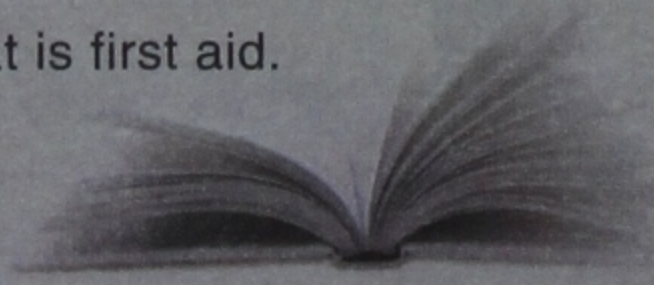




## LEARNING OBJECTIVES

**After completing this chapter you will be able to**

- list the functions of carbohydrates, fats, proteins, vitamins, minerals and water.
- identify food items that belong to the basic food groups.
- explain the importance of having a balanced diet.
- develop certain food habits to maintain personal hygiene.
- take care of your eyes, teeth and hair on a day to day basis.
- recognise responsibilities of the civic bodies to maintain community hygiene.
- describe the causes of communicable diseases and their preventive measures.
- describe different types of pollution and their causes.
- understand what is first aid.



# Health and Hygiene

When are you considered to be in good health? Health is not just the absence of disease but a state of complete physical, mental and social well being. The World Health Organization (WHO) has defined health as **"Health is a state of complete physical, mental and social well being and not merely an absence of disease or infirmity."** Have you ever wondered why some children fall ill rarely whereas others fall sick quite frequently?

Factors affecting the maintenance of good health are as follows:

- ❖ Balanced diet
- ❖ Personal hygiene
- ❖ Community hygiene
- ❖ Adequate exercise and rest
- ❖ Protection from the communicable diseases

## FOOD AND HEALTH

All living organisms need food. Food contains **nutrients**, the substances which the body needs to grow and remain healthy. The nutrients act as a fuel and the energy derived from them



**Table 7.1** Nutrients—their sources and functions

NUTRIENT	SOURCES	FUNCTION
Carbohydrates	wheat, rice, potato, sugar	give energy
Fats	oil, ghee, butter, nuts	give energy
Proteins	pulses, meat, fish, nuts	growth and repair of tissues
Vitamins	vegetables, fruits	protection from diseases
Minerals	milk, vegetables, fruits	protection from diseases

helps the body to perform various activities like running, jumping, walking, swimming and many more. Nutrients keep us free from diseases and are also responsible for the growth and repair of our body.

There are five types of nutrients in our food—**carbohydrates**, **fats**, **proteins**, **vitamins** and **minerals**. In addition, water is a medium, that is, essential for all the metabolic activities in our body. Though different food items may contain more than one type of nutrient, each food item is generally rich in one of the nutrients. Nutrients have specific functions.

Food can be divided into three groups depending on their action on the body.

- ❖ **Energy-giving food**
- ❖ **Body-building food**
- ❖ **Protective food**

Let us now discuss about various nutrients.

### Carbohydrates

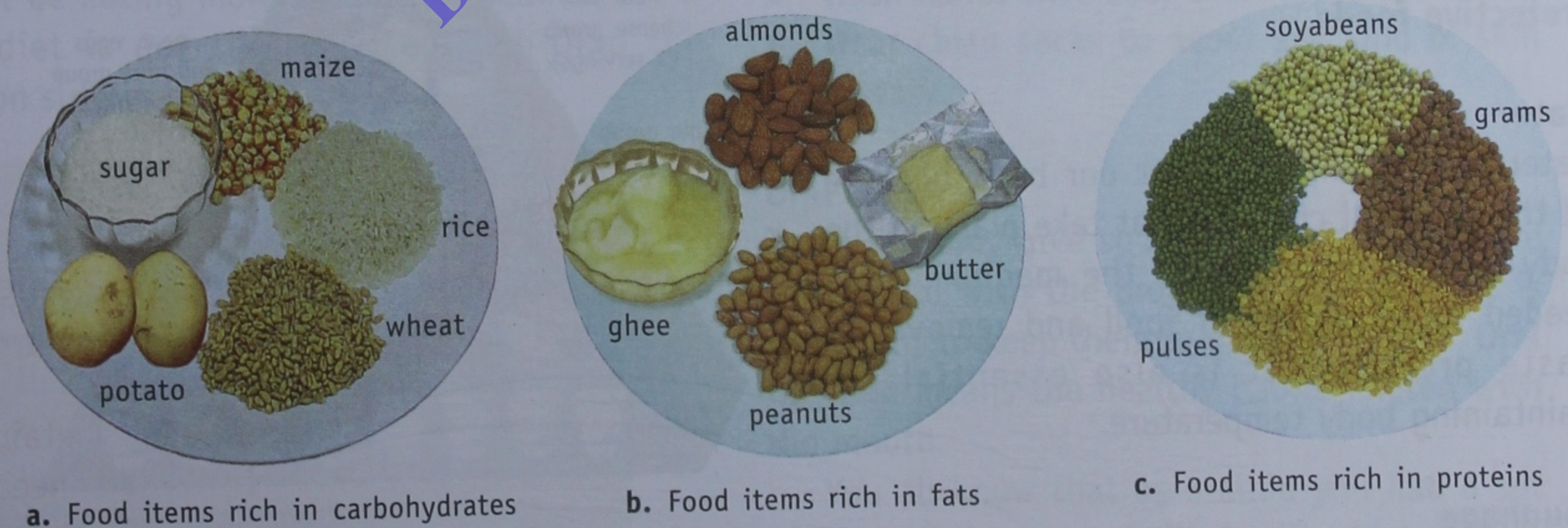
Carbohydrates are the main source of energy. Wheat, rice, bread, noodles, potatoes and fruits are rich in carbohydrates.

### Fats

Fats give about twice as much energy as carbohydrates. Fats protect us from cold. Fats are found in oil, butter, ghee and nuts. Carbohydrates and fats together are also known as **energy-giving foods**.

### Proteins

Proteins help in the growth of our body and repair worn-out tissues. Pulses, beans, meat, fish and nuts are the main sources of proteins. Since proteins help in the growth of the body they are also known as **body-building foods**.



**Fig. 7.1** Different food items contain different types of nutrients.



## Vitamins

Vitamins are needed in small quantities but they are required to remain healthy and proper growth. Some of the vitamins are named as vitamins A, B, C, D and so on. A single food item does not contain all the vitamins though milk has most of them except vitamin C. Vitamin C is present in orange, lemon and other fruits. Vitamins are also found in cereals, pulses, vegetables, fish, meat and eggs.

### ACTIVITY 1

Ask an adult to give you tablets of vitamins A, B, C, D and E. Dissolve each tablet in separate test tubes containing water. Which vitamins are water soluble? Note your observation.

## Minerals

The nutrients that help the body to function normally and to use other nutrients properly are known as minerals. Minerals generally do not give any energy. Minerals like **calcium** and **phosphorus** are needed for proper growth of bones and teeth. **Iron** is needed for the manufacturing of red blood cells. Some of the sources of minerals are milk, green leafy vegetables, meat and pulses.

Since vitamins and minerals protect the body from many diseases, they are known as **protective foods**.

## Water

Water is very important for our body because all the chemical changes that take place in the body occur with water as the medium. It is needed for digestion of food and removal of waste products. It is also essential for maintaining body temperature.

## Roughage

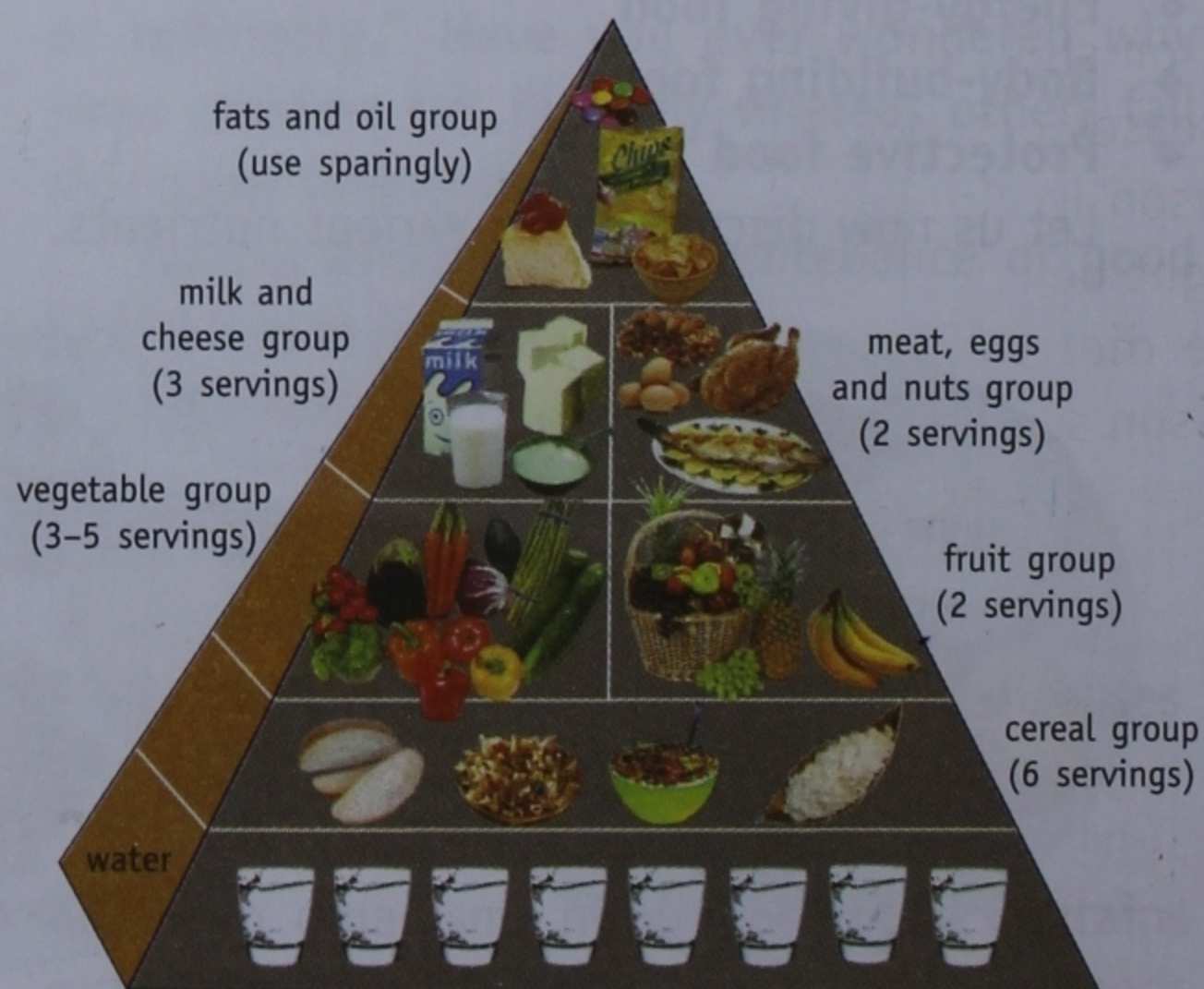
Besides the nutrients mentioned above and

water, our diet should also contain **roughage** or fibre. It can not be digested but it adds bulk to the food that prevents constipation. Fresh fruits and raw vegetables are rich sources of roughage.

## BALANCED DIET

Growing children and teenagers need more proteins and carbohydrates as compared to old people. Proteins help in the growth of their body and carbohydrates give them energy for playing and other activities. Pregnant women and feeding mothers need more nutrients in their diet. Females need less carbohydrates and fats than males because of their build-up. A person doing physical work needs more energy and therefore more carbohydrates than a person doing a desk job.

One should eat a balanced diet. **A balanced diet gives us all the required nutrients, that is, carbohydrates, fats, proteins, vitamins, minerals and roughage in the right proportion.** A balanced diet depends on a person's age, gender and the type of physical activity he or she does.



**Fig. 7.2** A balanced diet contains all types of required nutrients from all food groups.



**Table 7.2** Effects of deficiency of a nutrient and taking it in excess

NUTRIENT	EFFECTS
<b>Carbohydrates</b>	
—Deficiency	—the person feels tired, lethargic and inactive
—If taken in excess	—the person becomes obese
<b>Fats</b>	
—Deficiency	—the person suffers from weak eyesight, thin body and rough skin
—If taken in excess	—the person becomes obese
<b>Proteins</b>	
—Deficiency	—the person feels tired and the growth and development of the body becomes slow
—If taken in excess	—may be harmful for the kidneys

When a person does not eat a balanced diet he or she may either suffer from deficiency diseases or from obesity. In both the cases the person is said to be **undernourished**. A person might be eating more food than required but if the diet is not the balanced diet than the person suffers from the **obesity**.

#### Did you know?

The energy supplied by food items is measured in calories. Junk food generally refers to foods which have lots of calories but little nutritional value. These foods are high in fats, salt and sugar and offer a high number of calories even if taken in a small quantity.

## PERSONAL HYGIENE

Besides eating a balanced diet it is very important to maintain personal hygiene to protect ourselves from diseases. Personal hygiene means following habits like washing hands before and after eating food, using your own towel and so on which keep one's body clean. A healthy lifestyle and following clean habits are essential for keeping healthy. We can all follow certain rules to keep our body clean.

- ❖ **Bathe regularly** to remove sweat and dirt. This will keep the skin clean and free from disease-causing germs. Wear clean clothes, particularly undergarments.
- ❖ **Wash hands before eating.** We touch a lot of objects like coins, books in a library, rides in a park and so many other things which are shared by others also. There are chances that these objects may carry germs which might enter our body through our hands if we do not wash our hands before eating.
- ❖ **Keep nails trimmed and clean** to avoid hiding of disease-causing germs there.
- ❖ **Rinse or brush teeth after every meal.** This will remove any food particles sticking there, and avoid decay of teeth.
- ❖ **Keep hair clean** by washing them with soap or shampoo once a week. Always use a clean comb.
- ❖ Wash hands with soap after using the toilet.
- ❖ Wear clean socks to avoid any kind of skin disease.

### Oral hygiene

Teeth not only give shape to our face, they are also linked with the process of digestion. It is important to keep them in good condition. **Oral hygiene** means the healthy habits related with the mouth.

You all know that as a child you had a set of 20 teeth known as **milk teeth** which fell off one by one and were replaced by 32 **permanent**



**teeth**, 16 in each jaw. There are 4 incisors, 2 canines, 4 premolars and 6 molars in each jaw.

Each tooth has three parts, that is, crown, root and neck (Fig. 7.3). The part of a tooth that you see is the **crown**. The **root** of a tooth is embedded in the soft tissue called gum. The **neck** is the portion in between the crown and the root. The top white portion of each tooth is known as **enamel**. Below the enamel is the soft **dentine**. Inside the dentine, there is **pulp cavity**. The pulp cavity has blood vessels and nerves (Fig. 7.3).

#### CAUSES OF A TOOTH PROBLEM

The major problem of the tooth in children is **tooth decay**. When some food particles get stuck between the teeth, microbes present in the mouth act on them and produce acid. The acid erodes or eats away the tooth enamel. Later acid affects dentine and attacks the pulp cavity. Pulp infection can lead to tooth loss if you do not visit a dentist soon enough.

You can take care of your teeth and gums by practicing certain habits.

- ❖ Brush your teeth with a toothbrush having soft bristles, if possible after every meal or at least in the morning and before going to bed at night.

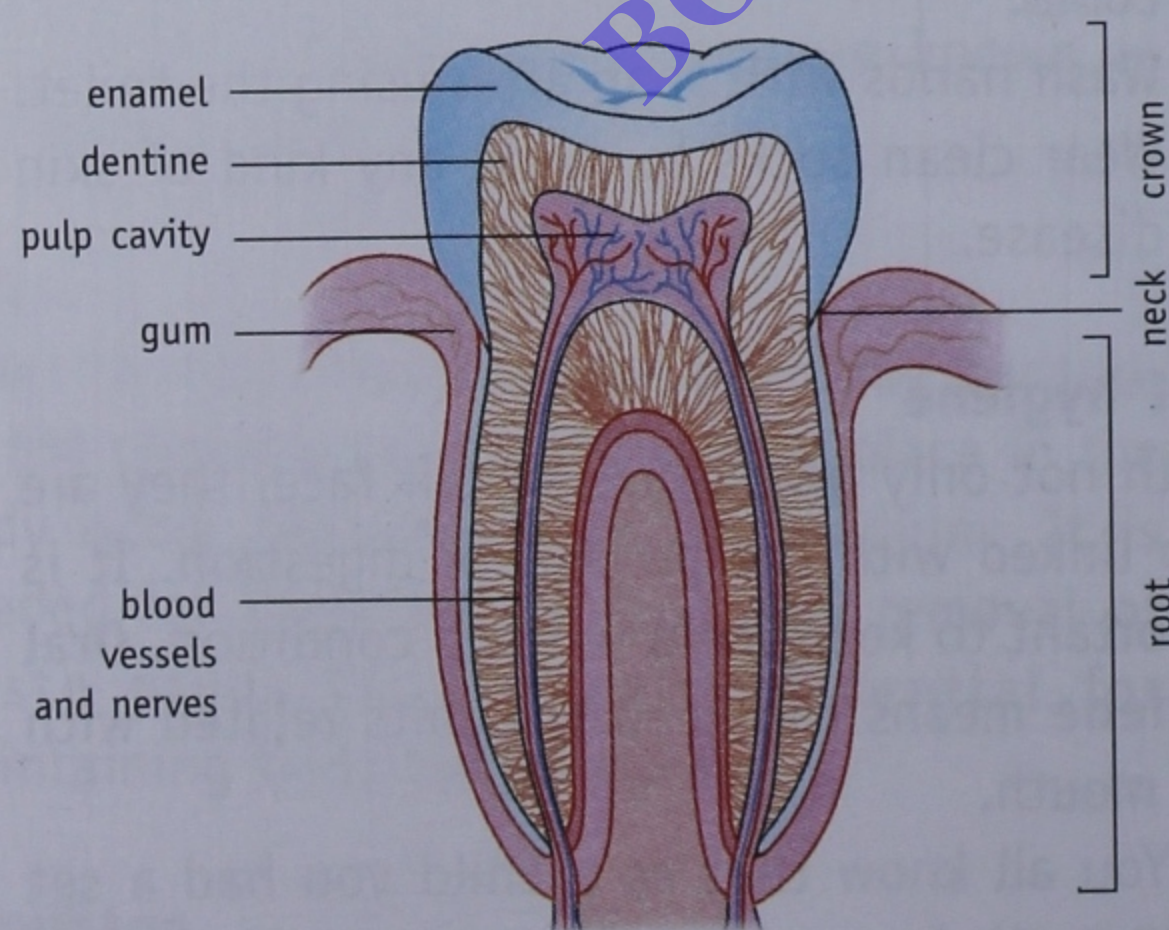


Fig. 7.3 Structure of a tooth

- ❖ Use a dental floss or a soft thread for removing food particles that get stuck in between the teeth.
- ❖ Eat lots of raw vegetables like carrot, radish and cabbage along with fresh fruits. Crunchy fresh vegetables like radish and carrot can help scrub your teeth as you eat.
- ❖ Milk, cheese and curd which are rich sources of calcium make your teeth stronger. So, make these foods a part of your daily diet.
- ❖ Avoid eating sticky and sugary items like chocolate and toffees.

#### Did you know?

Sometimes a sticky film of food, saliva and bacteria forms over teeth. This film is called plaque. Microbes in plaque act on sugary food and make strong acids. This acid can cause a cavity in the tooth. If this cavity in a tooth is not filled, it can grow bigger and deeper. Plaque on teeth and under the gums can push your gums away from your teeth. Gums become sore and may result in bleeding.

#### Eye care

Eyes are our sense organs for vision. We need to protect our eyes from dust and diseases like conjunctivitis and trachoma.

#### NATURAL PROTECTION OF OUR EYES

- ❖ Eyes are protected by the skull bones.
- ❖ Eyelashes keep the dust and dirt away.
- ❖ Tears help wash out the dirt which gets into our eyes because of pollution or dust storm.
- ❖ When eyes sense any object coming close to them, the eyelids immediately close.

#### HOW CAN YOU PROTECT YOUR EYES?

- ❖ Watching television for too long and



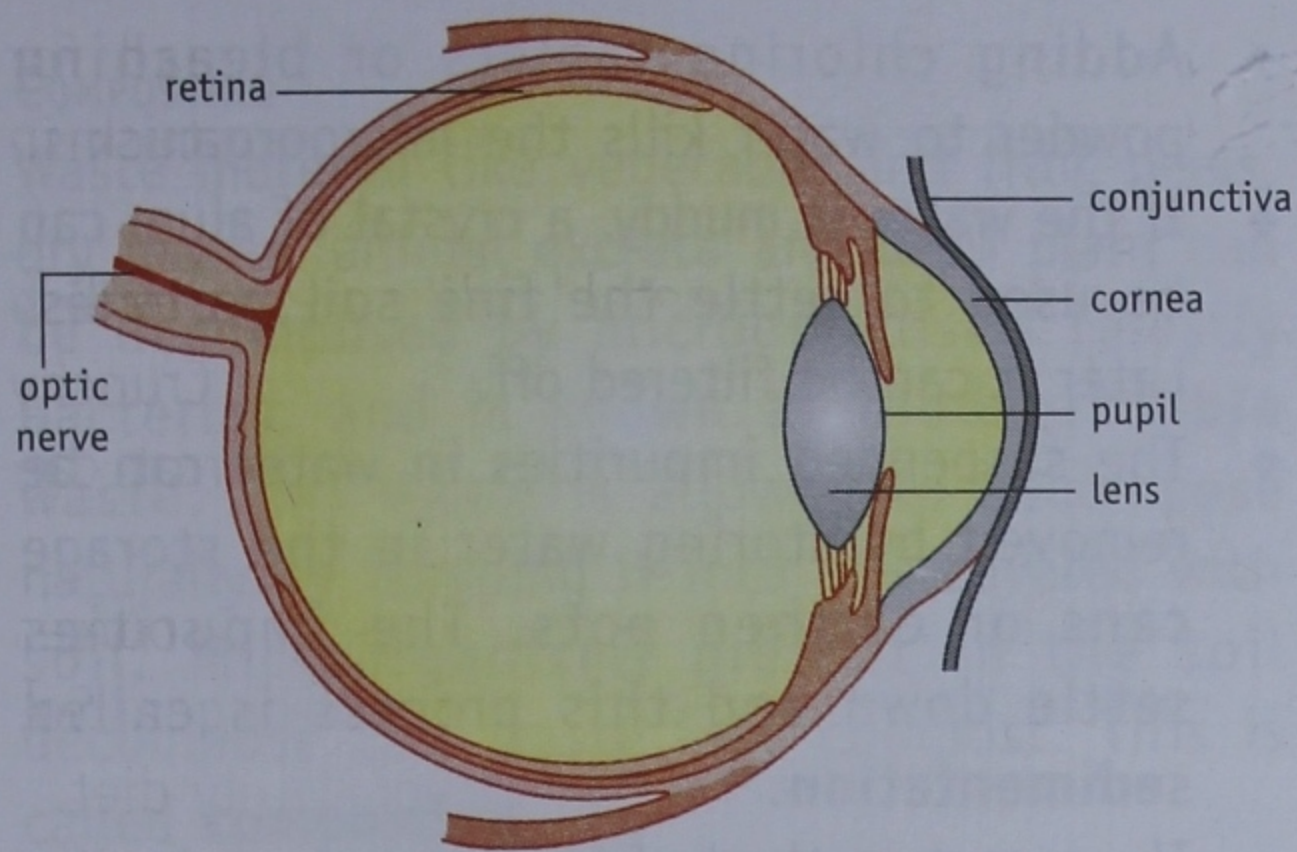


Fig. 7.4 Structure of an eye

working on a computer for long periods of time put a lot of strain on the eyes. Avoid this and take a break after every 20 minutes. Look outside at distant objects to reduce strain on your eyes.

- ❖ Avoid reading in dim light, in moving vehicles or while lying down. Do not keep the reading material too close to your eyes.
- ❖ If you have a problem reading from the blackboard or a book, you should immediately visit an eye specialist.
- ❖ Wear sunglasses on bright, sunny days. They protect eyes from the glare of the sun. Also avoid watching an eclipse with naked eyes.
- ❖ Splash your eyes with clean water two or three times every day.
- ❖ If you feel there is something in your eyes, ask an adult to help you. Blink quickly to start the flow of tears. Avoid rubbing the eyes as it may damage your eyes.
- ❖ You must eat vegetables like spinach, carrot, cabbage and fruits like mango and papaya. They are rich in vitamin A which is required for healthy eyes.

### Hair care

Hair is made of dead tissue. However, it grows because its root is living. The outer dead part of the hair is called **shaft** and **root** lies beneath the scalp.

You can take care of your hair by practicing the following habits.

- ❖ Wash your hair with soap or shampoo once a week to keep your hair and scalp clean and prevent the formation of white flakes called dandruff on the scalp.
- ❖ Massage your hair and scalp with oil regularly, to improve blood circulation and keep your hair glossy.
- ❖ Comb it every day as it helps in getting rid of any dust in the hair. Always keep your comb clean by washing it with a detergent and brush.
- ❖ Avoid using hair dye and colouring agents since they contain chemicals which can be harmful for your hair.
- ❖ Eat a nutritious, balanced diet with lots of green vegetables to keep your hair shiny and healthy.
- ❖ Avoid sharing your comb and towel with others to prevent lice infestation. Lice spread from one person to another through

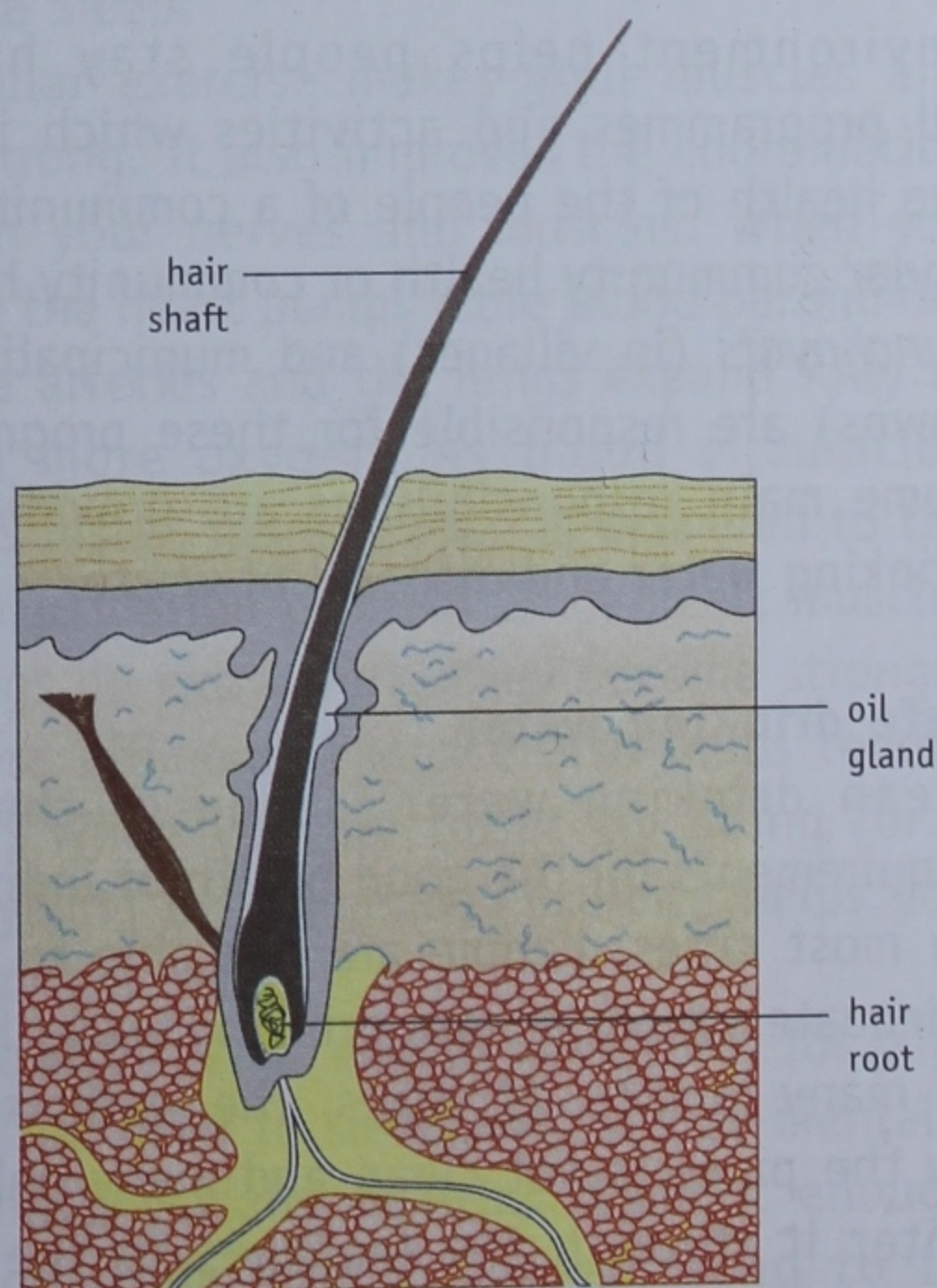


Fig. 7.5 Structure of a hair



contact. Lice can be eliminated by using a medicated shampoo or a lotion.

- ❖ You must get the ends of hair (which tend to split and break) cut at regular intervals.

#### CHECK YOUR PROGRESS 1

Write True or False.

1. Carbohydrates and fats are energy-giving food.
2. Pulses, beans, meat, fish and nuts are rich sources of fats.
3. The top white portion of each tooth is known as pulp.
4. Excessive eating of vegetables causes tooth decay.
5. Always keep the reading material too close to your eyes.

### COMMUNITY HYGIENE

Besides maintaining personal hygiene, a person must keep his or her surroundings clean as it also affects their overall health. A clean environment helps people stay healthy. All programmes and activities which improve the health of the people of a community come under community health or community hygiene. *Panchayats* (in villages) and municipalities (in towns) are responsible for these programmes. Some main responsibilities are providing safe drinking water and disposal of waste.

#### Safe drinking water

Clean drinking water is one of the basic requirements for the good health of individuals. In most cities, people are not able to receive adequate supply of safe drinking water because of many factors. At times, the water supplied by the pipes is not clean and many pollutants enter it through the leakages in the pipes. Water can be made safe for drinking by using certain methods.

- ❖ Adding chlorine tablets or bleaching powder to water kills the microorganisms.
- ❖ If the water is muddy, a crystal of alum can be used to settle the fine soil particles. Later it can be filtered off.
- ❖ The suspended impurities in water can be removed by storing water in the storage cans or earthen pots. The impurities settle down and this process is called **sedimentation**.
- ❖ The surest method of having pure and germ free water is to boil the water for at least fifteen minutes. Boiling kills germs.
- ❖ These days sophisticated water filters are available which make use of ultraviolet rays to kill germs present in the water.

#### Waste disposal

Sewage pipes and drains carry waste from homes, hotels, offices, hospitals and other places. These sewage pipes and drains are cleaned and maintained by the civic bodies. Civic bodies also make arrangements for the collection of garbage from collection points and then for the proper disposal of this waste. Let us discuss various methods adopted for proper disposal of wastes.



Fig. 7.6 A modern water purifier



## COMPOSTING

Waste material like vegetable and fruit peels, dry leaves, animal excreta and dead plant can be decomposed by microorganisms (mostly bacteria), and is known as **biodegradable waste**. This waste is allowed to decompose naturally by dumping it into pits covered with soil. Microorganisms present in the soil decompose this waste into compost. This is called **composting**.

## DUMPING OF WASTE

Solid waste is dumped in pits in low lying areas situated away from human habitation. These pits when full, are covered by soil so that garbage could not be scattered by animals. Sometimes parks, shopping malls and other buildings are built on these dumping grounds after many years.

## SEWAGE TREATMENT PLANT

Waste water from houses and other places are carried through underground sewer pipes. Most cities have sewage treatment plants to treat this water, before allowing it to flow into water bodies. In these plants water moves through special screens that remove solid wastes. The solid waste is either dumped or converted into manure and the treated water is reused.



Fig. 7.7 A compost pit

### Did you know?

Sometimes earthworms are added to the pits containing biodegradable waste. The earthworms speed up the process of decomposition of this waste into compost. This is called **vermicomposting**.

## RECYCLING OF WASTE

Wastes like paper, metals, glass and some plastics can be recycled. Recycling reduces burden on the natural resources.

Other functions of civic bodies include providing health services, vaccination facility, medical aid, maternal and child health care, places for recreation and preventing food adulteration.

## ADEQUATE EXERCISE AND REST

Besides eating the right kind of food and maintaining personal and community hygiene it is important to exercise regularly and get adequate sleep.

Regular exercise makes your muscles and bones strong. It also improves the coordination between your nerves and muscles. When you exercise the heart pumps more blood per minute into the arteries and the lungs expand fully to take in more oxygen. As blood circulation becomes faster, more oxygen is delivered to the cells for oxidation of food. Since heart muscles and lungs do extra work, they become stronger and more efficient. Exercise also helps relieve tension. When you are upset try going for a walk, cycling or swimming. Exercise helps you look and feel better.

Adequate rest is equally important for your health. You need to sleep well to stay mentally alert and physically healthy. Without enough sleep you look dull and tired, tend to be irritable and less efficient. While you are asleep the body produces less heat and the heartbeat



slows down. Blood pressure is lowered, breathing becomes slower and the muscles are relaxed.

The hours of sleep needed varies with age. A baby usually sleeps eighteen to twenty hours a day whereas children may need only seven to nine hours. Older people often require only five to seven hours.

### COMMUNICABLE DISEASES

Microorganisms like bacteria, fungi, viruses or protozoa cause certain diseases like cold, influenza, malaria, chickenpox, measles and so on. These diseases can spread from a diseased person to a healthy person through food, water, air, insect bites or by direct contact with the patient. Such diseases are called **communicable diseases**. Some communicable diseases, their causative germs and the way they spread are given in Table 7.3.

Let us now read how these diseases spread.

#### Through air

Cold, influenza, tuberculosis, measles and some respiratory infections spread through droplets in the air. These diseases are called **droplet infections** or **airborne diseases** because they spread through air. A diseased person carries germs of these diseases in his nasal passage, throat and mouth. A sneeze or a cough from him sprays a mist of droplets full of germs into the air. Healthy people when inhale this air, germs enter into their body and infect them.

#### Through food and water

Diseases like typhoid, dysentery, cholera and other intestinal infections may spread through polluted water and contaminated food. Such diseases are called as **waterborne diseases**. Water may get contaminated if diseased people bathe, wash or defecate near the source of water. When this water mixes with drinkable

Table 7.3 Some communicable diseases

DISEASE	CAUSE	SPREAD THROUGH
typhoid	bacterium	food and water
tetanus	bacterium	soil
cholera	bacterium	food, water, housefly
chicken pox	virus	air and direct contact
polio	virus	air
measles	virus	air and direct contact
influenza	virus	air
ringworm	fungus	air and direct contact
malaria	protozoan	mosquito bite
dengue	virus	mosquito bite

water and is consumed by a healthy person, then it causes infection. Germs from infections of the ear, nasal passage and throat commonly spread in swimming pools. Water should always be stored in clean and covered utensils to avoid contamination. Typhoid and stomach infections spread by eating contaminated food. Uncovered cut vegetables and fruits and other exposed foods can be a source of infection as the flies may carry germs from garbage and faeces to these items. Milk can also be infected. Microorganisms enter into milk from flies and unclean storage containers. In summer, food if left outside for a few hours at 40 °C, gets spoilt by bacteria as they multiply faster in warm conditions.

#### Through direct contact

Some infections like conjunctivitis and scabies spread through **direct contact** or by sharing things like drinking glasses, towels, combs and so on.

#### By insects

Dirty surroundings where there are heaps of wastes and stagnant water, become the breeding grounds of insects like flies,





**Fig. 7.8** Mosquito and housefly spread diseases.

mosquitoes, ticks, mites and so on. Microbes get stuck to the body parts of these insects when they visit a source of infection like sewage, excreta and garbage. When these insects sit on exposed food items, or open wounds on a person's skin then they transfer the germs, and thus, the infection. These insects which carry disease-causing germs are called **vectors**.

Some of the diseases which spread through insects are malaria, dengue and yellow fever. **Malaria** spreads by the bite of infected female *Anopheles* mosquito. **Dengue** spreads by the bite of infected female *Aedes* mosquito.

#### Did you know?

Communicable diseases which spread by direct contact are called contagious diseases.

### Steps to avoid spreading of infection

- ❖ Drink filtered or boiled water (let it boil for at least 15 minutes).
- ❖ Make sure there is no stagnant water near your house as mosquitoes breed very fast in such water.
- ❖ Keep food covered and do not eat exposed food items.
- ❖ Garbage bins should be kept covered.
- ❖ Personal articles used by a patient should be kept separate and not shared by others.
- ❖ Use your own towels and handkerchief.
- ❖ Wash your hands with soap before eating.

#### Did you know?

Handwashing is one of the simplest, easiest and most effective ways to prevent getting or passing on many germs. Health care experts recommend scrubbing your hands vigorously for at least 15 seconds with soap and water, about as long as it takes to recite the English alphabet. This will wash away cold viruses and bacteria as well as many other disease-causing microbes.

- ❖ When you sneeze or cough, cover your nose and mouth with a tissue paper or handkerchief.
- ❖ Drink pasteurized milk or boil it thoroughly before drinking.
- ❖ In case a patient is suffering from a highly contagious disease like chicken pox or measles, avoid any direct contact with him.

### POLLUTION

Addition of unwanted, mostly harmful substances in air, water and soil which has an adverse effect on living beings and deteriorates the quality of the environment is called **pollution**. The main causes of pollution are growing population, rapid urbanization and industrialization. Man is indulged in various activities that result in pollution of our environment. Let us read about it in details.

#### Air pollution—causes

- ❖ Release of gases like carbon dioxide and oxides of sulphur from the burning of fuels in vehicles, power stations and industries.
- ❖ Release of unburnt carbon particles and dust by vehicles and industries.

#### Air pollution—effects

- ❖ Respiratory diseases—asthma, cough,



bronchitis and in certain cases even lung cancer occur due to large quantities of smoke and other particles.

- ❖ Headache and dizziness due to inhalation of carbon monoxide in small quantities; in large quantities it may lead to death.
- ❖ Stinging and irritation of eyes, nose and throat due to oxides of nitrogen.
- ❖ Particulate matter like lead particles can have a harmful effect on liver and kidney.

### **Air pollution—prevention and control**

- ❖ Get the vehicles checked for pollution at regular intervals.
- ❖ Use car pool wherever possible. Discourage the use of cars when it is possible to go walking. Children should walk or use a bicycle for short distances.
- ❖ Industries must release their gases in the air only after removal of solid particles from them.
- ❖ The Government is equally concerned about the rising level of air pollution in various cities. The Delhi Government has banned plying of diesel buses and has introduced the use of CNG (compressed natural gas). This has brought down the pollution level in Delhi. Unleaded petrol is now used for running cars and scooters. As a result the level of lead in the air has reduced.
- ❖ In many states factories and industries have been shifted to places away from residential areas.

### **Water pollution—causes**

- ❖ Disposal of sewage (waste water) directly into water bodies.
- ❖ Direct release of industrial waste containing poisonous substances into nearby water bodies.
- ❖ Throwing of garbage and animal carcasses near and into water bodies.



**Fig. 7.9** Release of gases from the exhaust of vehicles causes air pollution.

- ❖ Bathing, washing, defecating near and into water bodies.
- ❖ Excessive fertilizers, pesticides and insecticides get washed off by rain and enter into water bodies.
- ❖ Accidental oil spills from oil tankers into oceans.
- ❖ Release of hot water by power plants into rivers (thermal pollution).

### **Water pollution—effects**

- ❖ Polluted water can cause serious waterborne diseases like cholera, typhoid, jaundice and dysentery.
- ❖ Polluted water has a harmful effect on the marine life. Some undecomposed water



**Fig. 7.10** Disposal of domestic and industrial waste causes water pollution.



pollutants enter the bodies of water animals like fish, and when people consume them they fall sick.

### Water pollution—prevention and control

- ❖ Activities like bathing, washing and defecating should not be carried out near water bodies.
- ❖ Sewage and waste water from industries should be discharged into water bodies only after treating it.
- ❖ Water should either be filtered or boiled before drinking it. Also water should be stored in clean and covered containers.

### Noise pollution—causes

Loud, harsh sound that is unpleasant to the ear is called **noise**.

- ❖ Honking of vehicles, noise from aeroplanes and railway engines
- ❖ Noise from loudspeakers, and gadgets like radio and television used at homes
- ❖ Noise from factories

#### Did you know?

Besides air and water, land also gets polluted. Land gets polluted by throwing of litter and improper disposal of garbage and radioactive wastes. Land pollution affects soil fertility. It can be controlled with proper disposal of domestic as well as industrial waste.

#### Did you know?

In many cities including Delhi you are not allowed to honk unnecessarily. If you honk within 100 metres of a traffic light, you may have to pay a fine. You are also not allowed to use loudspeakers after 11.00 p.m.



Fig. 7.11 Plastic bags, drinking cans and glass bottles can cause land pollution.

### Noise pollution—effects

- ❖ Noise causes stress, anxiety, headache, irritation.
- ❖ Loud noise can cause partial or total loss of hearing.

### Noise pollution—prevention and control

- ❖ One should listen to radios, stereos and TV at low volume.  
One should make it a habit to talk in low tone and not a loud one.
- ❖ Airports and factories should be located away from residential places.
- ❖ Horns must be used only when really required.
- ❖ Loudspeakers should be used only occasionally.

### FIRST AID

**First aid** is the immediate, temporary care given to a person in case of an accident or sudden illness before he or she is taken to a doctor. The most important thing in case of an emergency is to stay calm and act according to the need without panic.

### First aid for deep cuts and bruises

- ❖ In case of a deep cut, the immediate effort is to avoid bleeding. For this raise the cut



part and if the bleeding does not stop, press a pad of clean cloth over the wound. Once the blood stops, wash it with water or some antiseptic lotion. Apply some antiseptic cream on the wound and cover it with some cotton, and then tie a clean bandage. The bandage helps to keep the cut clean while it heals.

- ❖ Bruises are injuries to tissues under the skin. Small blood vessels called capillaries break and the blood oozes out in the injured part. Later this part becomes bluish black. Immediate use of cold water or application of an ice pack reduces the colouration of the skin and swelling.

### First aid for burns

If a burn results in just reddening of the skin, one needs to apply cold water or place the burnt part under running cold water. If the burn results in formation of blisters immerse the

burnt part in cold water. Do not break or puncture the blisters. If a blister does break, wash the area with water and cover the area with a clean bandage. If the burn results in charring, do not pull off any clothing that has stuck to the burnt area. Just cover the area with clean cloth. Apply an ice pack.

#### CHECK YOUR PROGRESS 2

Fill in the blanks.

1. \_\_\_\_\_ helps you look and feel better.
2. Cold and measles are spread by droplets in the \_\_\_\_\_.
3. Dengue is caused by the bite of an infected \_\_\_\_\_ mosquito.
4. Oil spills from oil tankers into oceans cause \_\_\_\_\_ pollution.
5. Loud, harsh sound that is unpleasant to the ear is called \_\_\_\_\_ pollution.

### Now you know

- ▶ According to the World Health Organization (WHO), health is a state of complete physical, mental and social well being and not merely an absence of disease or infirmity.
- ▶ Balanced diet, personal hygiene, community hygiene, adequate exercise and rest are the factors that affect the health of a person.
- ▶ Carbohydrates, fats, proteins, vitamins and minerals are the nutrients present in food.
- ▶ Carbohydrates and fats provide energy; proteins provide material for growth and repair of tissues.
- ▶ Vitamins and minerals help the body to function properly and keep the body healthy.
- ▶ A balanced diet provides the body with the correct amount of all the nutrients according to the age, work and gender.
- ▶ Tooth decay can be avoided by brushing teeth regularly and avoiding eating of excess of sweets and sugary food items.
- ▶ Eyes should be washed with clean water every morning. You should be careful about body posture while reading as this does not put any strain on eyes.
- ▶ Washing and combing hair on regular basis keeps them clean and shining.
- ▶ Community hygiene is essential to ensure health for all.
- ▶ Pollution of water, air and land affects environment and causes health hazards.
- ▶ Communicable diseases caused by microorganisms spread due to unhygienic habits and polluted environment.



- ▶ Regular exercise makes the muscles strong and keeps the heart healthy.
- ▶ Proper sleep helps in reducing blood pressure and relaxes the mind.
- ▶ Pollution of water, air and land affects environment and causes health hazards.
- ▶ The immediate help provided to a person in an emergency is called first aid.

## Keywords

BALANCED DIET	diet that contains proper amounts of each nutrient
MINERAL	inorganic chemical needed by the body in small amounts
POLLUTANT	substance that pollutes air, water or land
POLLUTION	introduction of unwanted, usually harmful material into an environment

## Exercises

### A. Tick the most appropriate answer.

- The nutrient needed for growth and repair of the cells is
  - protein.
  - carbohydrate.
  - fat.
  - vitamin.
- Calcium and phosphorus are required for
  - healthy teeth and bones.
  - long and black hair.
  - haemoglobin in blood.
  - healthy heart.
- Carbohydrates and fats provide us with
  - vitamins.
  - energy.
  - minerals.
  - water.
- The major source of vitamins and minerals is
  - meat.
  - milk.
  - butter.
  - fruits and vegetables.
- A thin, sticky film which is formed on the tooth leading to tooth decay is called a
  - cavity.
  - plaque.
  - floss.
  - crown.
- Which of the following is a droplet infection?
  - Cholera
  - Malaria
  - Common cold
  - Polio
- Deficiency diseases are caused due to
  - viruses.
  - bacteria.
  - protozoa.
  - lack of nutrients.
- Which of these is a waterborne disease?
  - Conjunctivitis
  - Polio
  - Typhoid
  - Bronchitis
- Small swelling of the skin filled with a watery substance is called a
  - cut.
  - bruise.
  - wound.
  - blister.



10. The number of permanent teeth in a person is

- a. 32.
- c. 20.

- b. 24.
- d. 16.

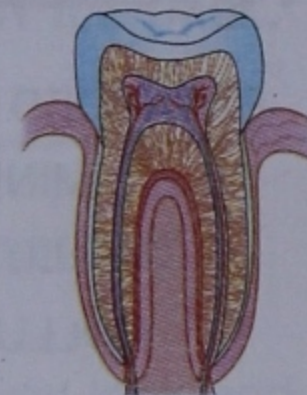
**B. Match the diseases in column A with their causes in column B.**

**COLUMN A (DISEASES)**

- 1. ringworm
- 2. malaria
- 3. cholera
- 4. dengue
- 5. obesity

**COLUMN B (CAUSES)**

- bacteria
- excess of food
- virus
- protozoa
- fungus



**C. Fill in the blanks.**

- 1. \_\_\_\_\_ prevents constipation.
- 2. Teeth are held in the jaw by \_\_\_\_\_
- 3. The hard coating on the teeth is called \_\_\_\_\_
- 4. \_\_\_\_\_ is a viral disease spread by direct and indirect contact in which the eye is infected.
- 5. A disease which spreads from one person to another is called a \_\_\_\_\_ disease.
- 6. \_\_\_\_\_ and \_\_\_\_\_ are called energy-giving foods.
- 7. Malaria is spread by an infected female \_\_\_\_\_ mosquito.
- 8. Blue-black marks that appear due to injury to the tissues under the skin due to breakage of small blood vessels are called \_\_\_\_\_
- 9. \_\_\_\_\_ is an airborne disease.
- 10. \_\_\_\_\_ is the loud and harsh sound that is unpleasant to the ear.

**D. Tick the correctly matched pairs with regard to diseases and their mode of spread. Rewrite the wrongly matched pairs correctly.**

- 1. Cholera—Waterborne disease
- 2. Typhoid—Foodborne disease
- 3. Conjunctivitis—Droplet infection
- 4. Common cold—Droplet infection
- 5. Dysentery—Airborne infection
- 6. Dengue—Disease spread by insect
- 7. Tuberculosis—Disease spread by direct contact



**E. Classify the following food items as energy-giving, body-building and protective food items.**

chapattis	papaya	rice	meat	egg	spinach
soyabean	potato	amla	ghee	peas	peanut
orange	fish	carrot	mango		



#### F. Give reasons.

1. An eight year old boy needs to eat more proteins than a sixty year old man.
2. Your mother insists that you should eat fruits and vegetables.
3. A labourer needs to eat more carbohydrates than a clerk.
4. It is important to rinse your mouth after every meal and brush your teeth before going to sleep.
5. Junk food is not good for health.
6. In many states factories and industries have been shifted to places away from residential areas.
7. Polluted water has a harmful effect on the marine life.
8. You should sleep for at least seven to eight hours everyday.

#### G. Write short answers.

1. Define health.
2. List all the nutrients present in different food items needed for healthy growth of your body.
3. What is a balanced diet?
4. What are minerals? Write few sources of food that are rich in minerals.
5. What are deficiency diseases?
6. What habits lead to obesity?
7. What are vectors?
8. What is biodegradable waste?
9. What is first aid?



#### H. Answer in detail.

1. List any five things which can help in maintaining good health.
2. Explain the structure of a tooth with the help of a diagram.
3. What is plaque? How is it formed?
4. What are the different ways by which communicable diseases are spread?
5. List five things which one can do to have healthy hair.
6. List five personal habits which can prevent the spread of communicable diseases.
7. What is the role of exercise in keeping your body healthy?
8. What is air pollution? How does it affect our health?
9. What steps are being taken to reduce air pollution?
10. What are the causes of water pollution?
11. Write a short note on land pollution.
12. What type of first aid is given for a deep cut?
13. What is the difference between a bruise and a blister?
14. What steps should be taken to reduce noise pollution?





# Fun to do

1. Conduct a survey amongst 10 boys and 10 girls to find out the frequency of consuming food from roadside vendors/restaurants. Record your finding in the **table** given below.

NAME	FREQUENCY OF EATING FOOD FROM (PUT A TICK IN THE CORRECT COLUMN)				HAVE YOU EVER SUFFERED FROM ILLNESS AFTER CONSUMING FOOD (YES/NO)
	NEVER	RARELY	ONCE/TWICE IN A WEEK	FREQUENTLY	

What do you conclude from the survey? Do the boys eat out more frequently or the girls? Do you see any relation between eating out and falling ill?

2. **Do it at home**

Hunt through old magazines and cut out pictures of healthy food and junk food. Can you find any advertisements for these foods? Make a poster with these pictures to show the effects of a 'healthy diet' as compared to a diet of junk food.