

## Worksheet

### Class 10<sup>th</sup> ( science )

#### Chapter 1<sup>st</sup> Food And Human Health

- Nutrition is the basis of life, balanced diet is required for the smooth operation of the body.
- Deficiency of protein, carbohydrates, vitamins, minerals, in diet causes disease.

**Balanced diet** : Balance diet is one that contains all the essential nutrients like carbohydrates, proteins, vitamins, fat, minerals, and water in sufficient quantity.

**Unbalanced diet** : If any of the essential nutrients not present in diet, such diet is known as unbalanced diet.

**Malnutrition**: If one or more nutrients are unavailable for a long period of time, then it is called malnutrition.

The effect of malnutrition manifests both in physical and mental weakness.

#### Types of malnutrition

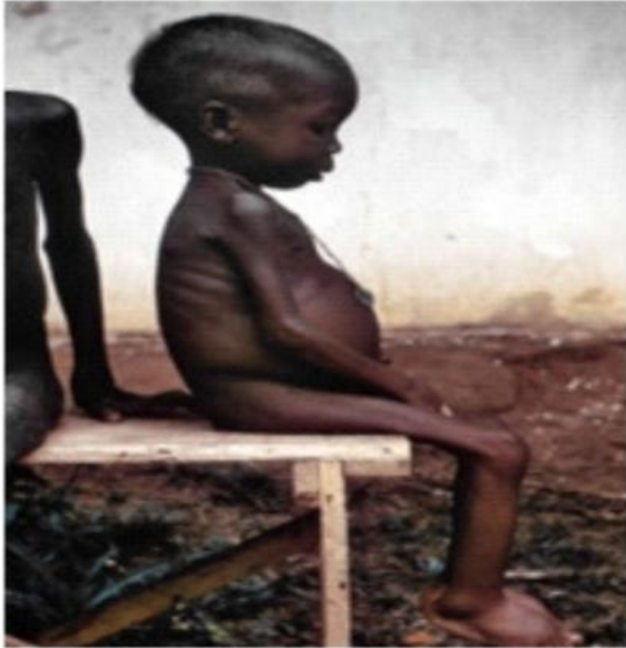
1. Vitamin malnutrition
2. Protein malnutrition
3. Mineral malnutrition
1. **Vitamin malnutrition** : Vitamins are a very minute part of the food but they are functionally very important. Clear symptoms are seen if one or more vitamin are absent in the diet.

Table 1.1 Diseases and their symptoms due to the deficiency of vitamins

S. No.	Vitamin	Disease due to deficiency	Symptoms of the disease
1	Vitamin A	Night Blindness	Unable to see at night or in light
2	Thiamine (B 1)	Beri Beri	Low heart beat, weakness in muscles and nerves
3	Riboflavin (B2)	Riboflavinosis	Rupturing around mouth linings and skin of lips and memory loss
4	Niacin (B3)	Pellagra	Appearances of dry scales on tongue and skin.
5	Ascorbic acid (C)	Scurvy	Bleeding from gums, appearance of spots on the skin.
6	Calciferol (D)	Rickets	Bones of leg bends, inward bending of knees

2. **Protein malnutrition** : Chiefly small children are affected by it. Protein is an important nutrient for pregnant women and adolescents.

Deficiency of protein causes kwashiorkor and marasmus disease.



**Fig. 1.1 a Kwashiorkor**



**Fig. 1.1 b Marasmus**

1. **Kwashiorkor** : Deficiency of protein causes kwashiorkor disease. Child's stomach swells, loses appetite, behaviour becomes irritable, skin becomes pale, black, dry, spotty and starts rupturing.
2. **Marasmus**: Deficiency of both protein and energy causes marasmus disease. Body shrinks and becomes weak, eyes sink deep and become lusterless.
3. **Mineral malnutrition**: Different types of minerals also play an important role in the functioning of the body and their deficiency causes different types of disorders in the body.
  - Element Iron is a part of haemoglobin and its deficiency leads to paling of face due to anaemia.
  - Calcium makes bones strong and its deficiency makes bones weak and brittle.
  - Due to deficiency of Iodine the activity of the thyroid gland slows down and causes goiter.

**Table 1.2 Important Minerals, source and function**

<b>S. No.</b>	<b>Name of the Element</b>	<b>Main Sources</b>	<b>Important Function</b>
1	Sodium	Common salt, Fish, meat, egg, milk	Contraction of muscles, transmission of neural charges, electrolysis of body, maintaining balance
2	Potassium	All food products	Control of muscles, transmission of neural charges, electrolysis of body, operates different cellular reactions
3	Calcium	Milk, Egg, Green vegetables	Makes bones and teeth strong along with vitamin D
4	Phosphorus	Milk, green vegetable, pearl millet, finger millet, dry fruits, liver and kidney	Makes bones and teeth stronger with calcium
5	Iron	Liver, kidney, Egg, Meat, Blood, Pearl millet, Finger millet, Curd, vegetables, carrot, jaggery	Formation of hemoglobin, oxidation of tissues
6	Iodine	Salt, sea food, green leafy vegetable, sea fish, black berry, rock salt	Formation of thyroxine hormone