

CLASS 6
BIOLOGY
NCERT

INTRODUCTION

- Food is a basic requirement for all living organisms.
- It provides energy for carrying out normal physiological activities.



NUTRIENTS

- There are different components required by our body to perform different cellular activities.
- Food contains such type of component which provides nourishment to our body and are responsible for its growth and development. These components are called nutrients.
- The process of consuming nutrients required for the growth and development of our body and to obtain energy is known as nutrition.



Carbohydrate



Protein



Fat



Vitamin



Minerals



Water



CARBOHYDRATES

- Carbohydrates are present mostly as starch.
- Carbohydrates provides us energy in the form of glucose.
- Sources of carbohydrates include potato, rice, bread, sugary drinks like fruit juices, wheat etc.



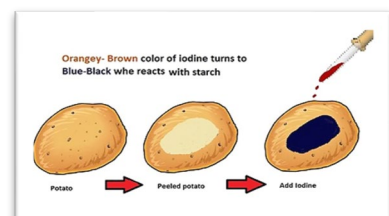
TEST FOR CARBOHYDRATES

Take raw peeled potato

Add 2-3 drops of dilute

Observation- Blue- black

Conclusion- food item



FATS

- They are needed in a moderate amount by the body.
- Fats are the reserved food material of our body.
- Function- fats also provide energy to our body, even more than the carbohydrates.
- Sources- Ghee, cheese, butter, oil, cream are some food items containing fat.



TEST FOR FATS

A little amount of sample food is wrapped in

Crush the food in the paper without tearing

Let the paper dry

Observation- A translucent patch appears

Conclusion- The sample food contains fat



PROTEINS

- Functions- Proteins are required for the growth and repair of our body.
- They help in building new tissues.
- They also account for tough, fibrous nature of hair and nails and for the structure of muscles.



TEST FOR PROTEINS

Grind the food sample finely

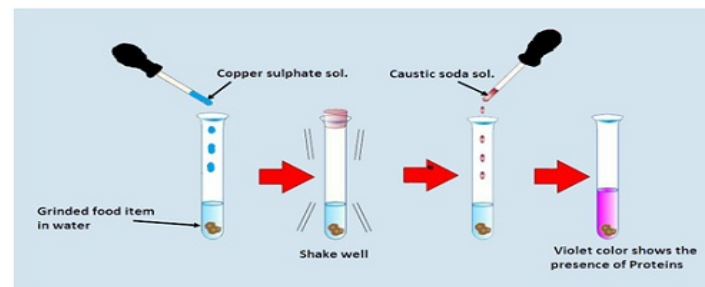
Put it in clean test tube and add 10 drops of

Using a dropper add 2 drops of copper

Then add 10 drops of caustic soda solution

Violet color appears in solution

This indicates the presence of proteins.



VITAMINS

- There are different kinds of vitamins such as vitamin A, C, D, E, K.
- Vitamin B- complex is another group of vitamins which play an important role in cell metabolism.
- All vitamins are needed by our body in small quantities.
- Vitamins help in keeping our eyes, bones, teeth and gums healthy as well as provides protection to our body against diseases.



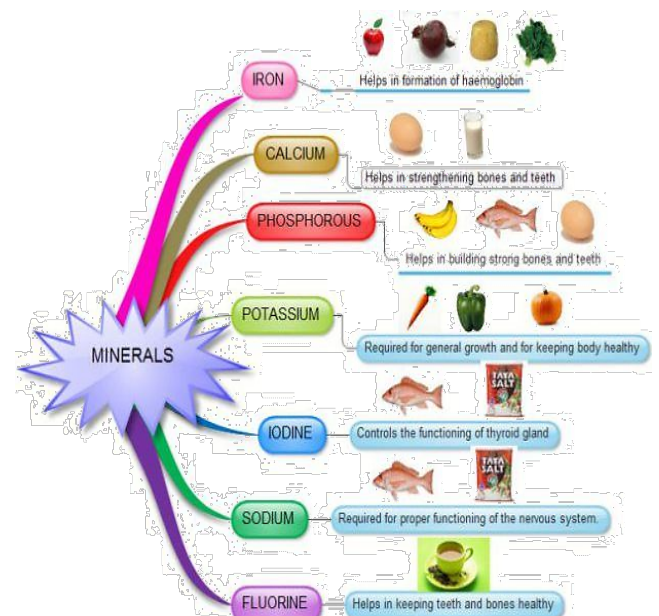
Vitamins	Benefits	Rich source
Vitamin A	Good for our skin, hair and eyes	carrot, mango, milk, papaya
Vitamin C	Good for immunity	Found in citrus fruits like lemon, orange, tomato
Vitamin D	Helps our body to use calcium for bones and teeth	Our body makes Vit. D in the presence of sunlight on its own.
Vitamin E	Good for our vision	Found in almonds, peanuts
Vitamin K	Good for our blood	Found in spinach, broccoli



MINERALS

- Minerals were needed in traces amount, but is essential component as well.
- Minerals are necessary for the proper growth and maintenance of our body.
- Calcium, magnesium, phosphorus, sodium, iron, zinc are some essential minerals for our body.

Minerals	Benefits	Rich source
Calcium	Formation of bones and teeth	eggs, milk, almonds
Iodine	Normal functioning of thyroid	Sea food, ginger, iodized salt
Iron	Haemoglobin formation, boosting immunity	Spinach, apple, liver, egg yolk
Phosphorous	Structural component of bones and teeth, energy synthesis and storage.	Milk, banana, pumpkin seeds



DIETARY FIBRES

- Fibres or roughage are materials that add bulk to the food.
- Humans cannot use fibres as a nutrient.
- But they help in the easy movement of the food along the digestive system.
- Sources of dietary fibres- Whole grains, flour and cereals, potatoes, fresh food, raw and cooked vegetables provide roughage to our food.



WATER

- Our body requires a large quantity (5-7 litre) of water daily.
- Water helps our body to perform many functions like digestion, throwing out dissolved waste as urine and impure blood.
- Water also keeps our body cool through sweating. Water helps in blood circulation.



FOOD



Energy giving food



Body building food



Protective food

BALANCED DIET

Balanced diet is the diet which contains all kinds of essential nutrients in right amount needed for proper growth and maintenance of our body. Also our diet should contain roughage (raw uncooked vegetables) and water.

Balanced diet depends on the age and the type of physical work we do.

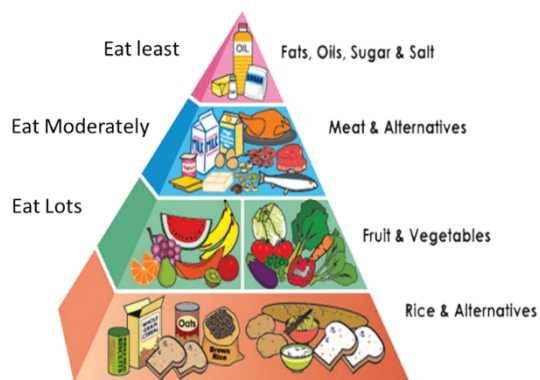


NUTRITIVE VALUE OF FOOD

- Most of the vegetables and fruits skin contain good amount of vitamins and minerals.
- Continuous washing, boiling or overcooking vegetables would loss many nutrients present in them.
- Food items that are deep fried and roasted usually lose their nutritive value.



OBESITY



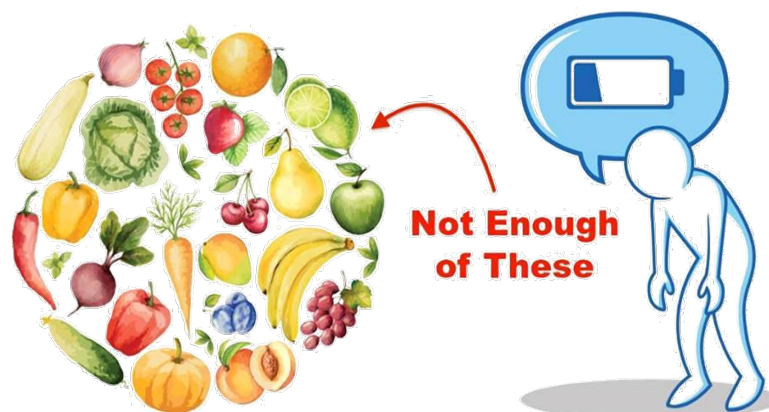
- Fat contains more amount of energy than carbohydrates, but continuous intake of fat would cause deposition of fat in our body.

- Obesity is an excess accumulation of fat in our body.
- Most of the junk food and oily food contains lots of fats.



DEFICIENCY DISEASES

- Disease caused due to deficiency of particular nutrients or minerals in our diet for a long period of time is called deficiency diseases.
- This deficiency could be of one or more nutrients.
- These deficiencies can be overcome by taking balanced diet.



- **PROTEIN DEFICIENCY SYMPTOMS**
- Stunted growth
- Swelling of face
- Discolouration of hair
- Skin diseases
- Diarrhoea



PROTEIN AND CARBOHYDRATE DEFICIENCY SYMPTOMS

- Person becomes very thin and lean
- Weakness
- Inability to move
- Mental growth slows down
- Digestive system becomes weak.

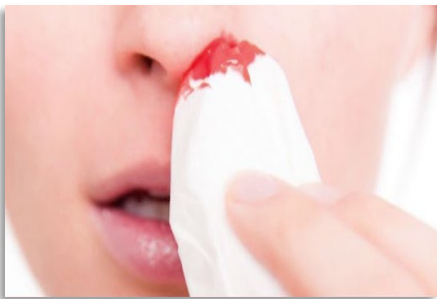


VITAMIN DEFICIENCY DISEASES

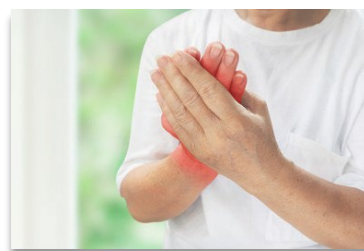
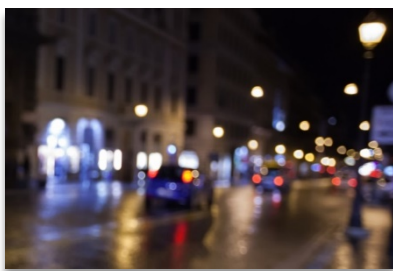
VITAMINS	DISEASE	SYMPTOMS
Vitamin A	Night blindness	Poor vision or no vision at night
Vitamin B1	Beri-beri	Nervousness, very little energy to work, weak muscles

Vitamin C	Scurvy	Bleeding gums, late healing of wound
Vitamin D	Rickets	Weak bones, decaying teeth
Vitamin K	Haemorrhage	Clotting of blood affected

VITAMIN DEFICIENCY DISEASES



MINERAL DEFICIENCY DISEASES



MINERALS	DISEASE	SYMPTOMS
Calcium /phosphorus	Bone and tooth decay	Weak bone, tooth decay
Iodine	Goitre	Glands in the neck get swollen
Iron	Anaemia	Decrease in the production of RBC causes weakness.



NAME THE FOLLOWING

- The nutrients which mainly give energy to our body. _____
- The nutrients that are needed for the growth and maintenance of our body.

- A vitamin required for maintaining good eye sight. _____
- A mineral that is required for keeping our bones healthy. _____

NAME TWO FOOD EACH, RICH IN:

- Fats
- Starch

- Dietary fibres
- Protein

FILL IN THE BLANKS

- _____ is caused by deficiency of Vitamin D.
- Deficiency of _____ causes a disease known as Beri-beri.
- Deficiency of Vitamin C causes a disease known as _____
- Night blindness is caused due to deficiency of _____ in our food.