

Class VI
Science
Book: Science Textbook for CLASS VI
Chapter 2: Components of Food

General Instructions:

- ❖ Question Answers and Notes to be done in Science notebook/ practice notebook/ loose sheets.
- ❖ Refer to YouTube link <https://www.youtube.com/watch?v=LiDPddiXWuc> for explanation of the chapter.

Introduction:

- The ingredients in the food that we eat contain some components that are needed by our body. These components are called nutrients.
- The major nutrients in our food are carbohydrates, proteins, fats, vitamins and minerals. In addition, food contains dietary fibers and water which are also needed by our body.
- Balanced diet provides all the nutrients that our body needs in right quantities, along with adequate amount of roughage and water.
- Deficiency of one or more nutrients in our food for a long time may cause certain diseases or disorders.

Explanation:

❖ **What do different food items contain?**

- We know that each dish is usually made up of one or more ingredients, which we get from plants or animals.
- These ingredients contain some components that are needed by our body and are called nutrients.
- The major nutrients are carbohydrates, proteins, fats, vitamins and minerals.
- Dietary fibres (roughage) and water are also important for our body.

❖ **Do all foods contain all these nutrients?**

- With some simple methods, we can test whether cooked food or a raw ingredient contains one or more of these nutrients.
- The tests for presence of carbohydrates, proteins and fats are simpler to do as compared to the tests for other nutrients.

❖ **Test for Starch**

- The main carbohydrates found in our food are in the form of starch and sugar. We can easily test if a food item contains starch.
- Take a small quantity of a food item or a raw ingredient.
- Put 2-3 drops of dilute iodine solution on it and observe if there is any change in the colour of the food item.
- A blue black colour indicates that it contains starch.



❖ **Test for Protein**

- Take a small quantity of a food item for testing. If it is a solid, we need to make a paste of it or powder it.
- Put some of this in a clean test tube, add ten drops of water to it and shake it well.
- Now add two drops of solution of copper sulphate and ten drops of solution of caustic soda to the test tube.
- Shake it well and let the test tube stand for a few minutes.
- If the colour of the solution turns violet, it shows the presence of protein in the given food sample.



❖ **Test for Fat**

- Take a small quantity of a food item and wrap it in a piece of paper and press it.
- Now straighten the paper and observe it carefully.
- An oily patch on paper shows that the food item contains fat.

❖ **What do various nutrients do for our body?**

- Carbohydrates and fats provide energy to our body.
- Proteins are needed for growth and repair of our body.
- Vitamins help in protecting our body against diseases.
- Minerals are essential for proper growth of body and to maintain good health.
- Roughage does not provide any nutrient to our body but it is an essential component of our food and adds to its bulk. This helps our body to get rid of undigested food.
- Water helps our body to absorb nutrients from food and throwing out some wastes from body as urine and sweat.

❖ **Balanced Diet**

- The diet which contains adequate amount of all nutrients along with water and roughage is called balanced diet.
- Food should also be cooked properly so that its nutrients are not lost. Cooking improves the taste of food and makes it easier to digest.
- Many useful proteins and considerable amount of minerals are lost if excess water is used during cooking and is then thrown away.

❖ Deficiency Diseases

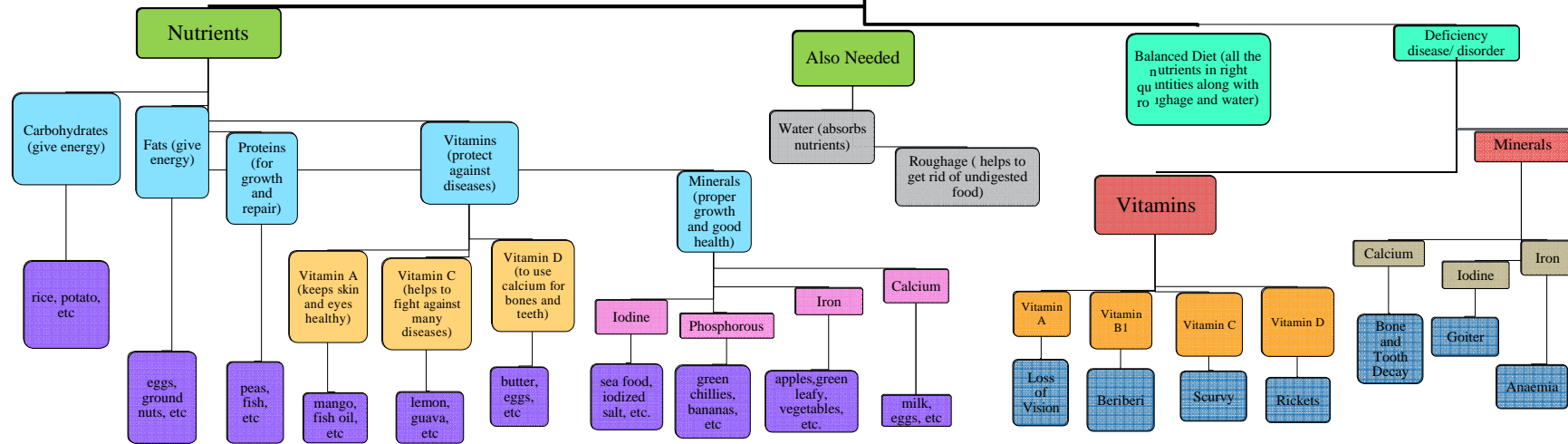
- Diseases that occur due to lack of nutrients over a long period of time are called deficiency diseases. They can be prevented by taking a balanced diet.

Some diseases/disorders caused by deficiency of vitamins and minerals

Vitamin/Mineral	Deficiency disease/disorder	Symptoms
Vitamin A	Loss of vision	Poor vision, loss of vision in darkness (night), sometimes complete loss of vision
Vitamin B1	Beriberi	Weak muscles and very little energy to work
Vitamin C	Scurvy	Bleeding gums, wounds take longer time to heal
Vitamin D	Rickets	Bones become soft and bent
Calcium	Bone and tooth decay	Weak bones, tooth decay
Iodine	Goiter	Glands in the neck appear swollen, mental disability in children
Iron	Anaemia	Weakness

MIND MAP

Components of Food



Question Answers

Q 1. Define the following terms:

a. Nutrient- A substance which is essential for maintaining life and for growth is called a nutrient. Our food has five major nutrients. They are carbohydrates, fats, proteins, vitamins and minerals. Water and roughage are also important part of our food.

b. Balanced Diet- The diet which contains adequate amount of all the nutrients along with water and roughage is called a balanced diet.

c. Deficiency Diseases- Diseases that occur due to lack of nutrients over a long period of time are called deficiency diseases. They can be prevented by taking a balanced diet.

Q 2. Write the factors on which balanced diet of a person depends.

Ans. Balanced diet of a person depends on the age and occupation of a person.

Q 3. State any three cooking practices which lead to the loss of nutrients in food materials.

Ans. Three cooking practices which lead to the loss of nutrients are:

- Throwing away water in which food is first boiled.
- Cooking food at high temperature.
- Repeated washing of rice and pulses.

Notes

- **Carbohydrates-** They provide energy to our body. The main carbohydrates found in our food are in the form of starch and sugar. Some sources are wheat, rice, potato etc.
- **Fats-** They also give us energy. Some sources are til, groundnuts, coconut oil, meat, eggs, ghee etc.
- **Proteins-** They are needed for growth and repair of our body. Some sources are beans, peas, pulses, paneer, fish, milk etc.
- **Vitamins-** They help our body in protecting against diseases.
- **Vitamin A-** It keeps our skin and eyes healthy. Some sources are fish oil, papaya, mango etc.
- **Vitamin C-** It helps our body to fight against many diseases. Some sources are orange, amla, guava etc.
- **Vitamin D-** It helps our body to use calcium for bones and teeth. It is made in our body when skin is exposed to sunlight. Some sources are butter, eggs, fish etc.
- **Minerals-** They are needed by our body in small amounts. Each one is essential for proper growth of body and to maintain good health.

SOURCES OF SOME MINERALS

