

Food and Health



Let's Learn About

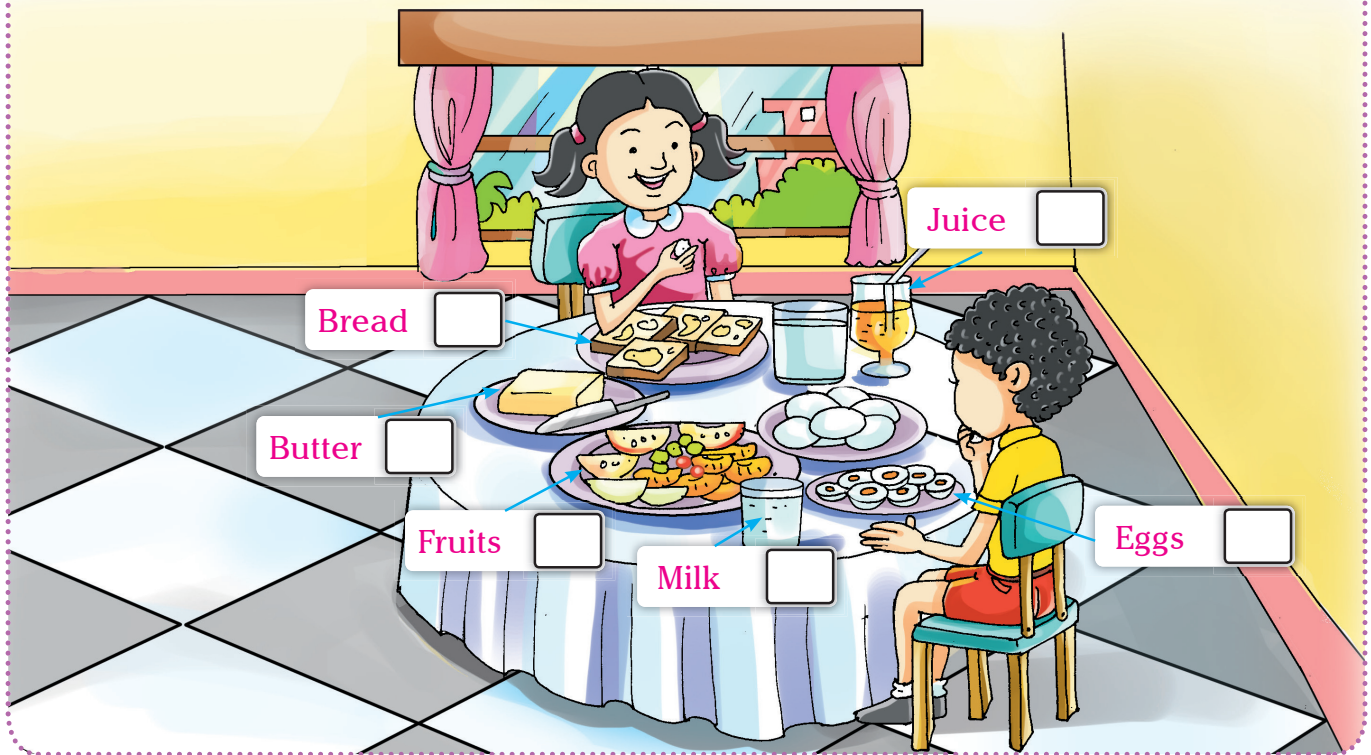
- Components of food
- Balanced diet
- Healthy habits
- Diseases
- Prevention of communicable diseases

We get food from both plants and animals.



Activity Time

Look at the picture below. Write **P** for foods obtained from plants and **A** for foods obtained from animals.



Components of Food

Food contains certain substances called **nutrients**. Nutrients give energy to our body. They protect our body against diseases and help in its growth and development. There are five main nutrients in the food: carbohydrates, fats, proteins, vitamins and minerals. Our body needs all the nutrients in right amounts.

Carbohydrates

Carbohydrates give energy to our body. Wheat, rice, corn, bread, potato and sugar are some sources of carbohydrates.



SOURCES OF CARBOHYDRATES



SOURCES OF FATS

Fats

Fats give more energy than carbohydrates. Milk, oil, *ghee*, butter, cheese and dry fruits are some sources of fats. Excessive intake of fatty foods can cause obesity.

Proteins

Proteins help in growth. They also help in repairing damaged tissues and cells of our body. Milk, *paneer*, pulses, beans, eggs and meat are some sources of proteins.



SOURCES OF PROTEINS



SOURCES OF VITAMINS AND MINERALS

Vitamins and Minerals

Vitamins and minerals help in the normal functioning of our body. They help in protecting our body against diseases.

Fruits, vegetables and milk are some sources of vitamins and minerals. Vitamin C helps to keep the gums healthy. Calcium makes our bones and teeth strong.

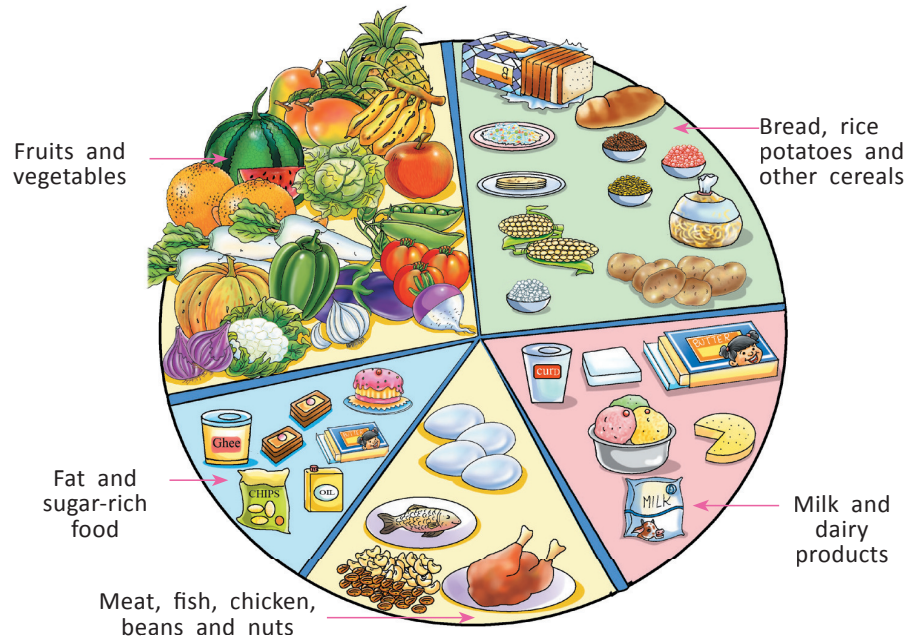
Water and Roughage

Besides nutrients, our body also needs water and roughage. **Roughage** is the undigested part of the plant food. It helps in getting rid of wastes from our body.

Fruits and vegetables are sources of roughage. Water also helps to get rid of wastes from our body in the form of urine.

Balanced Diet

We should consume food rich in nutrients. Our daily diet containing all the nutrients in adequate amounts required for the healthy functioning of our body is known as a balanced diet. We should eat food from all food groups every day.



COMPONENTS OF A BALANCED DIET

Healthy Habits

Balanced diet, exercise, correct posture and rest are essential for keeping ourselves healthy. Exercise improves our blood circulation and tones up our muscles. Running, jogging, cycling, aerobics and yoga are some forms of exercises.

Posture is the position in which we hold our body when we sit, stand or move. We must keep our back straight while sitting or standing. Proper rest and sleep relax our muscles and give our body the much needed rest. Children need 8-10 hours of sleep in a day.



Running



Yoga



WE SHOULD SIT STRAIGHT.



WE NEED PROPER SLEEP.

WE SHOULD EXERCISE DAILY.



Let's Recall

Write **T** for true and **F** for false statements.

1. Carbohydrates and fats give energy to our body.
2. Calcium makes our bones and teeth weak.
3. Roughage is the undigested part of the animal food.
4. Eggs and meat are sources of proteins.
5. Our body does not need water and roughage.

Diseases

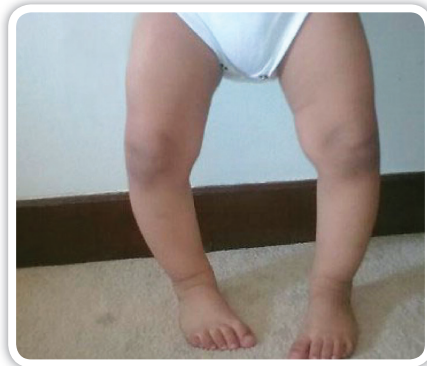
A **disease** is an abnormal condition in which our body does not function properly. Diseases can occur due to lack of any nutrient in our diet. They may also occur due to germs. There are two types of diseases – **non-communicable** and **communicable diseases**.

Non-communicable diseases

The diseases that do not pass from one person to another are called **non-communicable diseases**. Some non-communicable diseases are caused due to lack of particular vitamins or minerals in the body. Such diseases are called **deficiency diseases**. Some deficiency diseases are shown in the figures below:



SCURVY



RICKETS



GOITRE

Non-communicable diseases are related to improper eating habits. For example, a person whose diet is deficient in vitamin D may suffer from rickets. Cigarette smoking and chewing of tobacco also lead to harmful non-communicable diseases like cancer.

Some deficiency diseases and their symptoms are given in the table below:

Table: Deficiency diseases

Deficiency diseases	Caused by deficiency of	Symptoms	Foods rich in the Vitamin/Mineral
Night blindness	Vitamin A	Person not able to see in dim light	Green leafy vegetables, carrot, papaya, mango, milk and egg yolk.
Beriberi	Vitamin B1	Person has weak muscles and nerves and gets cramps	Unpolished rice, cereals, milk, peas and meat.
Scurvy	Vitamin C	Bleeding of gums and swelling of joints	Apple, orange, lemon, tomato and <i>amla</i> (citrus fruits).
Rickets	Vitamin D	Soft bones and bow legs	Milk and fish. Sunlight helps our body to make vitamin D.
Goitre	Iodine	Swelling of a gland in neck region	Iodised salt and seafoods.
Anaemia	Iron	Person gets tired easily and looks pale	Spinach, brinjal, jaggery, apple, guava and meat.

Communicable diseases

The diseases that can spread from one person to another are called **communicable diseases**. Communicable diseases are caused by germs. Some of the communicable diseases caused by bacteria, virus, protozoa and fungi are listed below:

Table: Communicable diseases

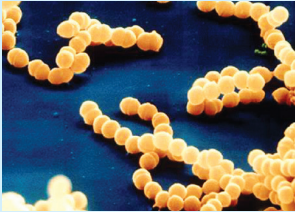
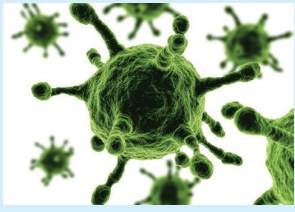
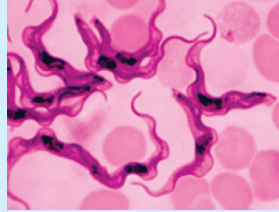

	Bacteria	Virus	Protozoa	Fungi
Germs				
Diseases caused	Plague, tuberculosis, typhoid, pneumonia and cholera	Common cold, polio, measles, chickenpox, flu and AIDS	Malaria, Kalaazar and amoebic dysentery	Infections of skin and athlete's foot

Table : Symptoms and preventive measures of communicable diseases.

Communicable diseases	Symptoms	Preventive measures
Malaria	Fever, constant shivering	Avoid stagnant water puddles around your house.

Tuberculosis	Cough, fever chill, weakness, weight loss	Vaccination (BCG Vaccine).
Conjunctivitis (pink eye)	Redness of the eye, tearing, discharge of pus	Never touch your eyes with dirty hand, never share towels and handkerchiefs.
Typhoid	Headache, fever, upset stomach	Maintain proper sanitation. Ensure safe drinking water and sanitary disposal of excreta.

How communicable diseases spread

Communicable diseases spread through air, water, food, insects and through direct contact.

Through air

When a sick person coughs, sneezes or spits, germs are released into the air. When a healthy person breathes this air, germs enter his/her body and make him sick. Therefore, we should always cover our nose and mouth with a handkerchief while sneezing or coughing. Diseases like common cold, flu and tuberculosis spread through air.

Through direct contact

When a healthy person comes in contact with a sick person or his handkerchief, towel, clothes, etc., he can get infected by the germs. Diseases like measles, chickenpox and ringworm spread through direct contact.

Through Infected Food and Water

Sometimes, food and water may get infected with germs, if they are not stored or handled properly. Flies and cockroaches can contaminate our food with germs. Diseases like cholera, typhoid, jaundice and polio spread through infected food and water.

Through Insects

Diseases like malaria, dengue, plague and chikungunya spread through blood-sucking insects like mosquitoes, bugs and flies. Malaria is caused by a protozoan that is carried by the female *Anopheles* mosquito. When the mosquito bites someone with malaria, the germs are sucked up with the blood. When this mosquito bites a healthy person, the germs are injected into the healthy person's blood, causing malaria.

Dengue is spread by the bite of *Aedes* mosquito.

Plague is spread by the bite of fleas carried by rats.



COVER YOUR MOUTH WITH A HANDKERCHIEF WHILE SNEEZING.



FEMALE ANOPHELES MOSQUITO



Let's Recall

Write down one example of the disease caused by the following germs.

a. Bacteria : _____ b. Virus : _____ c. Protozoa : _____

Prevention of Communicable Diseases

Communicable diseases can be prevented by good hygiene and vaccination. **Hygiene** may be defined as practices that ensure cleanliness and good health.

Following are some steps to maintain good hygiene:

- M** Wash your hands before and after eating food and after going to the toilet with soap and water.
- M** Do not allow water to stand in ditches, vessels, coolers, pots, etc., in or around your house. Stagnant water allows breeding of mosquitoes.
- M** Use mosquito net or mosquito repellent at night.
- M** Wash fruits and vegetables well before cooking or eating them.
- M** Food must be kept covered to prevent flies sitting on it.
- M** Do not allow heaps of garbage to collect near your home. Dustbins should be kept covered.
- M** Drink clean water. Water can be made clean and germ-free by boiling, filtering and chlorinating.

Vaccination

Vaccination is another way of preventing communicable diseases. Vaccines are available to prevent diseases like polio, cholera, diphtheria, tetanus and hepatitis. Vaccination helps our body to acquire immunity against certain diseases.



A CHILD TAKING POLIO VACCINE



Let's Memorise

Balanced diet

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

Disease

An abnormal condition in which our body does not function properly is called a **disease**.

Non-communicable diseases

Diseases that do not pass from one person to another are called **non-communicable diseases**.

Deficiency diseases

Diseases that occur due to lack of certain vitamins and minerals in our diet are called **deficiency diseases**.

Communicable diseases

Diseases that can spread from one person to another are called **communicable diseases**.



Let's Revise

- T** Main nutrients found in the food are carbohydrates, fats, proteins, vitamins and minerals.
- T** Our food should contain all the nutrients in adequate amounts.
- T** Balanced diet, exercise, correct posture and rest are essential to stay healthy.
- T** Night blindness, scurvy and anaemia are some deficiency diseases.
- T** Typhoid, malaria and polio are some communicable diseases.
- T** Communicable diseases spread through air, direct contact, infected food and insects.
- T** Communicable diseases can be prevented by good hygiene and vaccination.



Let's Answer

A. Tick (3) the correct answer.

1. Which of the following give more energy than carbohydrates?
a. Proteins b. Fats c. Vitamins d. Minerals
2. Which of the following is a deficiency disease?
a. Anaemia b. Malaria c. Typhoid d. Cholera
3. Which disease is caused by the deficiency of Vitamin D?
a. Scurvy b. Rickets c. Measles d. Beriberi
4. Which of the following is not a communicable disease?
a. Measles b. Cholera c. Malaria d. Goitre
5. Scurvy is caused by the deficiency of
a. Vitamin A b. Vitamin B c. Vitamin C d. Vitamin D

B. Fill in the blanks with the correct words.

iodine sleep Proteins carbohydrates Calcium

1. Sugar and bread are sources of _____.
2. _____ help in repairing the damaged cells of our body.
3. _____ makes our bones and teeth strong.
4. Proper rest and _____ relax our muscles.
5. Goitre is caused due to the deficiency of _____.

C. Name the following.

1. The disease caused by deficiency of Vitamin B1.
2. It improves our blood circulation and tones up our muscles.
3. The undigested part of plant food.
4. Two diseases caused by bacteria.
5. The insect which spreads malaria.

D. Answer the following questions.

1. What is balanced diet?
2. What are deficiency diseases? Name three deficiency diseases.
3. How are carbohydrates useful to our body? Write two sources of carbohydrates.
4. What are nutrients? Write two sources of each nutrient.
5. Write five ways in which you can maintain good hygiene.
6. Describe two ways in which communicable diseases spread.



Let's Do

A. Circle the odd one.

- | | | | |
|------------|------------|---------|-------------|
| 1. Wheat | Rice | Corn | <i>Ghee</i> |
| 2. Running | Sleeping | Walking | Yoga |
| 3. Anaemia | Goitre | Polio | Rickets |
| 4. Typhoid | Pneumonia | Malaria | Cholera |
| 5. AIDS | Chickenpox | Flu | Scurvy |

B. Match the following.

- | | |
|--------------------|--------------|
| 1. Night blindness | a. Bacteria |
| 2. Scurvy | b. Protozoa |
| 3. Anaemia | c. Vitamin A |
| 4. Malaria | d. Iron |
| 5. Tuberculosis | e. Vitamin C |
| | f. Vitamin D |



Let's Think and Answer

HOTS

1. Mohit is suffering from bleeding gums and swelling of joints. What do you think he is suffering from? Suggest him any two food items to be included in his diet.
2. Why is it important to include fruits and vegetables in our diet?



Let's Acquire

Value Based Question

Sana is suffering from chickenpox. What should she do to prevent other children from getting infected?

- | | | | |
|--------------------------------------|--------------------------|----------------------------------|--------------------------|
| a. Share things with other children. | <input type="checkbox"/> | b. Play with children in a park. | <input type="checkbox"/> |
| c. Rest at home. | <input type="checkbox"/> | d. None of these. | <input type="checkbox"/> |



Let's Enhance Our Life Skills

1. Tick (3) the actions you should follow to maintain good hygiene.

<input type="checkbox"/> Wash hands properly after going to the toilet.	<input type="checkbox"/>
<input type="checkbox"/> Share handkerchiefs with other children.	<input type="checkbox"/>
<input type="checkbox"/> Throw garbage on the roads.	<input type="checkbox"/>
<input type="checkbox"/> Keep food items covered.	<input type="checkbox"/>
<input type="checkbox"/> Wash fruits before eating them.	<input type="checkbox"/>
2. Ask your parents the names of diseases for which you were vaccinated in your childhood. Prepare a list of these diseases and share it with your classmates.