

What Do Different Food Items Contain?

1. The food we eat gives us energy to live. Food contains substances that are useful to our body. These are called nutrients.
2. Carbohydrates, fats, proteins, vitamins, minerals, roughage and water are essential nutrients for our body.
3. The process of taking nutrients for the growth and development of body and to obtain energy is known as nutrition.
4. Put that sample on a piece of paper and crush. If the paper at that spot becomes translucent and greasy, the sample contains fat.
5. Take a small quantity of food sample in a test-tube, add 10 drops of water to it and shake the test-tube, after that add two drops of solution of copper sulphate and ten drops of caustic soda. A violet colour indicates presence of protein in the food sample.
6. Take a small quantity of food sample, put 2-3 drops of iodine solution on it. A blue black colour indicates that it contain starch.
7. Food can be broadly sub-divided into following three groups:
 - (i) Energy giving foods. For examples, carbohydrates and fats.
 - (ii) Body building foods. For example, proteins.
 - (iii) Protective foods. For examples, vitamins and minerals.
8. We known that food is needed for the growth of our body. Food gives us energy to work and play. It gives us resistance against diseases. The components of food are carbohydrates, proteins, fats, vitamins, minerals, fibre and water. Nutrients are the components of food that the body needs in adequate amounts for growth, to reproduce and to lead a normal healthy life. All types of nutrients have their own functions to perform, but the different nutrients must act together. So nutritious food provide energy for all the activity of body.
9. Our food provide us energy for proper growth, to give protection against diseases and to carry out physical work.

What Do Various Nutrients Do For Our Body?

1. Vitamin C.
2. Vitamin B and Vitamin C.
3. Cellulose is the main constituent of roughage.
4. Cabbage.
5. Vitamin C helps in proper growth, healthy teeth, gums and joints and keep the body fit and to fight against the diseases.
6. Milk and Soyabean.
7. Vitamin A and Vitamin D.
8. Rice, wheat, maize, potatoes, sugar and jaggery are the sources of carbohydrates.
9. Calcium and Phosphorus.
10. The main food that we eat to provide us energy is called staple food. In our country rice, chapatti and bread are staple food.
11. Fats are found in vegetable oils, ghee and butter, milk, cheese, meat, fish and cod-liver oil, etc.
12. (i) Dietary fibre: Spinach, cabbage, ladies finger.
(ii) Sugar: Milk, banana, sugarcane.

(iii) Protein: Milk, meat, fish, egg
(iv) Fats and oil: Butter, ghee, cheese, groundnut.

13. Functions of protein are:

- (i) Protein are the building materials of our body.
- (ii) Protein are the constituents of enzymes.
- (iii) Proteins make our muscles, skin, hair, and nails.
- (iv) Protein forms a red pigment in blood which acts as oxygen carrier.
- (v) Protein like fibrin help in clotting of blood.
- (vi) Proteins help in repairing damaged, replacing wornout or dead cells and tissues.
- (vii) Proteins help to develop resistance of the body against various infections.

14. Names of strip and their appropriate places are:

Name of strip	Appropriate place
(a) Protein rich food	Place 1
(b) Carbohydrates rich food	Place 3
(c) Fat rich food	Place 2

15. Vitamins only help in the proper utilization of other nutrients such as carbohydrates and fats. Many vitamins help enzymes in their action and are called co-enzymes.

16. The rough, fibrous content of food is called roughage. Green vegetables like spinach, cabbage, ladies finger and beans contain a good amount of roughage.

Role: Roughage helps in the movement of bowel. This prevents constipation.

17. (i) The bones and teeth are made up of salts of calcium and phosphorus. Calcium is found in milk, buttermilk, cheese, green leaf vegetables, ragi. While cereals, pulses, fish and meat is good sources of phosphorus.

(ii) To prevent scurvy, vitamin C is required, which is found in citrus fruits, green and red peppers.

(iii) To avoid constipation roughage is very important. Roughage is mostly given by the foods derived from plants, which contain enough cellulose. Mostly vegetables, fruits and whole grain provide roughage in our food.

(iv) For warmth: ghee, butter, meat and fish etc.

(v) For growth: milk, green leafy vegetables.

18. (a) **Role of carbohydrates:** Carbohydrates provide us energy.

(b) **Role of fats:** Fats provide us energy.

(c) **Role of proteins:**

- (i) Proteins help in digestion.
- (ii) Proteins are required for building body parts.
- (iii) Proteins help in growth of muscles and whole body.

(d) **Role of vitamins:**

- (i) Vitamins are necessary for various physiological activities.
- (ii) Vitamins keep us healthy and protect us from many diseases.
- (iii) Vitamins are required for the proper functioning of body parts.

(e) **Role of minerals:**

- (i) Minerals help us to make our bones and teeth strong.
- (ii) They help to prepare blood.

Balanced Diet

1. (a) A 12 year old boy/girl needs 2000-2200 per day.
 (b) He can get this by a diet including daal, rice, roti, green vegetables and a bit of jiggery.
2. A balanced diet has following properties:
 - (i) It is rich in essential nutrients such as vitamins, minerals and certain amino acids.
 - (ii) It provides just enough raw material to take care of the needs of growth, repair and replacement of cells, tissues and organs in the body.
 - (iii) It provides energy required for the body.
3. The idea that something is costlier and harder to get should be more valuable as a food is called food-fad. People think that grapes are more nutritious than banana and spinach. It is a food fad and it is only because grapes are costlier than banana and spinach.

Deficiency Diseases

1. If a child does not get enough protein in his food for long time, he is likely to suffer from protein deficiency. Children suffering from protein deficiency have light brown hair, face like that of an old man, always hungry, they have distended stomach. They are under weight and skinny with very little flesh on bones. This disease is called Kwashikor.
- 2.

Vitamins	Sources	Deficiency diseases
1. Vitamin A	Milk, butter, yellow fruits and vegetables, egg yolk, liver oils of fish	Xerophthalmia, Night blindness
2. Vitamin B	Milk, egg, green vegetables, cheese, meat, germinating seeds, yeast and unpolished rice.	Beriberi
3. Vitamin C	Citrus fruits, green and red peppers.	Scurvy
4. Vitamin D	Milk, egg, fish, liver, oil, sunlight.	Rickets
5. Vitamin E	Vegetables seeds, eggs, sweet potato, oils, meat, sprouted grains.	Sterility
6. Vitamin K	Egg yolk, liver, cheese, tomato, cabbage, soyabean, cauliflower.	Improper coagulation of blood.