



COMPONENTS OF FOOD

What Do Different Food Items Contain?

NUTRIENTS:

Nutrients are the substances that an organism needs for the growth, repair, and maintenance of its body. Our food has five major nutrients:

1) Carbohydrates

Test for carbohydrate (starch):

The presence of starch in a food item can be **tested by using a dilute iodine solution**. This is based on the fact that iodine produces a blue-black colour in combination with starch. So, food item gives a blue-black colour by adding a dilute iodine solution containing starch.



2) Fats

Test for fats:

The presence of fat in a food item can be tested on the basis of the fact that **fats produce a greasy patch when rubbed on a clean sheet of paper**. The greasy patch produced on the paper is translucent (allow some light to pass through it).

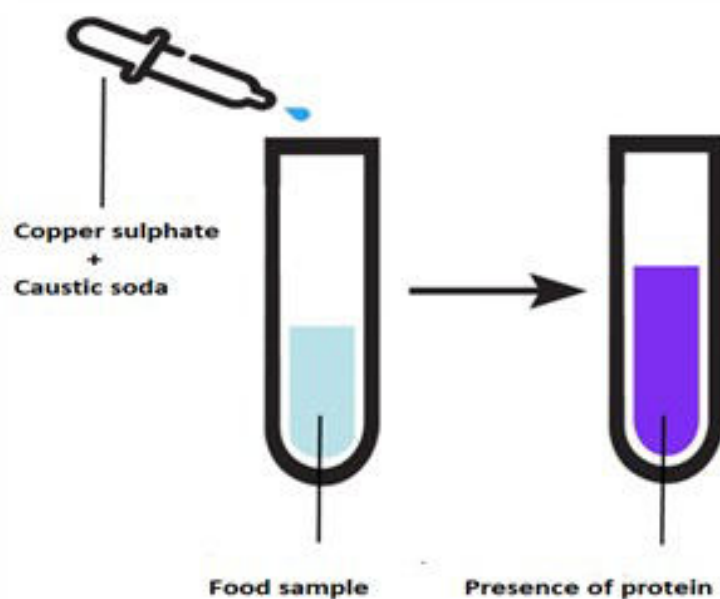


3) Proteins

Test for proteins:

The presence of proteins in food material is tested on the basis of **the fact that proteins give a violet colour with a solution of copper sulphate and caustic soda**.

Example - Violet colour is produced when a few drops of copper sulphate and caustic soda are added to some amount of milk in a test tube.



4) Vitamins

5) Minerals

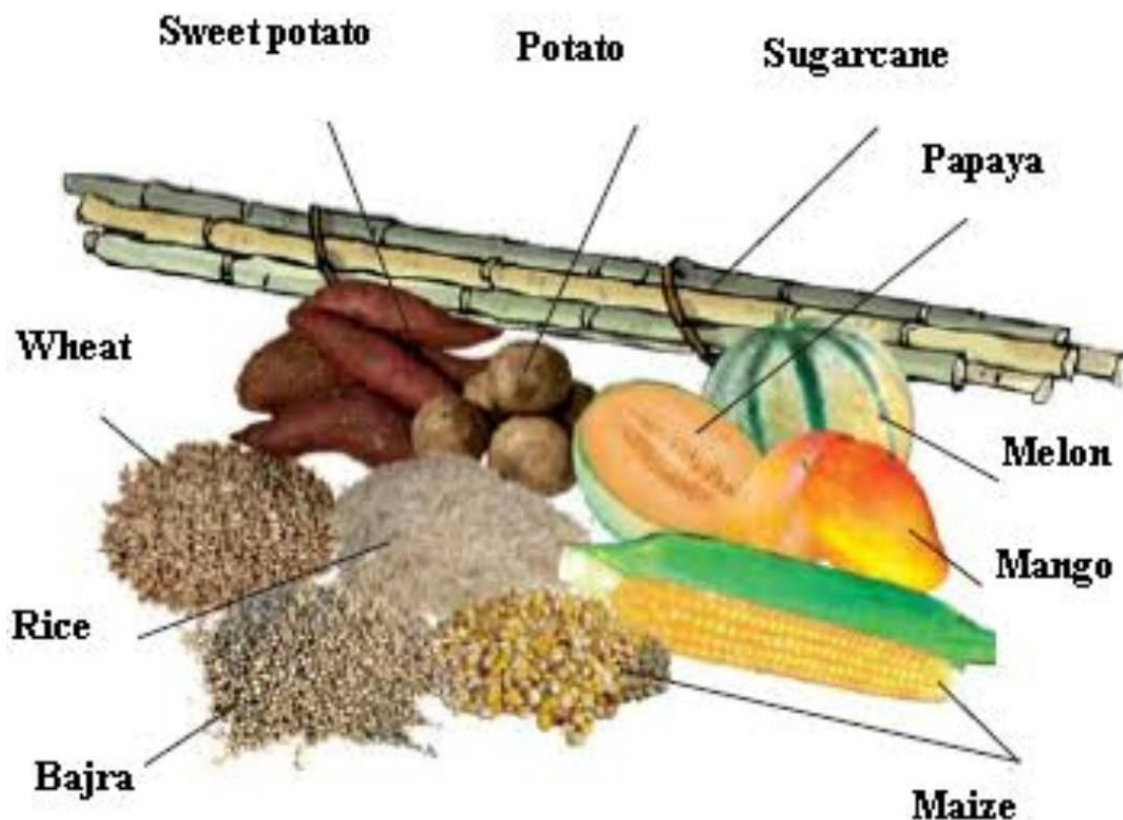
Along with these nutrients roughage and water are also needed by our body.

What Do Various Nutrients Do For Our Body?

× CARBOHYDRATES:

They are called energy-giving food. The major forms of carbohydrate in foods are sugar and starch and it comes from cereals like wheat and rice.

Example – Wheat, rice, potatoes, maize, sweet potato, sugar, jaggery, banana, mango, melon and papaya.



✕ FATS:

Like carbohydrates, fat also provide energy to our body. Fats gives much more energy as compared to carbohydrates.

Example – Butter, ghee, milk, cheese, oil, egg yolk etc.

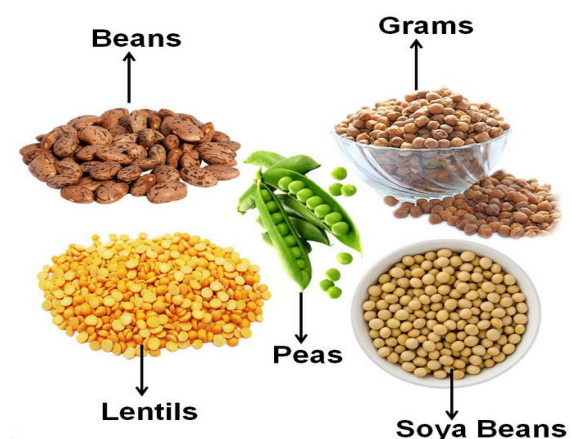


✕ PROTEINS:

Proteins are needed for the growth and repair of our bodies. Proteins rich foods are called body building food.

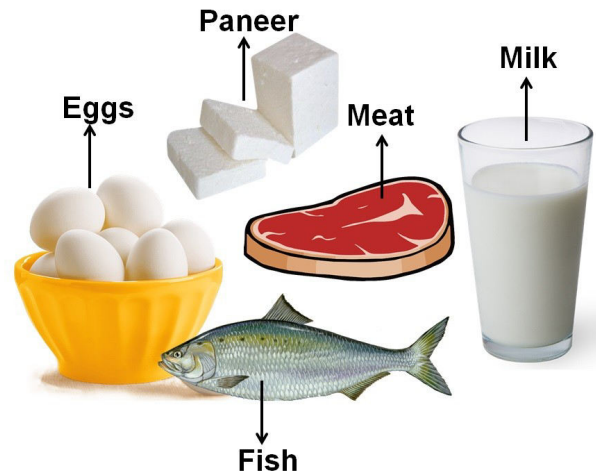
a) Plant source of proteins:

Examples – Soybeans, peas, almond, gram, moong etc.



b) Animal source of proteins:

Example – Milk, cheese, egg, fish, meat etc.



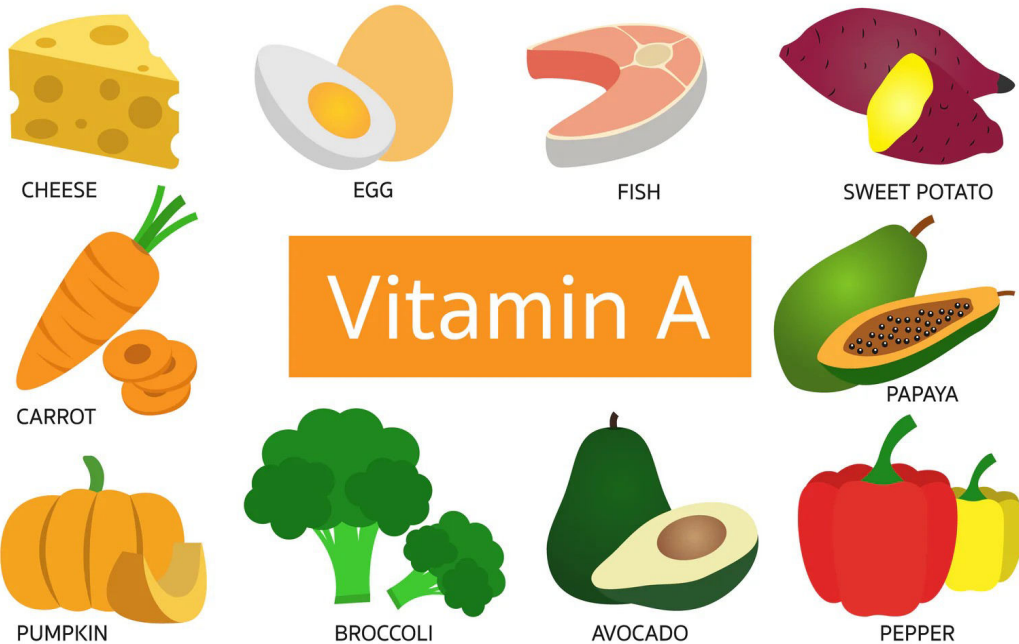
x VITAMINS:

Vitamins are a group of nutrients that are needed by the body in small quantities. Vitamins help in protecting our bodies against disease. Vitamins also help in keeping our eyes, bones, teeth and gums healthy.

There are different vitamins and it is represented by the alphabet.

Example --

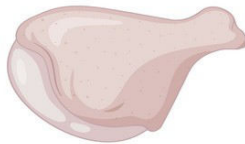
- **Vitamin A:** Vitamin A keeps our skin and eyes healthy.



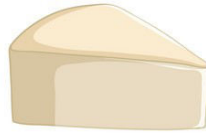
- **Vitamin B:** Vitamin B helps in making energy from the food you eat.

The group of vitamins B₁, B₂, B₆ and B₁₂ are together known as **VITAMIN B-COMPLEX**.

VITAMIN B



CHICKEN



CHEESE



SPINACH



MILK



FISH



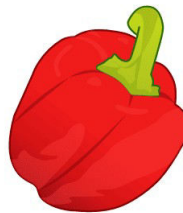
MUCHROOM

- **Vitamin C:** Vitamin C helps body to fight against many diseases.

VITAMIN C



BROCCOLI



RED PEPPER



TOMATOES



GUAYA



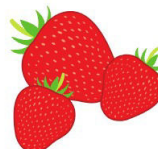
CAULIFLOWER



BERRIES

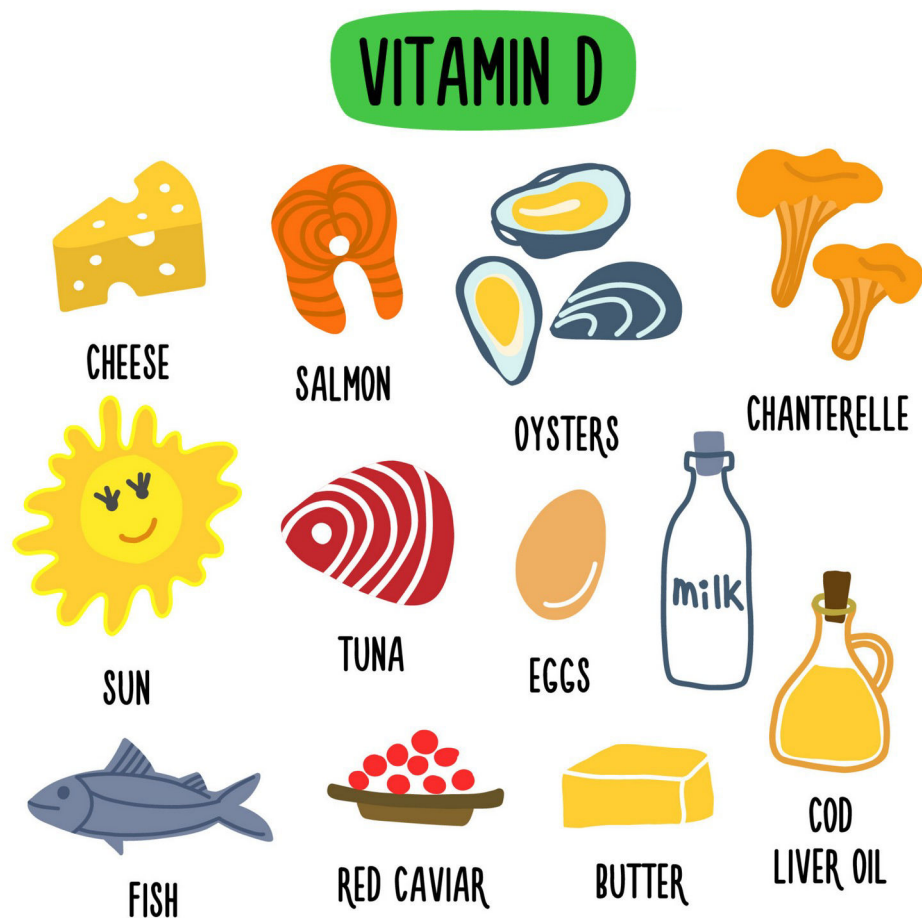


ORANGES



STRAWBERRIES

- **Vitamin D:** Vitamin D helps our body to use calcium for bones and teeth.



SAATVIK
STUDY STATION

- **Vitamin E:** Vitamin E is the nutrients that's important to vision, reproduction and health of your blood, brain and skin. Vitamin E also has antioxidant properties.
- **Vitamin K:** Vitamin K is a fat-soluble vitamin, so your body stores it in fat tissue and the liver. It is **best known for its role in helping blood clot**, or coagulate, properly.

x MINERALS:

Like Vitamin, minerals are also needed by our body in small quantities. Minerals are needed by our body for proper growth and for maintaining good health. Some important minerals needed by the body are Calcium, Iodine, Iron, Phosphorus, Sodium and potassium.

Sources of calcium	Milk, eggs, green leafy vegetables, fish.
Sources of iodine	Sea food, iodised salt.
Sources of iron	Spinach, green leafy vegetables, eggs, apples.
Sources of phosphorus	Milk, banana, pulses.



ROUGHAGE

Dietary fibre are known as Roughage. Roughage does not provide any nutrient to our body, but it is essential component of our food. Roughage is fibrous material present in food which cannot be digested.

Example – Whole grains, pulses, potatoes, fresh fruits and vegetables.

FUNCTIONS OF ROUGHAGE

- x Adds bulk to food.
- x It helps to digest food and absorbs nutrients.
- x It helps our body to get rid of undigested food.

WATER

It is essential for our body and it makes up almost 70% of our body weight.

FUNCTIONS OF WATER

- ✕ Water helps our body to absorb nutrients from food.
- ✕ It helps in throwing out waste products from our body as urine and sweat.
- ✕ It controls our body temperature and keeps our body cool, clean and healthy.

BALANCED DIET

- A diet that contains all the nutrients needed by our body in the right amount along with an adequate amount of roughage and water.
- A balanced diet depends on the age and occupation of the person.

Retaining the nutritional value of food:

Only selecting the right food is not enough. The food should be cooked in a proper way so that its nutrients are not lost.

- Always wash fruits and vegetables before cutting them. If they are washed after cutting, the vitamins and the other nutrients are lost.
- Never remove peels of fruits and vegetables as the skin contains important nutrients.
- We should avoid repeated washing of rice and pulses as it may wash away soluble vitamins and minerals.
- Cooking or heating destroys vitamin C, so we should use vitamin rich fruits and vegetables like salad.
- We should throw water in which the seeds are soaked.

- x Pulses, groundnut, soya-bean, sprouted seeds, fermented food, a combination of flours, banana, sattu, available vegetables and other such food provides many nutrients. Therefore, **one can eat balanced diet without expensive food materials.**

DEFICIENCY DISEASE

The diseases which arise due to the lack of nutrients (like carbohydrates, fats, proteins, vitamins, and minerals) in our diet over a long period of time are called deficiency disease.

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