

Chapter- 1

Food and Digestion

STUDY NOTES

Let's Learn

Food:

- Food is any nutritious substance that people or animals eat or drink or that plants absorb in order to maintain life and growth.
- All living things need food.

Why it is needed?

- Food helps us to grow and to stay alive.
- It gives us energy to work, play, study and do all other activities.
- It keeps us fit and healthy.

Nutrients:

Nutrients are the substances present in food that keeps our body healthy and fit.

Types of nutrients:

- Carbohydrates
- Fats
- Proteins
- Vitamins
- Minerals

| Nutrients | Function | Another name | Sources |
|---------------------|--|--------------------|---|
| Carbohydrate | Provides energy | Energy-giving food | rice, wheat, potato, banana, chapati |
| Fats | Provides more energy and keep your body warm | Energy-giving food | oil, nuts, butter, ghee |
| Proteins | Helps to grow | Body-building food | fish, eggs, meat, cheese, peas, pulses |
| Vitamins | Help to fight against diseases | Protective food | Fruits, vegetables, meat, fish, liver, milk |

| | | | |
|-----------------|---|-----------------|---|
| Minerals | Help in formation of bones, teeth and blood | Protective food | Fruits, vegetables, meat, fish, liver, milk |
|-----------------|---|-----------------|---|

Some more facts about the nutrients:

- People who do more physical work need more energy therefore they eat more carbohydrates.
- Extra fat is stored in our body for future use.
- Fats provide more energy than carbohydrates.
- Vitamins and minerals are needed in very small quantities for our body.

Roughage:

- It is the fiber present in our food which is necessary for the proper functioning of the digestive system.
- It adds bulk to the food.

Water:

- It is essential for the proper functioning of our body.
- 3/4 of our body weight is water.

Balanced diet:

- A diet that contains right amounts of all the nutrients along with her water and roughage is called as a balanced diet.

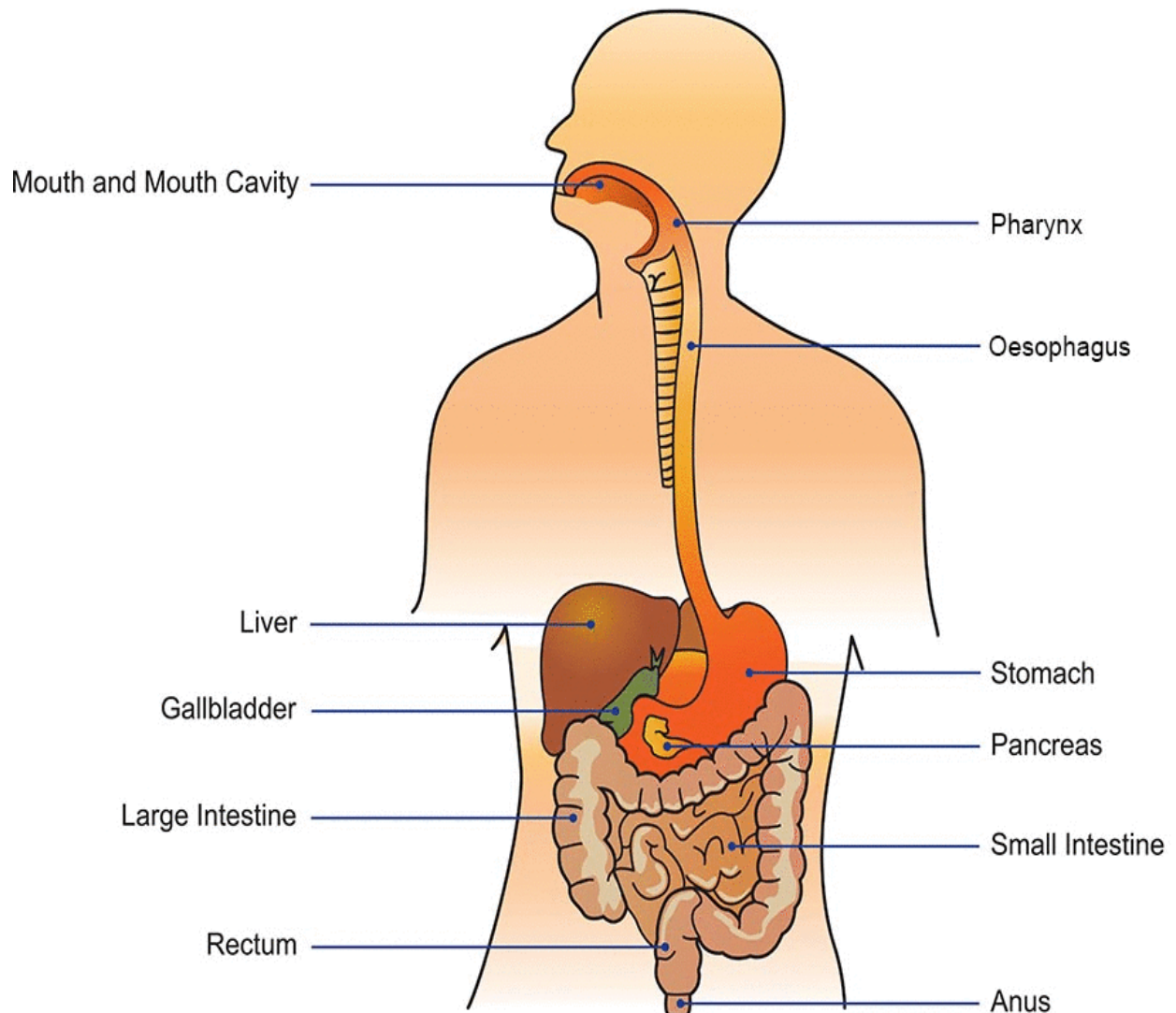
Digestion of food:

- The process of breaking down of food into a simpler form so that our body can absorb it is called digestion.
- The digested food is absorbed by the blood and taken to all the parts of the body.

| Organs | Definition | Functions |
|--------------|--|---|
| Mouth | An opening through which food enters the body. | <ul style="list-style-type: none"> ● It helps us to eat and speak. ● Digestion begins here. ● Insoluble starch is changed into soluble sugar |

| | | |
|-----------------------------|--|--|
| Food pipe/ esophagus | A muscular tube that connects mouth with the stomach | <ul style="list-style-type: none"> ● It takes the food from the mouth to the stomach. |
| Stomach | stomach is a hollow, muscular bag like organ | <ul style="list-style-type: none"> ● It helps in churning the food. ● Mixes the digestive juices with the food ● Helps in the breaking down of protein into simpler form. |
| Small intestine | A long coiled tube-like organ that connects the stomach and the large intestine. | <ul style="list-style-type: none"> ● More digestive juices mixes with the food ● Food is completely digested here. ● The walls of the small intestine absorb the digested food and distribute it to all the parts of the body |
| Large intestine | A tube-like organ that connects small intestine and anus. | <ul style="list-style-type: none"> ● It absorbs water from the undigested food |
| Anus | Anus is the opening through which the undigested food passes out of the body. | <ul style="list-style-type: none"> ● The semi -solid waste is passed out from the body through the anus |

| Associated organs | Functions |
|------------------------|---|
| Salivary glands | <ul style="list-style-type: none"> ● It produces saliva which makes this food soft, easy to chew, makes it slippery. ● Saliva changes insoluble starch in food into soluble sugar |
| Liver | <ul style="list-style-type: none"> ● It produces the digestive juice called bile which helps in the breaking down of fats |
| Pancreas | <ul style="list-style-type: none"> ● It produces the digestive juice called pancreatic juice which help in the breaking down of fats, sugar, starch. |

**Some tips for proper digestion:**

- Eat food at fixed hours.
- Chew your food properly before swallowing.
- Eat lots of green vegetables and fruits.
- Do not overeat.
- Drink plenty of water.

Preparing food:

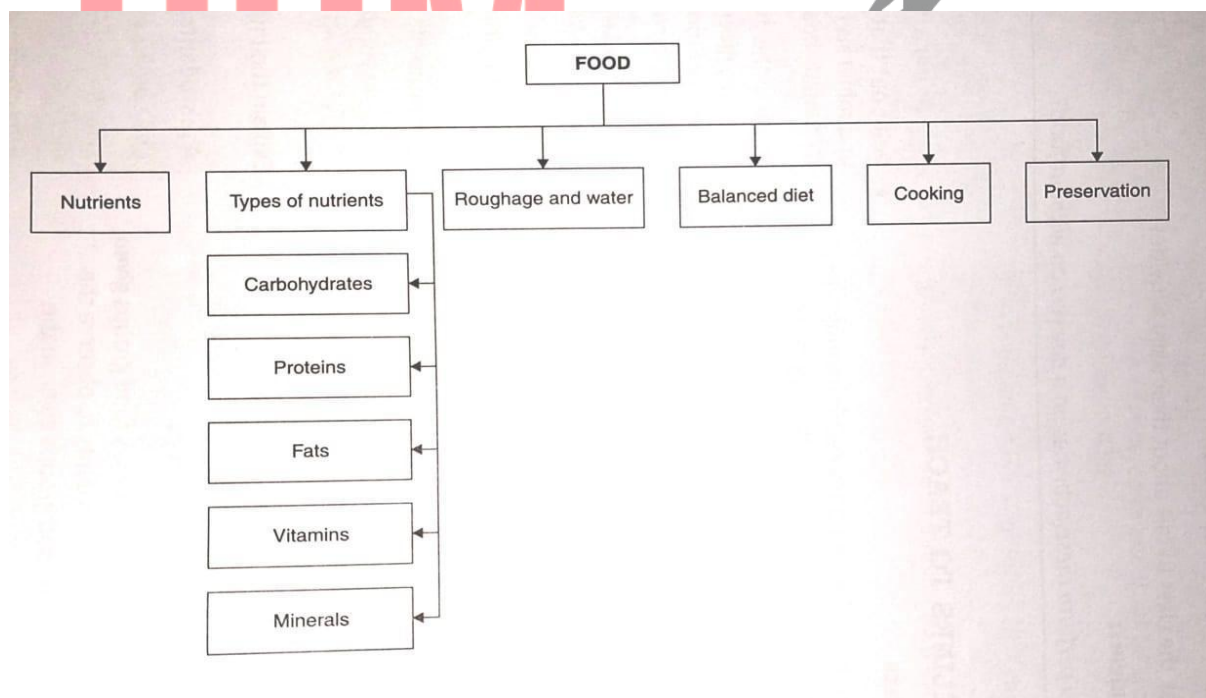
- We should wash the fruits and vegetables properly before eating so as to free them from the dust and germs.
- Cooking food makes the food soft, tasty and easy to digest.
- It also kills the germs in the food.

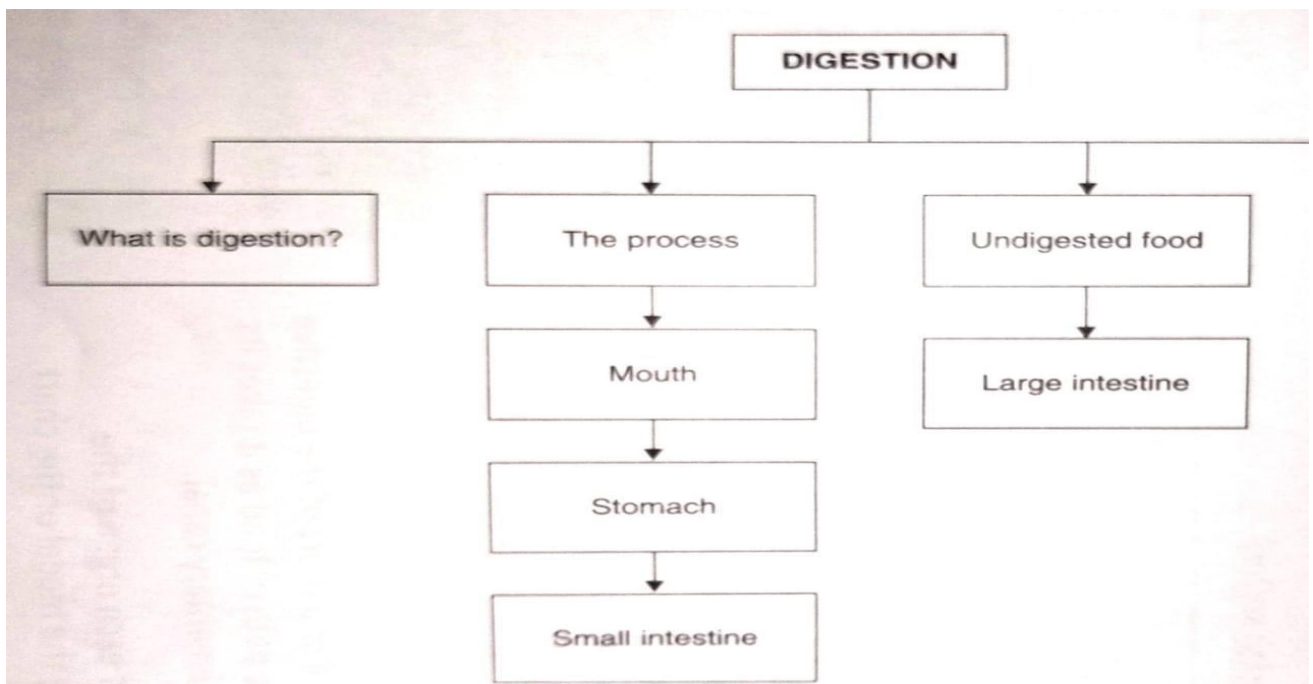
Things to remember while cooking:

- Do not throw away the water in which pulses are soaked. It contains vitamins. Use it for cooking.
- Do not wash vegetables and fruits after cutting them.
- Take just enough water for boiling as water absorbs the nutrients present in the food.
- Do not overcook as it destroys the nutrients.

Preserving food:

- The process of treating food in a way that preserves its values for a long time is called preservation.
- Cooked foods can be preserved in different ways like refrigerating, drying, pickling, jelling, boiling and canning.

MEMORY MAP



Let's Know More

I. Fill in the blanks.

1. _____ keeps our body warm.
2. Foods that are rich in proteins are called _____ foods.
3. _____ help our body to fight diseases.
4. _____ helps in the formation of bones, teeth and bone.
5. The fibre present in our body which helps in proper functioning of the digestive system by adding bulk to the food is _____.
6. The breaking down of food into simpler form so that our body can absorb is called _____.

Let's Do

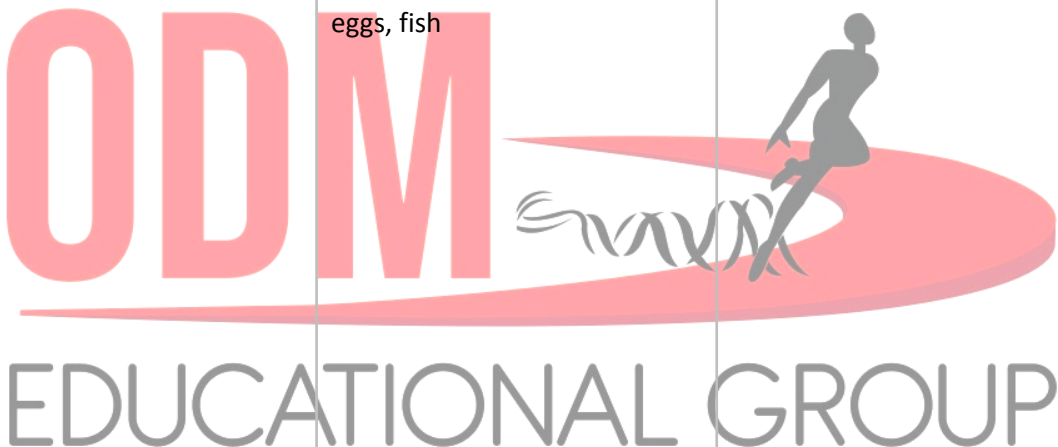
A. Tick the correct answer.

1. Eggs, fish, cheese, peas and pulses are called
 - a. Energy- giving foods
 - b. Body-building foods
 - c. Protective foods
2. these are protective foods.
 - a. bread and butter
 - b. peas and pulses
 - c. fruits and vegetables
3. Calcium, potassium, sodium, iodine and iron are examples of
 - a. Vitamins
 - b. Minerals

- c. Carbohydrates
- 4. From the mouth the food passes through the food pipe into the
 - a. small intestine
 - b. large intestine
 - c. Stomach
- 5. Do not wash vegetables and fruits
 - a. before eating them.
 - b. after cutting them.
 - c. Ever.

B. Complete this table of nutrients.

| Name of the nutrient | Sources | Function / functions |
|----------------------|--|----------------------|
| Proteins | pulses, meat, cheese, peas, eggs, fish | help us to grow |



C. Match the columns.

- | | |
|---|--------------------------|
| 1. Body-building nutrients | a. Saliva |
| 2. protective nutrients | b. Stomach |
| 3. changing of food into a simpler form | c. Preservation |
| 4. the digestive liquid in the mouth | d. Proteins |
| 5. a muscular bag in the digestive system | e. Digestion |
| 6. makes food last longer | f. vitamins and minerals |

Understand and Answer

D. Write short answers.

1. Why do we need food?
2. Name any three food items which contains starch.
3. Name any food sources of vitamins and minerals.
4. What is a balanced diet?
5. Where does the digested food enter from the stomach?

E. Answer these questions.

1. What happens to the food in the mouth?
2. What is the function of small intestine?
3. What happens to our food when it enters the stomach until it reaches the large intestine?
4. What is preservation?
5. How do we preserve food?


Teacher's Note

- Make a tasty and nutritious fruit chart and write down how many different types of food you have used in it.

Improve Your GK

- Our digestive system is a single tube of around 9 metres long which is coiled inside our bodies.
- You can eat upside down.

Answer Key

1. Fats
 2. Body-building
 3. Vitamins
 4. Minerals
 5. Roughage
 6. Digestion
 - A. 
 7. b. body-building food
 8. c. fruits and vegetables
 9. b. minerals
 10. c. stomach
 11. b. after cutting them
- B.

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Changing your Tomorrow

| Name of the nutrient | Sources | Function / Functions |
|----------------------|---|--|
| Proteins | pulses, meat, cheese, peas, eggs, fish | Helps us to grow |
| Carbohydrate | rice, wheat, potato, banana, chapati | Provides energy |
| Fats | oil, nuts, butter, ghee | Provides more energy and keep your body warm |
| Vitamins | Fruits, vegetables, meat, fish, liver, milk | Help to fight against diseases |
| Minerals | Fruits, vegetables, meat, fish, liver, milk | Help in formation of bones, teeth and blood |

- C.
1. d. protein
 2. f. vitamins and minerals
 3. e. digestion
 4. a. saliva
 5. B. stomach
 6. c. preservation
- D.
1. We need food because:
 - a. food helps us to grow and to stay alive.
 - b. it provides us with energy to work, play, study and do other activities
 - c. it keeps us fit and healthy.
 2. Three food items which contains starch are rice, wheat and potato.
 3. Four sources of vitamins and minerals are fresh fruits, vegetables, meat and fish.
 4. A diet that contains all the nutrients in right amount including water and roughage is known as a balanced diet.
 5. The digested food enters the small intestine from the stomach.
- E.
1. The food in the mouth is broken down into smaller pieces by our teeth and mixes with the saliva which helps in changing the insoluble starch in food into soluble sugar.
 2. The function of small intestine is as follows:
 - a. The food is mixed with some more digestive juices produced by the walls of the small intestine, liver and pancreas and completely digested in the small intestine.
 - b. The blood vessels present in the walls of the small intestine absorb the digested food and distribute it to all the parts of the body.
 3. >In the stomach, the food is churned into simpler form and pushed into a long-coiled tube called the small intestine.

>The inside walls of the small intestine along with pancreas and liver produces digestive juices which mixes with the food and makes it almost like a liquid.

>Then the blood vessels present in the walls of the small intestine absorb the digested food and carry it to all the parts of our body.

>The undigested food passes into the large intestine.

>The blood vessels present in the walls of the large intestine absorb the excess water.
 4. The process of treating food in a way that preserves its values for a long time is called preservation.
 5. We can preserve food in a number of ways:
 - > refrigerating
 - > drying
 - > canning

>pickling

>jellying

>boiling.

