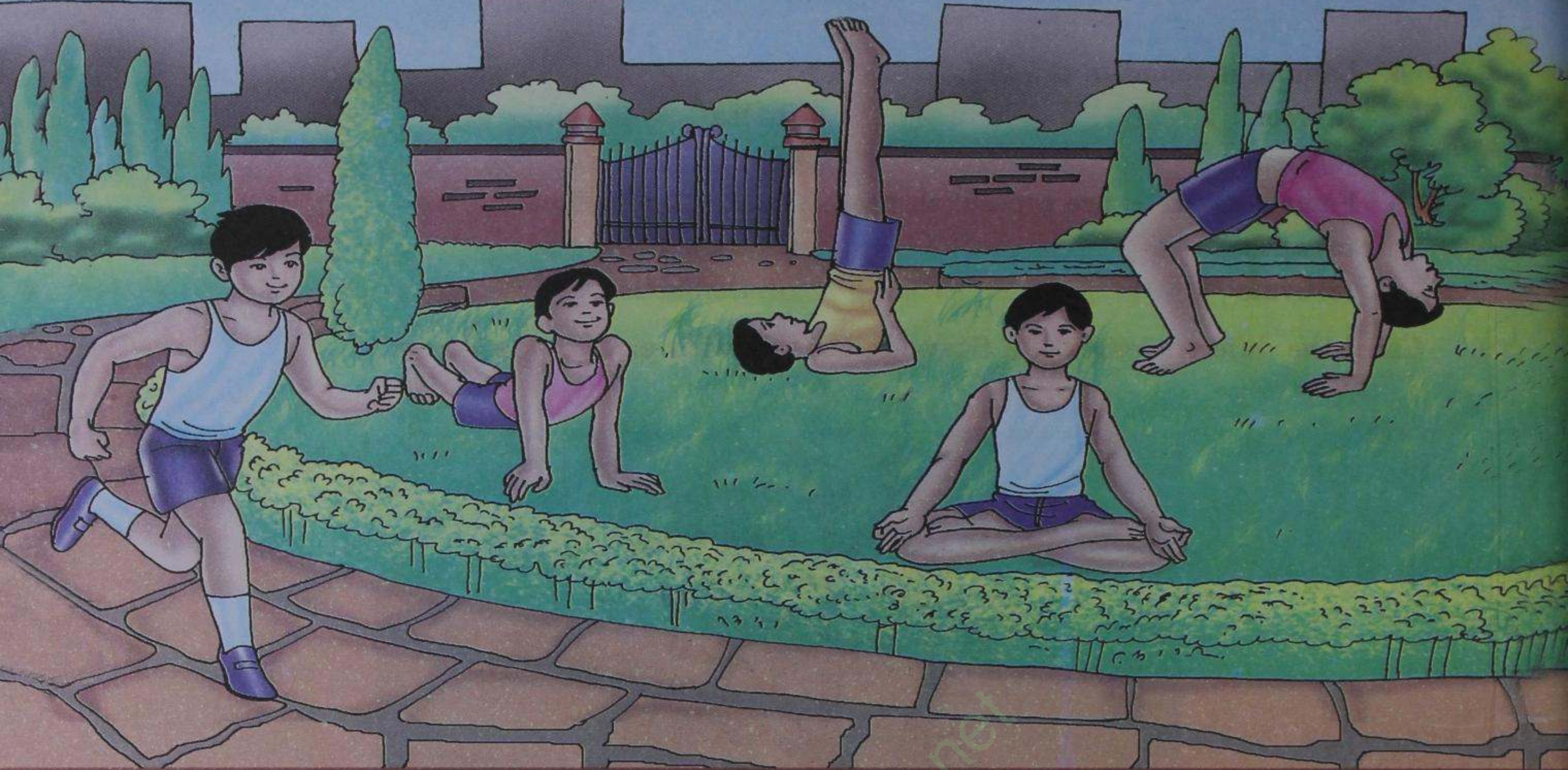




UNIT 4

Health and Hygiene

Learning Objectives

- ◆ Food and its need for the body
- ◆ Constituents of food: carbohydrates, proteins, fats, vitamins, minerals, water and roughage
- ◆ Significance of vitamins and minerals
- ◆ Factors affecting maintenance of good health
- ◆ The concept of a balanced diet
- ◆ Personal cleanliness
- ◆ Community hygiene
- ◆ Pollution: Air pollution, water pollution and noise pollution
- ◆ Effects of pollution on health
- ◆ Measures to control pollution

OUR FOOD

A substance which gives energy and keeps the body in good health is called food. Several types of nutrients constitute our food. Food is one of the basic requirements of all living organisms. We need food for growth, repair, and maintenance of our body and to protect it from illness. Food is necessary for both plants and animals.

Why Do We Need Food?

Food is essential for all living organisms because of the following reasons:

1. It Provides Energy

The food that we eat is digested, absorbed and then oxidised to provide energy. The energy thus released, is utilised by all living organisms to perform various functions of life.

2. It Helps in Growth and Development

Our body is composed of millions of cells and these cells divide to make new cells. Food provides all necessary materials for cell division and helps in the growth and development of our body.

3. It Helps to Overcome Wear and Tear

Food is required to make more protoplasm which is necessary for the repair of damaged cells or for the replacement of worn out tissues and for healing of wounds.

4. It Protects the Body Against Diseases

Food provides resistance to the body against various diseases. Deficiency of food may cause several diseases.

CONSTITUENTS OF FOOD

The food we eat consists of the following nutrients:

Carbohydrates

They are compounds of carbon and hydrogen. When they burn with oxygen, they produce energy. Glucose and starch are examples of carbohydrates. It is found in wheat, rice, potato, fruits, etc. If we do not get enough carbohydrates, we feel listless and lethargic.

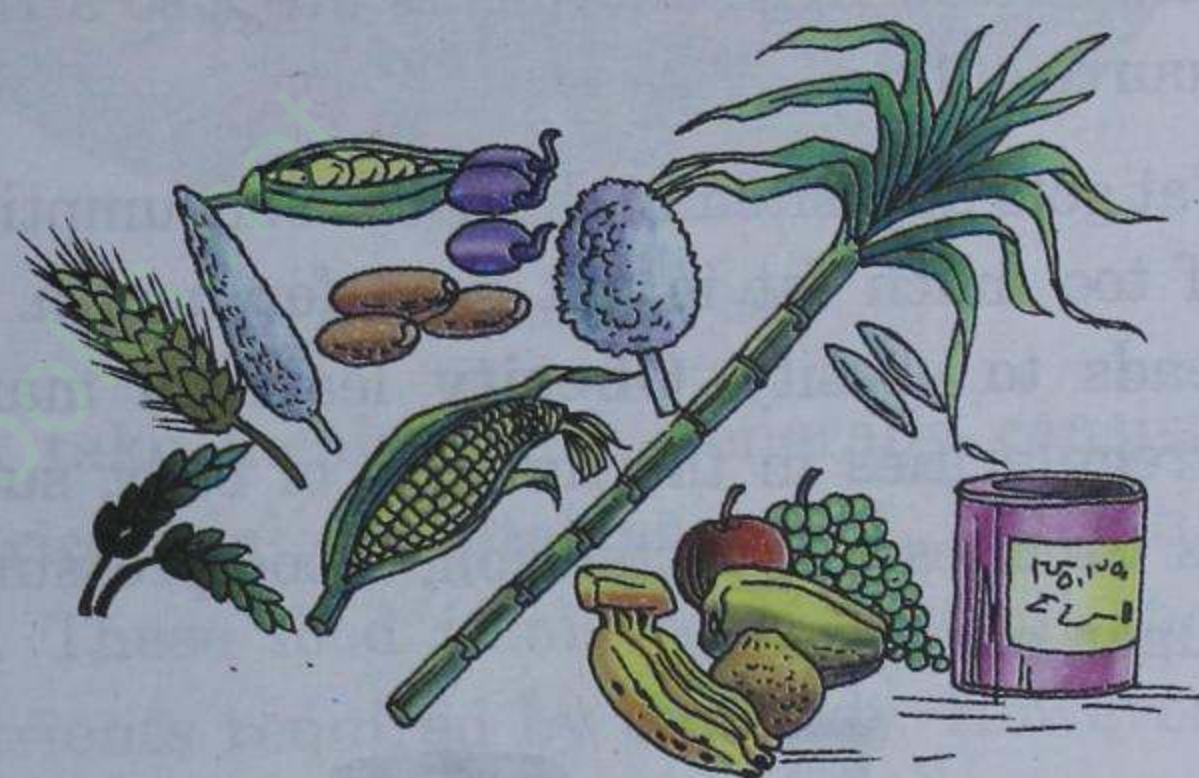


Fig. 4.1 Carbohydrate-rich food

Proteins

Proteins are very important nutrients of our body. They are compounds of carbon, hydrogen and nitrogen. Few proteins contain sulphur and iron.

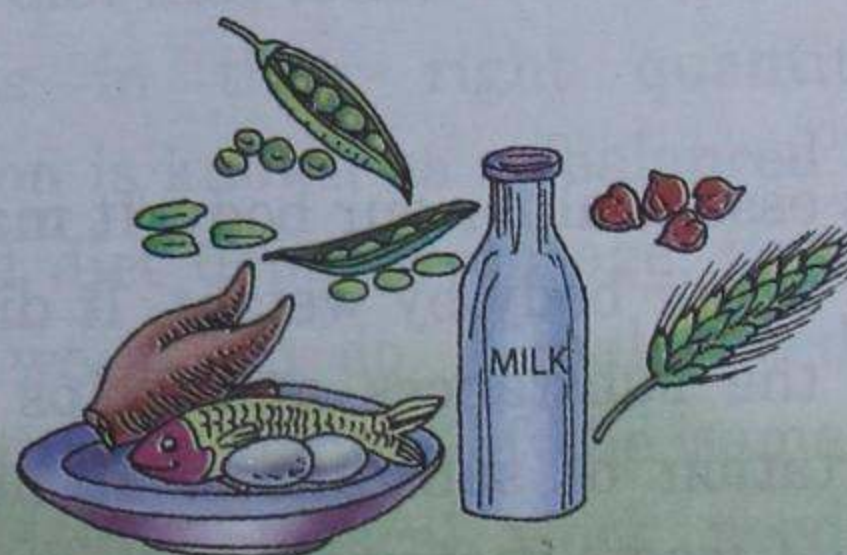


Fig. 4.2 Protein-rich food

Proteins are required for the growth and repair of the damaged cells in our body. There are two sources of proteins: **plant proteins** and **animal proteins**. Plant proteins are obtained from pulses, beans, soyabeans, etc. Animal proteins are obtained from milk, meat, fish and eggs. Growing children should take lots of proteins for their growth.

Fats

Fats give about twice as much energy as carbohydrates. Fats are found in oil, ghee and butter. Eggs and meats are also a rich source of fat.

Fat gets deposited in the body. Consumption of too much fat is not good for health. It leads to obesity. **Obesity** leads to many irregularities in the function of body, such as tiredness, hypertension, blood-pressure, sugar, etc.



Fig. 4.3 Fat-rich food

Water

Water is essential for our body. It makes 70 per cent of our body by weight. It dissolves most of the substances and helps in the transportation of substances. It helps in removal of waste materials from our body. It maintains the body temperature and a specific concentration of salts and minerals.

Beverages like milk, coffee, tea and fruit juice are sources of water. Raw vegetables and fruits contain lots of water. We must drink at least four to five litres of water each day. If the amount of fluid taken fails to replace the amount of fluid lost from the body, it results in **dehydration**. Dehydration through motion, vomits or any other means leads to weakness, and many other ailments.

Vitamins

Vitamins are required by the body for proper growth and functioning. They are required in small quantity and their deficiencies lead to many diseases. There are many types of vitamins. They are named A, B₁, B₂, B₁₂, C, D, etc.

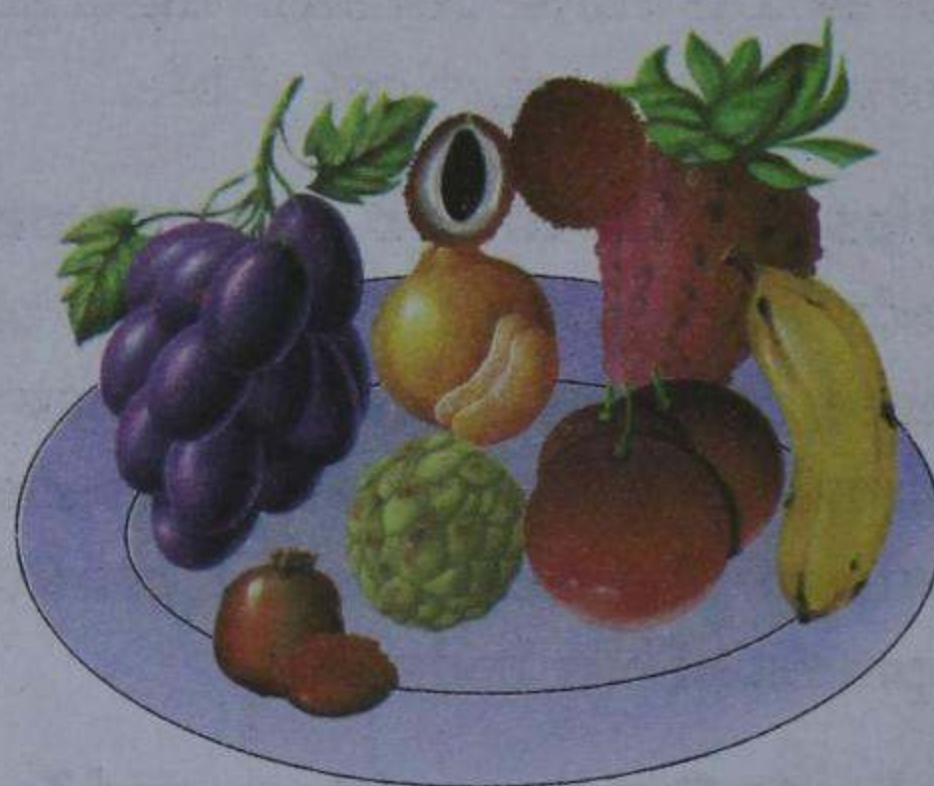


Fig. 4.4 Vitamin-rich fruits

Mineral Salts

Minerals are important for the body function. They are required in small quantity. Calcium and phosphorus are required for strong bones and teeth. Iron is required for the formation of blood. Sodium and potassium are required for nervous system. Iodine is required for the proper physical and mental



Fig. 4.5 Mineral and vitamin-rich food

development. The sources of minerals are vegetables, fruits, milk, chawnuts, pulses and eggs. Mineral deficiency can lead to a number of diseases.

Fibres or Roughage

The body also needs enough roughage or fibres to be able to digest the food and prevent constipation. Fibres are found in salads, fruits and vegetables like cabbage and spinach.



Spinach



Cabbage

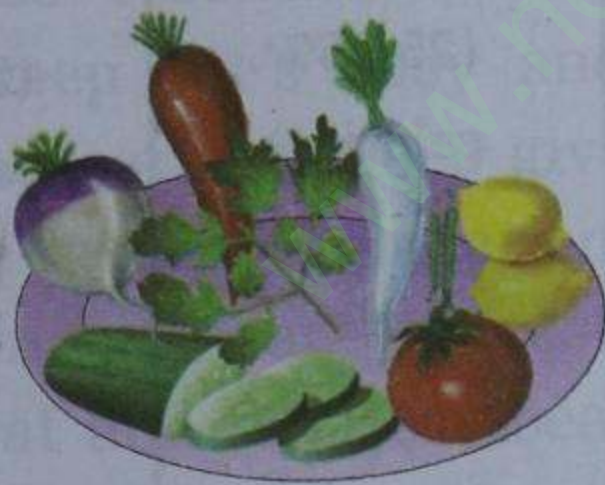


Fig. 4.7 Salads rich in fibre

Fig. 4.6 Fibre-rich vegetables

MAINTAINING GOOD HEALTH

Human health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. There are a large number of factors which affect an individual's health. The most important factors, affecting health are given below.

A Balanced Diet

Food may not necessarily consist of all the nutrients required for the body. Our body needs all the nutrients in their right proportion in the food for its growth and maintenance. A balanced diet has the required amounts of proteins, carbohydrates, fats, vitamins, fibres, minerals and water.

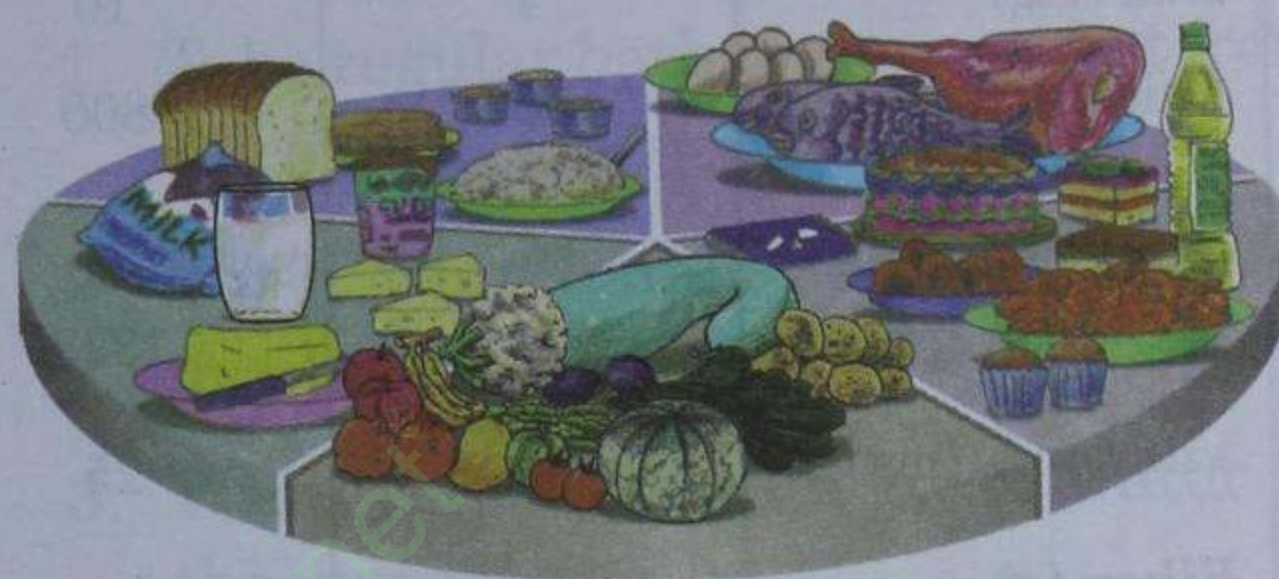


Fig. 4.8 A balanced diet

You take meals which generally consist of rice, dal, vegetables, curd, chapati, etc. These food items consist of all the nutrients required by our body. However the problem arises when we eat only rice or chapatis. No single food item consists of all the essential nutrients required by the body. A person who does not take sufficient amount of nutrients in his diet, becomes undernourished.

A mixed diet that consists of all the required nutrients in their right quantity and proportion is known as a "balanced diet". A balanced diet depends on age, gender and type of work you do. A male needs more energy than a female of the same age. A person doing physical work needs more energy than a person doing an office job.

TABLE 4.1**Nutrient Recommendations by Age (DRI)**

Nutrient	2-3 years	4-8 years	9-13 years	14-18 yr. girls	14-18 yr. boys
Protein (gms)	13	19	34	46	52
Minerals					
Iron (mg)	7	10	8	15	11
Calcium (mg)	500	800	1300	1300	1300
Vitamins					
Vitamin A (IU)	1000	1333	2000	2333	3000
Vitamin C (mg)	15	25	45	65	75
Fiber (g)					
	14-19	19-23	23-28 (girls) 25-31 (boys)	23	31-34
Fat (g)					
	33-54 (30-35% of calories)	39-62 (25-35% of calories)	62-85 (25-35% calories)	55-78 (25-35% calories)	61-95 (25-35% calories)
Total Calories	1000-1400 (2-3 years)	1400-1600	girls: 1600-2000 boys: 1800-2000	2000	2200-2400

A balanced diet provides the body with the following essential elements.

1. All essential nutrients.
2. All materials necessary for the growth of the body.
3. All energy giving compounds.

Adequate Exercise and Rest

Besides having a balanced diet, it is important to take regular exercise and adequate rest. Regular exercise makes our muscles strong. The blood circulation becomes faster. The lungs also expand and become more efficient. As blood circulation becomes faster, more oxygen is supplied to the muscles for oxidation of food. Exercise also helps to relieve tension.

It helps overweight persons in burning out extra fat and making them fit and healthy. Brisk walk, cycling and swimming are good exercises. Yoga is a good way of keeping the body fit, but one needs to learn the proper way of doing yogic exercises.

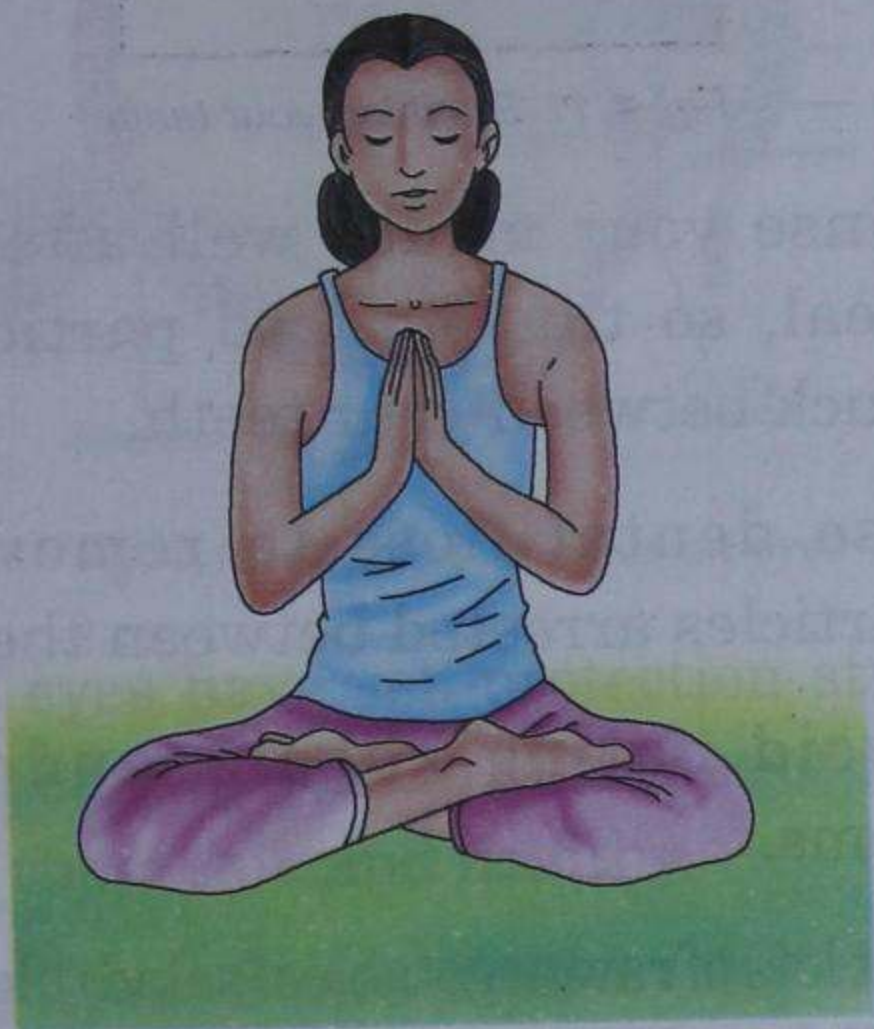


Fig. 4.9 Yogic exercise

Rest and sleep are as essential as the physical exercise to keep one's body and mind hale and hearty. Rest and sleep give the body and mind the required relaxation. While sleeping, the muscles are at rest, body produces less heat and the heartbeat slows down, giving a complete relaxation to the body and mind.

Inadequate sleep and rest cause many mental and physical upsets. Digestion of food, nervous system, state of mind get affected due to inadequate sleep and rest which lead to various ailments.

The duration of sleep varies with age group. An adult needs a sleep of six to seven hours, while children need minimum eight hours of sleep. A new-born baby sleeps for sixteen to twenty hours.

Maintaining Personal Cleanliness

It is very important to maintain personal hygiene. Healthy life style and good habits are very essential to maintain a good health. Personal hygiene implies to personal cleanliness.

There are some rules which you should follow to keep yourself healthy.

1. Take regular bath to remove dirt from the skin.
2. Wash your hands before and after meals.
3. Wash your eyes with fresh water in the morning.
4. Rinse your mouth five to six times after having meals.
5. Trim your nails every week.
6. Nails are the hiding place for disease-causing germs.

ORAL HYGIENE

Teeth are a very important structure in our body. They help us in chewing our food. Children have a set of milk teeth which are replaced by a set of permanent teeth in certain age. An adult has 32 teeth. There are four types of teeth: incisor, canine, pre-molars and molars. They are used for grinding and tearing the food. Oral hygiene is concerned mainly for the care of teeth. Teeth suffer from decay and cavity if not properly taken care of. The yellowing of teeth is due to **plaque** formation. The plaque is a layer of food particles, salts and bacteria.

PLAQUE

A thin layer of organic material covering all or part of the exposed surface of a tooth is called plaque. It contains dissolved food (mostly sugar) and bacteria. The bacteria in plaque metabolize the sugar and produce acid, which eats into the surface of the enamel of the tooth and eventually causes tooth decay.

When we eat, some food particles remain stuck between the teeth. The bacteria in the mouth decompose these food particles and produce acids which erode the teeth and cause cavity. The cavity becomes bigger and deeper and the crown of the tooth becomes weaker and that finally causes the tooth break. The plaque on teeth and the gums make the teeth loose. The gums become sore and start bleeding.

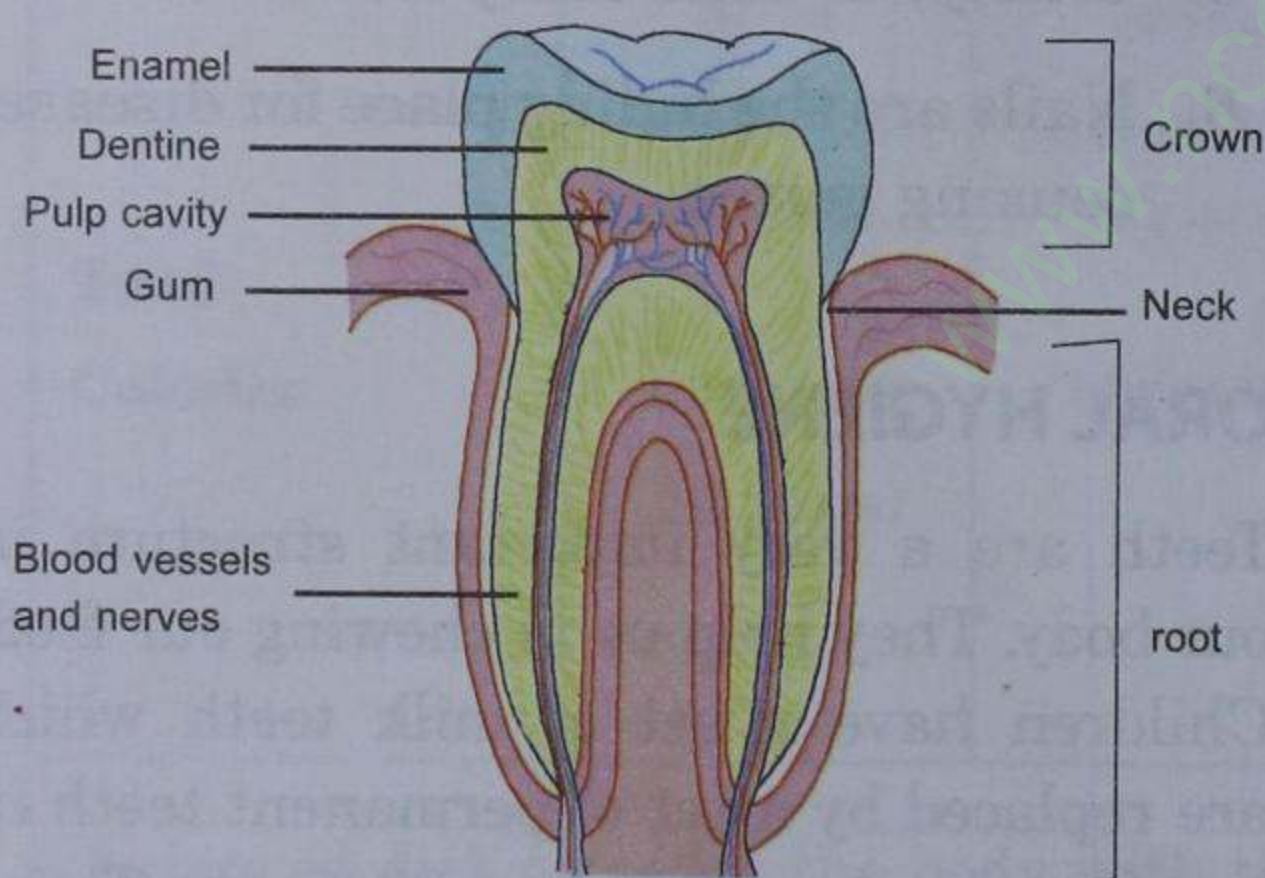


Fig. 4.10 Structure of a tooth

Some Healthy Habits for Healthy Teeth

1. Brush your teeth regularly, every morning and before going to sleep at night.



Fig. 4.11 Brushing your teeth

2. Rinse your mouth well after every meal, so that no food particles get stuck between your teeth.
3. Use dental floss to remove food particles arrested between the teeth.
4. Avoid eating sugary and acidic items.
5. Eat lots of raw vegetables (salad) like carrot, radish, cabbage and fibrous fruits.
6. Drink milk as supplement to calcium, required for strong teeth.
7. Consult your dentist if there is any problem in your teeth.

EYE CARE

Eyes are a blessing. They are very sensitive and delicate organ of our body. The protection of eyes lies in their structure. Internally eyes are protected by a transparent covering called **cornea**. Inside the eyelids, there is a covering called conjunctiva. Externally eyes are protected by the skull bones which have socket-like structure in which eyes are located. Eyelids close in reflex action when any external object is likely to come closer

to them. Eyelashes also keep the dust and dirt away from the eyes.

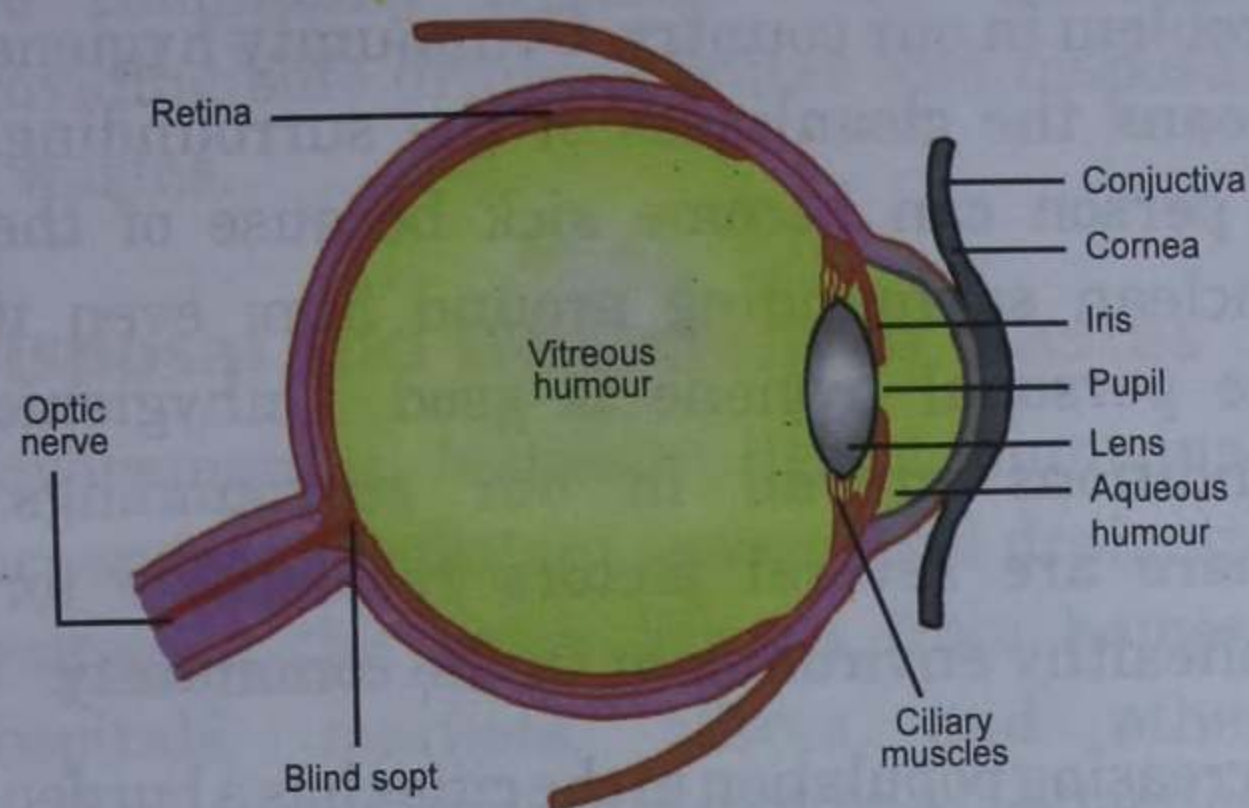


Fig. 4.12 Structure of a human eye

Even if eyes have self-protection structure inside them, we need to take care of our eyes to keep them safe and healthy.

Caring Eyes: Some Tips

1. Eyes should be protected from dust and dirt.
2. In case of dust or insects inside the eyes, do not rub your eyes. It may injure the cornea of the eyes.
3. Eyes should be regularly washed with clean water.
4. Reading materials should be kept at a distance of 25 to 30 cms from the eyes, as it gives less strains on your eyes.
5. Eyes should not be exposed to bright sunlight. To protect your eyes wear sunglasses.
6. Do not watch television for too long and too close a distance.
7. Reading in dim light should be avoided, as it may affect your eye sight.

CONJUNCTIVITIS

Conjunctivitis is a common eye disease. Symptoms are irritation and redness of eyes. There is a watery discharge from the eye. The disease is highly infectious and spreads through the contact of personal belongings such as a towel, handkerchief or bedsheet, etc.

8. Avoid reading while lying down as it strains your eyes.
9. In case of difficulty in reading, immediately consult the ophthalmologist. You may need glasses to correct your vision.



Fig. 4.13 Timely eye check-up

10. You must eat vegetables like cabbage, tomato, carrot and spinach as they are rich in vitamin A. Deficiency of vitamin A causes a disease called **night blindness**, in which a person can see only in day light but not in twilight.

HAIR CARE

Hairs are made up of special kind of protein. They have their roots deep in the skin from

where they get their nourishment. Hair is made of dead tissue. The outer dead part is called **shaft**. Growth of hair is mainly dependent on the maintenance and diet. Lack of proteins in the diet makes the hair dull and causes their fall.

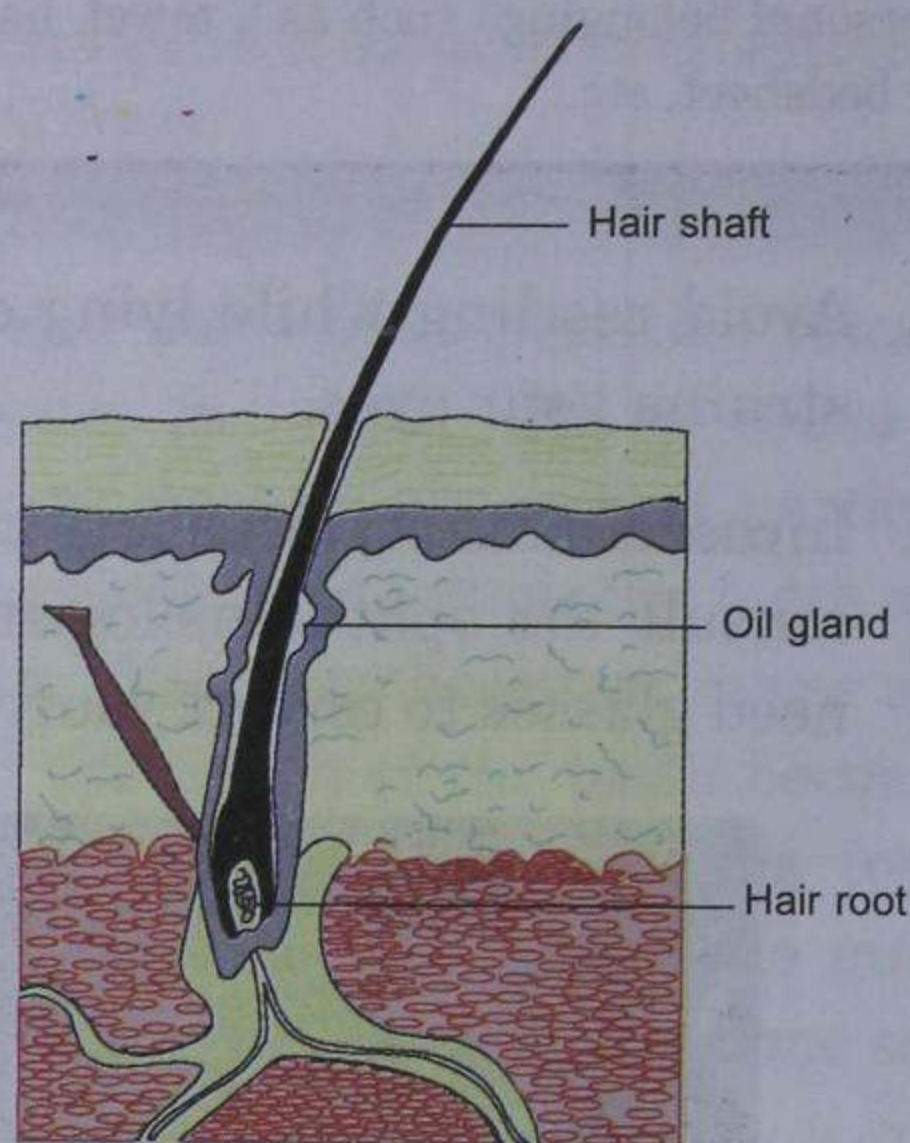


Fig. 4.14 Structure of a hair

Tips for Healthy Lustrous Hair

1. Brush and comb your hair every day. Brushing removes dust from your hair. Never share your comb with anyone.
2. Scalp should be massaged regularly to enhance the blood circulation to the root of the hair.
3. In case of dandruff, use soft medicated shampoo to clean your scalp. Visit a doctor if the problem persists for a long period.
4. Eat nutritious and balanced diet with lots of green vegetables. It helps our hair to stay healthy.
5. Avoid colouring materials or dyes as they contain harmful chemicals.

COMMUNITY HYGIENE

Community hygiene has become a serious problem in our country. Community hygiene means the cleanliness of the surrounding. A person can become sick because of the unclean surrounding around him; even if the personal hygiene is good. Unhygienic conditions prevail in our surroundings. There are several factors responsible for unhealthy environment in the community.

Increasing population in the cities has a burden on our natural resources. Overcrowding has led to the poor and unhygienic living condition. People live in small houses without proper sanitary facilities. It is important to create an awareness amongst the people living in a community about the proper sanitation and waste disposal.

Ill health in our country is largely a result of poor sanitation. The poor sanitation conditions are also a cause for the spread of diseases. Open garbage dumps and bins are a breeding ground for disease carrying insects and rodents. There needs to be placed two separate bins in every locality for biodegradable and non-biodegradable wastes to be put in.



Fig. 4.15 Garbage bins

The steps, a community takes to counter these problems to keep its members healthy are community hygiene. This includes, providing safe drinking water and disposal of wastes.

Disposal and Treatment of Wastes

Government bodies like municipal corporations maintain sewage and drainage system in the cities. Wastes from homes, hospitals, markets, offices and other establishments are collected from collection points for their disposal. Various methods are adopted for the treatment and disposal of sewage and garbage.

1. Sewage Treatment

In many cities and towns waste water is carried to the sewage treatment plant where solid and suspended materials are separated from the sewage. These solid wastes are dumped in a place where they are converted into manure.

The water left is treated with the chemicals to make it fit for drinking and other purposes and it is recycled.

2. Dumping

Solid wastes or garbage are generally dumped in low-lying areas. They are dumped in a pit, far from the residential areas. These pits are covered with soil. After some years, the dumping grounds are reclaimed and parks, gardens, shopping complexes are built on them.

3. Composting

Biodegradable wastes like vegetable and fruit peels, animal wastes, leftover food,

etc. dumped in the pit are decomposed by microorganisms like bacteria and fungi found in the soil. The wastes are then converted into manures. This method of converting biodegradable wastes into manure is called **composting**. Sometimes earthworms are put into the pits to quickly decompose the wastes. This is called **vermidecomposition**. The manure thus decomposed is used in the agricultural fields as fertilisers.

SAFE DRINKING WATER

Safe drinking water is very essential to maintain good health. It is one of the basic requirements of an individual. Supply of safe drinking water is an important step towards maintaining community hygiene.

In towns and cities government bodies manage water supply system. They are supposed to provide clean drinking water to the people of the area as the water obtained from different natural resources is not fit for drinking. In big cities water is purified in big purification plants before it is supplied

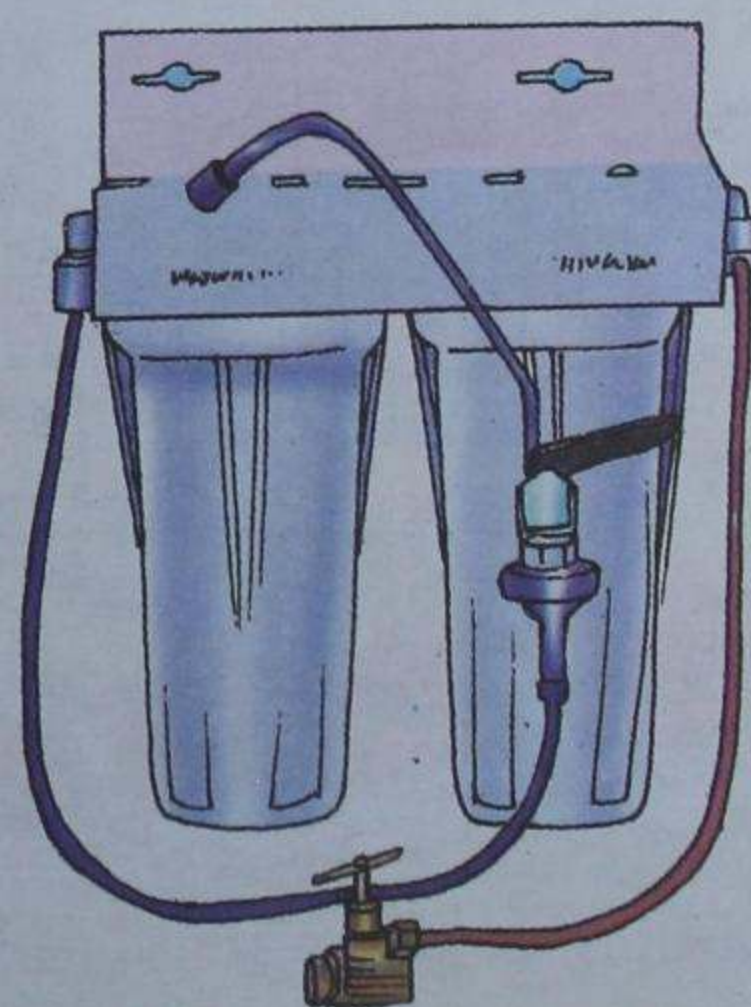


Fig. 4.16 Water purifier

for consumption. Piped water is not always safe. There may be leakage through which pollutants mix with the water of the pipe. For safe drinking water, it is always advisable to use the following methods:

1. Filtered water should be boiled for ten minutes. Boiling kills the germs present in the water.
2. Chlorine tablet or bleaching powder is put into the storage tank to kill the microorganisms present in water.
3. Using good quality water purifier that can remove physical, chemical and microbial impurities from water.

POLLUTION AND HEALTH

Increasing population resulted in poor quality of air, water and land etc. Several unwanted and harmful substances are being added which cause environmental pollution. Addition of any such substance in the environment (air, water, land etc.) which alters the natural quality of the environment

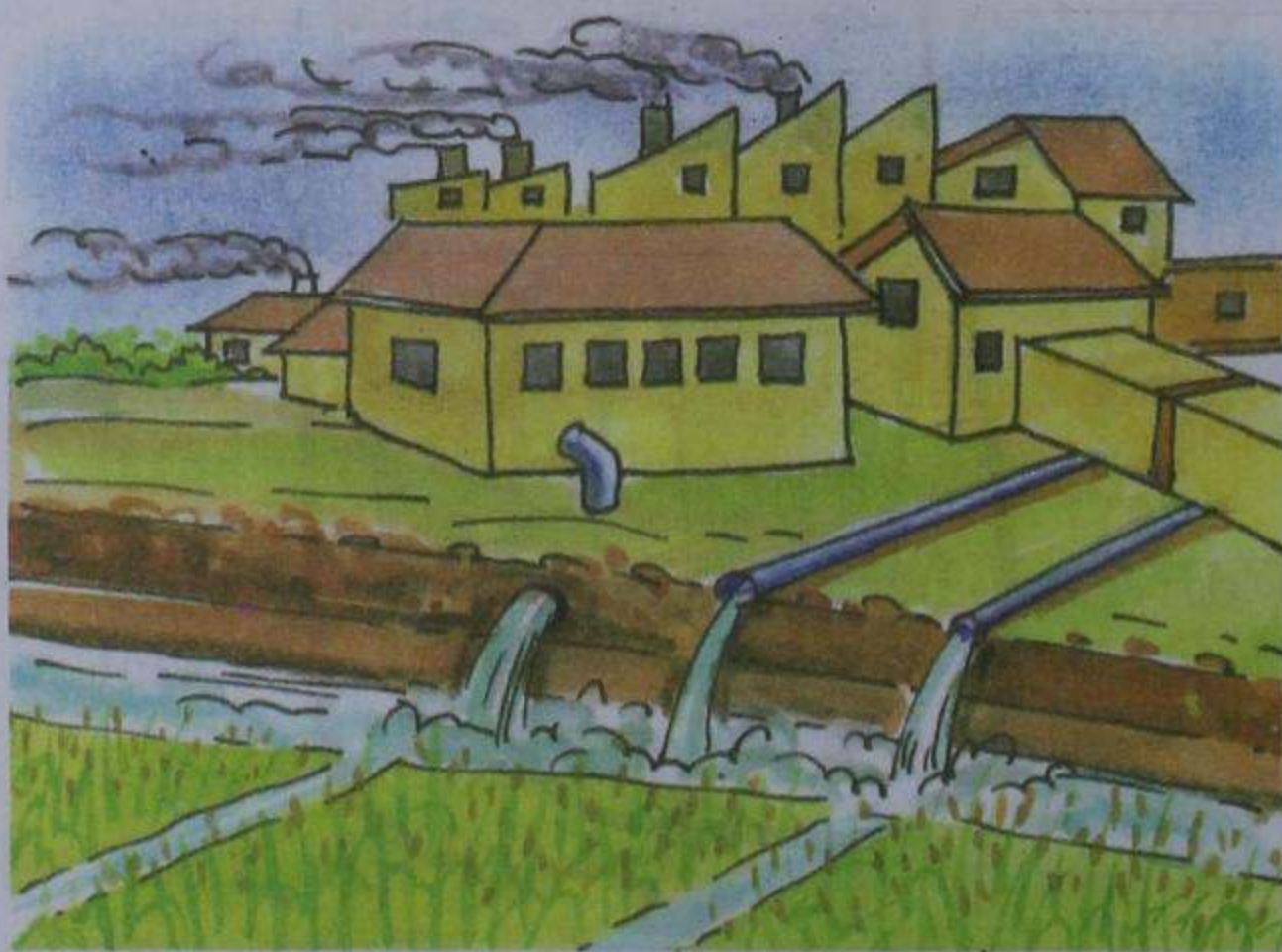


Fig. 4.17 Environmental pollution

is called **pollution**. Following are the kinds of pollution:

Air Pollution

The air over large cities is heavily contaminated with dust, smoke and harmful gases like carbon monoxide, sulphur dioxide, nitrous oxide, nitrogen dioxide, ozone and hydrogen disulphide. **The contamination of air with dust, smoke and harmful gases is called air pollution.** These harmful substances which cause pollution are called **pollutants**.

Sources of Air Pollution

The various sources of air pollution are mentioned below:

1. Industries: The chemical industries discharge poisonous gases into the air which pollute the air. For example, a bleaching powder factory emits chlorine gas into the air. Similarly, other factories may produce sulphur dioxide, nitrogen dioxide, carbon dioxide, etc. All these gases escape into the air and cause pollution.



Fig. 4.18 Air pollution by industries

2. Fuels: Burning of coal, wood, kerosene, petrol and diesel produces black smoke which pollutes the air. Smoke from these fuels contains poisonous gases like carbon monoxide, sulphur dioxide and unburnt carbon particles which impart black colour to smoke.

3. Automobiles: Vehicles such as cars, buses, trucks, scooters, mopeds, etc. also produce smoke by burning petrol or diesel. The gases emitted by the engines of these vehicles are known as auto-exhaust. Auto-exhaust is a major cause of air pollution in big cities.

4. Smoking: Smoking produces carbon monoxide and nicotine which are poisonous chemicals that pollute air.

5. Dust: Dust produced by the movement of heavy traffic and various industrial operations pollutes the air.



Fig. 4.19 Air pollution through dust

Effects of Air Pollutants on Living and Non-living Things

Let us now study the harmful effects of various air pollutants on living and non-living things.

1. Polluted air is unpleasant to breathe.
2. It causes several diseases and disorders like dizziness, headache, eye irritation, nasal irritation, lung cancer, coughing, sore throat, bronchitis, chest pain and allergies.

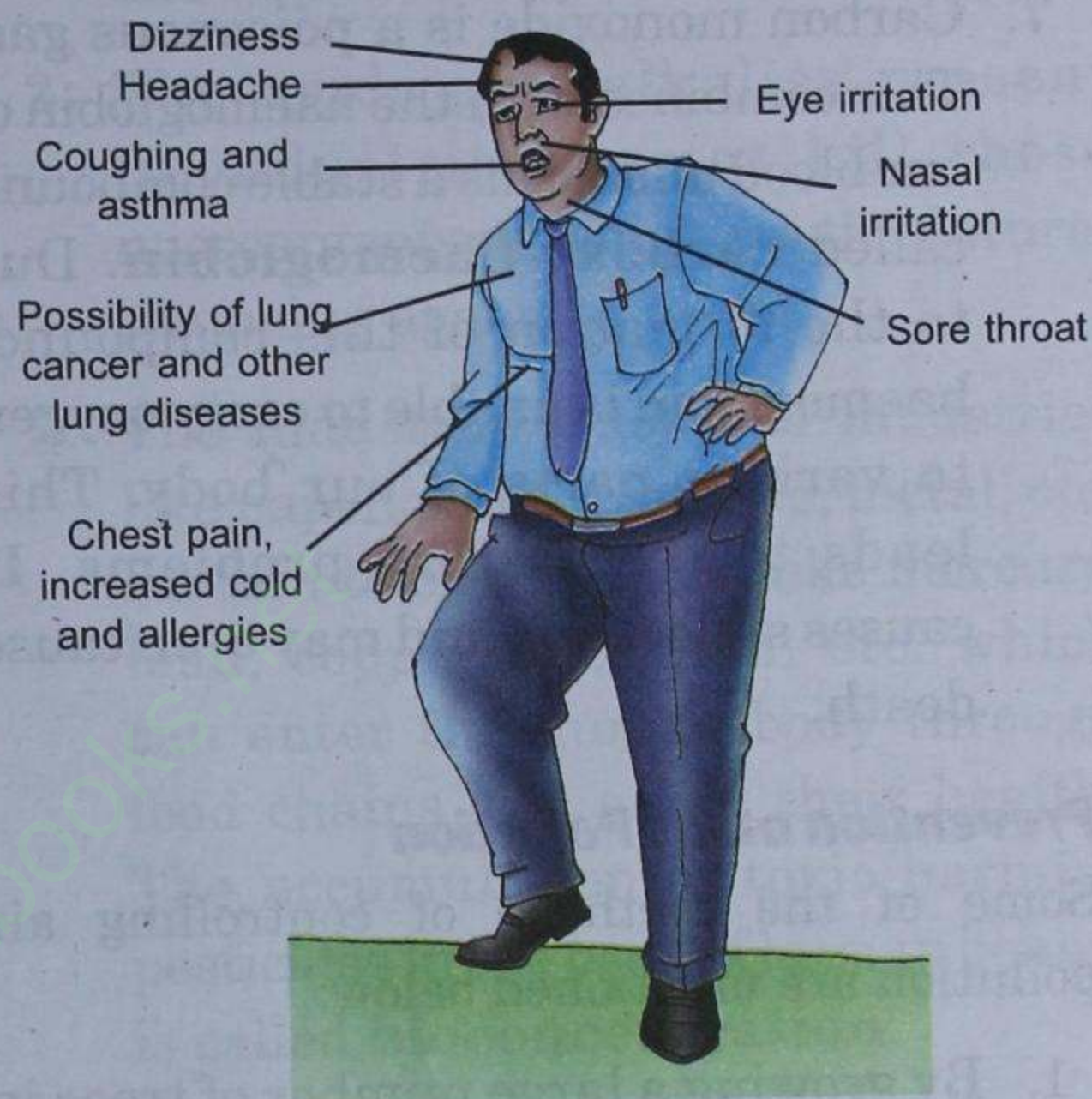


Fig. 4.20 Air pollution affects human beings in many ways

3. Ozone causes irritation to the nose and throat linings. Traces of ozone in the air do no harm, but at higher concentration (above 0.1 ppm) ozone is toxic and harmful to human beings. Ozone also attacks rubber products.
4. Dust and smoke spoil our clothes, reduce visibility and blacken the buildings. Dust and smoke get deposited on the leaves of the plants and thus affect the rate of photosynthesis, they also cause diseases like bronchitis and asthma in human beings.

5. Sulphur dioxide destroys living tissues, eats up limestone and marble of buildings, and corrodes metals.
6. Hydrogen sulphide tarnishes silver objects and blackens lead paints and paintings.
7. Carbon monoxide is a poisonous gas. This combines with the haemoglobin of our blood and forms a stable compound called **carboxy-haemoglobin**. Due to the formation of this compound, haemoglobin is unable to carry oxygen to various parts of our body. This leads to respiratory problems. It causes suffocation and may even cause death.

Prevention of Air Pollution

Some of the methods of controlling air pollution are mentioned below:

1. By growing a large number of trees in urban areas.
2. By installing tall chimneys in homes and factories.
3. By installing electrostatic precipitators, in the chimneys of industries.
4. By using natural gas in place of coal, wood and kerosene oil for cooking purposes.
5. By using smokeless sources of energy. For example, air pollution can be prevented by using electrical energy, solar energy, tidal energy and nuclear energy, instead of coal energy.

Water Pollution

The contamination of water with undissolved solid particles, dissolved salts, sewage, industrial wastes, algae and bacteria is called water pollution.

Causes of Water Pollution

Let us examine the various causes of water pollution.

1. Industrial Wastes: Throwing of industrial wastes into rivers and lakes is the most important source of water pollution. These industrial wastes include toxic vapours, gases (like CO_2 , SO_2 , NO_3 , NO_2), wastes from paint, dye and drug industries, compounds of metals like lead, mercury, cadmium, arsenic, etc.

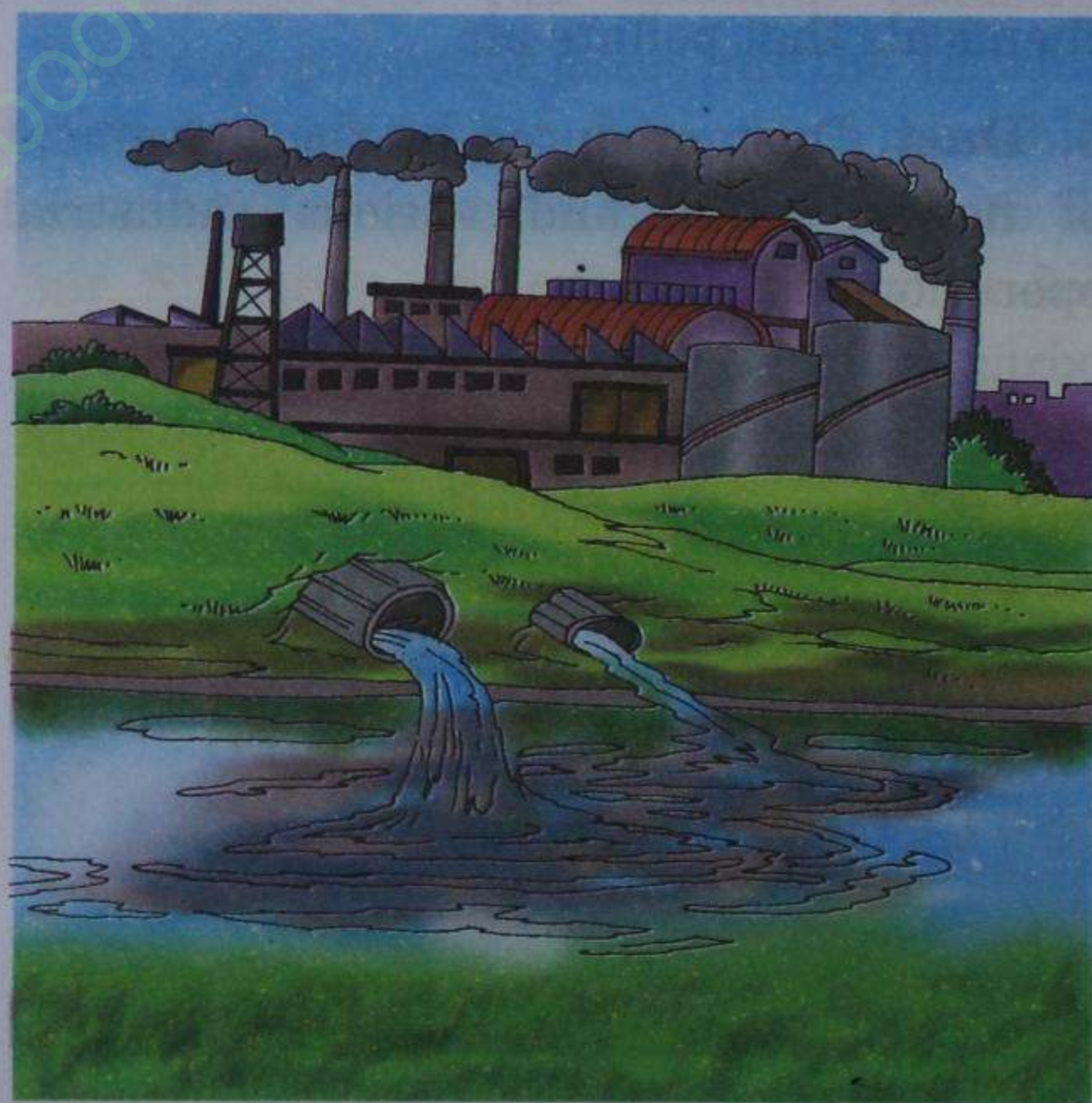


Fig. 4.21 Water pollution through industrial wastes

2. Agricultural Wastes: Fertilisers, insecticides, pesticides and weedicides are essential for food production and their protection. However, their excessive use is not desirable as they contain harmful substances. These

substances seep through the ground and pollute underground water sources. They also get washed away by the rains into rivers and lakes.

3. Domestic Wastes: This includes all kinds of wastes like human excreta, food waste, soaps and detergents, garbage and other materials.



Fig. 4.22 Detergents used in washing clothes are a source of water pollution

4. Sewage: The dumping of sewage into rivers and lakes is the second major cause of water pollution in big cities. However, excreta and cattle dung contain several harmful microbes that can cause diseases.

5. Petroleum Oil: The leakage of petroleum oil into sea, during drilling and shipping operations pollutes sea water.



Fig. 4.23 Oil spill

Harmful Effects of Water Pollution

1. The polluted water contains a number of disease-causing pathogens like bacteria, protozoa and virus which cause water-borne diseases like typhoid, cholera, dysentery, jaundice and hepatitis.
2. The acids and alkalies present in industrial wastes kill those microorganisms which are the natural cleansing agents of water.
3. The industrial wastes of industries like paper, paint, pesticide, metal, etc. contain toxic chemicals like mercury, lead, copper, cadmium, etc. which can enter the human body through food chains and affect their health. The accumulation of toxic harmful pesticides in the body of human beings is called **bioconcentration**.



Fig. 4.24 Different external factors causing water pollution

4. The sewage and fertilizers present in polluted water are rich in nutrients. This leads to an excessive growth of algae which cover the whole surface of lake. This process is called

eutrophication. When the algae die, the decomposers use up all the dissolved oxygen for decomposing the vast amount of dead algae. Since no dissolved oxygen is left in the water of the lake, all the aquatic animals like fish die.

Prevention of Water Pollution

Water pollution can be prevented or minimized by adopting following measures:

1. The toxic industrial wastes should be treated chemically to neutralise the harmful substances present in them before discharging into rivers and lakes.
2. The sewage should not be dumped into rivers. It should first be treated at the sewage treatment plant to remove the organic matter from it in the form of manure.
3. The use of excessive fertilisers and pesticides should be avoided.
4. The use of synthetic detergent should be minimized or biodegradable detergents should be used.
5. Dead bodies of human beings and animals should not be thrown into the rivers.
6. The excreta and other garbage should be treated in a biogas plant to get fuel as well as manure.
7. The water of rivers, streams, ponds and lakes should be purified. This can be done both by the industries and the government.

8. Trees and shrubs should be planted along the banks of the rivers.

9. There should be general awareness among the masses regarding the harmful effects of water pollution and the ways of preventing it.

Noise Pollution

Any loud sound which is unpleasant to ears is considered as noise. In our society we are bombarded by noise. Vacuum cleaners, city traffic, factory machinery, car alarms, farm equipment and aircraft noise are just a few examples of the daily assault on our ears. Even forms of recreation, like rock concerts and the use of personal stereo systems, are culprits. The noise around us is a fact. So is the hazard it represents to our health and well being. It is vital that we recognise the dangers of noise and take precautions to protect ourselves from its many ill effects. The major sources of noise include transportation vehicles and equipment, machinery, appliances, and other products in commerce.



Fig. 4.25 Noise pollution from different sources

Effects

That noise exposure can cause hearing loss is undeniable. Research has shown that excessive noise exposure is one of the leading causes of hearing loss. Because hearing loss affects communication, it creates a ripple effect, with a negative impact on a person's social, vocational and emotional well-being. Noise-induced hearing loss is permanent — once you lose your hearing from noise, you can't get it back. But noise-induced hearing loss is preventable.

Exposure to noise, or unwanted sound, is far more than just a threat to our ears. Noise negatively affects cognitive development, social behaviour and learning; and it causes physiological changes in sleep, blood pressure and digestion. We all know that the stress is created by unwanted sound. Even noise that does not meet the 85 dBA for 8 hours/day standard of hazardous levels can make us angry and tense. We all know how irritating the simple dripping of a faucet can be in the middle of the night, let alone more intrusive noises. Yet noise, as an environmental issue and health hazard, has not been given the priority status by society, governmental agencies and lawmakers. While some noise codes do exist, they are often inadequate or difficult to enforce. We must begin to recognise

the noise sources in our environment and take precautions to protect ourselves from their insidious effects.

Prevention

- ◆ Pay attention to the noises around you. Whenever possible, turn down the volume.
- ◆ Ask your neighbours to turn down the volume on noise, and if you're not satisfied, ask local officials for help.
- ◆ Give your ears a break and limit use of noisy toys and loud appliances. Be selective, and purchase toys and appliances that do not generate high levels of noise.
- ◆ Listen to personal stereo systems at safe levels. A rule of thumb: If you cannot hear other people talking when you are wearing headphones or if other people can hear your music while the headphones are on, it is too loud.
- ◆ Wear adequate hearing protection, such as custom-moulded ear plugs, commercially available ear plugs or ear muffs, when you must be in a noisy environment or when using loud equipment.
- ◆ Avoid noisy sports events, rock concerts and night clubs. If this is not possible, limit the time spent at these activities.

LET US SUMMARISE

1. Carbohydrates, fats, proteins, vitamins, water, roughage, minerals are the constituents of food.
2. Carbohydrates and fats give us energy.

3. Proteins are the 'building block' of human body.
4. Vitamins and minerals help in normal development of our body. They help the body to function properly.
5. A balanced diet consists of all the nutrients in correct ratio and proportion.
6. Good health can be maintained by following certain rules. Personal hygiene and community hygiene are essential for good health.
7. We should take care of our teeth, eyes, and hair.
8. A balanced diet, personal hygiene and proper rest are essential for maintaining good health.
9. Pollution of water, air and land is affecting the environment and causing a threat for human health.

EVALUATION

Subjective Evaluation

A. Answer the following questions briefly:

1. Define food.
2. What is a deficiency disease?
3. What is dental plaque?
4. Name any two types of pollution.
5. Give any two harmful effects of noise pollution on human health.
6. Suggest two ways to control water pollution.

B. Answer in detail:

1. List the causes of air pollution.
2. Suggest few ways to reduce noise pollution.
3. List all the nutrients found in food.
4. What are the functions of food?
5. List three ways to maintain a good health.
6. How will you take care of your teeth?

C. Give reasons:

1. We should rinse our mouth after meals.
2. Our food should include salad.
3. An adult should sleep for six to seven hours every day.
4. We should read in proper and sufficient light.
5. A balanced diet is required for good health.

D. Write short notes on:

1. Oral hygiene
2. Eye care
3. Roughage
4. Clean food
5. Personal cleanliness

Objective Evaluation

E. Fill in the blanks:

1. is a common eye disease.
2. Carbohydrate is the compound of and
3. is required for the formation of blood.
4. and are required for healthy teeth and bones.
5. Eating more food than required leads to
6. The body building food nutrient is.....
7. Conjunctivitis is a disease in which..... is infected.
8. Air pollution may be or
9. Pesticides cause and pollution.
10. cause havoc in the environment.

F. Match the columns:

Column A

- (i) Protein
- (ii) Carbohydrate
- (iii) Vitamin
- (iv) Iodine
- (v) Roughage

Column B

- (a) energy giving compound
- (b) protecting food
- (c) body building material
- (d) raw vegetables
- (e) goitre

G. Name the following:

1. A source of plant protein.
2. A source of animal protein.
3. A nutrient required for the growth and repair of cells.
4. A vitamin whose deficiency leads to scurvy.
5. A thin film formed on the tooth which leads to the decay of tooth.
6. A viral disease of the eye.

H. Write 'good habit' or 'bad habit' against each statement:

1. Washing hands before meals.
2. Sleeping late at night.
3. Watching T.V. from close range.
4. Changing undergarments regularly.

5. Consuming lots of chocolates.
6. Developing habit of cleanliness.

I. Tick (✓) the correct option:

1. Air pollution is caused by

(a) industries	(b) vehicles
(c) power plants	(d) all of these
2. Which of the following is an air pollutant?

(a) H_2S	(b) CO
(c) NO_2	(d) none of the above
3. Detergents cause

(a) noise pollution	(b) air pollution
(c) water pollution	(d) none of the above
4. Solid wastes can be disposed off in

(a) sanitary landfills	(b) incinerators
(c) both of these	(d) none of these
5. Which is a biodegradable material?

(a) paper	(b) plastic
(c) detergent	(d) glass
6. The accumulation of toxic harmful pesticides in the body causes

(a) bioconcentration	(b) eutrophication
(c) goitre	(d) jaundice
7. An adult has teeth.

(a) 28	(b) 30
(c) 32	(d) 26
8. Conjunctivitis is a/an disease.

(a) eye	(b) ear
(c) hair	(d) skin
9. Nightblindness is caused by the deficiency of

(a) vitamin C	(b) vitamin B
(c) vitamin A	(d) vitamin D
10. The shaft is related to

(a) hair	(b) eye
(c) ear	(d) skin