

## Chapter 21: Busy at Work - our Internal Organs

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### CAN YOU RECALL ? [PAGE 107]

#### Can you recall ? | Q 1 | Page 107

Take a large sheet of thick paper, about the height of a child in the class. Put it on the wall as shown in the picture and secure it with tapes. Ask one student to stand against it and another to draw the outline of the body. Now get other students to point out the right places of the following organs within the outline - the brain, lungs, heart, and stomach. Now recall the following details about each of the organs. (1) In which cavity of the body is it situated? (2) What is its function? (3) Which are the bones that protect it?

#### SOLUTION

**(1) Brain:** Brain is situated in the cranial cavity. Skull protects the brain. Brain controls all the movements of body. We become aware of emotions due to the brain. Brain interprets the information collected by the sensory organs.

**(2) Lungs and heart:** Pair of lungs and heart located between the lungs are well protected in the thoracic cavity. Heart and lungs are present inside rib cage. Lungs help to supply air that we breathe into the entire body. Oxygen is mixed in blood inside the lungs.

**(3) Stomach:** Stomach is present in the abdominal cavity. Stomach is not protected by bones, but strong muscular wall protects it. Food is stored for some time here, is churned and partially digested.

### CAN YOU TELL ? [PAGE 107]

#### Can you tell ? | Q 2 | Page 107

What bodily needs or sensations do you become aware of even though you are reading a book?

#### SOLUTION

We become aware of our breathing and palpitations of the heart that are going on. Sometimes some weird sounds from the stomach are audible. This indicates that some digestive activity is taking place in the body.

### CAN YOU TELL ? [PAGE 111]

#### Can you tell ? | Q 1 | Page 111

Name the organs that bring about respiration.

#### SOLUTION

Organs that carry out respiration are the nose, the pharynx (throat), the diaphragm, the trachea, the branches and sub-branches of the trachea, the lungs and the alveoli.

### **USE YOUR BRAIN POWER ! [PAGE 111]**

#### **Use your brain power ! | Q 1 | Page 111**

Name the organs of the digestive system

#### **SOLUTION**

The alimentary canal and associated digestive glands together form the digestive system. The alimentary canal consists of the oesophagus, the stomach, the small intestine and the large intestine. The digestive glands are salivary glands present in the mouth, the liver and the pancreas. The teeth and tongue in the mouth help in food intake.

### **CAN YOU TELL ? [PAGE 111]**

#### **Can you tell ? | Q 1 | Page 111**

How do we know that we are hungry and that we should now eat?

#### **SOLUTION**

When the level of energy giving substances present in the blood falls down, our brain can understand it. The brain tells us that 'we are hungry and we should eat something to restore this level.' Thus, the coordinating brain gives us order to eat.

#### **Can you tell ? | Q 2 | Page 111**

How do the salivary glands come to know that there is food in the mouth and it is time to secrete saliva?

#### **SOLUTION**

Through the nerves present in the mouth, the brain comes to know that there is food in the mouth. The brain then gives orders to the salivary glands to secrete the saliva. Thus when there is food in the mouth, automatic secretion of saliva takes place.

#### **Can you tell ? | Q 3 | Page 111**

What makes respiration and blood circulation go on all the time, and the processes of digestion happen at the right time?

#### **SOLUTION**

All the systems and their functioning is under the control and coordination of the brain. The brain keeps all the processes working in normally functioning body.

### **USE YOUR BRAIN POWER ! [PAGE 113]**

#### **Use your brain power ! | Q 1 | Page 113**

Which systems work together to provide the body with energy?

### **SOLUTION**

The lungs, the heart, the stomach, the intestines, the brain all of these internal organs work together to provide energy.

### **EXERCISE [PAGE 114]**

#### **Exercise | Q 1 | Page 114**

##### **What's the solution?**

A person has fainted and a crowd of people has surrounded him.

### **SOLUTION**

When a person faints, he should be immediately given clean and fresh air. Therefore, ask the crowd to move away. Then splash cold water on the face of this man. If he is not reviving, take him immediately to the doctor with the help of others

#### **Exercise | Q 2.1 | Page 114**

Why do we sometimes choke suddenly while eating?

### **SOLUTION**

The upper ends of both the esophagus and the trachea open in the throat next to each other, there is a flap that covers the trachea. When the food is swallowed, the trachea remains closed. But if we eat in a hurry, the food enters the trachea. This causes choking. But due to coordination of the brain, we immediately start coughing and the food particles are expelled out of the trachea

#### **Exercise | Q 2.2 | Page 114**

How is the air that we inhale purified in our body?

### **SOLUTION**

There are tiny, fine hair-like outgrowths called cilia inside the nose from where the air passes inside. Larger dust particles get caught in these hairs. The air going inside the trachea thus gets filtered. There is also a layer of a sticky substance called mucous. The dust and smoke particles stick to the mucous. Thus the air that we inhale gets purified before it reaches the lungs.

#### **Exercise | Q 3.1 | Page 114**

##### **Fill in the blank.**

\_\_\_\_\_ gas is transported to all parts of the body.

### **SOLUTION**

Oxygen gas is transported to all parts of the body.

#### **Exercise | Q 3.2 | Page 114**

##### **Fill in the blank.**

The stomach is like a \_\_\_\_\_.

**SOLUTION**

The stomach is like a **bag**

**Exercise | Q 4 | Page 114**

**Match the following.**

Group A	Group B
(1) Lungs	(a) Circulation
(2) Stomach	(b) Respiration
(3) Heart	(c) Co-ordination
(4) Brain	(d) Digestion

**SOLUTION**

Group A	Group B
(1) Lungs	(b) Respiration
(2) Stomach	(d) Digestion
(3) Heart	(a) Circulation
(4) Brain	(c) Co-ordination

**Exercise | Q 5.1 | Page 114**

**Answer the following question**

Name the systems that carry out the different functions of the body.

**SOLUTION**

Respiratory system. digestive system. circulatory system. nervous system. skeletal system and excretory system are some of the systems that carry out different functions of the body.

**Exercise | Q 5.2 | Page 114**

**Answer the following question**

Describe how the exchange of oxygen and carbon dioxide gases takes place in the lungs.

### **SOLUTION**

At the time of respiration, the external air reaches up to the alveoli in the lungs. The oxygen in the air enters the blood vessels which surround the alveoli. Through the network of blood vessels oxygen is supplied to the entire body. At the same time, carbon dioxide is brought by the circulating blood into the alveoli. From here carbon dioxide is given out of the body through exhalation. In this way exchange of oxygen and carbon dioxide gases take place in the alveoli of the lungs.

### **Exercise | Q 5.3 | Page 114**

**Answer the following question**

Why do we call saliva a digestive juice?

### **SOLUTION**

Saliva is the juice secreted by the salivary glands. Saliva helps to make bolus from the food that we eat. Saliva also contains a starch digesting enzyme. This enzyme turns starch into sugar. Therefore saliva is called a digestive juice.

### **Exercise | Q 6.1 | Page 114**

**Choose the appropriate word from the brackets.**

Respiration takes place because of its up and down movement.

1. circulation
2. trachea
3. **diaphragm**

### **SOLUTION**

Respiration takes place because of its up and down movement -**diaphragm**

### **Exercise | Q 6.2 | Page 114**

**Choose the appropriate word from the brackets.**

The process of keeping the blood flowing continuously throughout the body.

1. **circulation**
2. trachea
3. diaphragm

### **SOLUTION**

The process of keeping the blood flowing continuously throughout the body -  
**Circulation**

### **Exercise | Q 6.3 | Page 114**

**Choose the appropriate word from the brackets.**

Air that enters through the nose passes into this tube.

1. **circulation**
2. trachea
3. diaphragm

### **SOLUTION**

Air that enters through the nose passes into this tube -**Trachea**