

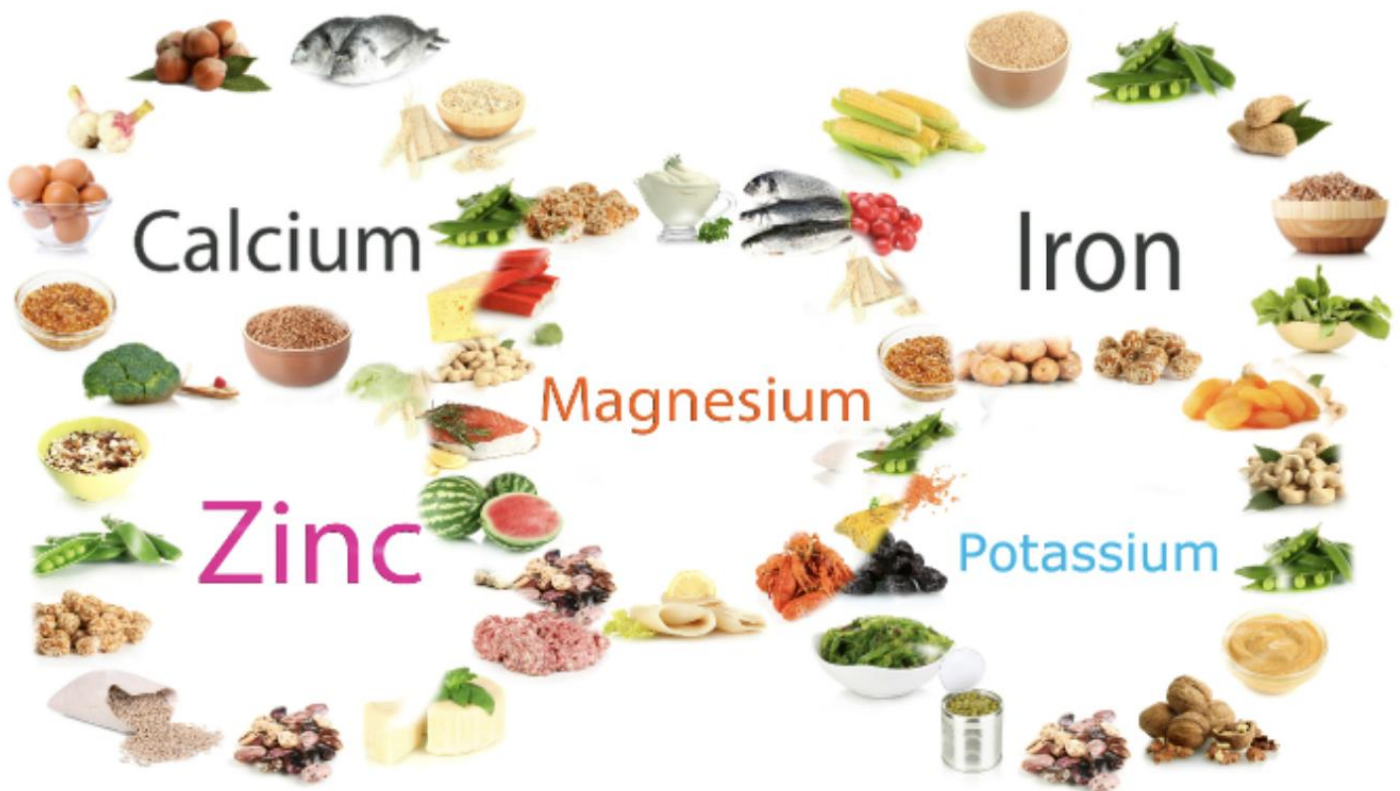
Class VI
Subject- Science
Chapter-2 Components of food(Part-2)

You will learn about

- Nutrients(Minerals,fibres,water).
- Balanced diet
- Deficiency diseases

Minerals

Minerals are elements in the form of salts. Mineral salts are taken by us as a part of our food and water. They are required for proper growth, formation of blood cells, healthy bones, and strong teeth for performing important functions of the body. Calcium, phosphorous and sodium are required in good quantity whereas zinc, potassium and iodine are required in very small quantity.



Minerals, their Sources and Uses

Minerals	Sources	Uses
Iron	Milk, black gram, beans, sesame(til), turnip, green leafy vegetables, egg, fish, liver	For the formation of haemoglobin in red blood cells.
Calcium	Milk, cheese, pulses, soyabean, green leafy vegetables, mineral water, cashew and dry fruits.	<ul style="list-style-type: none"> • For strong bones and teeth. • Necessary for clotting of blood.
Phosphorus	Milk, nuts, pulses, whole meal cereals, fruits, fish and meat	<ul style="list-style-type: none"> • For utilising proteins in the body. • Part of bones and teeth.
Iodine	Green vegetables, iodised salt, sea food, marine fish, coconut water.	For normal body growth.
Potassium	Milk, green leafy vegetables, whole grains, pulpy fruits.	<ul style="list-style-type: none"> • For the formation of new cells and tissues. • For nerves(nerve impulses).
Sodium	Common salt, leafy vegetables, milk.	Maintain the balance of water in body and control nerve functions.
Magnesium	Green leafy vegetables, cereals, Kiwi fruit.	For muscles and nerves.
Zinc	Beans, peanuts, chicken	Supports digestion of food.

Fibres/ Dietary fibres

Fibres are not a nutrient but an important part of our food. They form the bulk of our food but they are indigestible. Fibres absorb water and form a slimy semi- solid paste along with the nutrients in the mouth and then in the stomach. Most of the nutrients are digested and absorbed in the intestine, rest forms a major part of the waste matter. Lack of fibre in our food may result in constipation. Fibres are also termed as roughage.

We get roughage from fruits ,vegetables, all cereals, whole grains and pulses.

Water

Water is an essential part of our food. Our body is 70% water. Almost all the items of food we eat include water. Importance of water in our body is that it:

1. turns the food soft and pulpy.
2. Helps in the movement of food through the food canal.

3. is the liquid medium for the circulation of blood through the body.
4. carries enzymes, digested food, and hormones into the blood and to different parts of our body through blood.
5. keeps our skin moist.
6. keeps the body cool and at a normal body temperature.
7. helps muscles in movement.
8. helps in the removal of waste from the body.

Water intake in our body is through drinking clean water, liquid food, and juicy fruits. In case, loss of water from the body is more and intake is less it may result in dehydration.

Patients suffering from dehydration should be given ORAL REHYDRATION SOLUTION(ORS) which is a solution of sugar and pinch of common salt.

Balanced diet

A diet that includes adequate number of different components of food required for the healthy functioning of our body is called a balanced diet.

A balanced diet differs according to the age and the nature of work we perform like:

- A child needs more of carbohydrates, proteins, vitamins and minerals like calcium and phosphorus for energy and the growing body.
- A labour performing hard physical work needs more of carbohydrates to meet the energy requirements.
- A severely injured person undergoing treatment should take more of protein rich food.

Too much of carbohydrates especially sugar, fat, and fried food as a part of diet results in obesity which is not only bad for heart but is a hindrance to active life also.

Malnutrition

A person not eating enough food suffers from malnutrition.

Deficiency diseases

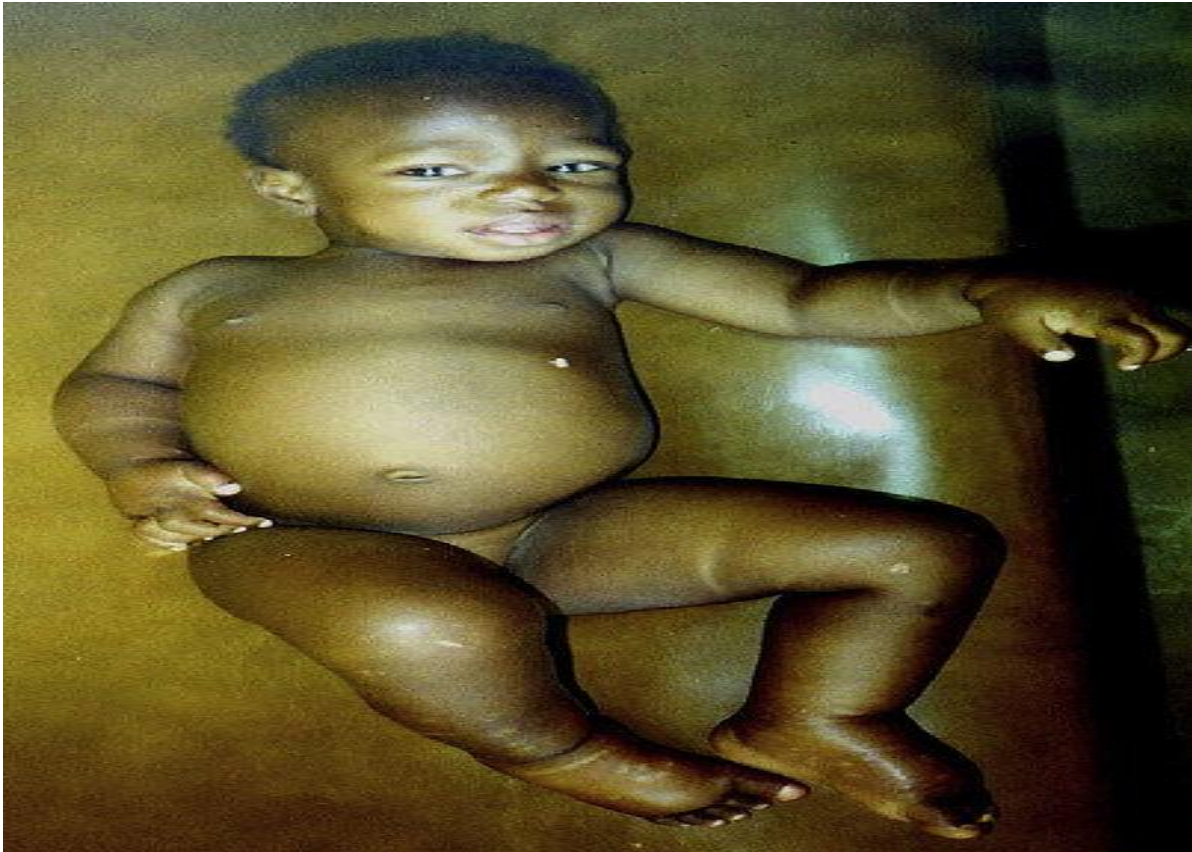
A weak body may be due to the deficiency of one or more than one nutrient in the diet for a long period of time. The disease due to nutritional deficiency is called deficiency disease.

Deficiency disease may be due to diet deficient in proteins, carbohydrates, any one or more vitamins, any one or more minerals.

Some of the symptoms and cure for a deficiency disease are as follows:

1. Protein deficiency is common among the children of age 1 to 5 years. Example:

Kwashiorkar is a protein deficiency disease. A child suffering from kwashiorkor becomes weak, showing stunted growth, swollen limbs, skin with cracks, discolouration of hair and anaemia. Cure lies in enriching diet with protein rich food like beans, fish, meat, eggs and milk.



2. Protein-carbohydrate deficiency or Protein Energy Malnutrition (PEM) occurs in babies, specially infants of age 1 to 2 years. Example:

Marasmus – The baby suffers from lean muscles, rough skin, protruding bones, weak limbs, anaemia and mental retardation. Cure lies in adding proteins and carbohydrates to the mother's diet or milk with added sugar to the feed for the baby.



3. Vitamin and mineral deficiency diseases

Nutrients	Deficiency diseases	Symptoms
Vitamin A	Night blindness	Poor vision, dryness in mouth.
Vitamin B1	Beri- Beri	Weak muscles, very little energy to work.
Vitamin B12	Anaemia	Pale skin, weakness, loss of appetite, weak memory.
Vitamin C	Scurvy	Bleeding gums, stiffening of muscles, joint pain.
Vitamin D	Rickets	Soft and weak bones, bow legs, bending of bones, pigeon type chest.
Vitamin E	Wrinkles on face, skin losing glow	
Vitamin K	Wound bleeding	Excessive bleeding from injury due to non clotting of blood.
Calcium	Rickets in children osteoporosis in adults.	Weak bones, deformed teeth Damaged to spine and knees
Iron	Anaemia	Weak body, loss of weight, swelling in hands and feet.
Iodine	Goitre	Swelling of thyroid gland in neck, mental disability, effects metabolism.

- Vitamin D is essential to help absorption of calcium in the body from the food we eat.
- Eating rich source of vitamins and minerals is the right cure for vitamin/ minerals deficiency.



Images showing Goitre and Rickets

Question and Answers:

Q1.Name the carbohydrate which forms roughage part of our food.

Ans: Cellulose

Q2.What role is played by water in our diet?

Ans:Write any 5 importance of water.

Q3.In what way iodized salt is better than non-iodized salt?

Ans:Iodized salt is better than non-iodized salt because it contains small amount of iodine which is needed by our body to maintain normal health.If it is not taken in sufficient quantity it can lead to disease called goiter.

Q4.What is the role of roughage in our food?

Ans:Roughage form the bulk of our food.It is not digested by our body but helps in smooth movement of waste,keeps digestive system normal and prevents constipation.It also retains water in the body by absorbing it in large quantity.

Q5.What is the importance of milk and green vegetables in our food?

Ans:Milk contains many nutrients like protein,calcium,potassium,phosphorous and vitamin D which is required for healthy bones and teeth.

Green vegetables are important for our body as it provides minerals,vitamins and roughage to the body.

Q6.What is anorexia?

Ans:Anorexia is a disorder in which person suffers from weak muscles,poor eyesight and brittle bones due to malnutrition.

Q7.Why do growing children need carbohydrate and protein rich diet?

Ans:Growing children need carbohydrate and protein rich diet to produce energy and to help rapid growth.

NOTE: 1.Write and learn the question and answers in your notebook.

2.Do practice the exercise given on pg no.34,35 and 36(upto true false) of the book.

3.Learn the tables given in notes..