



# Food And Digestion

Use Cordova Smart Class Software on the smart board in class to make learning enjoyable.

## Why Do We Need Food

Machines need energy to work. Cars, for example, run on fuel like petrol and diesel. The human body is just like a machine. We need energy to work, study and play. We get our energy from food.

**Food performs many important functions. It**

- gives us energy.
- helps us to grow.
- repairs damaged body parts.
- makes our bones and muscles strong.
- keeps us fit and healthy.



Food gives us energy.



Different food items

## Components of Food

Our food consists of nutrients such as

- carbohydrates
- proteins
- fats
- vitamins and minerals

## Balanced Diet

The food we eat daily is called our diet. For good health and proper growth, it is important to have a **balanced diet**. A diet that contains the right amounts of all the necessary **nutrients, water** and **roughage** is known as balanced diet.

## Digestion

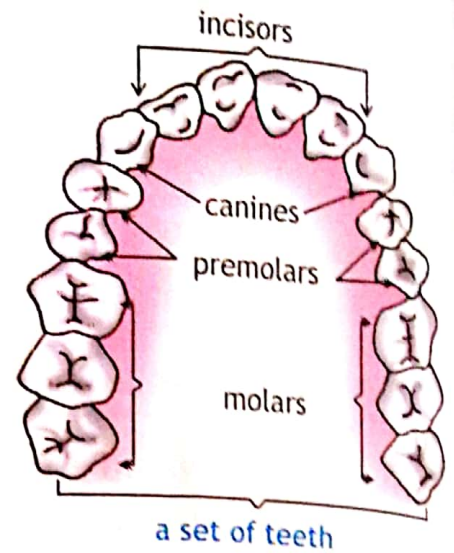
The food that we eat cannot be absorbed directly by the blood. It needs to be digested. **Digestion is a process in which the complex food we eat is broken down into simple, soluble substances, which our body is able to use.** These simple soluble substances can be absorbed by the blood.

### Fill in the blanks.

1. The food we eat daily is called .....
2. .... is a process of breaking down of complex food into simple ones.

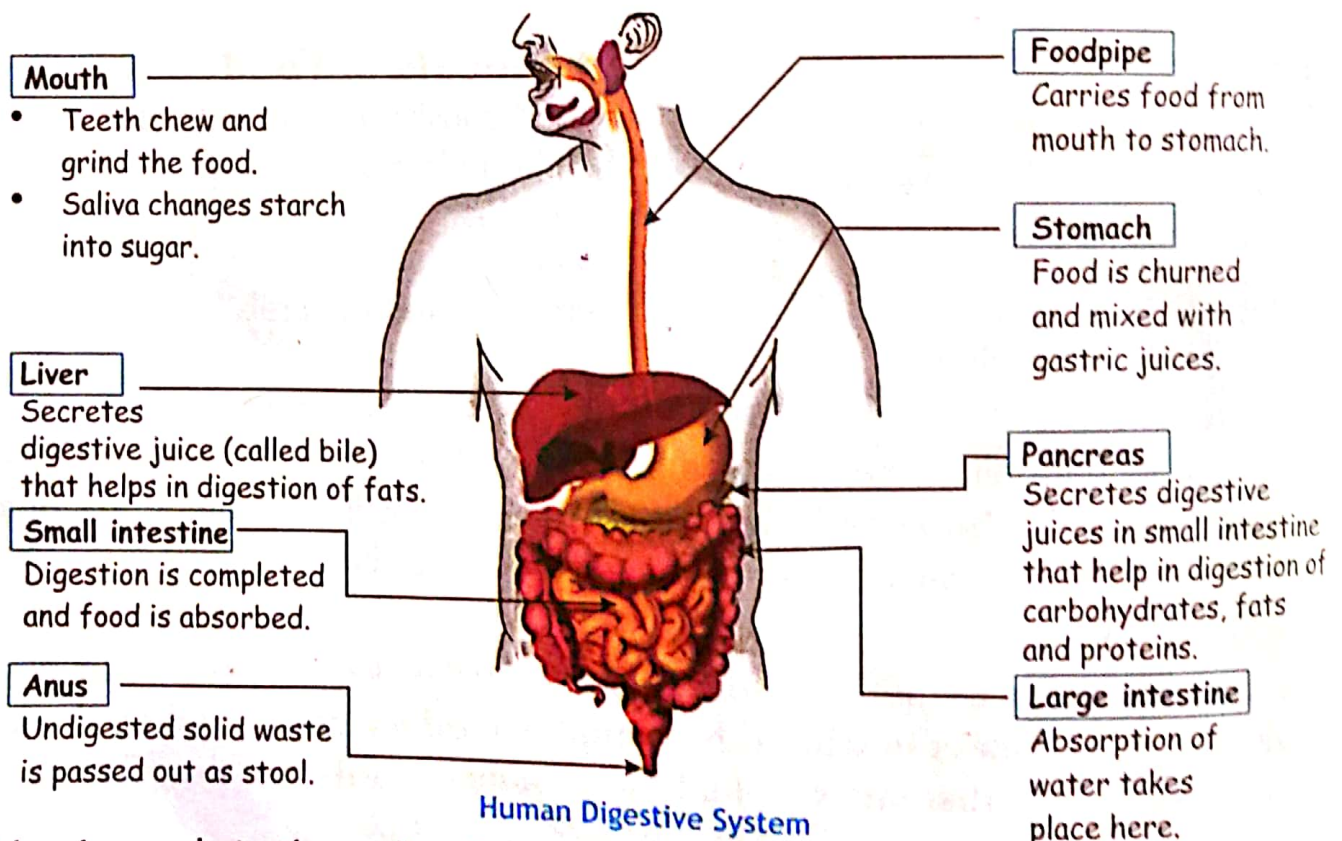
## What Happens To The Food

**1. Inside the Mouth:** When we take food, our sharp, biting teeth in the front cut it, while our flat grinding teeth at the back grind it. A digestive juice called **saliva** mixes with the food. It converts starch into sugar. Hence, the food tastes sweet. From the mouth, the food goes into the stomach through the **foodpipe**.



**2. Inside the Stomach:** Our stomach is like a bag of muscles. Here, the food is churned and mixed with several digestive juices produced by the walls of the stomach. These juices further break the food.

**3. Inside the Small Intestine:** From the stomach, the food is pushed into a long, coiled tube called small intestine. More digestive juices from the liver and the pancreas are added here. These juices mix with the food and convert it into simple, soluble substances. The process of digestion is completed in the small intestine.



The blood vessels in the walls of the small intestine absorb the digested food. The blood now carries the food to different parts of the body. The undigested food, that is not absorbed, goes into the large intestine.

**4. Inside the Large Intestine:** The large intestine is much wider and shorter than the small intestine. It absorbs water from the food wastes and carries it to the kidneys. This water from the kidneys goes out of the body as urine. The remaining solid waste goes out of the body as **stool**.

**Match the following.**

- |                    |                                 |
|--------------------|---------------------------------|
| 1. mouth           | (a) churning and mixing         |
| 2. stomach         | (b) absorption of digested food |
| 3. small intestine | (c) saliva                      |

**Body Needs Glucose**

Chew a piece of bread for some time. It tastes sweet! Why? It tastes sweet because the digestive enzymes present in the saliva break down some of the carbohydrates in the bread into a simple substance called **maltose**. **Maltose** ultimately converts into glucose after digestion. Glucose is sweet in taste and makes the food taste sweet. Our body converts glucose into energy that we use to perform various activities. So, **glucose is a source of energy for our body**.

During sporting events, players are given a glass of glucose water (glucose dissolved in water) to give them **instant energy**.

When a person is suffering from dehydration or weakness due to illness, stress or surgery, a glucose solution is directly injected into the patient's blood through a drip. This is called **glucose drip**. It gives instant energy to the patient.



glucose drip being given



**PRACTICE EXERCISE – SECTION A**

(Use Cordova Smart Class Software on the smart board in class to do these exercises.)

**A Multiple Choice Questions (MCQs). Tick (✓) the correct answers.**

- Digestion of food is finally completed in the
 

(a) small intestine	<input type="radio"/>	(b) large intestine	<input type="radio"/>	(c) stomach	<input type="radio"/>
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- The digested food is absorbed by the
 

(a) blood	<input type="radio"/>	(b) heart	<input type="radio"/>	(c) lungs	<input type="radio"/>
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**B Fill in the blanks:**

- Saliva changes starch into .....
- Food is chewed and mixed with digestive juices in the .....
- Absorption of water takes place in the .....

**C Circle the odd one in each group. Give the reason for your answer:**

- |                    |          |                 |          |
|--------------------|----------|-----------------|----------|
| 1. carbohydrates   | proteins | potatoes        | fats     |
| 2. liver           | incisor  | canine          | premolar |
| 3. large intestine | stomach  | small intestine | heart    |



## PRACTICE EXERCISE – SECTION B

(Use Cordova Smart Class Software on the smart board in class to do these exercises.)

### A Multiple Choice Questions (MCQs). Tick (✓) the correct answers.

- We get instant energy from  
(a) proteins  (b) carbohydrates  (c) glucose
- Glucose solution is directly injected into the patient's blood through a .....  
(a) syringe  (b) medicine  (c) drip

### B Very short answer questions.

- What is the function of the stomach?
- Name four components of food.

### C Short answer question

- What is a balanced diet? Why should we have a balanced diet?
- A piece of bread becomes sweet after chewing for some time. Why?
- Why do we need food?

### D Long answer questions.

- What happens to the food in—  
(a) our mouth?  
(b) small intestine?
- What is a glucose drip? Why is it given to a patient?
- All the organs in our digestive system works together. If one organ stops working the system gets affected. Do you think that working together is important in our life too? Give one example to show this.

Value Corner



## ACTIVITY

### Project

- Prepare a balanced diet chart for one week and put it up in your study room.
- Collect pictures of fitness exercises. If you have a 'Health Club' at your school, list its activities, aims and objectives.

### Group Discussion

- Suggested topic : 'Good food habits in children.'