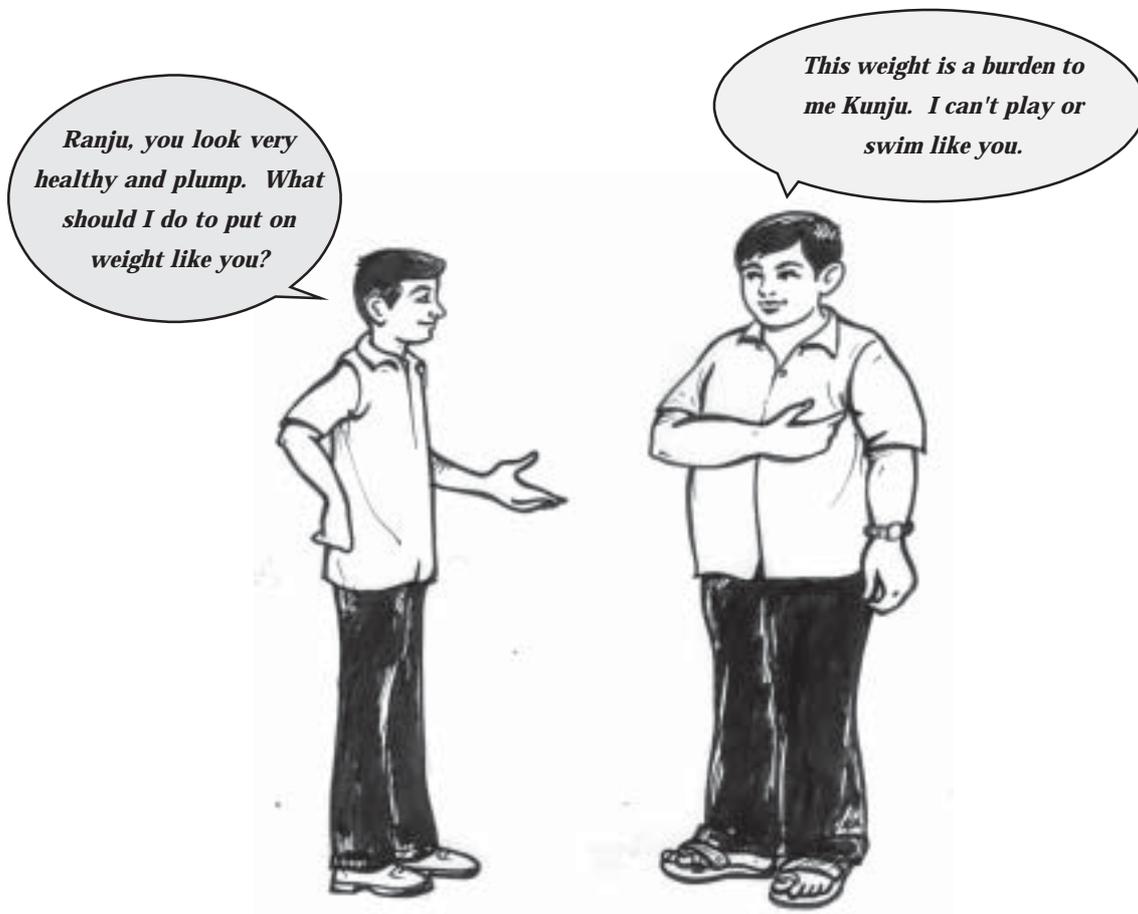


8 TOWARDS A HEALTHY LIFE



Did you notice the conversation between Kunju and Ranju ?

- ★ Is there any sense in Kunju's complaint?
- ★ Is obesity a sign of good health?
- ★ What do you mean by health?

Discuss your views with your friends. Prepare a note and present it in the class.

What are the aspects we should take care of to lead a healthy life? List them.

- Nutritious food
-
-

You have already studied about the nutrients present in food. Fill up Table 8.1 given below.

Nutrient	Function
Carbohydrate	
Protein	
Lipids	
Vitamins	
Minerals	

Table - 8.1



Fig 8.1 People engaged in different activities

Observe Figure 8.1. Should all the people shown here take the same type of food and in the same quantity? Conduct a discussion on the basis of the table you have completed and the indicators given below. Formulate inferences and note them in your science diary.

Indicators

- ★ Who needs more carbohydrate and lipid?
- ★ Who should take more protein?
- ★ What about vitamins and minerals?
- ★ Should pregnant and lactating women take more food? Why?
- ★ What are the factors that determine the quantity and proportion of nutrients required for each person?

People who engage in hard physical work, children, pregnant and lactating women require more energy. Therefore they should take food with high calorific value. Food which contains nutrients in the required quantity and proportion is called a balanced diet. It is essential that daily food must be a balanced one and taken at the right time to enable a healthy life. Shouldn't we acquire such food habits to achieve this?

Have you ever thought of the problems that are caused by the lack of proper food habits?

Examine a day's entry in the diary of David.

One more day elapsed as usual. There was nothing much to do today either. So, I got up only at 8 o'clock in the morning. After the morning ablutions had breakfast, tasty mutton curry and puttu at 9am! Since it was very tasty, I did not even wait to chew before I swallowed mouthfuls. That's my habit too. I don't know how much I ate. Read the newspaper and watched TV for a while. Didn't feel hungry even at 1 O'clock. However, I did not avoid the lunch with fish and meat. Got up at four in the afternoon after the usual nap. Just had one egg puff and tea and back to the TV. Banana chips are tastier when we watch the TV. I don't know how much I ate. Nevertheless, I feel uncomfortable. Ate my fill at night. It is 10 O'clock, but not feeling sleepy at all. Yet I am going to sleep.

Now have a look at an extract from an article that appeared in a health magazine.

Studies have proven that the number of obese people is increasing in Kerala. The changing food habits and lifestyle of the Malayali is to a great extent responsible for this. Fast food, packed food, fried eatables, biscuits, etc., have become a



part of our daily life. Obesity and over weight cause severe problems.

Over consumption of fatty food items leads to deposition of fat in the walls of the arteries. This condition is called

atherosclerosis. This thickens the walls of the artery and reduces its lumen. As a result the flow of blood to various parts of the body decreases or completely stops. Non availability of oxygen to the brain tissues may cause stroke.

High blood pressure (hypertension) can also cause atherosclerosis. Hypertension can result in the bursting of the thin blood vessels of the brain and blood flowing into the surrounding

tissues. This condition is called cerebral haemorrhage. This is another reason for stroke. One part of the body may be paralysed completely or partially, speech becomes slurred, the face may become twisted to one side - all these are symptoms of stroke.

Deposition of fat in the coronary artery interrupts the flow of blood to the heart and induces heart attack. Another consequence of obesity is diabetes. Increase of cholesterol in diabetics can also cause stroke.

Analyse the diary entries and the extract using the indicators given. Prepare a note in your science diary.

Indicators

- ★ What is your opinion about David's routine and food habits?
- ★ What are the health problems created by over-eating?
- ★ How do fried food stuffs affect health adversely?
- ★ What changes would you suggest in David's food habits?

Compare your own food habits to those of David and find out whether your food habits are healthy.

Synthetic additives in food

Today lots of synthetic substances are used to increase the odour, colour and flavour of food items that are available in the market. About 3500 varieties of chemicals are used in the food industry. These chemicals which do not have any nutritional value are used to preserve food stuff, to improve the colour, to enhance the flavour, or to give an appealing smell. Betanin and coaltar are commonly used dyes. Some of these may cause even diseases like cancer. Dyes like tartrazine may cause allergy. Chemicals like formaldehyde which are ingredients of certain preservatives of foodstuffs can cause cancer.

Improper food habits alone need not be the cause of ill health. Eating food with high calorific value and not getting sufficient exercise can also cause health problems.

Exercise for well-being

Can you say what the benefits of regular exercise are?

- It reduces excess fat

-
-

Exercise does not mean only lifting weights and doing hard physical labour. Walking, swimming, playing games etc., give exercise to the body. You have to choose your exercises according to your age, health and life style. What are the types of exercises that you can do at your age? List them.

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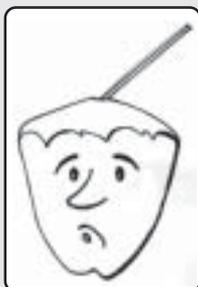
Proper exercise is as important as the right food habit. Just as one makes changes in one's food habits according to age, one must also make changes in the type of exercise as well. Exercise should be made a part of our lives so as to maintain sound physical and mental health.

Water for sustaining life

Water is another factor as important as food and exercise for the health of the body. About 70% of body tissues consists of water. 92% of blood, 25% of bones and 85% of brain is water. All biochemical activities in the body take place in water medium. Water plays a major role in the excretion of waste materials, circulation, maintenance of the body temperature etc.,. Drinking plenty of water at a stretch and not drinking water at all are both harmful to the body. Excess intake of water interrupts the digestive process while low intake adversely affects the functioning of the kidneys. You should drink only pure water. Water that has been boiled and cooled is the best.

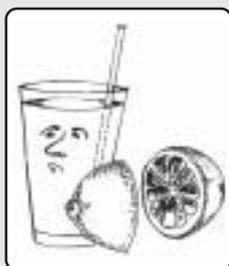
What are the other drinks that have a

prominent place in our daily life besides water ? Let us listen to the soliloquy of various drinks.



I have now become totally worthless in the land of 'kalpavriksha'. In the past everyone wanted me to quench their thirst and refresh themselves. I do not understand why men who found that I am the storehouse of glucose and minerals, now ignore me. This perhaps is due to the intrusion of some trendy drinks. Could it be that man does not know their harmful ingredients? Or that he shuts his eyes knowingly?

I am the trend of the day. In so many brands! I can't help feeling proud of myself. I often think about man who gave me name and fame. Poor fellows! They know that some of my components are harmful but still use me enthusiastically. When a tooth dropped in me disintegrated, he said that I would cause the decay of bones and teeth. Some others found that I will increase acidity and affect digestion. Thus man prepared a report of my crimes. When man who knows all my harmful effects forgets himself in my foam, I feel like saying, 'Man... I do no good for you. Avoid me.'



Storehouse of vitamin C. Plenty of minerals too. Very good to get rid of fatigue. Best for quenching thirst. Found all over. Not too expensive either. Glorifying my virtues myself, I remain idle. Children and the youth don't want me. They drink the chemical mixture filled in bottles greedily. I feel very bad when I see that. I had served men so sincerely in the past. I'm still willing to serve them unselfishly, but I am neglected! What could be the reason for this? Was it man or poor me who changed?



Weary travellers who sat in the roadside shelters needed me to refresh themselves in olden days. People created literature praising my taste. Those were the good old days. It looks as though I am extinct now. My virtues are still with me. Minerals, energy and protein, as usual. But, when I see man consume all these new drinks right before me, I feel very disappointed.

You have read what the drinks said about themselves. What drinks other than these do you use? Enlist them.

Of these, which should be avoided? Why?

Do you think traditional drinks are being neglected in your locality? How desirable is the rush of new drinks into our daily life? Enquire all these under

the auspices of the science club and present your findings in the class.

Nutritional deficiencies

Just as in the case of excess food, lack of nutritious food also causes health problems. Observe Illustration 8.1 given below.

Make a list of other diseases that occur due to the deficiency of nutrients.

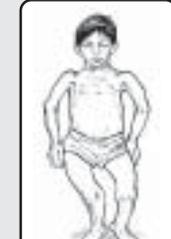
	Goitre A disease caused by the deficiency of iodine in the food. The thyroid gland swells up.	Kwashiorkor A disease occurring in children due to the lack of protein. Stunted physical growth accompanied by retardation of mental growth. A protruding stomach, projected eyes, and oedema on the legs are the symptoms.	
	Marasmus Caused by the lack of protein and energy. Lean body, projected ribs, sunken eyes, dry skin etc., are the symptoms.	Rickets A disease found among children due to the deficiency of vitamin D. Limbs that are bent, decayed teeth and joint pain are common symptoms.	
Nutritional Anaemia Anaemia due to the lack of iron is very common in our country. Women often get megaloblastic anaemia during pregnancy due to the lack of folic acid and vitamin B ₁₂ . Pregnant women are given pills or tonics which contain folic acid and iron to prevent this disease.			

Illustration - 8.1

Are any of the deficiency diseases prevalent in your area? Undertake a project on this problem and present the report in the class.

A Healthy mind in a healthy body

You have got acquainted with the factors that influence physical health favourably and unfavourably. Does it mean that the well-being of the body alone is a sign of good health? Is not a good state of mind equally important?

The health of the body depends on the health of the mind and vice versa.

Haven't you felt that when we are sad we don't feel hungry. When the body is unwell, the mind too becomes restless, isn't it? What are the factors that

influence the well-being of the mind?

- Recreation
-
-

Discuss this with your friends and note down your findings in the science diary.

There are many bad practices in our society that adversely affect the health and well-being of the mind and the body.

Observe the collage given below (Illustration 8.2).



Illustration - 8.2

Using the given indicators analyse the problem pointed out in the collage. Present the report in your class.

Indicators

- The health-related and social problems caused by the use of

alcohol, tobacco and use of pan masala.

- The awareness programme you can conduct for the public against these social evils.

Cleanliness for health

One of the important factors in maintaining health is personal hygiene. It is very essential to keep all parts of the human body that functions like a machine, clean. Since the sweat glands are more active in adolescents more sweat is produced. Therefore we have to take care to keep our body clean. It should be our habit to wear dry and clean undergarments.

If proper personal hygiene is not maintained there is a chance of bacterial or fungal infection. Children should be very careful about the cleanliness of reproductive organs. Girls should be instructed about the hygiene to be maintained during menstruation. For this the help of a teacher who is in charge of the health club, a health worker in the primary health centre, or a doctor may be sought.

We can prevent many diseases by maintaining proper personal hygiene. How can we keep our bodies healthy? Discuss with your friends. Complete the work sheet given below.

Protection of the skin	<ul style="list-style-type: none"> • Bathe twice a day • Include fruits and vegetables in diet • Wear loose and clean clothes • Do not wear damp clothes
Protection of eyes	•
Protection of ears	•
Protection of teeth	•

Maintaining social hygiene is as important as maintaining personal hygiene.

Read the relevant part of an extract of an interview between a doctor and a ninth standard student in a school given below . Get to know of the diseases that are spread due to lack of social hygiene. Find out how AIDS spreads.



Doctor, some viral diseases like Chikun Guniya, Dengue fever, Japan fever etc., have spread in our place recently . What is the reason for their spread?



The basic reason is environmental pollution. These diseases spread through mosquitoes. Mosquitoes breed rapidly in stagnant water. Water that collects in discarded tyres, cans, plastic vessels, flower pots etc., and form breeding places for mosquitoes. Not only these diseases, but many other, are spread by mosquitoes.



Is AIDS spread by mosquitoes?

 AIDS is caused by HIV (Human Immunodeficiency Virus). This disease is not transmitted by mosquitoes. AIDS spreads when the blood of infected people is accepted through blood transfusion or when there is sexual contact with them. The disease is also spread through unsterilized needles, syringes, surgical equipment etc., Though this is as yet an incurable disease it can be effectively prevented. Strong familial relationships and trust among members of the family are effective in preventing the disease.

 Do the same type of mosquitoes spread all these diseases?

 No. Some types of mosquitoes spread some particular diseases. For example, *Aedes aegypti* spreads Chikun guniya while *Aedes albopictus* spreads dengue. *Culex* mosquitoes spread filariasis and the *Anopheles* mosquito spreads malaria.

 Our water resources are getting rapidly polluted. Could you explain the diseases that are caused by the water pollution?

 Cholera, dysentery, jaundice and typhoid are spread through contaminated water. By the consumption of pure water and by conserving our water resources without pollution, we can prevent the spread of these fatal diseases. Defecation in the open space is one of the causes for the water pollution. The slogan 'A toilet in every house' becomes relevant here.

 Rat fever is a nightmare to the people today. Is it possible to eradicate this disease by the destruction of rats alone?

 Rat fever cannot be eradicated by the destruction of rats alone. It is true that piling up of waste materials leads to an increase in the number of rats. This disease scientifically known as 'Leptospirosis' is spread through the urine of rat, dog, cow etc. Precautions like proper disposal of wastes, avoiding circumstances for the increase in the number of rats, keeping food and drinking water covered etc are effective against leptospirosis. Once the symptoms of the disease are seen, medical help should be urgently sought.

 The incidence of respiratory diseases is high among the people living in cities and industrial areas. What is the reason for this?

 The main reason is atmospheric pollution. The dust and smoke in the atmosphere and chemicals like sulphur dioxide cause various types of allergies and asthma in human beings. They might cause not just respiratory diseases like bronchitis and emphysema, but cancer too. The carbon monoxide that mixes with atmospheric air due to the incomplete combustion of the fuel in motor vehicles, enters the human body and combines with the haemoglobin. This blocks the free passage of oxygen to the blood. Serious health problems can result from this.



What are occupational diseases, doctor?



People who work in certain fields develop diseases connected with their occupation. For instance, men who work in a quarry may accumulate dust in the respiratory tract and thereby develop the disease called silicosis. Labourers who work in units manufacturing asbestos may develop the disease called asbestosis as a result of breathing the asbestos dust. Such diseases are called occupational diseases.

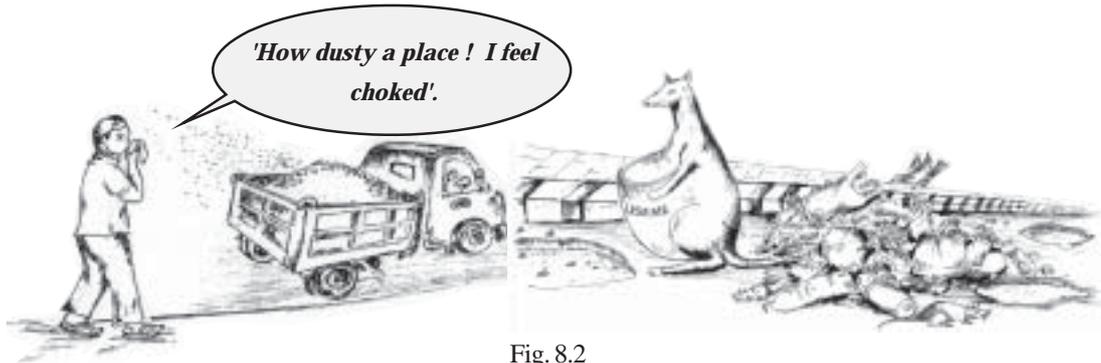


Fig. 8.2

Observe Figure 8.2 on the basis of indicators given below. Prepare a note and present it in your class.

- ★ To what problem does the picture point out?
- ★ Do such circumstances exist in your area? If so, find out the causes. Suggest remedies.
- ★ What can you do to help the public in the treatment of waste matter?

Shouldn't the biological waste in your house and school be treated effectively?

Visit a biogas plant/ vermicompost plant in your neighbourhood. Will not such efforts help in making waste treatment more efficient? Find out what preparations are necessary to set up such devices. Try out whether it would be effective in your school.

Haven't you understood that there are a number of factors that influence health? It is highly essential to maintain these factors in such a way as to ensure good health and ultimately the safety of life.

Observe Illustration 8.3.

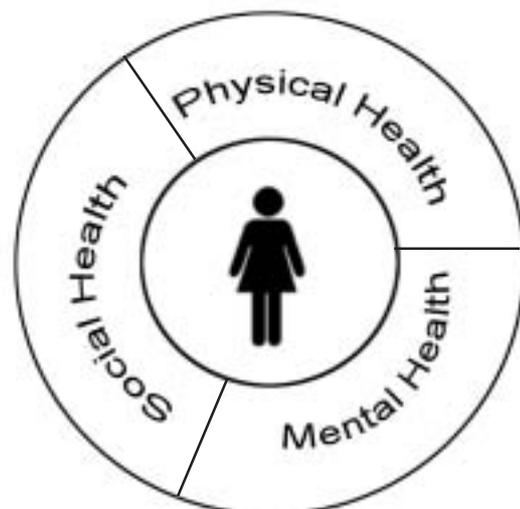


Illustration- 8.3

Now frame a practical definition of 'Health'.

