

Components of Nutrients

Test for Starch, Proteins and Fats

Balanced diet

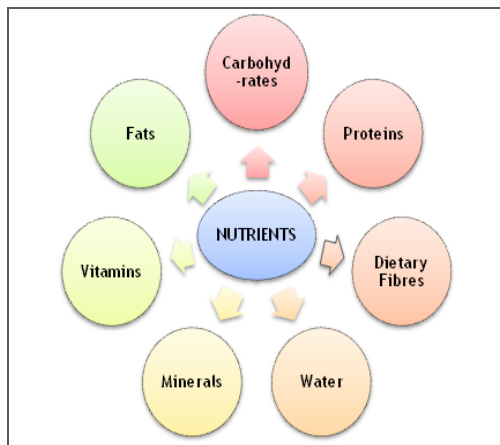
Deficiency Diseases

Components of Nutrients

All food items contain various components that are essential for the proper growth and functioning of the body.

The components present in the food that are essential for the growth and development of the body are called **nutrients**.

The main nutrients are:



Carbohydrates- It is a nutrient that is found in the food in the form of starch and sugar. Food item rich in carbohydrates are brown rice, white bread and potato.

Proteins- A nutrient that is required for the growth and repair of the body. For example pulses, peas, egg. They are also called as body building foods.

Fats- A nutrient which provides energy to carry out the various processes of the body. For example ghee, butter, chicken, pork.

Vitamins- These are required in very less amounts and helps in protecting our body against disease. There are several types of Vitamins like Vitamin A, B, C, D, E and K.

Minerals- Nutrients that are needed in small amount by our body for proper growth and to maintain good health. For e.g. calcium is a mineral found in milk.

Roughage - Roughage obtained from plants, is an essential component of our foods but do not contain any nutrient. This helps our body get rid of undigested foods. These are also called as dietary fibres.

Test for Starch, Proteins and Fats

Test for Starch

Procedure:

Cut a piece of potato and add few drops of iodine to it.

Observation:

Observe the colour change in the potato. The colour of iodine changes to blue-black colour.

Conclusion;

This confirms the presence of starch in food item

Test for Protein

Procedure

- Take some gram and grind it and add this to a test tube containing some amount of water. Shake well.
- Now add two drops of copper sulphate to it and then ten drops of caustic soda to it.
- After shaking it properly let it stand for a while.

Observation

Observe the colour change in the test tube.

Conclusion

The colour changes to violet confirming the presence of protein in gram.

Test for Fats

Procedure

- Take some butter and wrap it with a paper and crush it.
- Now hold the paper against the light source and see.

Observation

You will see some oily spot or patch on the paper causing a translucent appearance of the paper.

Conclusion

The appearance of these spots confirms presence of fats.

Balanced Diet

A diet consisting of all the essential nutrients that our body needs in right proportion for proper growth is called as a **Balanced Diet**.




Eating excess of food rich in fats food like French fries or samosa may end up in **obesity**.

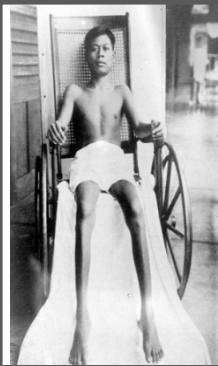



Deficiency diseases

Diseases occurring due to lack of nutrients over a long period of time are called **Deficiency diseases**. For e.g. lack of iodine in diet causes goiter.

Protein deficiency- If a person does not get enough proteins in his/her food for a long time, he/she is likely to have stunted growth, swelling of face, discolouration of hair, skin diseases and diarrhoea. **Marasmus** and **Kwashiorkor** are protein deficiency diseases.

Below is a table discussing the deficiency diseases with their symptoms

Vitamin/ Mineral	Deficiency disease/ disorder	Symptoms	Image
Vitamin A	Poor vision	The vision is lost in dark or may get lost completely.	

Vitamin B1	Beriberi	The muscles become weak and hence very less energy is left to do work.	
Vitamin C	Scurvy	The gums become weak and bleed.	
Vitamin D	Rickets	The bones get affected. They become soft and twisted.	
Calcium	Bone and tooth Decay	Leads to tooth decay.	
Iodine	Goiter	The gland in the neck region swells.	
Iron	Anaemia	The blood lacks iron and there is weakness in the whole body.	