body are tiny **cells**.

A1

These cells join together to form **tissues**. Similar tissues join together to form **organs**. Organs help us carry out our everyday activities.

Some organs work together to do a similar kind of work. They form an **organ system**. All the organ systems together make up an **organism**.



OUR ORGAN SYSTEMS

An organ system is made up of various organs which together perform one major function of the body.

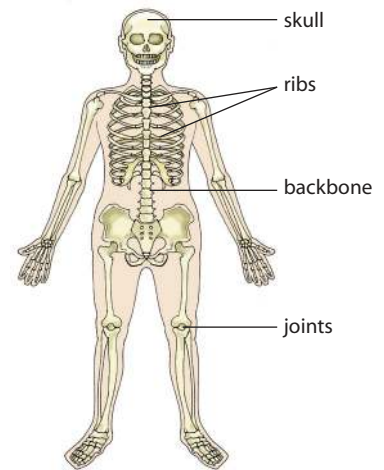
Skeletal System

Press your knees or elbows. Are they hard or soft?

Our body is made up of bones. They are very hard. All bones join together to form a **skeleton**. The skeleton gives shape to our body. We are able to stand straight and walk due to our skeleton.

Bones also protect soft organs like the heart, the brain and the lungs.

Our skeletal system consists of 206 bones.



▲ skeletal system



▲ muscular system

Muscular System

Muscles cover the skeleton. They are attached to the bones. When muscles move, they pull the bones. You use both your muscles and bones to move.

Digestive System

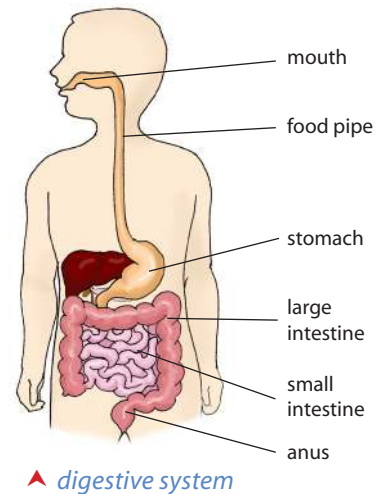
Food gives us energy to do work. The food that we eat cannot be used by the body in the form that it is consumed. So it is broken down into small pieces and then absorbed by the body. This process is known as **digestion**.



The organs that help in digestion form the digestive system. Our **teeth** break down the food into smaller pieces. These small pieces travel to the stomach through the **food pipe**. The **stomach** is made up of muscles. Digestive juices of the stomach mix with the food and form a paste.

From the stomach, food goes into the **small intestine**. The juices of the small intestine further digest the food.

The useful part of the food is then absorbed into the blood. The rest of the food which cannot be digested by our body goes into the **large intestine**. It is then thrown out of the body through the **anus**.

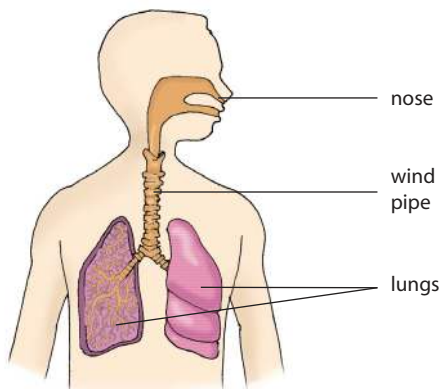


Respiratory System

We carry out **respiration** when we breathe in and breathe out.

A2

A3



▲ respiratory system

We respire during the day as well as night. When we breathe in, air enters our body through the **nose**. It then goes into the **wind pipe** and finally enters the **lungs**. The lungs increase in size when air enters them. This is why the chest also expands.

The lungs absorb the **oxygen** from the air we breathe in and give out **carbon dioxide** in the air. The oxygen that is taken in helps in breaking down of food. This gives us energy.

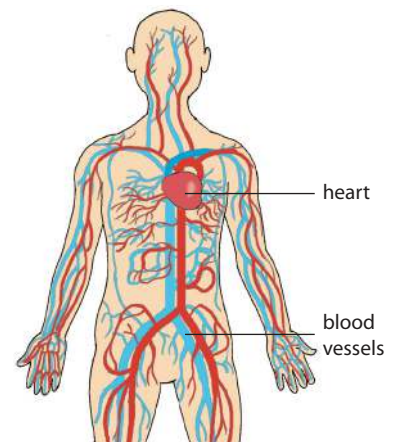
When we breathe out, air goes out of the lungs. This makes them smaller. This is why the chest decreases in size.

The nose, wind pipe and lungs are the parts that help us in respiration.

Circulatory System

The circulatory system consists of the **heart**, **blood** and the **blood vessels**.

The heart is located in our chest. Many tiny tubes come out of the heart. These are called blood vessels. The heart pumps blood into these blood vessels. These blood vessels then carry the blood to all parts of the body.



▲ circulatory system

There are also some blood vessels that carry blood to the heart.

Blood contains oxygen and absorbed food. Blood also collects waste from all parts of the body and takes it to the excretory system.

A4



1. Fill in the blanks.

- The respiratory system is made up of nose,and
- The cells join together to form
- When we breathe out, the air goes of the lungs.
- An is made up of various organs.

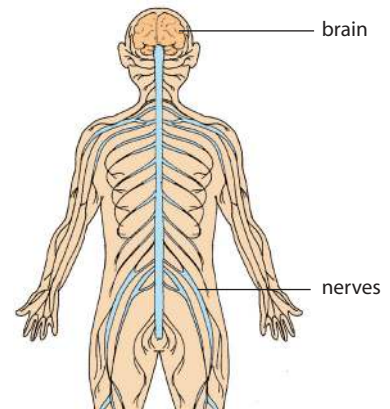
Nervous System

A train has many bogies. All the bogies (also called carriages) move in the same direction. What pulls the carriages together? The engine pulls the entire train.

Our **brain** is like the engine of a train. It controls all the organ systems and body parts. It makes them work together. The brain is protected by the skull.

There are thin thread-like tubes running all around the body. These are called **nerves**. The brain controls the body parts through these nerves. The brain is connected to all the other parts of the body by the **spinal cord**. For example, when we look at object, the nerves send messages to the brain. The brain understands these and sends messages back to the eye to form a picture of the object. The brain then orders the hand to draw back. Thus, the brain, the spinal cord and the nerves are parts of the nervous system.

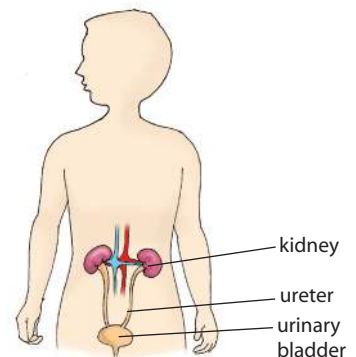
All our actions like hearing, seeing, reading and dancing are controlled by the nervous system.



▲ nervous system

Excretory System

Our body produces a lot of waste material, which is harmful for the body. So it must be removed. This is done with the help of the **kidneys, lungs** and **skin**. These form the excretory system.



▲ excretory system

We have two kidneys. They clean the blood and make urine. This urine is stored in the urinary bladder before being passed out. The ureters take the urine from the kidneys to the bladder.

When we breathe out, carbon dioxide is removed from the body by the lungs.

Extra water and salt is removed from the body by the skin in the form of sweat.

Reproductive System

There are special organs in the body for producing babies. They form the reproductive system. Men and women have different reproductive systems.

cells: building blocks of our body

digestion: the process by which food is broken down into small pieces and then absorbed by the body

respiration: the process of breathing in and out, and release of energy

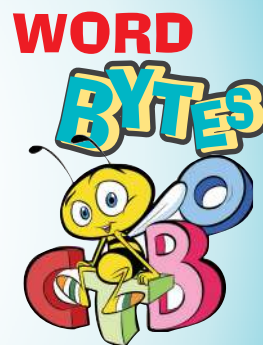
oxygen: the gas that we breathe in

carbon dioxide: the gas that we breathe out

blood: red liquid that carries oxygen and absorbed food in the blood vessels

blood vessels: the tubes in the body that carry blood

nerves: thin thread-like tubes that control many functions of the body



- Cells are the building blocks of our body.
- A group of organs work together and form an organ system.
- The skeletal system gives shape to the body, helps in movement and protects the soft organs.
- The muscular system helps in moving our body parts.
- The digestive system helps in digesting food.
- The respiratory system helps us to breathe.
- The circulatory system carries blood to all parts of the body.
- The nervous system controls all the body parts.
- The excretory system removes waste from the body.
- The reproductive system helps in producing young ones.



REVIEW ZONE

A Tick (✓) the correct answer.

1. The gives shape to our body.
a. muscles b. stomach c. teeth d. skeleton
2. Which of following is not a part of the digestive system?
a. food pipe b. nose c. stomach d. teeth
3. The urine is stored in the before being passed out from the body.
a. urinary bladder b. skin c. kidney d. lung

B Choose the most suitable word from the following to fill in the blanks.

anus nervous excretory blood vessels circulatory

1. The system consists of the heart, blood and the blood vessels.
2. The undigested food is thrown out of the body through the
3. The carry blood to all parts of the body.
4. The system controls all the body parts.

C State whether the following statements are TRUE or FALSE.

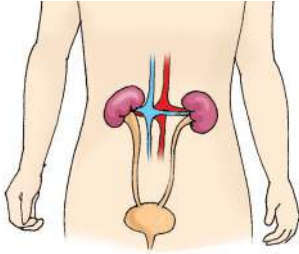
1. The spinal cord is not a part of the nervous system.
2. The food travels from the mouth to the stomach through the food pipe.
3. The heart is located in the stomach.
4. Cells are the building blocks of our body.
5. Only water is removed from the body by the skin in the form of sweat.

D Unscramble these letters to form the parts of different organ systems.

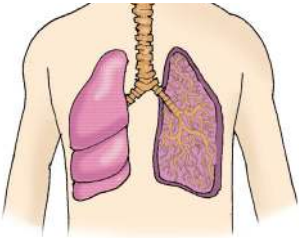
1. SEENRV (Clue: It is a part of the nervous system) _ _ _ _ _
2. IDKYEN (Clue: It cleans the blood and makes urine) _ _ _ _ _
3. ETEHT (Clue: They are present in our mouth) _ _ _ _ _
4. LBODO (Clue: It is pumped by the heart into the blood vessels) _ _ _ _ _



E Using the picture clues, match the following and name the organ systems.



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1. I consist of 206 bones.
2. I remove the waste materials from your body.
3. I am made up of muscles which cover the skeleton.
4. I help you breathe in oxygen.



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F Answer the following questions.

1. What are the functions of our skeleton?
2. Which organs help us in digesting food?
3. Why do we have kidneys?
4. Why is the brain the most important organ of our body?
5. What is a cell?



HOTS CORNER

1. Why should we drink 8 to 10 glasses of water in a day?
2. Leena exercised for an hour. Now she is sweating and breathing very fast. Why do you think she is breathing fast?





ENHANCE YOUR LIFE SKILLS

1. The teacher can bring a stethoscope to the class and make each student hear his/her heartbeat. The teacher can ask the students how many times does their heart beat in a minute.



ONLY A CLICK AWAY

1. There is a special organ in our body that helps us to produce sounds. Without this part, we would not be able to speak. To know more about this organ and some other parts of the respiratory system, you can visit the following link.

http://www.e-learningforkids.org/Courses/Liquid_Animation/Body_Parts/Respiratory_System/index.html

2. Exercise keeps our body fit and healthy. Nowadays many people do yoga in order to keep fit. To know about the importance of yoga and how to perform various yoga asanas, you can visit the following link.

<http://www.anmolmehta.com/blog/2009/02/13/yoga-for-kids-children-yoga-poses/>



ACTIVITY BAG

1. Building Blocks

Take a set of small building blocks. Make a model of a car, building or anything else you want.

Name the object that you have made.

What are its main parts?

Do all parts do the same work?



Activity
1

2. Breathe In, Breathe Out

Take a deep breath. When you breathe in, your chest expands. Now, breathe out slowly. What happens to the size of your chest?

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Activity
2

3. How Do We Respire?

Take a large balloon. Put it inside a small cloth or plastic bag. Now hold the two together at the mouth. Blow air into the balloon.

What happens to its size?

You will observe that as the balloon expands, the bag also expands. This is how our chest expands when air fills our lungs.



4. Know Your Blood Vessels

Close your hands to make a fist. Can you see any bluish thin tubes under the skin? These are the blood vessels. Draw them in your science notebook.

5. Take a newspaper. Spread out a double sheet on the floor and lie down on it. Request a friend to draw the outline of your body on the paper with a thick marker pen. Now, get up. Draw and paste models of the brain, ear, kidneys and stomach inside the outline of your body in their proper place.



Teacher's Notes

- Teacher can explain the concept of cells by comparing them to bricks that make a huge wall.
- Teacher can describe the major functions of each organ system as well as the specific function of each organ.
- Answers to Question Drill: 1. a. wind pipe, lungs; b. tissues; c. out; d. organ system.