

Food and Health

BEFORE WE START, LET'S CHECK

What you already know

Look at the following pictures of food items. Tick (✓) the major nutrient each food item has.



proteins ☐
vitamins ☐



vitamins ☐
carbohydrates ☐



minerals ☐
fats ☐



vitamins ☐
fats ☐



sodium ☐
calcium ☐

What you will know

Why is food necessary for us?



What happens if we do not take proper quantity of nutrients?



How is hygiene important for health?



Besides food, what are other things essential for good health?



FOOD – OUR BASIC NEED

All of us eat food more than once every day. What happens if we miss a meal? We feel hunger and weakness. What is hunger? Hunger is the way the body signals that it needs to eat. You have read that our body organs, both internal and external, perform various functions. For this, they require energy and we feel hungry. When we eat food, it gives us the energy required and our hunger disappears.

Besides providing energy, food also helps us in growing up and remaining healthy. So if we do not eat the right kind of food in an adequate quantity, our growth may be affected and we may fall ill often.



Look at this child. He does not get proper food. He is the victim of **malnutrition**. Because of malnutrition, his growth has been affected, his belly is bloated, his hair has dried up and he has wrinkled skin.



Now look at the other child. He always eats the right kind of food. He is healthy and active, both physically and mentally. Good health enables us to enjoy our lives fully and we are able to do well in both games and studies.

Besides healthy food, good hygiene, regular exercise and enough rest are key factors that ensure good health.

FOOD AND NUTRITION

There are many useful substances present in food items. These substances are called **nutrients**. Different foods have different nutrients in different amounts. Our body needs all kinds of nutrients. Therefore, we have to eat a wide variety of food.

Food contains five nutrients — **carbohydrates**, **fats**, **proteins**, **vitamins** and **minerals**. The deficiency of any of these nutrients results in a disease. Besides nutrients, roughage and water are also essential for our body.

Carbohydrates

Carbohydrates are the main source of energy for the body. There are three different kinds of carbohydrates: sugar, starch and fibre.

Sources: There are many foods that contain carbohydrates. However, some foods are more nutrient-rich than others. Plant foods like cereals, bread, rice, potatoes and corns are good sources of starch.

Deficiency: A lack of carbohydrates in your diet may result in feverishness, confusion, giddiness, fatigue, distress, loss of muscle tissue and reduced stamina.



sources of carbohydrates

Fats

Like carbohydrates, fats are also an energy-providing nutrient. They are also used by our body as insulation to keep us warm. There are two types of fats: healthy fats and unhealthy fats.

Sources: The sources of healthy fats are olive oil, avocados, nuts, etc, whereas cream, butter, cheese, meat, coconut, etc. have unhealthy fats. Eating too much of such fat results in weight gain and heart diseases.

Deficiency: A lack of fats in your diet may result in dry skin, hair loss, poor growth, poor wound healing and a low body weight.



sources of fat

Proteins

Proteins are used for building, maintaining and repairing muscles, red blood cells, hair and other tissues.

Sources: Milk, cheese, eggs, fish, pulses, beans and nuts are good sources of proteins.

Deficiency: A lack of proteins in diet may cause difficulty in breathing, vision problems, weakness, memory problem and a lack of appetite.






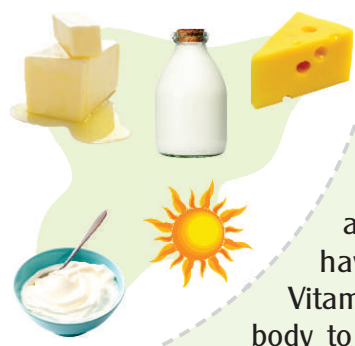
sources of proteins

Vitamins

'Vitamin' means 'vital for life'. Vitamins are necessary for the healthy functioning of our body. Vitamins strengthen our immune system and help us battle infections.

As compared to carbohydrates and proteins, we need a small quantity of vitamins. Vitamins are of many kinds and their sources are also different. For a fit and healthy body, we need to take all kinds of vitamins regularly.

Here we will discuss only four types of vitamins.

Vitamin A	Vitamin B
<p>Vitamin A keeps our skin smooth. It protects respiratory and urinary tracts against harmful bacteria. It is also needed for healthy eyes. People who do not get enough vitamin A may have a hard time seeing at night. This is called night blindness.</p> <p>Sources: carrots, spinach, mangoes, pumpkins, egg yolks, oily fish, etc.</p> 	<p>Vitamin B is not a single vitamin, but a group of eight vitamins. These vitamins work together to help our body use the energy we get from food. Some vitamins help in the growth and repair of tissues, some assist in making red blood cells and some are important for the nervous system and the digestive system.</p> <p>Sources: soya bean, brown rice, eggs, fish, oatmeal, peanuts, etc.</p> 
<p>Vitamin C</p> <p>This vitamin is necessary for keeping body tissues, such as gums, bones and blood vessels in good shape. We also need vitamin C to heal cuts, wounds and burns.</p> <p>This vitamin also helps our body resist infections.</p> <p>Sources: oranges, tomatoes, cabbages, papayas, mangoes, beans, mint, etc.</p> 	<p>Vitamin D</p> <p>Vitamin D is the vitamin you need for strong bones. It is also necessary for having strong teeth. Vitamin D also helps our body to absorb the amount of the important mineral calcium that it needs.</p> <p>Sources: milk, butter, cheese, fish oil, liver, curd, etc. Vitamin D is also produced by skin when exposed to sunlight.</p> 

A large chunk of vitamins present in vegetables and fruit are destroyed when we cook them. So, we should also eat some raw vegetables and fruits daily. But before eating, we should wash them properly so that dust, dirt and germs are removed from them completely.

Minerals

Food also contain small amounts of some minerals. The body uses minerals to perform many functions. Some minerals like calcium, phosphorus, sodium, etc. are needed in larger amounts, while very small quantity of others like iron, iodine, fluoride, etc. are needed.

Functions and sources of different minerals

Mineral	Functions	Major Sources
Calcium	<ul style="list-style-type: none">• Makes bones and teeth strong• Regulates heartbeat	milk, curd, cheese, fish, sesame seeds, soya bean, ragi
Iron	<ul style="list-style-type: none">• Helps red blood cells carry oxygen to all parts of the body	spinach, fish, dried dates, jaggery, meat, raisins
Phosphorus	<ul style="list-style-type: none">• Helps to form healthy bones and teeth	milk and milk products, meat, whole grains, nuts
Potassium	<ul style="list-style-type: none">• Helps to maintain water balance in the body• Helps the kidneys and the heart to function properly	bananas, potatoes (with skin), peas, black beans, citrus fruits
Zinc	<ul style="list-style-type: none">• Helps in normal body growth• Helps in developing strong immunity• Helps in healing wounds	wholegrain foods, cereals, meat, nuts, beans

Roughage

Roughage or **fibre** is not a nutrient but it is an essential part of a healthy meal. Some fibre cannot be totally absorbed by the body. It helps to move food through the digestive system and allows proper removal of waste from the body.

Apples, pears, green peas, wholegrain bread, cereals, berries, whole grapes, almonds, etc. are some of the best sources of roughage.

Water

Water is a vital component for good health. Most of our body (60-70%) is made up of water. Water helps to control our body temperature as well as to excrete waste from the body as urine and sweat.

We need to drink plenty of water every day to stay healthy.



Balanced diet

We have learnt about various nutrients and their sources. Our body needs all nutrients in a proper quantity.

A diet that contains all the nutrients in an adequate quantity required for the healthy functioning of our body is called a **balanced diet**.

A balanced diet is not the same for everyone. It depends on the age, gender and the nature of work a person does. For example:

- * A growing child or a sportsperson needs more proteins than an old lady.
- * A labourer doing manual work needs more carbohydrates and fats than a person who works in an office.
- * A patient recovering from an illness requires greater amounts of vitamins and minerals and smaller amounts of fats.

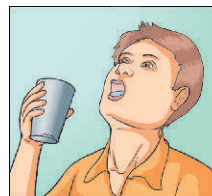
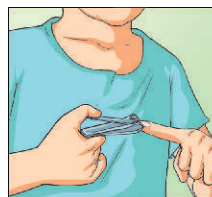
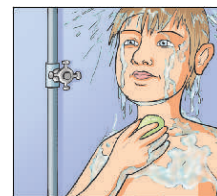


HYGIENE

Hygiene is the maintenance of health and cleanliness. Good hygiene helps in preventing the spread of diseases and keeping us healthy.

Here are a few practices that will help you to stay healthy.

- * Brush and floss your teeth twice a day – just after waking in the morning, and just before going to bed.
- * Have a bath daily using a soap to wash away dirt and germs.
- * Pare your nails regularly and keep your hair clean.
- * Wash your hands before and after meals. Rinse your mouth and gargle too.
- * Wash your face after you come back from school or the playground. Splash your eyes with water for cleaning them.
- * Keep your surroundings clean. Do not let water stagnate in or near your house. It will prevent the breeding of mosquitoes.
- * Use dustbins to throw garbage in. Dustbins should have covers to keep flies away.
- * Cover your mouth and nose with a handkerchief while sneezing. Do not share your handkerchief with anyone.

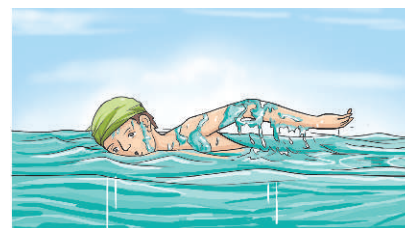
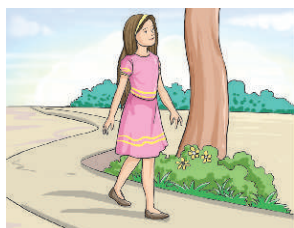


EXERCISE

Besides having a balanced diet, doing regular exercise is also necessary for a healthy and fit body. If we do not work or exercise, our muscles will become weak and flabby. The benefits of doing regular exercise are as follows:

- * Exercise helps to develop and tone up our muscles.
- * It helps us burn the extra fat and keeps us slim.
- * Extra movement during exercise makes our body flexible.
- * It makes us breathe harder, thereby giving more oxygen to the body.
- * It improves blood circulation as a result of which more oxygen reaches to various body parts.
- * It helps in proper digestion of food.
- * It helps the nervous system by supplying more oxygen to the brain.

Walking, jogging, cycling and swimming are good exercise. Playing outdoor games is not only a good exercise but also a lot of fun.



POSTURE

Posture refers to the way we hold our body while we sit, stand or walk. We must sit and stand straight. We must walk upright.

It is important to maintain correct posture. It gives grace to the body. Incorrect posture may result in a bent back in old age.



correct



incorrect



correct



incorrect



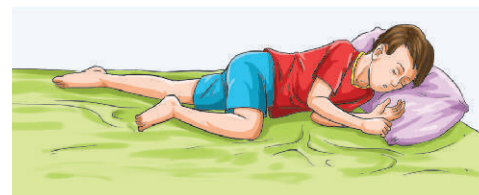
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REST

After doing hard work, our body needs rest. While we rest, our body gears up to do more work. We can relax by listening to music, reading a book, watching television or by simply lying down.



Sleeping for about six to eight hours every day is necessary. While sleeping, our body grows and repairs worn-out cells.

Words to Remember

malnutrition	–	a poor health condition that results from not eating enough healthy food
nutrient	–	a food substance that provides energy or building material for the survival and growth of a living being
carbohydrate	–	an energy-providing nutrient
fat	–	a major source of energy found in food and used by the body as fuel
protein	–	a nutrient required for the structure, function and regulation of the tissues and organs in the body
vitamin	–	a nutrient that helps the body to stay healthy
roughage	–	an indigestible portion of food
balanced diet	–	a diet containing all the nutrients in adequate quantities
hygiene	–	the practice of maintaining cleanliness in order to stay healthy
posture	–	the position in which we hold our body while sitting or standing

Points to Recall

- * Food provides us energy and helps us in growing up and staying healthy.
- * Malnutrition leads to stunted growth and frequent illness.
- * There are five main nutrients – carbohydrates, fats, proteins, vitamins and minerals.
- * Different food items contain different proportions of nutrients.
- * Carbohydrates and fats are the energy-providing nutrients.
- * There are two kinds of fats: healthy and unhealthy fats. Eating unhealthy fats results in weight gain.
- * Proteins are body-building nutrients.
- * Vitamins are necessary for the healthy functioning of the body.
- * Vitamins and minerals are required in a smaller quantity than other nutrients.
- * Roughage is not a nutrient but it helps in digestion.
- * Water is very necessary for good health.
- * Deficiency of nutrients leads to various bodily disorders so we should always eat a balanced diet
- * Besides food, good hygiene, regular exercise, good posture and enough rest is essential for a healthy and active life.

Exercises

A. Tick (✓) the correct option.

- Which of the following is essential for good health?
(a) balanced diet ☐ (b) good hygiene ☐ (c) regular exercise ☐ (d) all of these ☐
- Which of the following is not a nutrient?
(a) minerals ☐ (b) proteins ☐ (c) roughage ☐ (d) vitamins ☐
- Which of the following is a source of bad fat?
(a) olive oil ☐ (b) coconut oil ☐ (c) avocado ☐ (d) nuts ☐
- Which vitamin deficiency may lead to night blindness?
(a) Vitamin A ☐ (b) Vitamin B ☐ (c) Vitamin C ☐ (d) Vitamin D ☐
- Which of the following minerals makes our bones and teeth strong?
(a) zinc ☐ (b) calcium ☐ (c) potassium ☐ (d) iron ☐

B. Write 'T' for true statements and 'F' for false ones.

1. Different foods have different nutrients in the same amount.
2. As compared to other nutrients, we need to take a greater quantity of vitamins.
3. Vitamin B is, in fact, a group of eight vitamins.
4. A construction worker needs less protein than a writer.
5. You should wash your face after coming back from the playground.

C. Answer in one or two words only.

1. What are the useful substances present in food called?
2. Name the vitamin which our skin produces in the sun.
3. Name the mineral needed to maintain water balance in the body.
4. What is another name for roughage?
5. Does regular exercise make our body flexible?

D. Answer in one sentence only.

1. Name some minerals which are needed in smaller quantities.
2. Define a balanced diet.
3. How does exercise help the nervous system?
4. What do you understand by posture?
5. How can we rest and relax?

E. Answer in a few sentences.

1. Write a short note on vitamins.
2. How is roughage useful to us?
3. Why is water essential for good health?
4. Write any four hygiene practices.
5. Write a few benefits of exercising regularly.

Creative Skills



BRAINSTORM



Given below is the list of food items that Gopal ate yesterday.

Breakfast — bread, butter, potato chips, ice cream

Lunch — burgers, rice, fried papads, cold drink

Dinner — chapatis, dal, french fries, pastries, chocolate

Is it a balanced diet? If no, which items should be replaced? What items should substitute them?



TELL YOUR TEACHER

Read the following and tell your teacher what right or wrong thing each child did.

- When Harsh returned from the playground, Harsh's mother offered him an apple. But Harsh chose to drink apple juice instead.
- Riyaz is very fond of playing video games. Yesterday, he spent all of his free time sitting in front of his computer and playing video games.
- Lata had a large ditch near her house. In the rainy season, Lata, along with her brother Rajiv, covered the ditch with a stone slab.
- Payal has a bath everyday. Yesterday, when she was playing in the school during recess, she fell down on a heap of soil. After coming back home, Payal had a bath again.

FIND OUT



Name the country with the highest rate of deaths due to malnutrition. Clue: It is a small island country located in North America.



'An apple a day keeps the doctor away.' Find and list the qualities of an apple.

Project

Collect empty packets, boxes or cans of the following food items:

- biscuits
- processed cheese
- potato chips
- fruit juice
- butter

Read the nutritional details written on them. Write them in your notebook in a tabular form. Compare them and write a brief report about the advantages or disadvantages of each food item.



Wordsearch

The names of eight principal sources of nutrients are hidden in the wordsearch. Find them and write below them in their respective boxes.

1. Carbohydrates

2. Fats

3. Proteins

4. Vitamin A

A	P	O	T	A	T	O	S
P	R	R	E	C	K	I	U
U	B	A	N	A	N	A	N
L	U	N	F	R	A	C	L
S	T	G	I	R	P	O	I
E	T	E	S	O	P	C	G
S	E	M	K	T	L	N	H
B	R	I	C	P	M	U	T
C	S	P	I	N	A	C	H

5. Vitamin C

6. Vitamin D

7. Iron

8. Potassium
