2) Sugar

How Sugar prevent food spoilage? Sugar dissolves in the water available in the food and results in less water available for the growth of the organisms.

3) Oils and Spices

This preservative helps to avoid contact of the microorganisms with the food and prevent contact of air with the food, hence no spoilage of the food.

E.g. In pickle oil and spices are used in large quantity.

4) Acids

Lemon juice, vinegar, citric acid etc are used as preservatives. Vinegar is used to preserve onion, tomato ketchup, lemon juice for pickle, citric acid in squashes etc.

INTEXT QUESTIONS 6.2

State true or False:

1) Addition of the spices in the food allows microorganisms grow quickly.

2) Sterilization increases the activity of the microorganisms.

3) In making of the squashes, we make use of any acid for the preservation.

6.5 WHAT YOU HAVE LEARNT

In this lesson we discussed the basic principle of the food preservation, need of preservation and different ways of preservation those are practice generally for increasing shelf life of the food. Henceforth you can identify what methods are to be used for different foods.

6.6 TERMINAL QUESTIONS

1) Write a note on the importance of the food preservation.

2) What is the food preservation of food with the help of preservative with the examples?

3) What is the application of the increasing and decreasing heat of the food?

ANSWER TO INTEXT QUESTIONS

6.1

Match the following:

Perishable food	_____	below 2 months
Semi perishable food	_____	2-6 month
Shelf stable food	_____	more than 6 months

6.2

1) False
2) False
3) True

SUGGESTED ACTIVITY

Find out traditional way of the food preservation in your home. Enlist the 5 ways of preservation with the examples.

7

ENVIRONMENT

7.1 INTRODUCTION

You must have heard about the Ganga Cleaning Project, Why do you think it became necessary to clean a river as lovely and pure as the Ganga? This is because a large number of people use Ganga water for bathing and performing other rituals and because we have also started using Ganga for disposal of a lot of waste products.

If you are living in a big city you must also be familiar with a lot of smoke and dust the air, the peculiar foul smell from rotting garbage, high level of noise from vehicular traffic and so on. Do you know all these cause a lot of problems? How are you affected by them? Can you avoid them? What can you do to avoid them and reduce their harmful effects? In this lesson, let us try to find answers to these and many more similar questions.

7.2 OBJECTIVES

After reading this lesson, you will be able to:

- define the terms pollution and pollutant;
- identify the various types of pollution;
- enumerate the sources, effects and measures for controlling different types of pollution;
- predict the consequences of pollution on living and non-living beings;
- discuss ways of making water safe for drinking;
- explain the meaning of deforestation and its ill effects on all living beings;

- suggest ways to deal with these problem.
- Predict the consequences of pollution on living and non-living beings.

7.3 POLLUTION AND POLLUTANT

These days people are talking a lot about pollution. Ganga water is polluted. Yamuna water is polluted; in fact all rivers are polluted. Air is also polluted because it is mixed with a lot of smoke and fumes. All these factors are making it difficult for us to breathe. You know that smoke is given out by automobiles, factories and the chullahs that people light. The atmosphere and the soil are also not spared. Lot of noise is polluting the atmosphere. Further, industrial, human and animal wasters are polluting the soil.

Can you define the term pollution?

Pollution is the addition of any substance to the environment in excess to what is normally present, thereby making the environment impure.

The substance which causes pollution is known as a *pollutant*. A pollutant is harmful to our health. When you wash clothes or bathe in the river, the dirt, soap, etc., are the pollutants. They make the water durty or unsafe for drinking. Can you give some more examples of pollutants? yes, you are right, dust, dirt, garbage, chemicals and chemical wastes are a few examples of pollutants. Can you say what and how they pollute?

Can you now list various types of pollution?

You are right. We can list four different types of pollution i.e., air pollution, water pollution, soil pollution and noise pollution.

7.4 AIR POLLUTION

You have heard that we should always breath in clear and pure air. You must also be knowing the composition of pure air. Yes, it is as follows:

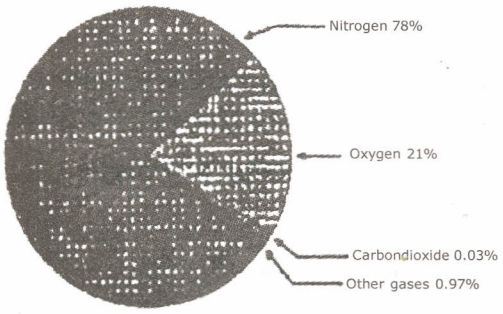


FIG. 7.1

Oxygen is the most important component of air. All living beings are dependent on it for life. Men and animals breathe in oxygen and breathe out carbon di-oxide. During the day, plants take in this carbon-di-oxide and give out oxygen. This helps in maintaining a balance in the composition of oxygen and carbon-di-oxide in the air. If things remain this way there is no problem. But something different is happening today. Most of the time, specially in city areas, the air that we breathe contains various pollutants.

Fig. 7.2

SOURCES

The sources of pollutants in the air are as follows:

(i) Human Sources

Human beings are the main culprits in causing pollution. Their various activities are worth examining because these are major causes of air pollution

(a) Combustion process

Combustion means burning. Smoke from burning may come from:

- Burning of a household fuel;
- Burning of coal in thermal power stations;
- Exhaust from automobiles;
- Bursting of crackers etc.

All these sources produce so much smoke that it is difficult to breathe. The smoke also affects the eyes and causes blindness.

(b) Industrial manufacturing process

- Smoke from factories.

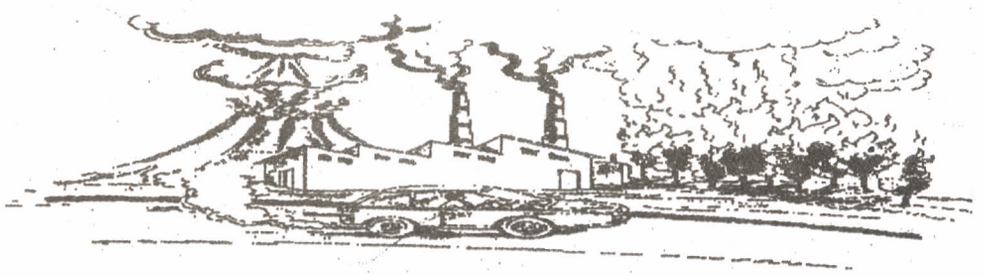
(c) Agricultural operations

- Spraying of insecticides through airplanes spreads the poisonous substance in a large area of the atmosphere.

(d) Use of solvents and spray paints.

(i) Natural sources

Besides human beings there are some natural sources of pollution too. These include the gases emitted from volcanoes, produced during jungle fires, and dust which spreads with the wind.



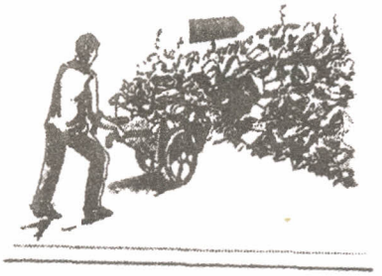
(i) Other sources

a) Have you noticed what happens when too many people called at a public place?

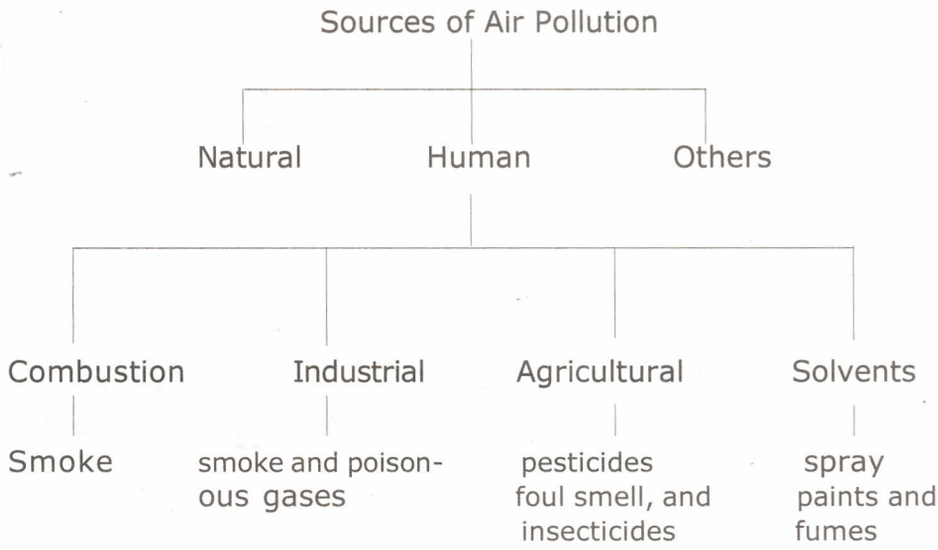
It becomes so stuffy inside that one finds it difficult to breathe. Can you explain why it happens? It is because too many people are breathing out carbon-di- oxide, thereby increasing its content in air and reducing the mount of oxygen. You also know that we need oxygen to breath in, not carbon-di-oxide. The increased concentration of carbon- di- oxide ($C0_2$) in air in a closed space causes the stuffy feeling.

b) Have you also noticed stink coming from rotting garbage, from dirty public urinals and toilets and from the human excreta left in the open? These also destroy the purity and freshness of air.

c) You may have also noticed many trees disappearing because people need them for building houses. When trees are not available the carbon- di-oxide is not taken away from the air and oxygen is not released. This disturbs the balance of oxygen and carbon-di-oxide in air and causes air pollution.



To sum up we can say:



EFFECTS

Let us now see some of the effects of air pollution.

(i) On human beings: The respiratory system of human beings is affected leading to several diseases like bronchitis, asthama, etc. Certain type of skin allergies like rashes and redness are also common.

(ii) On plants: Due to pollution, the plants get less sun light thereby affecting their food manufacturing process. Pollutants are also deposited on their leaves. This causes blocking of pores and restricts respiration.

(iii) On environment:

a) You have heard that aeroplanes semitones could neither take off nor land because of poor visibility. This is not only because of fog but also because of the presence of pollutants like smoke and dust in the air.

b) You have also heard about burning of oil fields during the Gulf war and the smoke produced by the burning of oil. This, you know, has led to a rise in temperature of the surrounding areas which has in turn destroyed vegetation; and spoilt the natural beauty of the surroundings.

Effects of Air Pollution

Human Beings	Plants	Environment
• Diseases of eyes skirt resp. tract allergies	• Decrease in food production	• Poor visibility • Rise in tempera tures • Destruction of vegetation + natural beauty.

Human Beings Plants Environment

Diseases of eyes, skin and respiratory tract allergies

Decrease in food production

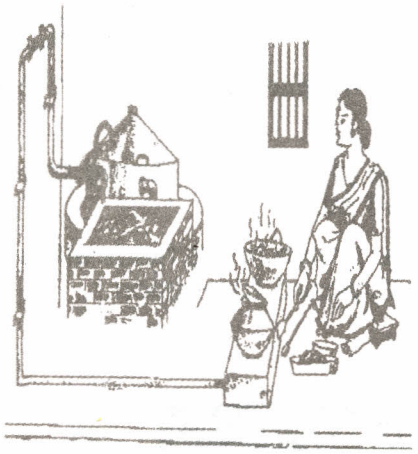
Poor visibility

Temperature rise

CONTROL

How we can control air pollution?

(i) Use a smokeless chullah at Home. Provide a tall chimney to the chullah to carry the smoke away.

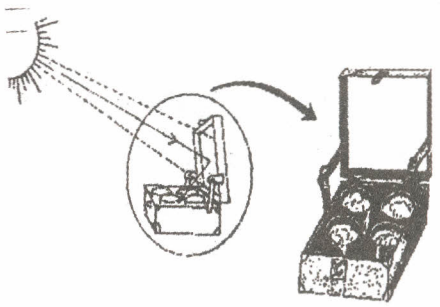


(ii) Use biogas which is a smokeless fuel.

(iii) Use a solar cooker at home which uses heat from the sun-light.

(iv) Factories should have chimneys filters. This will help in trapping the poisonous substances in the gases that are let out by than.

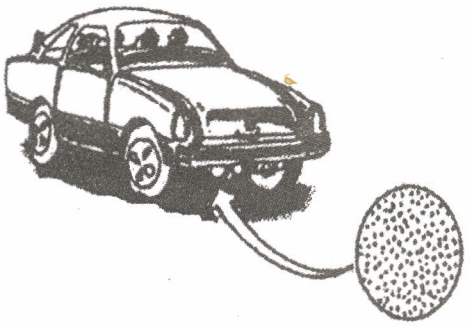
(v) Factories must be located far away from residential areas.



(vi) Vehicles must be fitted with special devices to reduce pollution. .

(vii) Use of unleaded petrol and CNG should be encouraged.

(viii) Garbage should not be burnt. It should be disposed off hygienically, preferably through sanitary landfills.



(ix) Roads must be metalled so that dust does not list and mix with air.

(x) Trees should be planted and cared for, so that these keep the air fresh and pure.

(xi) Crops should be grown in the fields all the year round so that the soil is not exposed to erosion.

INTEXT QUESTIONS 7.1

1. State which of the following statements are true or false. Also correct the false statements.

   (i) Wind reduces the amount of dust particles in the air.

   (ii) Tall chimneys fitted with filters, help to reduce air pollution.

   (iii) Location of factories away from residential areas reduces air pollution in cities.

   (iv) Adding a tall chimney to the chullah decreases air pollution.

2. List five sources and five control measures of air pollution.

7.5 WATER POLLUTION

You receive safe water for drinking from the taps. Do you know why? Before it is sent to your houses it is cleaned and also treated to kill all the germs. Can you list the characteristics of this water? It is water which has no taste, smell, color, dirt or germs. This is why it is called safe water and is suitable for drinking.

But not all water is safe for drinking or even for performing other chores in the house. Unfiltered water from a tap in a public park is muddy and smelly. Sometimes it also has solid particles. Your well/hand pump/pump/river water may also have some or all of these characteristics. You would not like to use this water for drinking, cooking or even for washing your clothes and utensils. This water is polluted.

Polluted water may be coloured, may have suspended particles, a foul smell and a bad taste.

SOURCES

In the beginning of this lesson, we have already stated some of the sources of water pollution. There are more sources of water pollution. Water gets polluted when the following are thrown in it;

(i) **Domestic wasters**: waste water from toilet bath and kitchen is disposed off in a nearby water source (river, lake or pond) and thus the water gets polluted. Very often garbage is also disposed off in this source of water and dead animals and half burnt dead bodies are also thrown in it. All these cause water pollution.

Sources of water are used for bathing animals, washing clothes and washing self after defecation. This also causes water pollution.

i) **Industrial wastes**: Waste and waste water from factories and power plants flows into the rivers, ponds, etc., and causes water pollution.

ii) **Agricultural wastes:** Fertilizers, insecticides, etc., go through the soil to the underground water and cause water pollution.

iii) **Oil pills**: Sometimes oil from oil tankers spills over in the water. This also causes water pollution.

Sources of Water Pollution

Domestic Wastes	Agricultural Wastes	Industrial Waste	Oil spills

EFFECTS

Who gets affected by polluted water? Yes, all those who consume this water, i.e., the human beings, animals and plants. The plants and animals life present in the water such as fish, sea weeds and sea plants also get fleeted by polluted water. Do you remember why? This is because pollution in water causes lesser availability of oxygen to them, They die because they cannot breathe without oxygen.

Drinking unsafe water causes diseases like cholera, typhoid, dysentery, etc. Bathing in polluted water causes skin diseases and allergies.

CONTROL

Can you suggest some remedies for water pollution? Look at the following list.

(i) Make sure that untreated sewage water is not thrown into the sources of water.

(ii) Industries should not be allowed to throw untreated wastes into the river or pond.

(iii) Defecation in open and near the water source should be discouraged. Use proper latrines for defecation.

(iv) Latrines, soakage pits, dumping grounds and land fills should be away form the source of water.

(v) Bathing of self, washing clothes or bathing animals in or near the harvested water sources should be banned. Rain water special ponds/wells should be used for washing clothes and bathing animals.

(vi) Rivers and seas should not be used for disposal of garbage.

(vii) If you are using a well or a pond as your source of water, see that it has a concrete well or parapet and proper pucca or firm flooring around it.

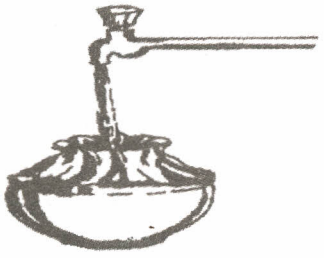
(vii) Water should be stored in clean containers which are kept covered. Use a long handled ladle to take water out from this container. Never dip your hand in the water.

7.6 MAKING WATER SAFE FOR HUMAN CONSUMPTION

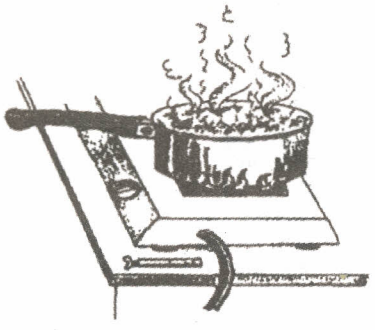
Now you know that not all water is safe for human use- drinking cooking and bathing. The tap water you receive at home is clear. Before it is sent to you it is filtered to remove any solid particles present in it and treated with chemicals to kill all germs.

But, water from ponds, rivers, wells and hand pumps may not be safe for drinking and cooking. It may contain germs and worms which cause diseases. Most of our population lives in villages and many such villages do not get tap water supply. People have to depend on other untreated water sources. This water can be made safe by using the following procedures at home.

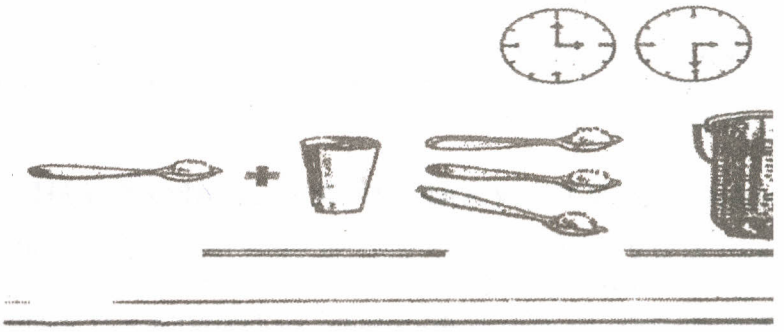
(i) Straining: Before filling, put a clean muslin cloth on the mouth of the pot and let the water filter or strain through it. Rambler, straining helps only in removing solid particles. It cannot do anything to the dm organisms which may be present in the water. Thus, the water may be clean but not safe.



(ii) Boiling: Boiled water is safe to drink. Boiling water vigorously for twenty minutes kills many disease causing germs that it might contain. The boiled water should be cooled, filtered and then stored in clean covered pots.



(iii) **Bleaching**: A big family consumes a lot of water which is generally difficult to boil. You can then use bleaching powder to make your water safe. Bleaching power is available at a chemist shop. How will you use it?



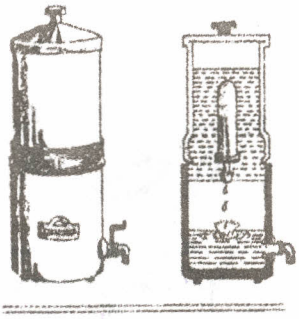
Take fresh bleaching powder and mix one tea spoon in a glass of water. Bleaching powder generates chlorine which helps in killing the germs. Take three tea spoons of this solution and add to a bucket full of water (15-20 liters). Leave it for about half an hour because chlorine requires time to act.

(i) Chlorine tablets/ Chlorine drops: Any one of these can be used to purify water. Find out the quantity to be used when you buy these. The directions about the use of tablets/ drops are also written on the packing. Read them and follow them. Also remember that tablets should be kept dry and out of children's reach. Water should be kept aside for half an hour to allow the tablets /drops to act.

(ii) Filters: Now-a-days many water filters are available in the market which can be used at home for making water safe for human consumption. There are two type's of water filters. These are filters which are directly fitted or connected to the tap and storage type of filters.

Filters which fit or connect on to the tap only remove the solid particles if there are any. The other types strain water and also use charcoal, ultraviolet rays or membrane filters to absorb smells and kill germs.

The storage type filter has two compartments, one fitted on top of the other. The upper receives unfiltered water and the filtered water flows to the lower compartment where it is stored. There



are ceramic candles fitted at the base of the upper compartment which retains any unnecessary ingredients present in the water. Clear water gradually trickles down into the lower compartment, where it is stored. These days special one liter bottles with filters attached at the mouth are sold in the market. These bottles can be carried everywhere to get clean drinking water.

Methods of Water purification

(i) Straining, (ii) Boiling (iii) Bleaching (iv) Chlorinating (v) Filtering

7.7 CONSERVING RAIN WATER - WATER HARVESTING

You are well aware that drinking water in most homes is supplied through water pipes connected to water treatment plants located near rivers, canals or large reservoirs. Due to excessive pollution of these water sources their water is neither safe nor sufficient for drinking. Many homes are dependent on wells, hand pumps, or small ponds, for their drinking water supply. Most of these sources are now becoming dry.

Rain water can be collected and stored in underground or roof top storage tanks to be used in times of scarcity. A part of it can be allowed to percolate into the ground to raise the level of underground water. This process of collecting rain water and conserving it is called rain water harvesting.

INTEXT QUESTIONS 7.2

1. List five sources and five control measures of water pollution.

2. Choose the most appropriate alternative:

   i) Water is safe for human consumption only when it is free of

   A. floating substances

   B. unwanted smells

   C. microorganisms.

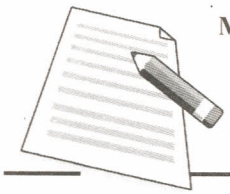
   D. all the above

   ii) Washing clothes near a water source is harmful because the dirt and soap released

   A. flow into the water.

   B. are absorbed by the soil to reach sub-soil water

   C. are left behind to create slush



D. are responsible for doing all the above.

iii) Bleaching powder helps in clearing the water by acting on

A. floating particles

B. foul smells

C. germs.

D. Mud.

iv) In the process of boiling

A. floating particle settle down

B. foul smells escape

C. colour disappears

D. germs get killed.

v) The method of straining water is help full in removing

A. floating particles

B. foul smell

C. germs

D. all the above.

vi) Defecation in open should be discouraged because the excreta

B. smells and spoils the environment

C. flows back into water during rains

D. is absorbed by the soil

E. is eaten up by dogs.

vii) The amount of bleaching powder for purifying water should be

A. 1 teaspoon in a glass.

B. 1 teaspoon, in a bucket

C. 1 teaspoon in a glass and 3 tea spoons of this in a bucket.

D. 1 teaspoon in a bucket and 3 teaspoons of this in a glass.

viii) After adding chlorine water should be left for

A. 5 minutes.

B. 10 minutes.

C. 1/2 hour

D. one day.

7.8 SOIL POLLUTION

Soil pollution can be defined as changes in physical, chemical and biological nature of soil to the extent that is has a harmful effect on

humans and other living beings. Soil becomes polluted when wastes from factories in the form of chemicals and metals are thrown on it. These poisonous substances in the soil enter the plants that arc growing there. It enters the human and/or animal system when we eat it.

SOURCES

Following are some of the sources of soil pollution

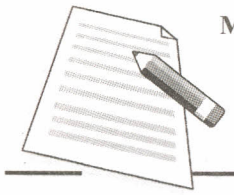
(i) **Domestic wastes:** When household garbage is left on soil it rots and becomes a breeding ground for insects, worms and germs. There may be disease gems already present in the garbage. Defecation in the open is a common practice in India. When people defecate and urinate on the soil dirt, germs and wol-111s are generated. When we walk barefoot on this soil these germs and worms enter our system causing stomach disorders. They enter into animal and plant system also, thus infesting all living beings. This way they enter into the food chain and further, into the human body.

(ii) **Defecation in the open:** Defecating and urinating in the open is a common practice in India. You can see people urinating on the roadside at all times. Early morning people are seen defecating in the fields or in open spaces. These spots are stinking and filthy. The urine and excreta may contain germs and worms which enter the soil and pollute it. If it rains, the dirt flows into the nearby source of water.

(iii) **Spitting**: We have yet another bad habit of spitting anywhere and everywhere. The sputum not only spoils the surroundings but may carry disease germs. It may dry up and disappear but the germs remain and pollute the soil.

(iv) **Industrial wastes**: Soil becomes polluted when waste from factories is thrown on it. These poisonous chemicals in the soil enter the plants and poison them or kill them. Infect, some chemicals can make the soil totally infertile.

(v) **Agricultural wastes**: If insecticides, pesticides and fertilizers are added in excess then they enter the plants or stick to the



Sources of Soil Pollution

Domestic Waste	Defeacation, Urination and spitting in the open	Industrial wastes Agricultural wastes

surface of the growing fruits and vegetables. These chemicals can enter your system and make you sick.

EFFECTS

Improper disposal of domestic waste, defecating, urinating and spitting in the open are all sources of spread of disease germs and worms into the soil. As mentioned earlier, when we walk barefoot on the soil, these germs enter our body and eventually making us sick. Very often industrial and agricultural wasters leave harmful chemicals in the soil. Plants and vegetables that are grown on such soils absorb these chemicals. Animals and human beings who consume these plants may fall ill.

CONTROL

Can you suggest some Measures to control soil pollution? Some of the menthols are as follows:

(i) **Proper disposal of garbage**: Garbage from homes should be properly disposed off so that it does not allow flies mosquitoes and cockroaches to breed. At home, it must be collected in a bin which should be kept covered.

(a) **Dump outside the limits**: If dumping household waste is done in pits which are covered with twigs and plants, the flies and mosquitoes can not breed on it. After the pit is full, cover it with soil and let the garbage be buried.

(b) **Land often,** Quite often, specially in big cities, the garbage collected is so much that small pits are no answer. Low lying areas outside the city limits. And away from the source of water are selected and garbage is dumped there every day. It produces foul smells and attracts birds, animals and insects. But since it is outside the city it does not affect the people so much except when they pass the ugly site and get the foul smell.

(c) **Composting:** The garbage from gardens is put into, a pit in one corner of the garden. At the -end of each day, it is covered with ash and leaves, Gradually the lower layers are converted into compost or manure. This manure can be used for gardening.

d) **Burning of refuse**: You all must have seen gardeners burning leaves and - grass which they have removed from gardens. Burning is a good way of getting rid of refuse because the quantity is reduced and germs, etc., do not get an opportunity to breed. But burning can produce a lot of smoke which causes air pollution.

e) **Incineration**: The latest technology in garbage disposal is the use of an incinerator. An incinerator is a furnace in which the rubbish is burnt. This is an expensive method became a lot of fuel is required to bum the rubbish. However, it is sterile and safe. The garbage is reduced to relatively small heap of ash.

Garbage disposal is a very serious problem for us these days. With crease in population the mount of water we produce is tremendous. The problem is accute due to yet another reason. With development in technology we have devised many new ways of packaging a product. It helps attracting customers, but produces a lot of garbage which has substances that are difficult to dispose of, e.g., plastics, tins, etc. Plastics can be recycled to produce plastic bags again. Hence, rag pickers visit the garbage collection sites and pick up the plastic bags used to throw away the garbage. Thus the garbage spreads and creates more dirt in the surroundings.

No one method of garbage disposal mentioned above is satisfactory. Each one has its own merits and demerits. A lot of research is going on all over the world to find the most suitable methods of disposing garbage of ail types. Till then we will have to be content with whatever technology is available and what ever we can afford. But a lot can be achieved in keeping our surroundings clean if we educate ourselves and our neighborhood about the proper disposal of garbage from our homes and our neighborhood. We must resolve that hence forth we will:

- throw our garbage not at the comer of the street but in the groper place;
- wrap it in a paper bag or a newspaper and throw.

(ii) Use of sanitary latrines: In order to avoid soil pollution due to urine and faeces people should be encouraged to use urinals and toilets. The Municipal Corporation in every city has built toilets for public use: People should also be encouraged to build and use simple sanitary latrines in their houses. An international agency 'Sulabh Sauchalaya' is constantly working to popularise sanitary latrines. They have a simple and inexpensive technique to build such toilets. You have already studied about it in lesson

(iii) Use spittoons for spitting: Educate people to use spittons.

(iv) Reuse and Recylce waste: Reuse empty tins, cans Ad bottles. Do not throw them in the garbage as far as possible. This will reduce the garbage a bit. We must try to recycle everything that can be recycled. For example old newspapers can be re-

cycled to produce fresh paper, papier mache products, paper bags, etc., old glass bottles, plastics, can be melted to prepare new glass products. Plastics can be recycled to form bags and other useful products. Therefore, you must remember to reduce the use of non-biodegradable product and try and reuse as many as possible. Further, wherever possible we should recycle these products and put them back in use.

(v) Limited use of insecticides/fertilizes: Insecticides are used to control the spread of insects which damage crops and harm us. Fertilizers are used to increase the yield of crops grown in the fields. Both are chemical substances. These are useful and harmless to human beings when they are used in controlled quantities. Excessive use of these leads to their deposition on the soil surface and hence causes pollution.

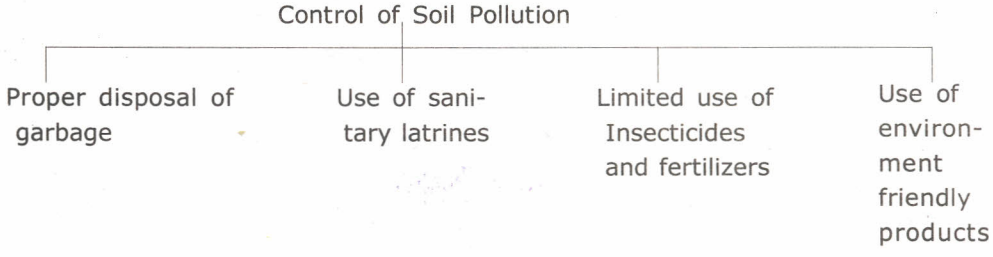
(vi) Use of environment friendly products: Do you remember ding in the newspaper that somebody threw a polybag containing garbage into the sewer? he sewer was blocked so badly that the municipality had to dig up the whole sewer line in order to correct the problem. It happened because the bag containing garbage did not decompose. The bag full of garbage and water was too big to pass through the sewer line, hence the blockage.

Plastic packaging materials have created yet another problem. If these are thrown away without thought they can be there fo months, spoiling the environment (because they do not decompose). They do not bum easily and if they do, they gases that are toxic. Thus, they become another source of air pollution.

Paper and cloth bags (cotton and jute) are made up of substances which decompose and disappear in the oil. Such products are called **environment friendly** and should be used more and more.

> Products like plastic bags do not degenerate and decompose when discarded. They add to the problem of soil pollution. We should avoid using them as far as possible.

Just as there are marks of standardization of quality for different products i.e., ISI, Agmark, FPO, Wool mark etc., a standardization mark for ecologically friendly products has been recently introduced. It is known as the ECOMARK. This mark is given to all products which are bio-degradable.



7.9 DEFORESTATION

You may be aware that there are many benefits that we derive from the trees and plants growing in our forests.

You only have to look around to realize what these benefits are. Even the chair that you are stetting on and the bed that you sleep. on are made from wood that we get from trees.

- Plants and trees also give us many other things like food, medicines, rubber, glue and paper.
- Forests provide fodder for our cattle and. home for wild animals and birds.
- Forests give us rain and at the same time prevent floods.
- The roots of the trees hold the soil together so that it is not easily carried away by wind or rain water. This keeps the minerals salts of the soil intact and thus the soil does not lose its fertility.
- Also, as you know, plants and trees use the carbon dioxide in the air and produce oxygen. This goes a long way in reducing air pollution.

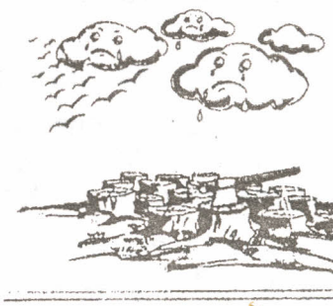
And yet, not realising the long term benefits of forests, man, for its own selfish reasons, cuts trees.

Cutting of trees or forests is called deforestation.

To meet the demand of wood, trees are being cut on a large scale. As result, the land which was once a forest becomes bare and deserted. What would happen if this trend continues? Can you list some of the harmful consequences? Yes, the results of deforestation are

- Damage to wild life who live in forests
- Increased air pollution
- soil erosion; washing away of the top fertile layer of soil
- drought and floods.

As you can see, the long term effects of deforestation are disastrous. And once the disaster sets in, it would be too late for any remedial action. So what should we do?



PLANTING TREES- AFORESTATION

The demand for wood and other plant products is so great that if indiscriminate deforestation continues at the present rate, the trees will vanish soon.

Unless all of us join to solve this prob1em at a fast pace, it may be too late.

1. The remedy for deforestation is aforestation or growing more forests, and reforestation or growing trees where forests have been cut.

Plant trees, rather than cutting them.

2. If a tree has to be cut, then only the top branches should be removed arid not the base of the trunk. This way the trees db not die but regrow when the season is favourable.
3. Try and prevent forest fires by not lighting a fire near dried and fallen leaves or tree trunks.

Our government has Forest Departments which look after the forests. They prevent forest fires, supervise grazing of animals so that no area is over-grazed, implement the law against cutting trees and take other suitable measures to protect the forests: They also provide facilities to people for growing more trees and make available seeds and saplings that grow faster and have resistance to diseases.

But what can we do to keep our surroundings green?

1. 'Each one plant one': Let each of us plant at least one tree near our house and take care of it.

2. 'Each one care one': If there are any plants or trees near our house which are drying, take charge, water them regularly and save them.
3. Do not allow anyone to cut or damage a tree. Now there is a law against cutting trees. People can be prosecuted.

If possible, make a 'green belt' in your neighborhood, by planting a large number of trees and looking after them Help can be taken form the local authorities in this regard.

INTEXT QUESTIONS 7.3

1. List five sources and five control measures of soil pollution.

2. List five methods of garbage disposal.

3. Tick mark (✓) the right answer:

(i) Soil pollution is not caused by :

a) rain
b) defecation
c) waste water from kitchen
d) fertilizers.

(ii) Chemical pollution of soil is the result of:

a) throwing garbage in the pits
b) burning garbage
c) throwing industrial waste
d) spitting

(iii) Use following items because they are environment friendly:

a) cloth
b) paper
c) leaf
d) plastic

(iv) rotting garbage causes pollution because:

a) it attracts birds and animals

b) it causes foul smell

c) it becomes a breeding ground for mosquitoes, flies and microbes.

d) It is absorbed in the soil

4. Tick mark () the statements which are true, and correct the false ones.

(i) Plants and trees use the oxygen in the air and produce carbon dioxide.

(ii) The roots of trees prevent soil from being carried away by wind or water.

(iii) Aforestation leads to droughts and floods.

(iv) We should plant and protect trees.

(v) Mass media should be used to encourage deforestation.

7.10 NOISE POLLUTION

You will agree that some sounds are pleasant wile others are not. You enjoy listening to music and your fiend's chit-chat but the running of machines, the roar of loudspeaker moving traffic make sounds which are loud and unpleasant. You know that noise is any unpleasant sound.

SOURCES

Look around you identify the sources of noise pollution. Some of them ale, the noise from:

(i) automobiles, trains and aeroplanes

(ii) loudspeakers, radio and television when played at full volume.

(iii) Industries and machines.

EFFECTS

What happens when you hear loud noises for a long period of time? Yes, they tend to disturb us, strain our nerves, cause headaches and mental disturbance. They are also affect the hearing ability of an individual. You must have noticed that quite often factory workers, pilots, drivers, etc., who are exposed to loud noise continuously, gradually loose the ability to hear soft sounds properly. Their eardrums get damaged, sometimes to the extent of deafness.

CONTROL

It is impossible to get rid of all noises completely, but we can definitely reduce them. Following are some of the suggestions for reducing noise pollution:

- Playing the radio and TV at low volume.
- Avoiding the use of loudspeakers. .
- Taking in low tones.
- Using the horn only when absolutely necessary,
- Fitting silencers to the engine of vehicles.
- Building factories away from residential areas.
- Building airports far away from city limits.

INTEXT QUESTIONS 7.4

1. From the following, select and tick mark the situations which lead to noise pollution:

   (i) Blowing horns on the roads.

   (ii) Loud speakers playing wedding songs.

   (iii) Talking to a friend

   (iv) Arrival of a train on the platform

   (v) A motor bike going at a fast speed

   (vi) Playing soft music in a room

   (vii) Bursting of fire crackers

   (viii) Running a grinding machine

   (ix) An aeroplane taking off at the airport.

2. Describe the effect of loud music on a school student studying for her final examination.

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You have learnt about different types of pollution and their harm full effect on all living beings. You have also learnt about some measures to control the different types of pollution. We hop that by exposing you to this information we have to reduce the fact that the control of pollution is completely in our hands. We have to reduce the production of smoke by using fuels that are smoke free, by keeping our vehicles in perfect order so that they do not emit smoke, by putting tall chimneys in our industry for smoke to go up in the sky and so on. These little efforts of