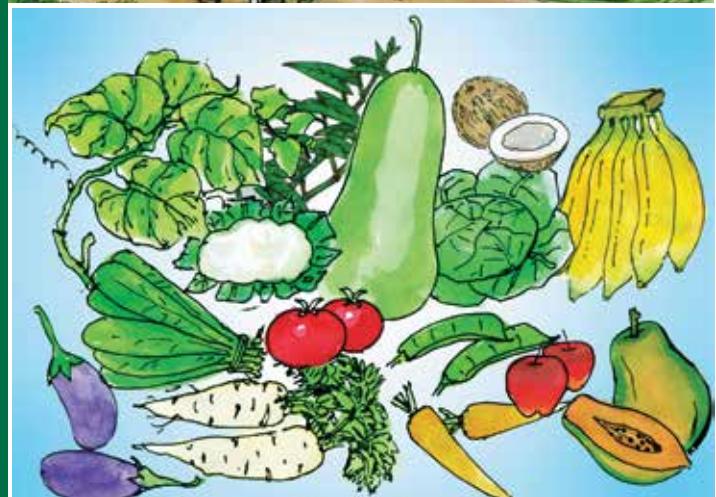
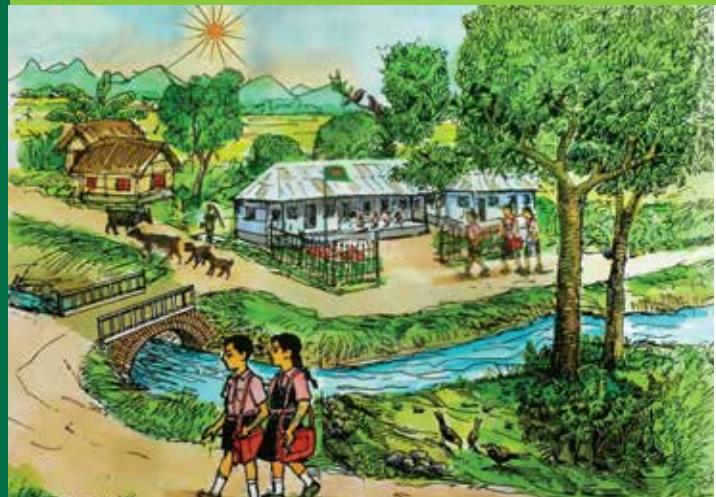


# ELEMENTARY SCIENCE

## CLASS THREE



National Curriculum and Textbook Board, Bangladesh

Prescribed by the National Curriculum and Textbook Board  
as a textbook for class three from the academic year 2013

# Elementary Science

## Class Three

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Published by  
National Curriculum and Textbook Board  
69-70, Motijheel Commercial Area, Dhaka 1000

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First Edition : November, 2012  
Revised Edition : August, 2014  
Reprint : , 2022

### Design

National Curriculum and Textbook Board, Bangladesh

For free distribution under PEDP-4 of Ministry of Primary and Mass Education  
by the Government of the People's Republic of Bangladesh

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Printed by:

## Preface

Children are great wonders. There is no end to the thinking about their world of wonder. They are a subject of contemplation for educationists, scientists, philosophers, child specialists and psychologists. The fundamental principles of child education outlined in the National Education Policy 2010 have been defined in the light of these contemplations. The curriculum for primary education has been revised to develop a child on the potentials of their innate amazement, unbounded curiosity, endless joy and enthusiasm keeping in view the all-round development of children's potentials. The aims and objectives of primary education were modified in the revised curriculum of 2011.

Children have different objects around them. Every moment various events are taking place in nature. Rainbow in the sky, trees, birds, flowers, the morning sun, the star studded night sky - all are of profound joy and endless amazement. This feeling of joy by a learner awakens in him/her the curiosity and inquisitiveness to ask questions on different objects and events he/she observes. The revised curriculum has due importance to the realisation that the aim of science education is to develop the scientific attitude among the learners. Two fundamental streams are very important in **science education**. One is the acquisition of knowledge and the other is raising questions, experimentation, observation and participation through testing of information and theories. These two streams are complementary to each other. One of the objectives of the revised curriculum is to maintain consistency among different branches of science as well as between science and technology.

With a view to developing human resources capable of leading during the 4th industrial revolution, Mr. Sajeeb Wazed Joy, the Information and Communication Adviser of Honorable Prime Minister Sheikh Hasina, proposed to include coding in textbooks for the primary level learners. In order to implement that proposal, National Curriculum and Textbook Board included text about coding as an extended part (due-part) in the year 2022 in the Primary Science textbooks for grade 3, 4 and 5 learners. It has been included in the main textbook from the year 2023.

To make the young learners interested, enthusiastic and dedicated, Honorable Prime Minister Sheikh Hasina instructed to change the textbooks into four colours, to make them interesting, sustainable and to distribute free of cost since 2009. The textbooks of all students of Pre-primary, Primary, Secondary, Ibtedaie, Dakhil, Dakhil Vocational and S.S.C Vocational levels are being distributed free of cost across the country which is a historical initiative of the present government.

My sincere acknowledgement and thanks to all who helped in different stages of composition, editing, rational evaluation, printing and publication of the textbook. Though all cares have been taken by those concerned, the book may contain some errors/lapses. Therefore, any constructive and rational suggestions will be highly appreciated for further improvement and enrichment of the book. We will deem all our efforts successful if the young learners for whom it is intended find it useful to them.

**Professor Md. Farhadul Islam**

Chairman

National Curriculum and Textbook Board, Bangladesh

## **Major Features of the Revised Primary Science Textbooks**

### **(1) User-friendly**

- Learning contents, illustrations and text presentations are considered taking into account the developmental stage of pupils, which emphasize mainly on the conceptual development rather than rote learning.
- Enquiring of pupils' prior knowledge and experience are tried to address in the lesson.
- Grade fitting simple texts and child friendly description
- Clear titles, subtitles, and large number of illustrations and photographs
- Abstract things of science are portrayed with pictures/photographs as well as proper description.
- Introduction of characters and symbols to make lesson easy-to-understand & attractive for the children
- New scientific terminologies used in each chapter are highlighted with coloured and bold letters.
- Addition of glossary at the end of the textbook

### **(2) Emphasis on problem-solving based learning**

- The key questions highlighted as the core points of teaching learning in each lesson
- Experiment related alternative equipment/teaching aids are suggested
- Basic layout of the textbook follows the sequence of problem solving approach.
- Learning activities aimed at the acquisition of scientific process skills necessary for children to solve the problem

### **(3) Enhancement of learning activities**

- Introduction of a variety of experiments, demonstration, observation and investigation to promote the scientific attitude of the pupils
- Introduction of the discussion activities to foster communication skills, expression ability and positive attitude of the pupils
- Teaching aids are suggested in consideration with the relevance of the lesson outcomes and the availability.

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### Characters and symbols

#### 1) Characters



Hea



Reza

Hea and Reza will give you some tips or clues about learning of science. Let's learn science together!

#### 2) Symbols



Activity: Let's observe, investigate and experiment!



Discussion: Let's discuss with classmates!



Caution: Let's pay careful attention to be safe!



## Our Environment

There are many things around us such as friends, trees, animals, and fowls, soil, water, air, sunlight, houses, etc. All the things surrounding us make our **environment**.

### 1. Our environment includes-

**QUESTION:** What surrounds us?



### Activity: Components of our environment

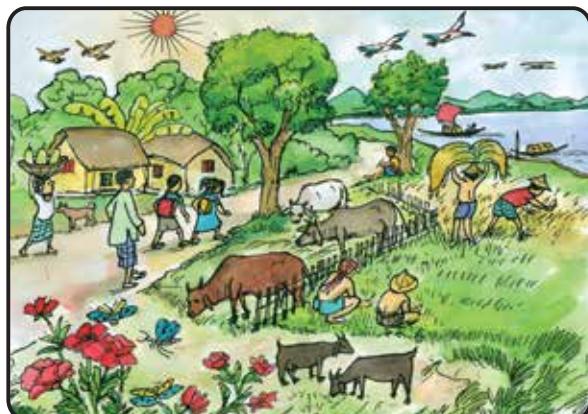
What to do:

1. Draw a table in your exercise book like the one below.
2. Find things in your classroom and write them in the table.
3. Let us go out of the classroom with our exercise books.
4. Write in the table whatever you see in the field.
5. Share your idea with your classmates.

Things in the classroom	Things in the field/garden

### Summary

We are surrounded by various types of things. In the classroom there are chairs, desks, books, notebooks, classmates and teacher. There are trees, cattle, soils, water, air, sunlight, etc. in the field. All these things unitedly make our environment.



## 2. Different types of environment

**QUESTION:** How can we classify the environment?



### Activity: Classification of our environment

What to do:

1. Draw a table like the one shown below.
2. Look at the following picture, identify which are man-made and which are not; and then put them on the table.
3. Share your ideas with the classmates.

Things made by people	Things not made by people

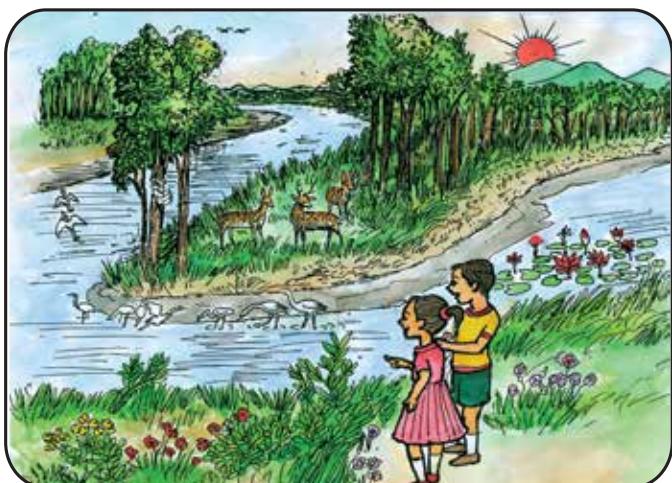


## Summary

We can sort things in the environment into two groups; **natural things** that are not made by people and **man-made things** that are made by people. The environment can be classified by its components such as the **natural environment** and **man-made environment**. We live in both a natural and man-made environment.

### Natural environment

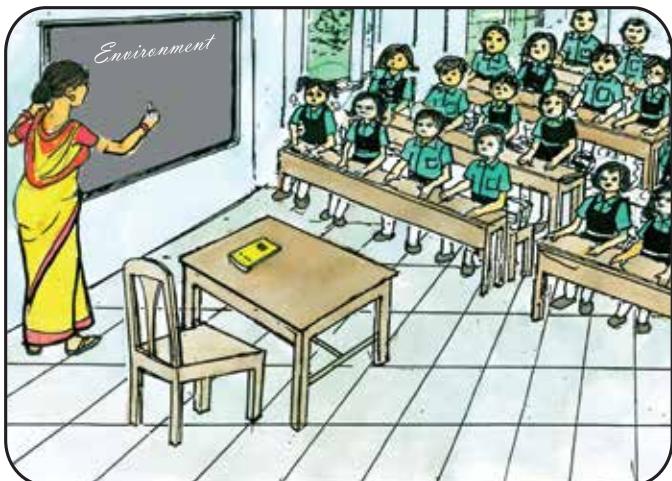
We are surrounded by many things such as trees, beasts, birds, sunlight, water and air. We cannot make these things. They are created by nature. An environment having these natural things is known as a natural environment.



natural environment

### Man-made environment

We make various kinds of things. Houses, buildings, table-chair and clothes are made by people. Roads, buses, trains and boats are also man-made things. An environment having these man-made things is known as man-made environment.



man-made environment



## EXERCISES

### 1. Fill in the blanks.

- 1) All the things surrounding us make our \_\_\_\_\_.
- 2) The environment can be classified into \_\_\_\_\_ environment and \_\_\_\_\_ environment.
- 3) Trees, birds and air are components of \_\_\_\_\_ environment.
- 4) An environment having things made by people is known as \_\_\_\_\_ environment.

### 2. Put a tick (✓) mark on the correct answer.

- 1) Which one is a component of the natural environment?  
a. tree                  b. table  
c. pen                  d. chair
- 2) Which one is a component of the man-made environment?  
a. birds                  b. hills  
c. fish                  d. houses

### 3. Answer the following questions.

- 1) Explain what an environment is.
- 2) Write five components of a natural environment.
- 3) Mention three differences between a natural and a man-made environment.

### 4. Put the following things in the table below.

chair, river, house, egg, soil, furniture,  
tree, boat, hill, shirt, school, flower

Things in the natural environment	Things made by people



## Chapter 2

# Living and Non-living Things

We learned that we are surrounded by many things such as trees, birds, houses, and ponds that make our environment. We study in our classroom. There are chairs, tables, benches, doors and windows in it.

### 1. Living and non-living things

All things can be classified into two groups; **living things** and **non-living things**.

**QUESTION:** What are living and a non-living thing?



**Activity:** Make a list of living and non-living things

#### What to do:

1. Draw a table like the one shown below.
2. Find out living and non-living things inside or outside your classroom.
3. Sort the things you found into two groups in the table.
4. Share your ideas with the classmates.

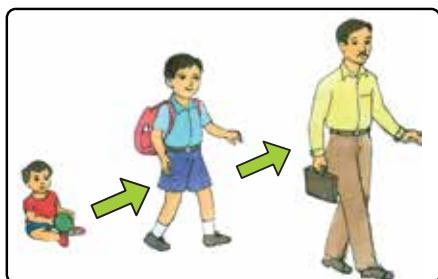
Living things	Non-living things
Man	Chair



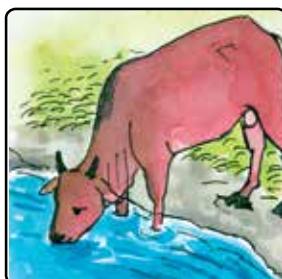
## Summary

### Living things

People, animals and plants are living things. Living things grow and change. They can produce other living things. Living things need water, food and air to survive.



Living things grow



living things need water.



living things need air to breathe

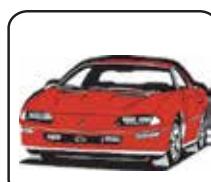
There are two kinds of living things; **plants** and **animals**. Trees and grasses are plants. People, cows, fishes, butterflies and birds are animals.

### Non-living things

Cars, chairs, tables and books are non-living things. Air, water, and soil are also non-living things. Non-living things do not eat, drink, and grow. They cannot produce things like themselves.



### Discussion



non living things

#### ◆ What are the differences between living and non-living things ?

1. Draw a table in your notebook like the one shown below.
2. Make a list of the characteristics of living things and non-living things.
3. Share your ideas with the classmates.

Living things	Non-living things
Grow	do not grow



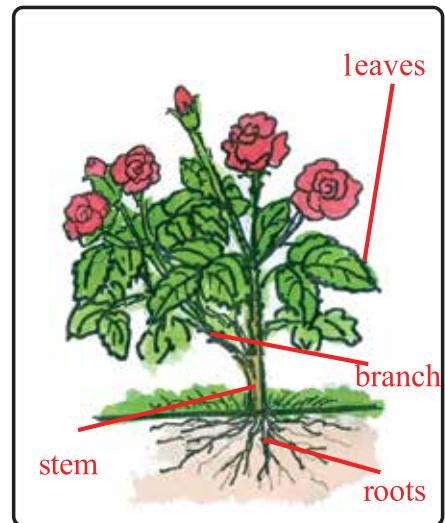
## 2. Living things: plants and animals

There are two kinds of living things; plants and animals.

### Plants

A plant has roots, stems, branches, leaves, etc. Usually plants are rooted in the soil.

Plants cannot move from one place to another. Plants cannot see, hear and smell. Plants do not eat food like animals, but can make their own food.

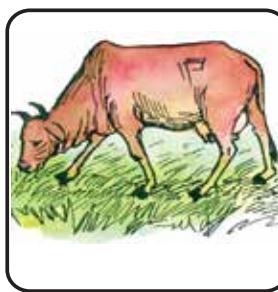


parts of a plant

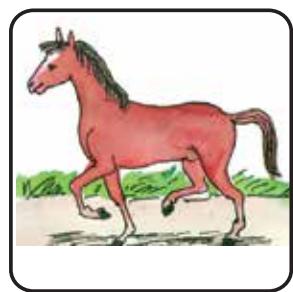
### Animals

An animal has legs, wings or fins that help it to move. Most animals have the ability to move freely.

Animals cannot make their own food. Animals eat plant or other animals as food. Animals have eyes, ears, nose, mouth, etc. They can see, hear, smell, and taste things with these organs.



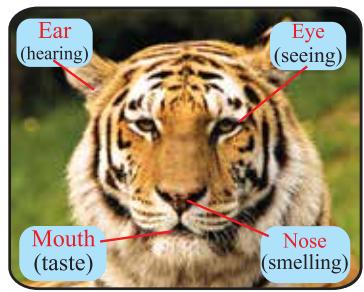
A cow is grazing



A horse is running



A bird is flying



Sense organs



### Discussion

- ◆ How can plants and animals be identified?

1. Draw a table like the one in your notebook shown on the right.
2. Write the characteristics of plants and animals in the table.
3. Share your ideas with the classmates.

Plant	Animal

## Living and Non-living Things

### 3. Plants

There are many plants around us. Plants have root, stem and leaves. Many plants have flowers and bear fruits. Some plants have stems and branches. People harvest foods from plants. There are many kinds of plants on earth.

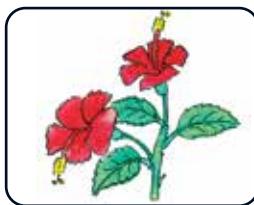
#### QUESTION: How can we classify plants ?



#### Activity: Differents types of plants



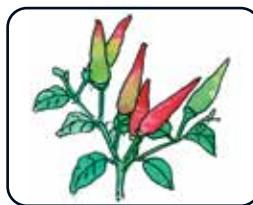
water lily



hibiscus (Joba)



mango



pepper plant



dheki shak



paddy



moss



mushroom

#### What to do:

1. Draw a table in your exercise book the one shown below.
2. Make a list of the characteristics of each plant in the picture above.
3. Share your ideas with the classmates.

Name of plant	Size	Hardness of stem	Flowering or not
Water lily	small	soft	flowering
Hibiscus (Joba)			
Mango			
Pepper plant			
Dheki shak			
Paddy			
Moss			
Mushroom			



## Summary

Plants can be classified according to their flowers, Size, and stems.

### Non-flowering plants and flowering plants

A plant that does not bear flowers is called a **non-flowering plant**. Moss and ferns (dheki shak) are non-flowering plants.

A plant that has flowers is called a **flowering plant**. Rose, hibiscus, mango, and water lily are flowering plants.



dheki shak



moss



mango



water lily

non-flowering Plant

flowering Plant

### Classification based on the size and stem of plants

Plants such as paddy, mustard and chilli are called **herbs**. A herb is smaller than a shrub and have soft stems. Their roots remain at the surface of the soil. This group includes gourds, pumpkins, spinach, etc.

Plants such as rose, rongon, and hibiscus are **shrubs**. A shrub is a woody plant, smaller than a tree. They have several branches rising from near the base of the stem. Their roots do not enter so deep into the soil.

Mango, jackfruit and wood apple are big in size. A plant which is large in size with a woody main stem, and with branches and leaves is called a tree. Their roots enter deep into the soil.



herb (Chilli)



shrub (Rose)



tree (Mango)



## 4. Animals

### (1) Types of animals

Animals can be classified into two groups; invertebrates and vertebrates.

### Invertebrates

Many animals do not have a backbone. Animals without backbone are called **invertebrates**. Some invertebrates live on land and some live in water. An earthworm, a shrimp, a butterfly, and a snail are invertebrates.



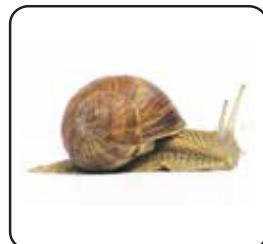
an earthworm



a shrimp



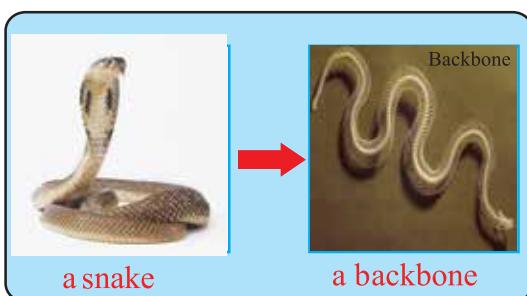
a butterfly



a snail

### Vertebrates

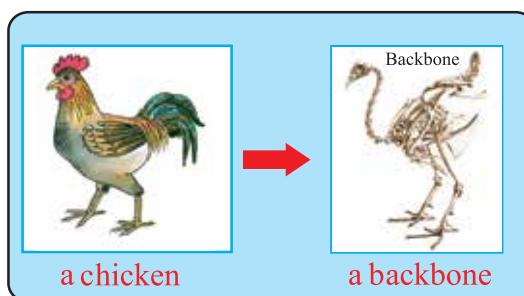
An animal that has a backbone is called a **vertebrate**. A backbone is formed with a series of bones. The backbones make the body strong. Dogs and birds are vertebrates. Snakes, frogs, and fishes are also vertebrates.



a snake



a backbone



a chicken



### Discussion

#### ◆ Which animals have a backbone ?

1. Draw a table in your notebook like the one shown at the right.
2. Make a list of invertebrates and vertebrates in the table.
3. Share your ideas with the classmates.

Invertebrate	Vertebrate

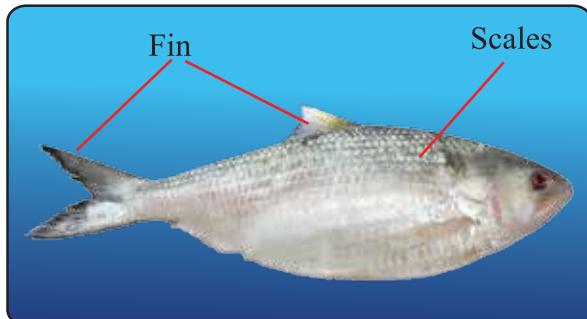


## (2) Classification of vertebrates

Vertebrates can be classified into five groups; **fish, amphibians, reptiles, birds, and mammals.**

### Fish

A **fish** is a vertebrate that lives in water. Most fish are covered with scales, and move in water with their fins.



a hilsa fish

### Amphibians

An **amphibian** such as a frog is a vertebrate that lays eggs in water. A frog starts its life in water. Baby frogs or tadpoles start life in the water and then live on land as an adult.



a tadpole

an adult frog

### Reptiles

A **reptile** is a vertebrate that has dry and scaly skin, and lays eggs on land. Some reptiles live on land or in water. Some move with legs such as lizards, and others such as snakes slither along the ground. Crocodiles spend most time in water.



a turtle



a lizard



a snake



## Birds

A duck, a chicken, and an eagle are birds. Their bodies are covered with feathers. They have two wings and two legs each. Birds lay eggs. Most birds can fly with their wings.



a bird lays eggs



a bird can fly

## Mammals

A **mammal** is an animal that has hair or fur, and produces milk for its young. Some mammals such as tigers and cows, live on land, and move with their legs. Mammals such as whales and dolphins live in water and move with their fins. Some mammals such as bats can fly.



a dolphin lives in water



a cow to feeds milk to their calf.



a bat is a mammal



## Discussion

### ◆ What are the characteristics of a vertebrate?

1. Draw a table in your exercise book like the one shown below.
2. Fill in the table with appropriate words.
3. Share your ideas with the classmates.

	Where they live	What they are covered with	How they move
Fish			
Amphibian			
Reptile			
Bird			
Mammal			

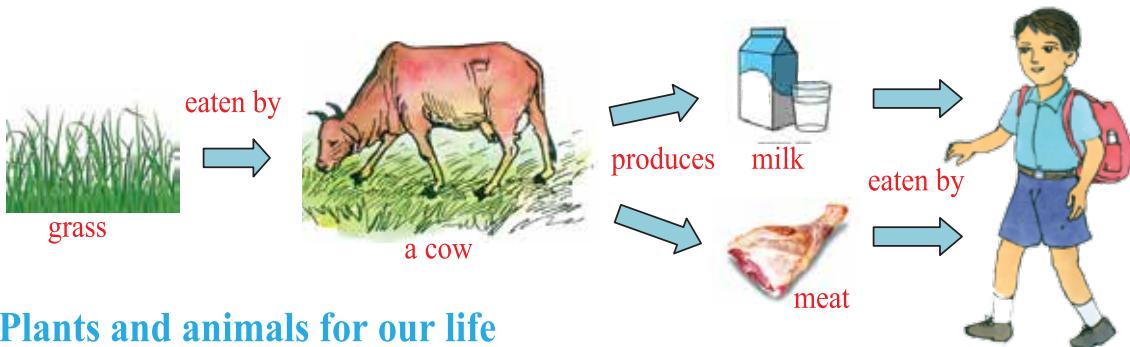


## 5. Our relationship with other living things

Man and other animals need to eat food to survive. Some animals eat other animals as food. Some animals eat plants, fruits and grasses.

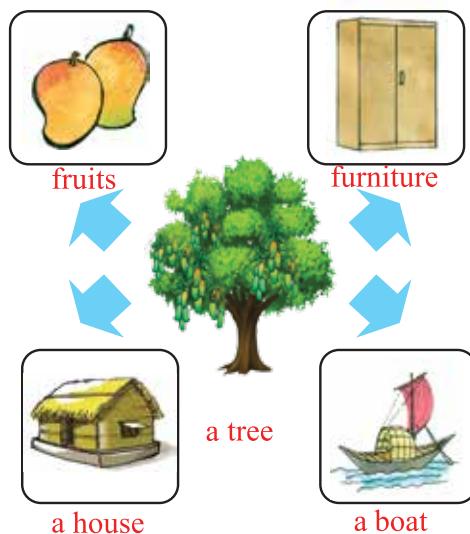
### Food and consumers

Deer, rabbits, and small birds eat grass and fruits. Deer and rabbits are eaten by tigers. Rabbits and small birds are eaten by hawks. There exists a relationship between food and the food users in the animal kingdom.



### Plants and animals for our life

We need to eat food for our survival. Food comes from plants and animals. We also need clothes and shelter. Some clothes are made from plants, others from animal skin or fur. Wood is used to build houses and furniture. People get many necessary things from plants and animals.



### Discussion

#### ◆ How do people depend on animals and plants?

1. Make a list of 'things' made from animals and plants and write their uses.
2. Share your ideas with the classmates.



## EXERCISES

**1. Fill in the blanks.**

- 1) Our environment consists of living things and \_\_\_\_\_ .
- 2) Living things need \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ to survive.
- 3) Prawns and earthworms are \_\_\_\_\_ animals.
- 4) People depend on \_\_\_\_\_ and animals.

**2. Put a tick ( $\checkmark$ ) mark on the correct answer.**

- 1) Which one is a living thing?
 

a. chilli plant	b. house
c. rickshaw	d. aeroplane
- 2) Which one can grow?
 

a. car	b. pigeon
c. chair	d. stone
- 3) Which one is a non-flowering plant?
 

a. mango	b. fern
c. water lily	d. paddy

**3. Answer the following questions.**

- 1) Write five examples of each - living and non-living things.
- 2) What are the kinds of vertebrates?
- 3) Write how can the plants be classified based on the size and the stem.
- 4) How are people dependent on plants?
- 5) Write three differences between plants and animals.

**4. Make a list of the characteristics of each animal below.**

Animal	Where they live	What they are covered with	How they move
Cow			
Doel			
Rui			
Lizard			
Turtle			



## Chapter 3

# Different Types of Matter

### 1. Matter

There are many different things around us. Among these, there are tables, chairs, books, marble, bricks, buildings, hills and many other things. Besides, there are soil, water, air, etc.

**QUESTION:** What are the things made of?



### Activity: Materials things made of

#### What to do:

1. Make a table like the one shown below.
2. Make a list of things in and outside classroom.  
Write what are the things made of.
3. Share your ideas with your classmates.

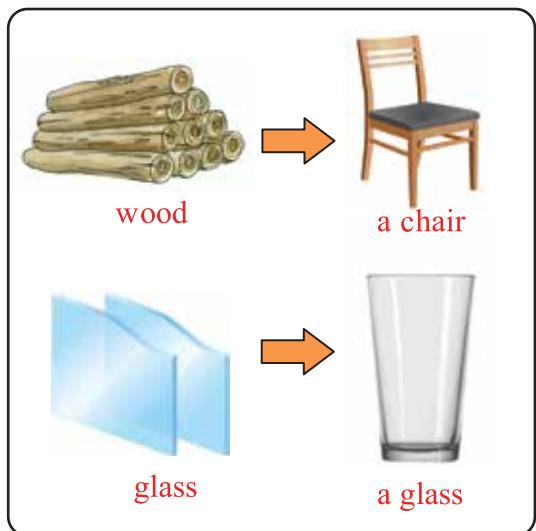
Name of things	Materials
Bench	Wood, nails



## Different Types of Matter

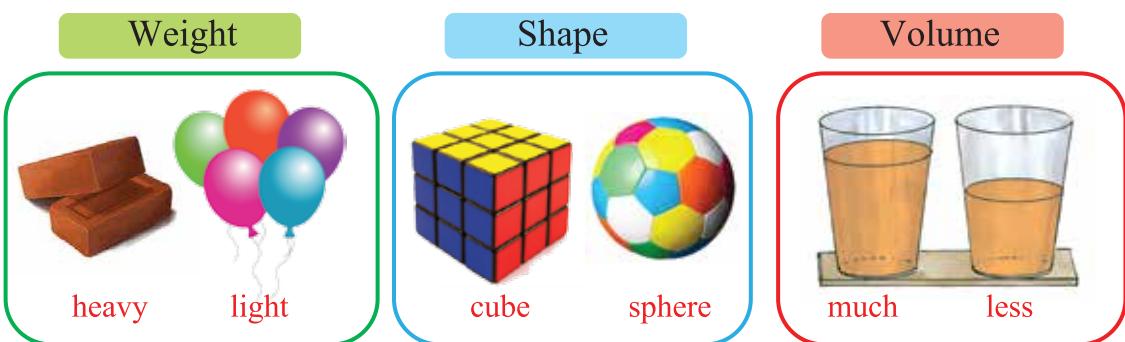
### What is matter?

All things of the earth are made of matter. Things such as, pencils, chairs, tables, glass, and blackboards are made of matter. A chair is made of wood and a water glass is made of glass. Matter has weight and it occupies space.



### Properties of matter

All matters have some common properties. Weight, shape, size and volume are properties. All matters have weight and occupy space. Some are heavy but some are light. Some are round and some are square. Some are soft and some are hard.



### Discussion

#### ◆ What are other properties of matter ?

1. Make a list of other properties of matter.
2. Share your ideas with the classmates.



## 2. Different states of water

### (1) Change in forms of water

Water is a matter. When an ice cube is left in a warm room, it becomes water. When water is heated, we can see bubbles and steam.

### QUESTION: What are the different states of water?



#### Activity: Change of state in water.

##### What to do:

1. Draw a table in your notebook like the one shown below.
2. Boil water with a kettle.
3. While boiling the water, observe the spout of kettle, and sketch your findings in the table.
4. Place a dry spoon in steam for a while.
5. Then take it out of the steam and let it cool down.
6. Check the surface of the spoon and record your observation in the table.



	Your finding
Around the spout of kettle	
Surface of spoon	



Don't touch the kettle! It is very hot.  
Don't put your face close to the kettle! Steam is very hot!



#### Discussion

1. Think about the following questions from your obeservation.
  - What is the smoke-like thing at the top of the spout made of?
  - Why do you think so?
2. Share your ideas with the classmates.

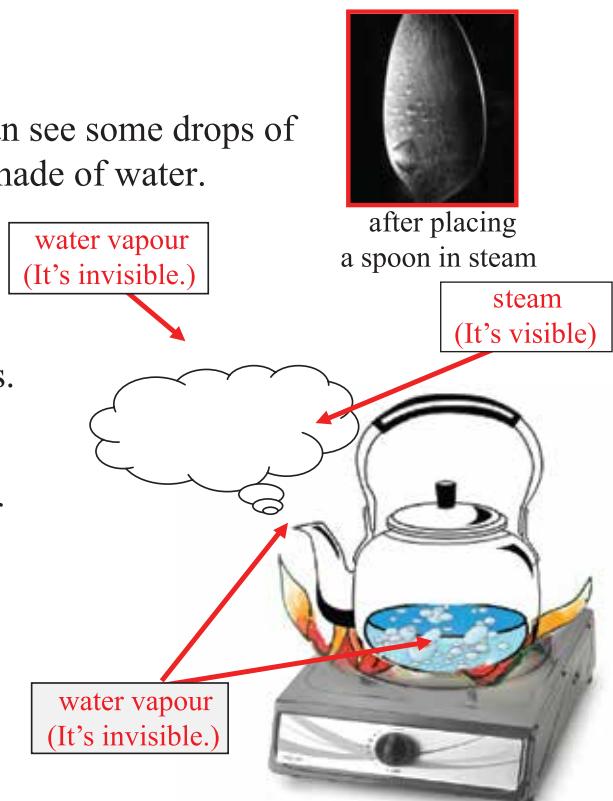


## Result

When the spoon cools down, we can see some drops of water on it. We find that steam is made of water.

## Summary

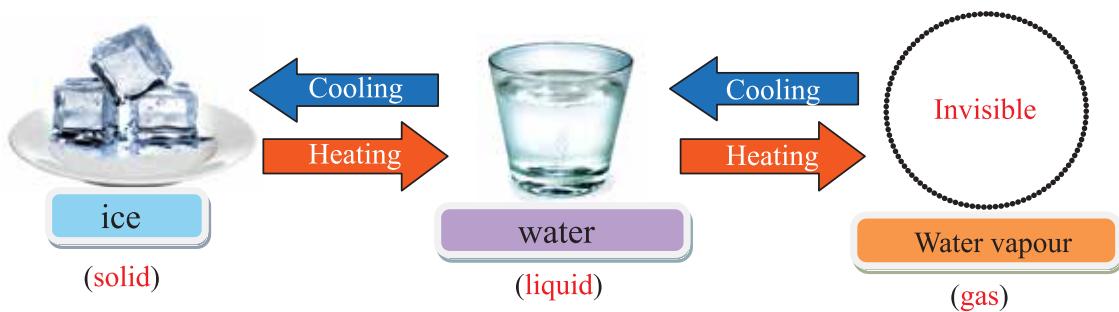
When water is heated, bubbles rise through the water. Then water boils. Bubbles comprise vapour which is invisible state of water. This is called water vapour. When water vapour cools down in the air, it changes into visible particles of water. That is called steam. Steam becomes water vapour in the air again, and then disappears.



## (2) Three states of water

We can change the forms of water into liquid, vapour, and ice by heating and cooling.

**Water vapour** is an invisible form of water. It is the **gaseous** state of water. When heat is added to liquid water, it changes into water vapour. As water vapour cools, it changes into liquid water. **Liquid water** is the form of water we know best. We use liquid water for drinking, washing, swimming, etc. **Ice** is a frozen form of water. This state of water is called **solid**. When liquid water cools, it changes into ice. Ice changes into liquid water when heated.



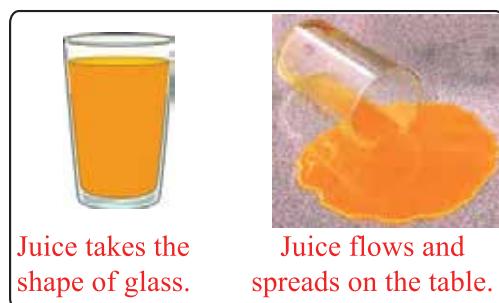
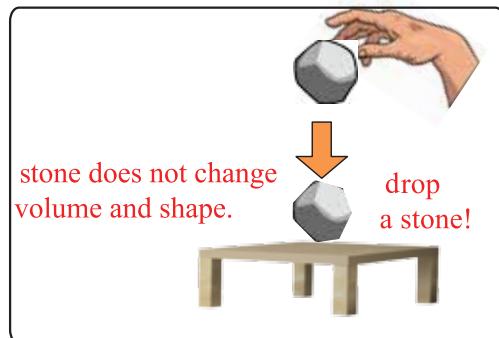
### 3. Three states of matter

Matter is found in different states in our environment. Matter can be classified into three states - solid, liquid and gas.

**Solid** is a state of matter that has its own definite volume and shape. A stone is solid. The stone does not change its volume and shape by itself. When we drop a stone, it still has the same volume and shape. Ice, tables, pencils, etc. are solid.

**Liquid** is a state of matter that has its own volume but does not have its own shape. Liquids flow and take the shape of the container they are in. For example, juice will take the shape of the glass when we pour juice into a glass. Juice flows and spreads on the desk or floor when we spill it. Water, milk, oil, juice, etc. are liquids.

**Gas** is a state of matter that flows and has no definite shape or volume of its own. A gas always takes the whole space of a closed container. Air and water vapour are gas.



#### Discussion

1. Write two names of each of solid, liquid, and gaseous matters in the table.
2. Share your ideas with the classmates.

Solid	Liquid	Gas



## EXERCISES

### 1. Fill in the blanks:

- 1) Ice is the \_\_\_\_\_ state of water.
- 2) Water changes into ice by \_\_\_\_\_ .
- 3) Water changes into vapour by \_\_\_\_\_ .
- 4) All things are made of \_\_\_\_\_ .

### 2. Put a tick (✓) mark on the correct answer.

- 1) Which one is a solid?  
a. water                          b. vapour  
c. juice                            d. ice
- 2) Which one is a liquid?  
a. oil                              b. water vapour  
c. bubble of water              d. ice

### 3. Answer the following questions.

- 1) What are the three forms of water?
- 2) Explain what matter is.
- 3) Mention two differences between a solid and a liquid.
- 4) Write two properties of gas.
- 5) Name five liquids.

### 4. Match the sentences on the left with the related words on the right.

The matter that has definite volume and shape	liquid
The matter that takes the whole space of a closed container.	solid
The matter that has definite volume but does not have definite shape.	gas
Water vapour is	



## Chapter 4

# Water for Life

Our earth consists of land and water. Almost three quarters of Earth's surface is water.



## 1. Sources of water

We drink water. Plants and animals need water to survive. Water is very important for people.

### QUESTION: Where do we get water from?



### Activity: Sources of Water

#### What to Do:

1. Draw a table in your exercise book like the one shown on the right-hand side.
2. Make a list of sources of water in the table.
3. Share your ideas with your classmates.

Sources of water



Where do we get the drinking water from?



Where do we swim?



## Summary

Water is found from many sources around us. We can get water from rain, canals, rivers, lakes and the seas. We can get water from the tap and tube-well as well. These are called **sources of water**.

Sources of water can be classified into two groups; **natural sources** and **man-made sources**.

### Natural sources of water

Seas, rivers, lakes, and rain are called **natural sources of water**.



a sea



rain



a river

### Man-made sources of water

Well, tube-well, tap and pond are man-made sources of water.



a pond



a well



a tube well



a tap



### Discussion

#### ◆ Where does water come from?

1. Make a table like the one shown on the right.
2. Make a list of natural and man-made sources of water based on your previous table.
3. Share your ideas with your classmates.

Natural sources	Man made sources



## 2. Uses of water

Water is very important and essential for life. When we feel thirsty, we drink water. When we cook food, we also use water.

People use water not only for drinking, cooking, and agriculture but also for other purposes.



drinking water



cooking foods

### QUESTION: In what activities do we use water?



#### Activity: Uses of water

##### What to do:

1. Draw a table in your notebook like the one shown on the right-hand side.
2. Make a list of uses of water in the table.
3. Share your ideas with your classmates.

	Uses of Water
1	
2	
3	



When and in what purposes do we use water?

I wash my hands and face, and brush my teeth in the morning.



## Summary

People use water in many ways. People drink water and use it for cooking. They use water for washing and cleaning. Water is also used for agriculture such as growing crops and fish farming and in industries.



irrigation of water in the paddy field



fish farming

## Preservation of water

People use air, water, rock, soil, etc. They are natural resources. Natural resources are limited. Water is a natural resource. We have to save water because fresh water is very limited. We can save water while we brush our teeth and wash our hands.



wasting water during washing clothes



saving water during brushing teeth



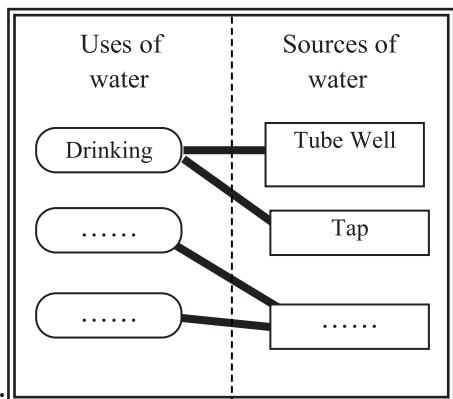
turn off the tap while you brush your teeth.



## Discussion

### ◆ What is the relation between the uses and source of water?

1. Make a chart like the one shown on the right.
2. Make a list of uses of water and sources of water in the chart.
3. Draw lines from the words on the left to the appropriate words on the right.
4. Share your ideas with your classmates.



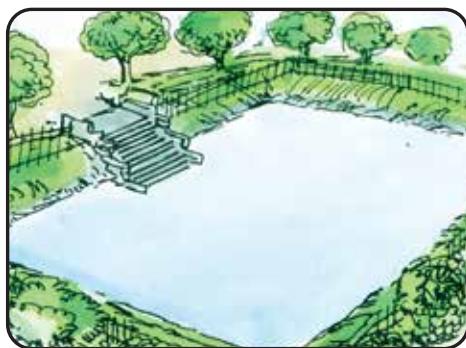
### 3. Safe and unsafe water

Some water is safe to drink, but some water is not safe. We need safe water to drink for our daily life.

#### Fresh and salty water

We need fresh water for drinking, cooking and taking a bath. We get fresh water from rain, ponds, wells, and taps. Sea water is salty. Some fresh water is safe for people. Safe water is water such as boiled water, well-filtered water and tube-well water. Some fresh water such as water from ponds and rivers is not safe for drinking.

#### Unsafe water



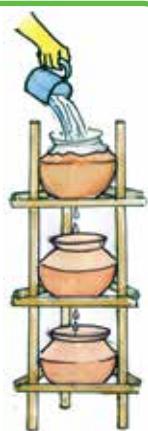
a pond

a river

#### Safe water



boiled water



filtered water

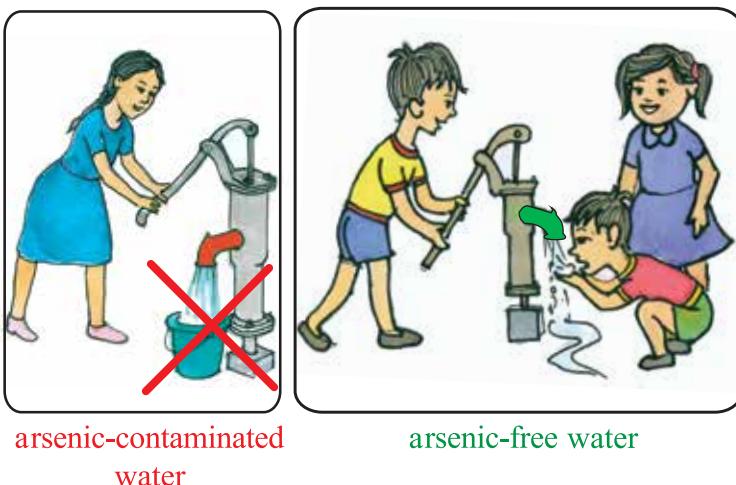


## Arsenic-contaminated water

Some tube-well water in Bangladesh contains arsenic. Arsenic is contaminated with water from inside the land. Arsenic-contaminated water does not have a specific taste, odour or colour.

Arsenic-contaminated water is not safe for people to drink and use. It may cause skin diseases and cancer. How can we identify a safe tube-well from an unsafe tube-well ?

The water from tube-wells marked in green is arsenic-free. It is safe water. This water can be used for drinking and cooking. The water from tube-wells marked in red is arsenic-contaminated. It is not safe water. We should not use it for drinking and cooking.



### Discussion

#### ◆ Which water is ‘drinkable’ and which is ‘undrinkable’?

1. Make a table like the one below.
2. Make a list of ‘drinkable water’ and ‘undrinkable water’ in the table.
3. Share your ideas with your classmates.

Drinkable water	Undrinkable water



## 4. Water pollution

### QUESTION: What causes water pollution?



### Activity: Causes of water pollution

#### What to do:

1. Draw a table like the one shown on the right.
2. Go out of the classroom with your exercise book and find a ditch and a pond where water is polluted.
3. List the harmful things you found in polluted water.
- 4 Share your ideas with your classmates.

The things you found in polluted water

### Summary

Water pollution happens when harmful things get mixed into the water. Throwing trash, oil, and harmful waste into water cause water pollution. Polluted water contains waste and harmful matters. Taking bath in polluted water causes skin disease along with other disease. Polluted water causes disease such as diarrhoea, cholera, dysentery and typhoid if people drink it and bathe in it. Polluted water is unsafe for people.



Waste from a factory



washing clothes and bathing cows in water

We can help to prevent water pollution. We can stop throwing harmful things into water.



### Discussion

#### ◆ How can we prevent water pollution?

- Share your ideas on prevention of water pollution with your classmates.



## EXERCISES

**1. Fill in the blanks.**

- 1) Water is one of the \_\_\_\_\_ resources.
- 2) Water \_\_\_\_\_ happens when harmful waste gets into water.
- 3) Rain, rivers, lakes, seas and taps are called \_\_\_\_\_ of water.
- 4) Sea water tastes \_\_\_\_\_ .

**2. Put a tick (✓) mark on the correct answer.**

- 1) What causes water pollution?
 

a. putting trash in water	b. riding a boat on it
c. fishing in water	d. cooking food
- 2) Which colour tube-well provides safe water?
 

a. blue	b. yellow
c. green	d. red
- 3) Which one is safe water for drinking?
 

a. pond water	b. boiled water
c. river water	d. sea water

**3. Answer the following questions.**

- 1) For which purposes do we use water?
- 2) Write three causes of water pollution.
- 3) How can we prevent water pollution?
- 4) How can we prevent misuse of water?

**4. Classify the following words into two groups in the table.**

filtered water, sea water, water from red tube well,  
water from green tube well, boiled water, pond water

Drinkable water	Undrinkable water



# Chapter 5

## Soil

We live on land. Trees grow on land. Hens, ducks, cows, and goats also live on land. The loose material covering the Earth's surface is called **soil**.

### 1. Components of soil

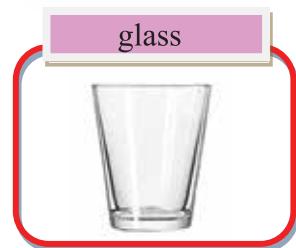
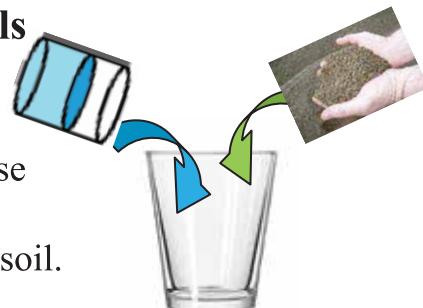
**QUESTION:** What is soil made of ?



#### Activity: Components of soils

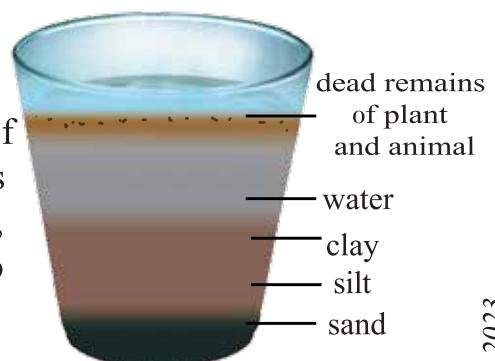
##### What to do:

1. Draw a picture of a glass in your exercise book like the one shown below.
2. Go out of the classroom, and collect some soil.
3. Put some soil into a glass and then pour water into it.
4. Observe what is happening in the glass and record your findings in your notebook.
5. Stir it well and wait for a few minutes.
6. Observe inside the glass and sketch your findings in the picture of a glass.



### Summary

When we pour water on the soil, bubbles come out. We also notice various components of soil in the glass. Soil consists of rocks, particles of sand, silt and clay, water, air, etc. Besides, remains of dead plants and animals are also there in the soil.



## 2. Types of soil

Soil is classified into three groups: **clay soil**, **sandy soil** and **loamy soil**.

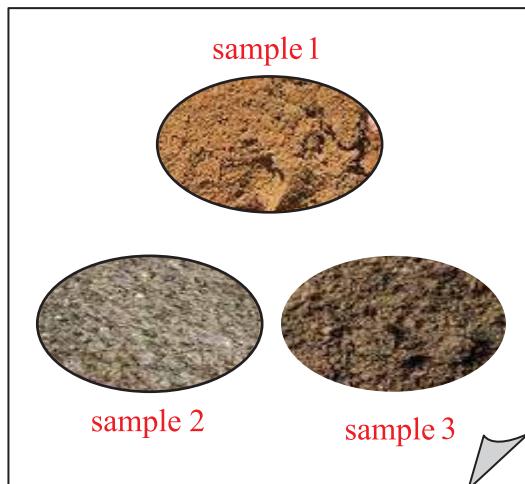
**QUESTION:** What are the differences between the three types of soil?



### Activity: Comparing properties of different types of soil

#### What to do:

1. Draw a table in your exercise book like the one shown below
2. Place three types of soil samples on a sheet of paper.
3. Observe the soils and record the properties of the soils.
4. Share your ideas with your classmates.



Property	Sample A	Sample B	Sample C
its colour			
how it feels			
size of the particles			
any other property			



## Summary

The colour, water in it, and the size of particles can be different. Soil is classified based on different components in it. The three main types of soil are clay soil, sandy soil and loamy soil.

### Clay soil

Clay soil is often reddish in colour. It is sticky when wet, but smooth when dry. Clay soil has the smallest particles among the three types of soils.



clay soil

### Sandy soil

The colour of the sandy soil is often pale brown or light grey. The size of the particles of sandy soil is larger than clay soil and loamy soil. It is dry and feels gritty.



sandy soil

### Loamy soil

Loamy soil is dark in colour. It feels soft, and dry. Loamy soil contains various sizes of particles. Loamy soil is composed of a mixture of sand, clay and **humus**. Decayed remains of plants and animals form **humus**.



loamy soil



### Discussion

1. Draw a table in your notebook like the one shown below.
2. Write different characteristics of soils in the table.
3. Share your ideas with your classmates.

	Clay soil	Sandy soil	Loamy soil
Colour			
Amount of water			
Size of particles			



### 3. Soil and crops

What differences are there between the sandy, loamy, and clay soil for growing crops?

#### QUESTION: Which soil is suitable for which crop ?

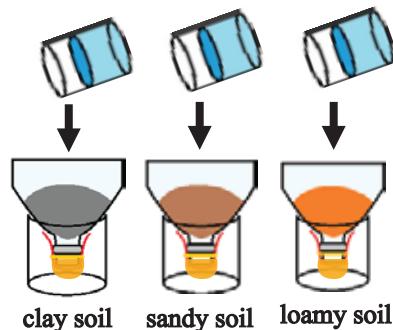
Water is very important for growing crops. Plants grow in soil and get water from soil. In which soil do crops grow well?



#### Activity: Water-holding capacity of soil.

##### What to do:

1. Collect clay soil, sandy soil, and loamy soil.
2. Make a table like the one shown below.
3. Make three funnels by cutting pet bottle with the help of a teacher.
4. Put the same amount of soil into each funnel and pour the same amount of water slowly into the funnels.
5. Observe how fast and how much water runs down from each funnel.
6. Record your observations in the table.
7. Share your ideas with your classmates.



	Clay soil	Sandy soil	Loamy soil
How fast the water drains			
How much water drains			



Be careful not to cut your hands on the edge of the bottle funnels.

#### Think and Share

- ◆ Which soil can retain the water most ?
- ◆ Why do you think so?



## Summary

### Clay soil

The particles of clay soil are the smallest and more compact among the three types of soil. Due to the tiny size of the particles, water drains slowly through the clay soil. Thus, clay soil can retain water and it contains suitable elements for better plant growth. This soil contains the necessary elements for plants growth. Beans and jackfruit grow well in this soil.



beans



jackfruits

### Sandy soil

Sandy soil has the largest size particles among the three types of soil. Water can pass through sandy soil as well as necessary elements of soil. For this reason, crops do not grow well in this soil. This soil is suitable for growing watermelon, groundnut, small size melons, cucumbers, etc.



watermelon



groundnut



cucumber

### Loamy soil

Loamy soil is a mixture of sand, clay and humus. Due to the properties of sand and clay, it has a tight hold on water and soil elements but it drains well. Paddy, wheat, maize, barley, jute, sugarcane, etc. grow well in this soil. Most of the areas in Bangladesh are made up of loamy soil.



paddy



wheat



jute



## EXERCISES

### 1. Fill in the blanks.

- 1) Soil is classified into three types; clay soil, sandy soil and \_\_\_\_\_ soil.
- 2) The soil which has the largest particles is called \_\_\_\_\_ soil.
- 3) The soil which consists of sand, clay and humus is called \_\_\_\_\_ soil.

### 2. Put a tick (✓) mark on the correct answer.

- 1) In which type of soil do jackfruit and beans grow well?  
a. sandy soil                  b. loamy soil  
c. clay soil                  d. salty soil
- 2) In which type of soil do water melons and groundnuts grow well?  
a. salty soil                  b. sandy soil  
c. clay soil                  d. loamy soil

### 3. Answer the following questions.

- 1) Why do crops grow well in loamy soil ?
- 2) What are the characteristics of sandy soil ?
- 3) Mention two differences between loamy soil and clay soil.

### 4. Match the words on the left with the related words on the right.

clay soil	humus
sandy soil	water melon
loamy soil	jackfruit
decayed remains of plants and animals	paddy



# Chapter 6

## Air

Air is an element of the natural environment. Plants and animals need air to survive. What is air? Why do we need air?

### 1. Air around us

Air is all around us but we cannot see it.

**QUESTION:** How can we know the presence of air?



### Activity: Feeling the presence of air

#### What to do:

##### Activity 1:

1. Fill a polyethene bag, and tightly tie the top of the bag with a string.
2. Toss, push, hit and move the bag filled with air.
3. Describe what you feel in your hand or body as you do this.



##### Activity 2:

1. Put the plastic bag with air under water as shown on the right.
2. Loosen the top of the bag to release the air.
3. Describe what you have seen.



## Summary

We cannot see air. But we can feel it by tossing, pushing, and moving a bag blown-up by air. We can see bubbles when we release the air in the water. We can also feel the presence of air when we use a hand fan. We know there is air all around us because branches and leaves of trees move. What other situations tell us that air is around us?



we can find air in bubbles



riding a bicycle



air from hand fan  
blows away pieces



## Discussion

1. Make a list of five situations when you can feel the presence of air.
2. Discuss the list with your classmates.

## Importance of air

Air is everywhere. Plants use air to make food. People, animals and plants use air to breathe. So, air is very essential for living things to survive.



living beings need air

People use air in many ways. Air is used to in the tyres of bicycle and cars. Air makes the sailboat move across the water. We also use air to cool ourselves on a hot day. Airflow helps produce electricity by rotating the fans of windmill.



a tyre



a sailboat



wind mills



## 2. Elements of air

**QUESTION:** What are the elements of air?



### Activity: Fire burns in air

#### Things needed?

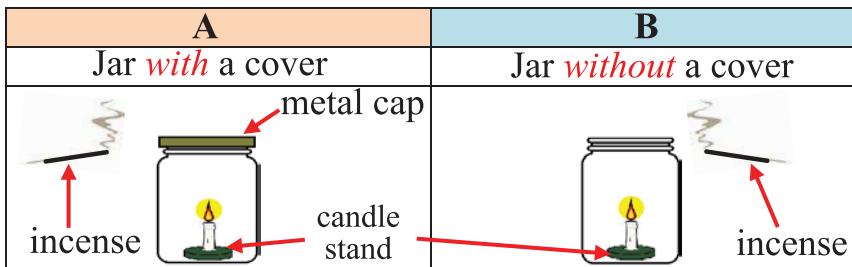
Two glass jars with caps, two small candles on candle stands, incense and matchbox.

#### What to do:

1. Make a table like the one shown below in your exercise book.

Jar	What happened to the candle?	Which way did the smoke move?
A		
B		

2. Put the candle at the bottom of each jar.
3. Light the candles. Let them burn for some time.
4. Cover jar A. Keep jar B open.
5. With the help of the teacher, one student light an incense and hold it close to top of jar A. another student light another incense and hold it close to top of jar B.



**Do not touch the candle and glass jar while the candle is burning.**

6. Observe the candle in each jar and find the direction of the smoke from the incense.
7. Record your observations in the table.





## Discussion

- ◆ Based on the table you made, think about the following questions and share your ideas with your classmates.

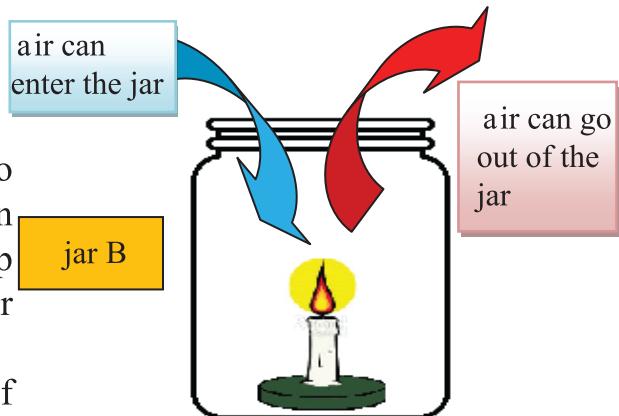
- 1) What happened to the candle in jar A ?
- 2) What happened to the candle in jar B ?
- 3) In which direction incense smoke of jar A was going?
- 4) In which direction incense smoke of jar B was going?

## Summary

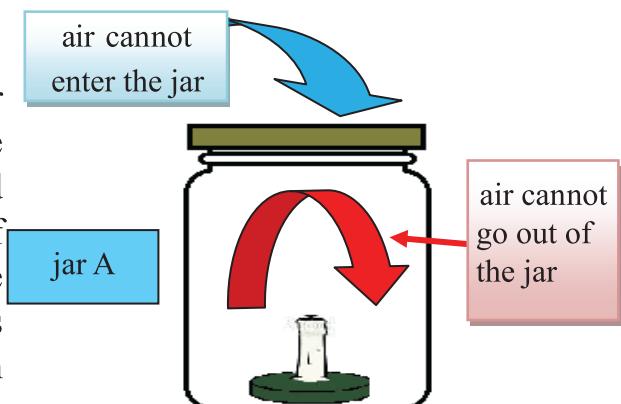
Air is necessary for a candle to keep burning. The candle in an open container can keep burning because air can enter the jar.

Air contains many kinds of gases. The gas in the air that can help something to burn is called **Oxygen**.

The candle in a closed container cannot keep burning because oxygen in the container is used up. Instead, the amount of another gas in the air in the container increases. The gas is called **Carbon dioxide**. Carbon dioxide does not help something to burn.



**the candle in an open container keeps burning.**



**the candle in a closed container cannot keep burning.**

Air is made up of various kinds of gases. There are Nitrogen, Oxygen, Carbon dioxide and water vapour.

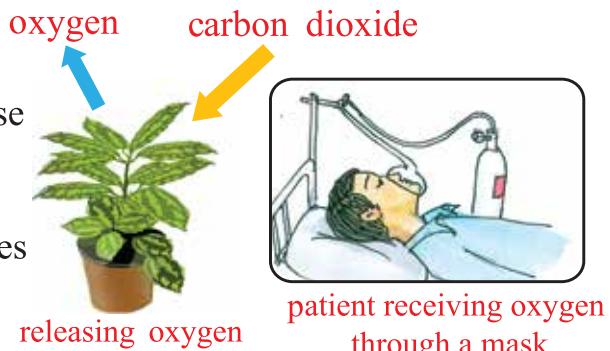


### 3. Uses of different elements of air

Various elements of air are used in our life.

#### Oxygen

Most living things need oxygen. When plants make food they release oxygen into the air. Animals breathe it in to survive. Patients with asthma or breathing difficulties should be given oxygen directly.



#### Carbon dioxide

Plants need carbon dioxide to make their own food. Carbon dioxide does not help burn the fire. That is why this gas is used in fire extinguishers. Carbon dioxide is added to soft drinks such as sodas.



#### Nitrogen

The fertilizer that is added to plants to make them grow well contains nitrogen. Nitrogen is used in preserving foods such as a packet of potato chips. It is also used in making light bulbs.



#### Discussion

##### ◆ How do we use air?

1. Make a list of the uses of each gas in the air in the table on the right.
2. Share your ideas with your classmates.

	Use of air in our daily life
Oxygen	
Carbon dioxide	
Nitrogen	



## 4. Air pollution

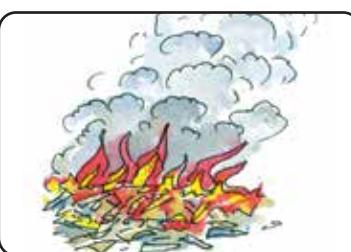
Air pollution occurs when gases, dust, smoke or odour are mixed in the air. Air pollution is harmful to living things. It makes people sick. It may cause respiratory and heart diseases. Living beings need fresh air.

### Causes of air pollution

Harmful things mix in the air from different sources. Gas emitted by cars, dust and smoke from fires and factories cause air pollution. Smoking cigarettes is not only bad for the health but also contributes to air pollution. Throwing garbage or excreting anywhere spreads bad odour in the air and causes air pollution.



smoke from cars



smoke from fire



smoke from factory

### Preventing air pollution

Plants, animals and human need clean air. We can keep the air clean by preventing pollution. Walking or riding a bicycle instead of using a car can help prevent air pollution. Discharging garbage in right place can cut down air pollution. Air pollution also can be reduced by stopping the emission of black smoke from cars.



walking and riding a bicycle help to prevent air pollution



### Discussion

#### ◆ How can I help prevent air pollution?

1. Make a table like the one shown on the right.
2. Make a list of how you can help prevent air pollution in the table.
3. Share your ideas with your classmates.

What can we do?



## EXERCISES

**1. Fill in the blanks.**

- 1) Black \_\_\_\_\_ from cars causes air pollution.
- 2) In an electric bulb \_\_\_\_\_ gas is used.
- 3) To stop fire \_\_\_\_\_ gas is used.
- 4) \_\_\_\_\_ is used to fill out tyres of cars.
- 5) Walking or riding a bike can help prevent \_\_\_\_\_.

**2. Put a tick (✓) mark on the correct answer.**

- 1) How do plants use carbon dioxide ?
  - a. to make food
  - b. to grow
  - c. to have more flowers
  - d. to produce fruit
- 2) Which gas in the air is necessary for animals to breathe ?
  - a. carbon dioxide
  - b. oxygen
  - c. nitrogen
  - d. water vapour
- 3) What is the element of fertilizer that makes plants grow healthy ?
  - a. carbon dioxide
  - b. oxygen
  - c. nitrogen
  - d. water

**3. Answer the following questions.**

- 1) Give at least three examples to prove that air is around us.
- 2) Name four elements of air.
- 3) Describe three ways to prevent air pollution.

**4. Match the words on the left with the related words on the right.**

fertiliser	
extinguisher	
animals for breathing	
packet of potato chips	
soda (soft drink)	
	oxygen
	carbon dioxide
	nitrogen



## Chapter 7

# Food

We get food from plants and animals. What sort of food do we need? Why do we need food to survive?

### 1. Food and nutrition

**QUESTION:** What kind of food do we eat?



### Activity: Classification of food

#### What to Do:

1. Make a table like the one shown on the right in your exercise book.
2. Sort out the foods in the pictures below into two groups in the table.

Food from animals	Food from plants



ghee



eggs



potatoes



milk



rice



cauliflower



meat



bread



## Summary

We eat different kinds of food. These come from different sources. Beef, chicken, fish and egg are food from animals. Ghee, butter and milk also come from animals. We eat rice, potato, bread and vegetables as food. Bread is made from flour. Flour is made from wheat. These kinds of food come from plants. We also get fruits such as jackfruit, mango, berry, banana and orange from plants.

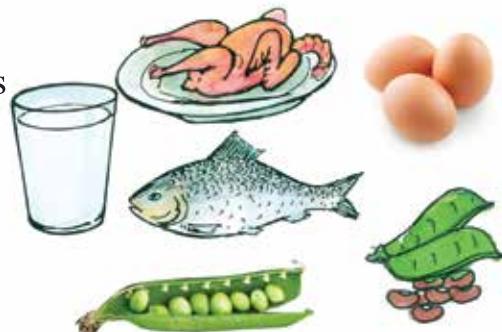
We get the necessary energy from food. Food helps in our growth and provides energy for work. Human and all living beings need food. Nutrients are all the necessary elements needed for living beings to grow up and survive. We get it from food.

## Nutrition

Our food contains various kinds of nutrients. **Proteins**, **carbohydrates** and **fat** are the major food nutrients. **Vitamins** and **minerals** are also nutrients. Our body receives these elements from food.

### (1) Proteins

Protein builds up our body. Protein is needed to build, repair and maintain muscle and blood. Meat, fish, eggs, pulses and beans contain plenty of protein.



**food with protein**

### (2) Carbohydrates

Carbohydrates are richly contained in the grain groups; rice, potato, wheat and maize. Carbohydrates provide energy for doing work.



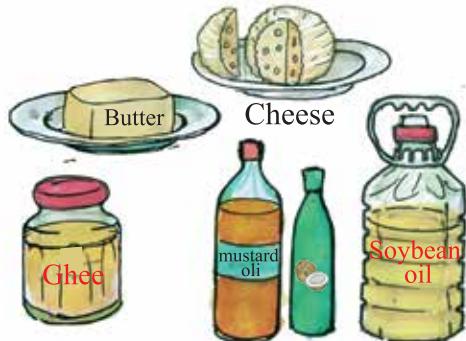
**food with carbohydrate**



## Food

### (3) Fat/Oils

Fat/Oils provides energy and body structure also requires fat/oil. Fat is mainly contained in dairy products such as ghee, butter, curds etc. Various oils are also obtained from plants such as soyabean, mustard and coconut.



Food with fat

### (4) Vitamins and Minerals

Vitamins and minerals keep our body functioning and healthy.

Vitamins and minerals protect us from diseases. Different fruits and vegetables have plenty of vitamins and minerals.



vitamin & mineral rich foods

## Water

Water is not a nutrient. The body needs water for various function. Adequate safe water is needed for digestion and absorption of food in our body. Another name of water is life.

## Safe food

Foods free of various types of germs and harmful substances are called safe food



## Discussion

1. Make a list of the functions of the nutritions in the table below.
2. Share your ideas with the classmates.

Nutritons	Functions
Protein	
Carbohydrate	
Fat	
Vitamin & Mineral	



## 2. Balanced diet

We may become sick if we do not eat different kinds of food in proper amount. What kind of food should we eat to keep our body healthy?

The food containing all the essentials for our body in the required quantity is called a **balanced diet**. The balanced diet is prepared by mixing various types of food. Protein, carbohydrate, fat, vitamin and mineral, vegetables should be present as per requirement.

**QUESTION:** What is the balanced diet for good health?



### Activity: Menu of a balanced diet for a dinner

#### What to Do:

1. Make a table like the one shown below.
2. Choose one or two food items from each group in the table below.
3. Make a menu of balanced diet for dinner.

Nutrition Group	food items
Protein	
Carbohydrate	
Dairy Product	
Vegetables	
Fruits	

Source of Diet				
Protein group	Carbohydrate group	Dairy product group	Vegetable group	Fruit group
fish	rice	milk	lalshak	mango
meat	atta	yogurt	puishak	jackfruit
eggs	potato	cheese	arum leafs	orange
beans	maize	curds	carrot	guava
seeds		ghee	pumpkin	jujube
		butter	radish	apple
			cauliflower	watermelon
			cabbage	hog plum
			cucumber	banana
			tomato	gooseberry





## Discussion

### ◆ How can we prepare a balanced diet?

1. Discuss with your classmates about the menu you had at dinner last night.
2. Decide whose menu was best in the class.
3. Discuss why the menu is the best.

## Summary

Eating a well-balanced diet every day is very important for us. It keeps us healthy and makes us strong. The body grows well and the risk of diseases becomes less.

We get proper nutrition by eating a variety of food. There is no single food which contains all kinds of nutrition. If we eat a lot of carbohydrate, we will get energy but no other nutrients. We cannot have good health if we do not eat the right amount of different kinds of food.



**balanced diet**

### A reasonable balanced diet

Many people believe that costly food have more nutrition. But it is not true. All food items contain nutrition regardless of the price. Though the source and price of food are different, the nutritional value may remains almost the same. There is no difference in nutritional value between local and foreign food. The characteristics of nutritional elements are also the same. The important thing is to select the right kind of food considering our age, the work that we do, and how fast we are growing.



Me and mother will buy local vegetables from the market and cook vegetable for dinner.



Me and father will eat vegetable for dinner at a restaurant .

**Which dinner has more nutritional value?**



### 3. Fruits

Human beings eat fruits. Eating fruits is good for health. We have plenty of fruits around us.

**QUESTION:** What kind of fruits are there in different seasons?



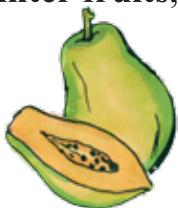
#### Activity: Classification of seasonal fruits

##### What to Do:

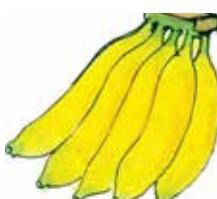
1. Make a table like the one shown below.

Summer Fruits	Winter Fruits	Fruits throughout the year

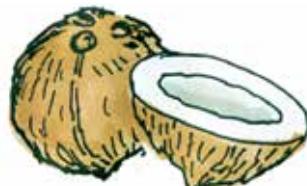
2. Sort fruits in the figure below into three groups; **summer fruits**, **winter fruits**, and **fruits throughout the year**.



papaya



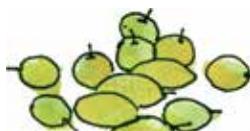
banana



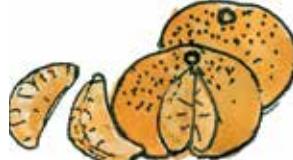
coconut



wood apple



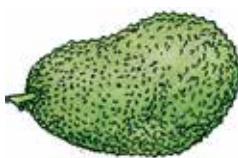
plum



orange



guava



jack fruit

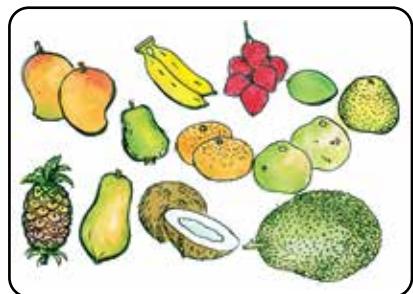


mango



## Summary

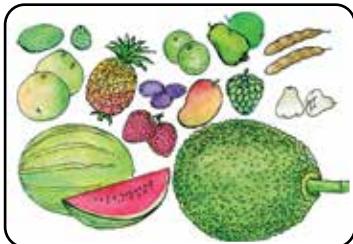
Fruits are rich in vitamins and minerals. We need to eat fruits to keep us healthy and free from diseases. We eat many kinds of fruits such as mango, jackfruit, banana, blackberry, apple, grapes and orange. We get some fruits in the summer, others in the winter or throughout the year.



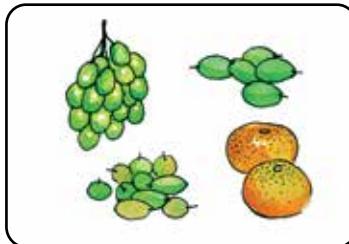
various types of fruits

### Seasonal fruits

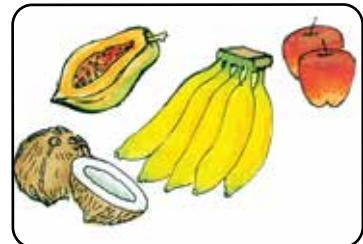
Fruits can be classified based on the seasons of the year in which they grow such as **summer fruits**, **winter fruits** and **fruits throughout the year**.



summer fruits



winter fruits



fruits throughout the year

#### (1) Summer fruits

The notable summer fruits are – mango, black berry, lichi, jackfruit, guava, hog-plum, pineapple, lemon, wood apple, etc.

#### (2) Winter fruits

Fruits do not grow much in winter in our country. Among them, orange, jujube (boroi) and olive are the main winter fruits.

#### (3) Fruits throughout the year

In our country some fruits grow throughout the year such as papaya, banana and coconut.

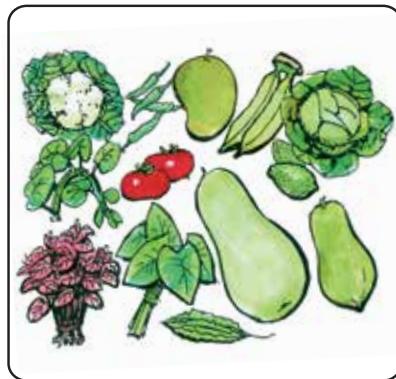
A list of seasonal fruits is given in the table below.

Seasonal Fruits		
Summer fruits	Winter fruits	Fruits throughout the year
mango, lichi, lemon, hog plum, guava	olive, jujube, orange	papaya, banana, coconut



## 4. Vegetables

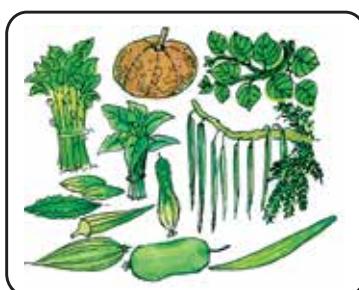
We have learned that vegetables are rich in vitamins and minerals. Eating vegetables is good for health. People who eat more vegetables regularly can reduce the risk of some diseases. There are many kinds of vegetables such as tomato, cauliflower, cabbage and carrot. We get some vegetables in the summer, others in the winter or throughout the year.



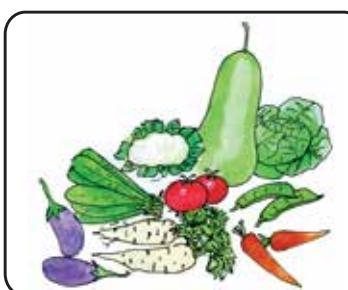
different types of vegetables

### Seasonal vegetables

Vegetables in Bangladesh can be classified into **summer vegetables**, **winter vegetables** and **vegetables throughout the year**.



summer vegetables



winter vegetables



vegetables throughout the year

#### (1) Summer vegetables

Various vegetables grow in summer. Such as potol, karolla, ladies finger, kakrol, jhinga, dhundul, chicinga, cucumber, chal kumra, sweet gourd, pani kachu etc. Leafy vegetables are data shak, pui shak etc.

#### (2) Winter vegetables

In the winter, various types of vegetables grow in Bangladesh. Those include bean, radish, gourd, tomato, carrot, lettuce, cauliflower and cabbage. Leafy vegetables are palong shak and bottle gourd leaves.

#### (3) Vegetables throughout the year

Among this type of vegetables are brinjal, green banana and papaya. Leafy vegetables are lal shak, kolmi shak and kachu shak.



## 5. Preserving food

### In which ways do we preserve food?

We eat various kinds of food to survive and grow. Fresh food makes us healthy and provides us energy. On the other hand rotten food makes us sick and weak. Food rots because of harmful chemicals, pests and microorganisms getting into food. We should preserve food so that it does not rot.



### Discussion

#### ◆ How do we preserve food?

1. Make a list of how to preserve different kinds of food, vegetables, fish, meat and fruits in our house.
2. Share your ideas with your classmates.

### Ways of preserving food

Food can be saved from being rotten through preservation.

There are many ways to preserve food.

#### (1) Drying

Food can be preserved by drying it in the sun or oven. This method works well for many types of food, including fruit, vegetables, fish, meat, grain and pulses.

#### (2) Canning or Bottling

Canning is the process of heating food at a specific temperature for a specific period. The food is sealed in a closed container. Fruits, vegetables, fish, meat and some prepared food are preserved in this way.

#### (3) Freezing

Refrigeration is the process of keeping food in a cold place. Refrigerator can be used for preserving many types of food especially vegetables, fruits, fish and meat.

Besides, food can be preserved by making pickles and putting a lot of salt or ice.



dried fish



jelly



pickles



refrigerator



## EXERCISES

### 1. Fill in the blanks.

- 1) We need \_\_\_\_\_ for surviving and growing.
- 2) Vegetables are rich in \_\_\_\_\_ and \_\_\_\_\_.
- 3) The major nutrients in our food are \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.
- 4) \_\_\_\_\_ diet provides all sort of nutrients.

### 2. Put a tick (✓) mark on the correct answer.

- 1) What is the main function of protein?
  - a. to provide energy
  - b. to remove weakness
  - c. to prevent disease
  - d. to help the body formation and growth
- 2) Which one is the summer fruit?
  - a. banana
  - b. boroi
  - c. lichi
  - d. olive
- 3) Which one is rich in protein?
  - a. gourd
  - b. pumpkin
  - c. pulse
  - d. potato

### 3. Answer the following questions.

- 1) Why do we need to eat fruits and vegetables?
- 2) What are the functions of vitamin?
- 3) Why should we eat a balanced diet?
- 4) Write down two ways of preserving food.
- 5) Explain what nutrition is.
- 6) Write the names of three fruits that grow throughout the year.

### 4. Match the words on the left with the related words on the right.

cheese rice disease prevention fish water	protein vitamin fat carbohydrate
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## Chapter 8

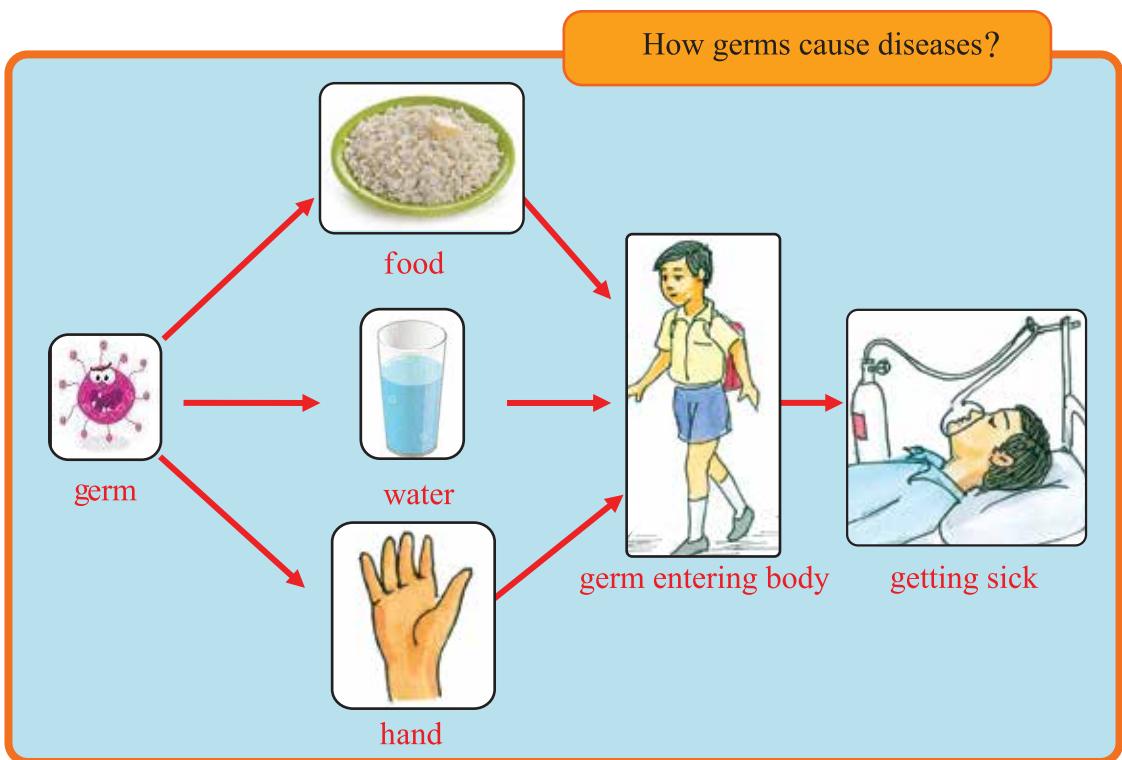
# Hygiene

### 1. Health and Disease

We sometimes suffer from different diseases. They include the common cold, diarrhoea, dysentery, typhoid, pox, cholera and tuberculosis. How do we get diseases? How can we keep ourselves healthy?

#### (1) Disease

There are countless invisible germs all around us. Some germs cause diseases in people. These germs can get into our bodies when we drink or eat contaminated water or food. If we rub our eyes with dirty hands or put dirty hands in our mouth, germs can also get into our body. When germs multiply in our bodies we become ill.



## (2) Keeping our body fit

Our body has a natural ability to fight against diseases. Our body can destroy germs. Maintaining a healthy life is a good way to improve such ability.

A well-balanced diet can keep our body fit. It is also useful to do moderate exercises and get enough rest and sleep.



moderate exercises and sports



balanced diet



enough sleep

If we get a disease, we need to see a doctor and take medicine.

We need to eat nutritious food to recover from disease.

In addition, we need to drink safe water and take enough rest.



visit a doctor



take medicine



### Discussion

#### ◆ How can we stay healthy?

1. Make a list of your habits to keep yourself healthy.
2. Share your activities with your classmates.
3. Make a list of what rules you should follow to keep your body fit.



## 2. Prevention of diseases

**QUESTION:** How can we protect ourselves from diseases?



### Activity: Good habits to prevent diseases

#### What to Do:

1. Make a table like the one shown on the right.
2. Write down your good habits in the table.
3. Discuss with your classmates and make some rules to prevent diseases.

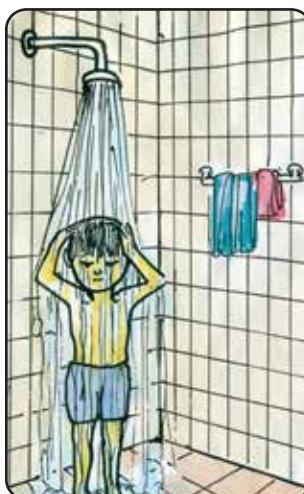
What can we do to prevent diseases?
Example: brushing teeth after meals
1.
2.

### Summary

Germs are everywhere. We have to hold many things every day, such as door handle, table, chair, toilet things, etc. We receive germs from these or spread through these. But, we cannot avoid touching anything. Germs spread from one person to another through sneezes and coughs in the air. Insects such as mosquitoes and house flies also spread germs. The best way of preventing diseases is to stop the spread of germs. Stopping the spread of germs is a good habit to prevent diseases.

### Cleanliness of body

We need to take special care of our body to keep it neat and clean. We have to brush our teeth after meals and bathe with clean water and soap every day. We also need to wash clothes regularly. We need to care for our skin, hair, nails, eyes and ears to keep our body healthy.



taking a shower



brushing teeth



clipping nails



## Washing hands

Germs can get into our bodies when we touch our mouth, eyes or nose with dirty hands. Dirty hands can spread germs when we touch something. Washing our hands with soap and clean water is the best and simplest way to prevent diseases. We have to wash our hands before eating and preparing food, and after using the toilet.



washing hands with soap



drinking safe water

## Using safe water

Polluted water causes disease. We need safe water to prevent diseases. We have to use safe water to drink, prepare food and wash our body. Safe water helps our body work properly. It washes germs off, and keeps us healthy.

## Cleanliness of the environment

We need to clean our surroundings to prevent the spread of germs. Regular cleaning with soap and water can remove germs from everything.

In our houses or schools, we have to wipe the benches, tables, chairs, etc. and sweep the floor to keep it clean. We should put garbage such as kitchen wastes, paper and banana skin in dustbins or a specific place. Germs can spread from urine and stool. So, we will keep toilets neat and clean. We have to use toilets properly. We have to wash our hands with clean water and soap.



cleaning a classroom



using a sanitary latrine



## EXERCISES

**1. Fill in the blanks.**

- 1) We may get sick when \_\_\_\_\_ enter into our body.
- 2) To keep good health we need to eat \_\_\_\_\_ .
- 3) We should put garbage or waste in \_\_\_\_\_ or specific places.
- 4) If we do not keep our body neat and clean, we will get \_\_\_\_\_ .

**2. Put a tick (✓) mark on the correct answer.**

- 1) What is a good habit to prevent disease?
  - a. eating lots of food
  - b. washing hands regularly
  - c. sleeping late
  - d. eating uncovered food
- 2) Which one is better to maintain good health?
  - a. taking enough sleep and rest
  - b. working hard
  - c. taking a lot of medicine
  - d. eating too much

**3. Answer the following questions.**

- 1) What should you do after using toilets ?
- 2) Mention two ways to keep the environment clean.
- 3) Describe how to wash your hands properly.
- 4) Give four good habits to prevent diseases.
- 5) Where are the germs found ?
- 6) Why do we need a clean environment to stay healthy ?

**4. Use arrows in the figure below to show the ways of spreading germs.**



## Chapter 9

# Energy

Energy comes in different forms such as light, electricity, and heat. We use energy in everything we do. Observe the following picture. Can you find the uses of energy in the picture below?



### 1. Energy in our life

#### QUESTION: How do we use energy?



#### Activity: Uses of energy

##### What to Do:

1. Make a table like the one shown on the right.
2. List the uses of energy in the table.
3. Share your ideas with the classmates.

When do we use energy?



I use energy when I study at night.



I use energy when I watch TV.

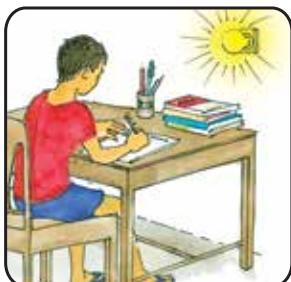


## Summary

We use light, electricity and heat as energy in different situations.

### Light

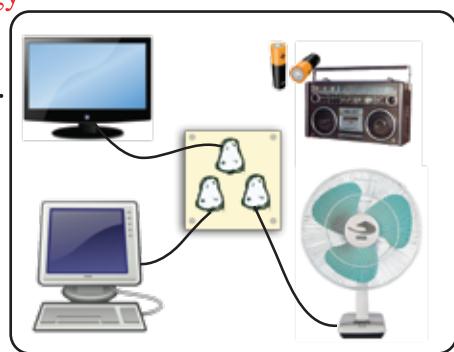
Light is energy that helps us to see. Without light, we could not see the things around us. We use light to make a room bright. We get light from fires, candles and many other sources. The main source of light is the Sun. Plants make their food by using sunlight. Without sunlight, crops and other plants cannot grow.



uses of light energy

### Electricity

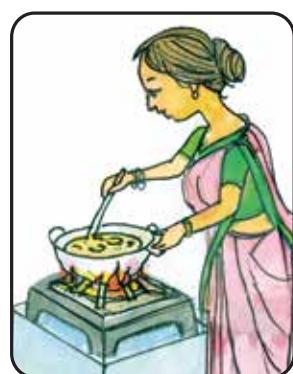
We use electricity to run different appliances. We get electricity from battery or electric connection in our house. We use electricity to turn on the light bulb and fan, watch TV, listen to the radio, and play with toy cars. Like this, we also use electricity to run refrigerators or computers.



uses of electricity

### Heat

Heat warms things. We use heat energy to cook food, dry clothes and keep ourselves warm. We get heat by burning wood, coal, oil and gas. We get heat energy by rubbing our palms. The Sun is a powerful source of heat. The Sun keeps the land, water and air of the Earth warm.



use of heat energy



## 2. What is Energy?

Energy is the ability to do work. We can do many things using energy. We can listen to news and music in radio. We can boil water and cook food by using fires.

### QUESTION: What can we do by using energy?



#### Activity: What energy does

##### What to do:

1. Put a candle like the one shown on the right.

	What changes are seen
Activity 1	
Activity 2	

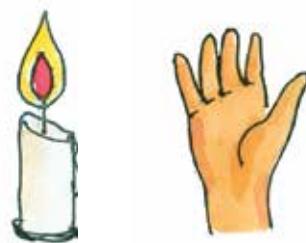
##### Activity 1:

1. Put a candle on a desk.
2. Make the room dark, and then light the candle.
3. Observe what happens to the room and the candle.



##### Activity 2:

1. Bring your hand close to the burning candle.
2. Describe what you feel on your hand, in the table.



**Do this activity with your teacher.  
Do not touch the flame.  
Be careful while using fire.**



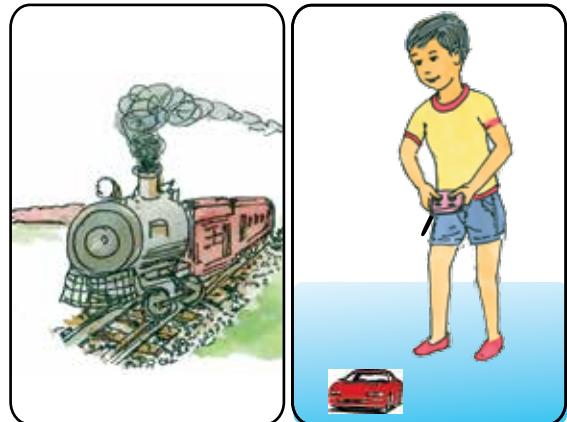
## Summary

Electricity can light a lamp and make the room bright. When we bring our hands close to the light, we feel warm. This means that light can produce heat. Energy can do many things.

Energy can mainly do four things: **move something, make a sound, produce light and heat.**

### Moving something

Energy can move something. Fans spin around by using electricity. A toy car can also move by using the electricity of a battery. Heat energy can move something as well. When we heat the water, steam comes out. Steam trains and ships can move by using the power of steam.



steam train

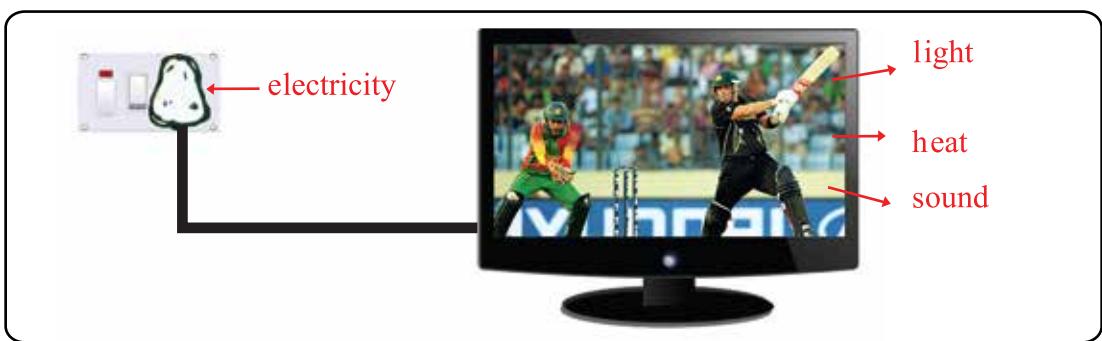
playing with a toy car

### Producing light

Energy can produce light. A lamp and torch give off light by using electricity. When we turn on the TV, we can see images because the TV emits light. Heat-energy can also produce light. When we burn a matchstick, we get both light and heat.

### Producing heat

Energy can produce heat. Electric lamps give off light as well as heat by using electricity. Burning candles give off light and heat as well. Electrical energy can also produce heat. When we iron clothes, we use the heat produced by electricity.



## EXERCISES

**1. Fill in the blanks.**

- 1) Heat, electricity and light are \_\_\_\_\_.
- 2) Television runs using \_\_\_\_\_ energy.
- 3) Plants prepare their food by using \_\_\_\_\_.
- 4) We get \_\_\_\_\_ and \_\_\_\_\_ by burning a matchstick.

**2. Put a tick (✓) mark on the correct answer.**

1. Which one is energy?

- |               |        |
|---------------|--------|
| a. television | b. fan |
| c. light      | d. pen |

2. Which one runs by using electricity?

- |              |                 |
|--------------|-----------------|
| a. push cart | b. radio        |
| c. the Sun   | d. steam engine |

**3. Answer the following questions.**

- 1) Make a list of what energy can do.
- 2) Name the different forms of energy.
- 3) Write down how light energy is used in our life.
- 4) Describe how electricity is used in our life.
- 5) Why do we rub our palms when we feel cold ?

**4. Match the words on the left with the related words on the right.**

<b>heat</b> <b>candle</b> <b>energy</b> <b>source of energy</b>	<b>light, heat and electricity</b> <b>boiling water</b> <b>Sun</b> <b>producing light and heat</b>
--	---



## Chapter 10

# Introduction to Technology

Look at the pictures below. What are they doing? What are they using?



When we write, we use a pen or a pencil. When we plough a field, we use a tractor. The tools in the pictures above are known as **technology**.

**Technology** can be a piece of equipment, tool, device, machine, or method. It makes our work easier, better or quicker. Technology makes our life much comfortable.

## 1. Technology in our life

### QUESTION: How does technology help us?



### Activity: Use of technology in our life

#### What to Do:

1. Make a table like the one shown below.
2. Make a list of the 'Name of technology' in the left column and 'How do we use the technology' in the right column of the table.
3. Share your ideas with the classmates.

Name of technology	How do we use the technology?
Pen	We can write with it.



## Summary

We use technology for different activities. We use different technologies for studies. Such as pencils, textbooks, exercise books, etc. Teachers use blackboards, chalk or other instruments to in the classroom.



writing with a pencil



reading a book

We use different technologies when we travel from one place to another. Such as bicycle, car, bus, aeroplane, etc. We use this type of technology to transport goods.



bus

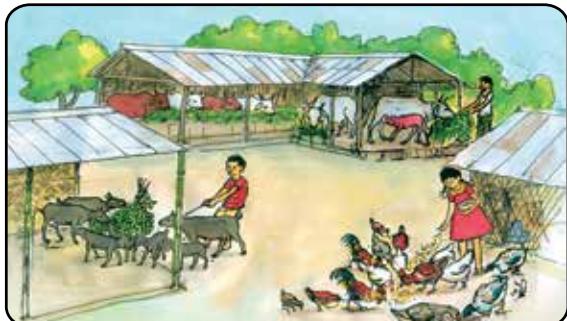


ship

We use different technologies in agriculture such as sickle, spade, plough, tractor, etc. We also raise livestock or farm fish. We can increase these farming by using technology.



agricultural tools



livestock and poultry farming

Technology is tied closely to our life. Technology makes our life more convenient and safe.



## 2. Development of technology

Technology is always developing and improving. Improvement in technology makes our life better and quicker.

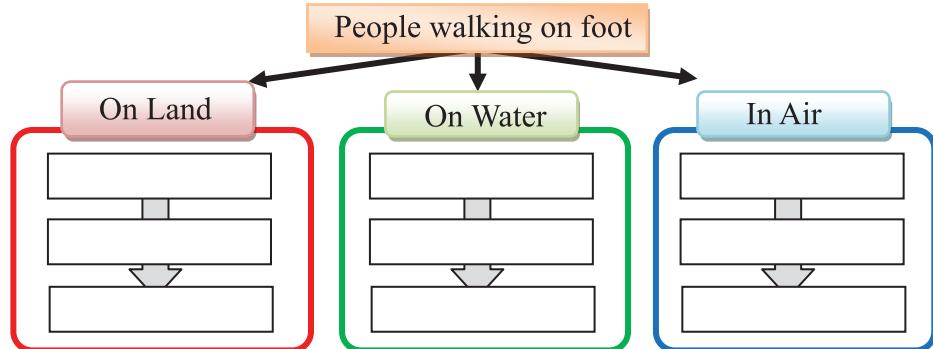
### QUESTION: How has technology developed?



### Activity: Development of transport technology

#### What to Do

1. Make a diagram like the one shown below.



2. Classify the pictures below into 3 groups. Start by using the oldest technology and end by the newest.



helicopter



sail boat



space shuttle



steam train



bus



aeroplane



raft



cart



launch



## Summary

Technology is used in different areas in our life. Such as – transport, education, agriculture, etc.

### Transport

People invented transport technologies in order to move or carry goods from one place to another quickly from place to place and carry goods farther and faster. Transport technologies can be classified into three groups. Such as technology for land, water and air. People used to walk on foot in the past. Later on, people began to use animals such as horses or cows. After the invention of the wheel, transport technology changed drastically. At first, the horse cart and cow carriage were invented. After the invention of the engine, trains and cars were invented. The invention of the wheel and engine made it easier for people to travel and carry goods farther and faster. Humankind have invented ships and other vessels to travel on the waterways.



horse cart



train

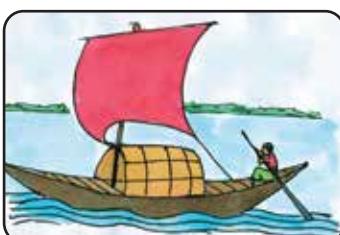


car

Once people used to travel on rafts or boats in the rivers or seas. Then they travelled on sailboats using the energy of the wind. After the invention of the engine, cargo ships, speed boats and ferries were developed. These carry people and goods throughout the world.



raft



sail



cargo ship



## Introduction of Technology

Aeroplanes and helicopters were invented to travel in the sky. We can travel long distances in a short time through the air. Now, people can travel to the moon through space shuttle.



aeroplane



helicopter



space shuttle

## Education

The paintings on the walls of ancient caves are the oldest technology used in education. Then people invented paper. They began to write information and knowledge on paper. After that, people invented the printing press. Now we use computers, projectors, internet, video cameras, etc for learning. These are all educational technologies. such as computers, projectors, internet, videos and cameras for teaching and learning.



education materials



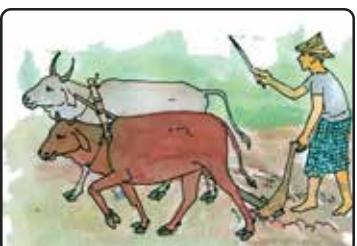
computer



printing press

## Agriculture

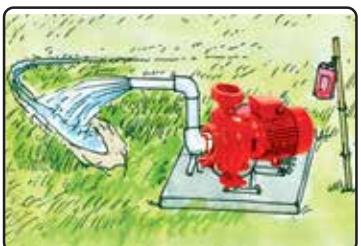
The first agricultural development began many years ago. At that time, people invented various agricultural tools such as the shovel, spade, sickle, plough,etc. People used animals such as cows or horses to plough fields. Now we use a tractor to plough fields and irrigation pumps for watering land. We also raise livestock such as cows, sheeps, goats and chickens. We also farm fish for getting food.We apply technologies in these.



ploughing with animal



tractor



irrigation pump



## EXERCISES

**1. Fill in the blanks.**

- 1) The plough is a technology used for \_\_\_\_\_.
- 2) The textbook is a technology used for \_\_\_\_\_.
- 3) Groups of transport can be classified into land, water and \_\_\_\_\_.

**2. Put a tick (✓) mark on the correct answer.**

- 1) Which one is modern technology?
 

a. spade	b. plough
c. sickle	d. tractor
- 2) Which technology came first?
 

a. pen	b. paper
c. book	d. printing press
- 3) Which one is a type of transport technology?
 

a. computer	b. telephone
c. aeroplane	d. tractor

**3. Answer the following questions.**

- 1) Explain what technology is.
- 2) How does technology help us in transport ?
- 3) Why have people invented technologies ?
- 4) Write names of four technologies of education.
- 5) Write names of two ancient and two modern technologies of agriculture.

**4. Match the words on the left with related words on the right.**

reading cultivation transport writing	train plough pencil book
--	-----------------------------------



## Chapter 11

# Information and Communication

### 1. Ways of collect information

**Information** is knowledge about someone or something. We get information through communication. We get different kinds of information every day. Such as information about different events, weather, different notices of school, etc. How do you know when an examination begins? Where do you get information on today's weather from? When will Bangladesh play their match in World Cup Cricket? Where can we travel in the summer vacation?

#### QUESTION: Where can we get information?



#### Activity: Sources of information

##### What to Do:

1. Make a table like the one shown below.
2. Make a list of the 'types of information' and 'sources of information' in the table.

Name of information	Where information comes from
Date of examination	school notice, teachers

3. Share your ideas with the classmates.



I usually watch TV to see the weather forecast.  
How about you?



I sometimes listen to the radio to collect information on the weather.

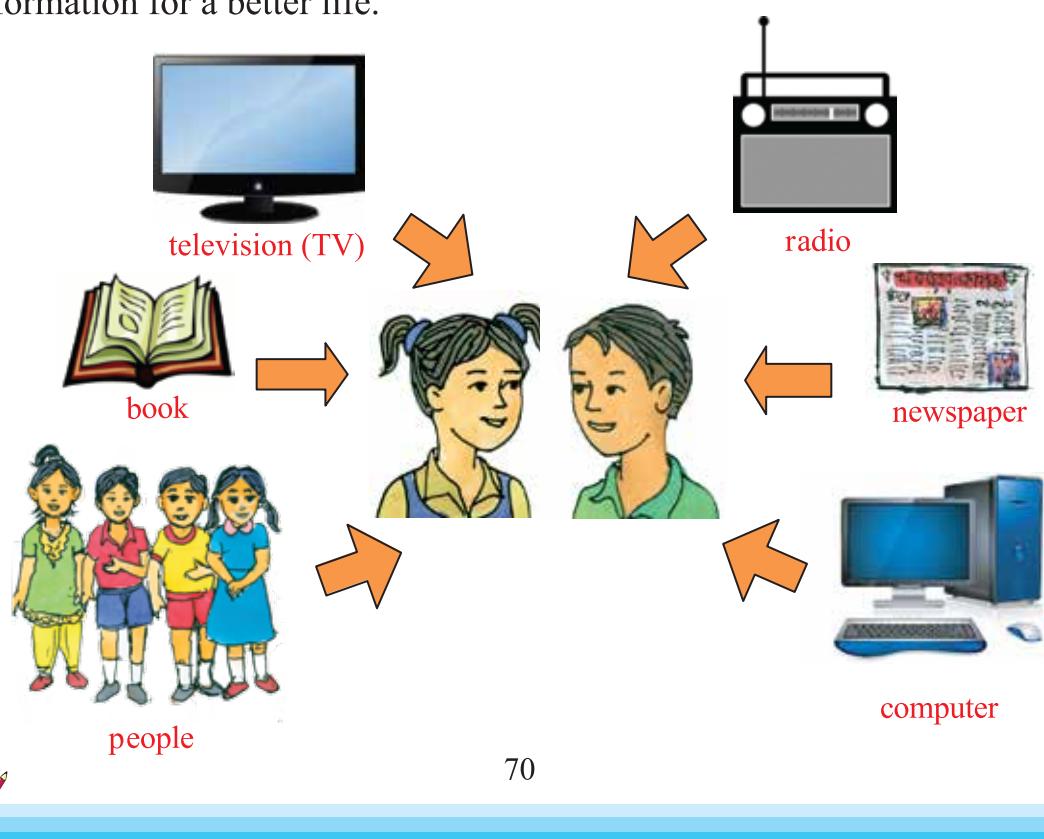


## Summary

Information comes from different sources such as the television, radio, newspaper and books. We get information on the weather from the television or radio. We get information about science and other subjects from the textbooks.

Tools such as the television, radio and newspaper that are used to deliver information are called **media**. We also gather information from people through communication. We hear messages or experiences from parents or classmates. We ask questions to our teachers to solve any problem. We also ask questions to our parents to solve problems. Nowadays we get lot of information from the internet because of development of technology.

We have to get information to learn something new. Getting necessary information is very important to take the right decision. Sharing information is also very important for our life. If you hear of a cyclone alert you should tell other people. If you do not share the information, people may suffer heavy damage from the cyclone. We should gather and share correct information for a better life.



## 2. Exchanging information

People have developed various types of technology such as the newspaper, books, radio, TV and computer. We can get information by using these technologies. We can also communicate with people by using technologies.

### QUESTION: How can we communicate by using technology ?



#### Activity: Communication tools

##### What to Do:

1. Make a table like the one shown below.
2. Make a list of 'How to communicate with people' in the left column and 'What technology you use' in the right column of the table.
3. Share your ideas with the classmates.

How do you communicate with people?	What technology do you use?



How can you keep in contact with your relatives living at a distant places?

I sometimes get letters from my uncle.



#### Think and Discuss

- ♦ How did people communicate with one another long ago?



## Summary

**Communication** means exchanging information. We can communicate by different ways. Such as – talking, showing symbols, making gestures, writing letters, etc.

A long time ago, people communicated with each other by drawing or speaking. To communicate with people who lived far away, people went to see them or sent a messenger. People sent messages by using carrier pigeons, smoke signals or beating drum.



sending message through carrier pigeon



beating a drum for communication

Now we use technology when we exchange information. Now we can communicate with people of distant places very easily. We use telephone or mobile phone to talk with someone far away now. We exchange information through email by using internet. We can communicate with people by sending letters also. The more technology advances, the more our lifestyle will become easier. Communication is needed to exchange information.



talking on the phone



announcing through loudhailer



posting a letter

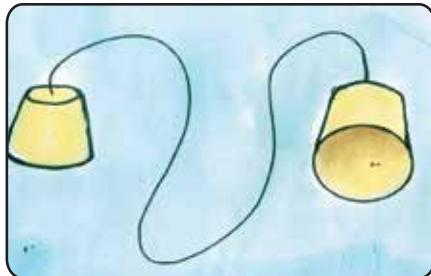


## Try it!

### Let's make a 'Simple Telephone'

#### 1. What you'll need:

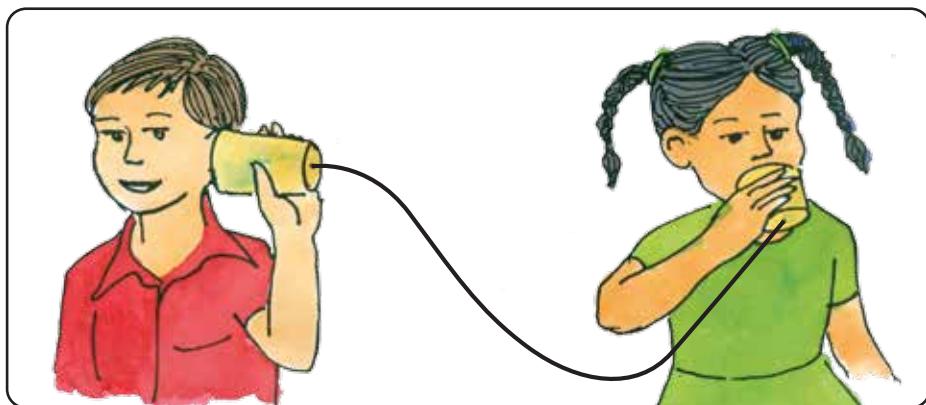
- ◆ Two paper or plastic cups,  
a sewing needle, string or  
wire (5m)



#### 2. How to make:

- ◆ Make a small hole at the bottom of each cup and insert the string through each cup.
- ◆ Tie knots at each end to stop it pulling through the cup.
- ◆ Move into position with you and a friend holding the cups at a distance that makes the string tight.
- ◆ One person talks into the cup while the other puts the cup to their ear and listens.

❖ Can you communicate with each other?



### 3. Machine Language- Instruction and Code

We have known about different technology of information exchange. Computer is one of such technology. Different tasks of everyday life such as – speaking, enjoying music, drawing picture, watching play or movie, doing some accounts, doing online classes – to do all these we use computer or mobile phone. But question may arise in our mind – how computer or machine do these tasks.

**Question:** How do man or machine work?

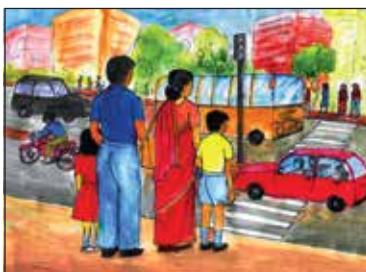
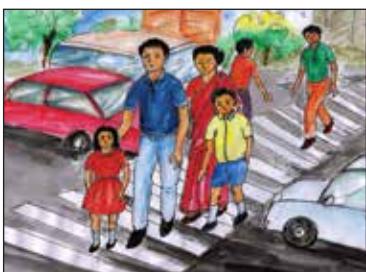
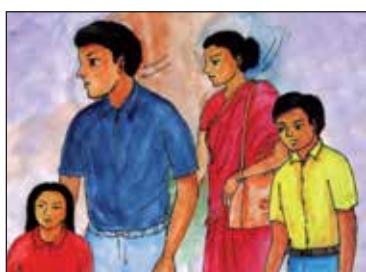
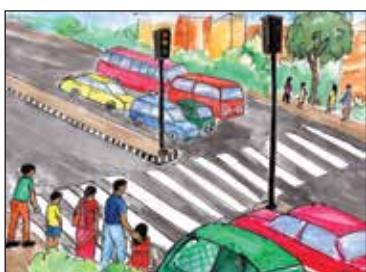


#### Activity: Road crossing according to instructions

##### What to do:

Some pictures of road crossing are jumbled up below.

- Re-order the pictures with arrow mark ( → ) according to the instructions for crossing a road.



- Discuss about the Activity with the classmates.



Accidents may take place if instructions are not followed.

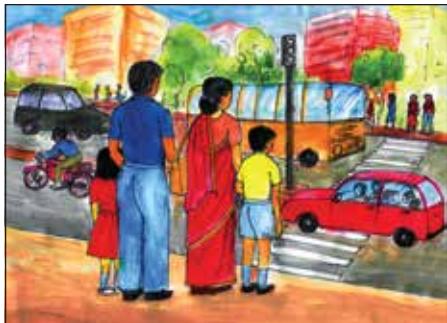


These instructions are followed serially while crossing a road.

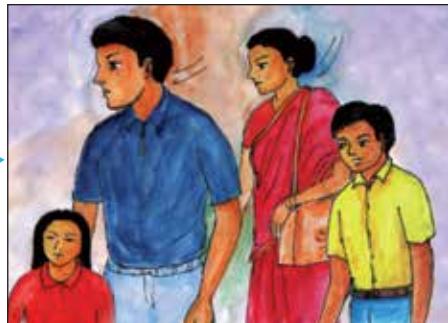


## Summary

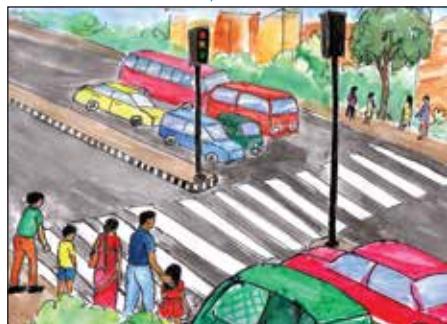
### Road crossing instructions in order



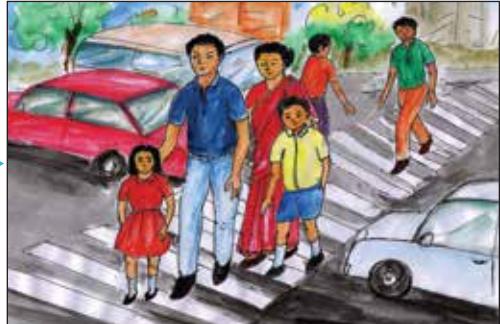
Standing in front of zebra crossing.



First, look at the right, next look at the left, look at right again.



Be sure of red light on or vehicles stop movement.



Crossing the road.



### Discussion



#### Think and share

1. What are the advantages of following instructions while doing anything?
2. What problems may happen if instructions are not followed?
3. Share ideas with classmates.



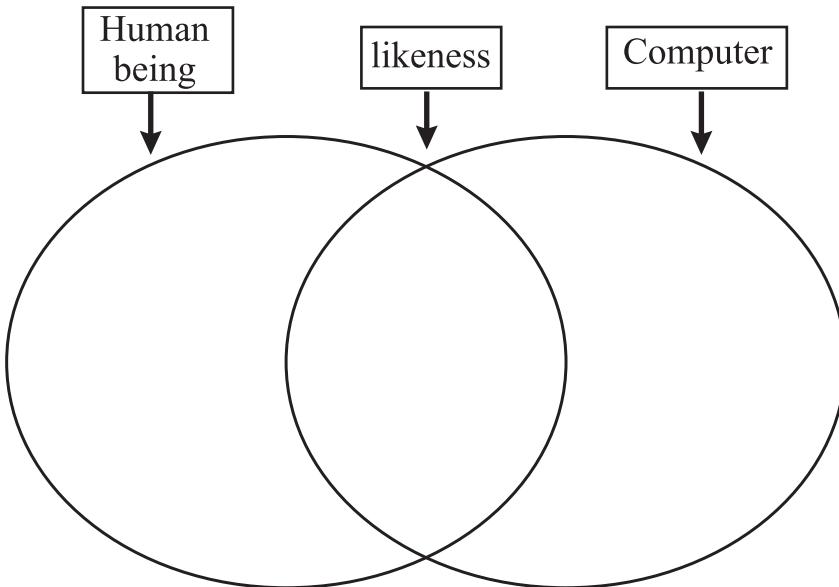
## How computer or machine works

Computer is a smart or an intelligent machine. This machine can now do big and complex tasks with accuracy. A machine or computer follows some series of instructions while doing any task. Is the technique or method of work of human being or computer same?



### Activity: Similarities and disimilarities between human beings and computers in doing tasks.

1. Draw a diagram as mentioned below.
2. Find out the similarities and disimilarities between human beings and computers in doing tasks and write in the diagram.



3. Share ideas with classmates.

## Summary

Both human being and computer do different types of tasks following instructions. But the method of their work is not same. Computer cannot perform anything by itself. A series of instructions have to be given to computer to perform any task. A computer can work on receiving instructions only. The instruction or instructions that being followed by a machine or a computer to do any certain task are known as **Code or Command**. We will know how a computer or machine works using Code in the next grade.

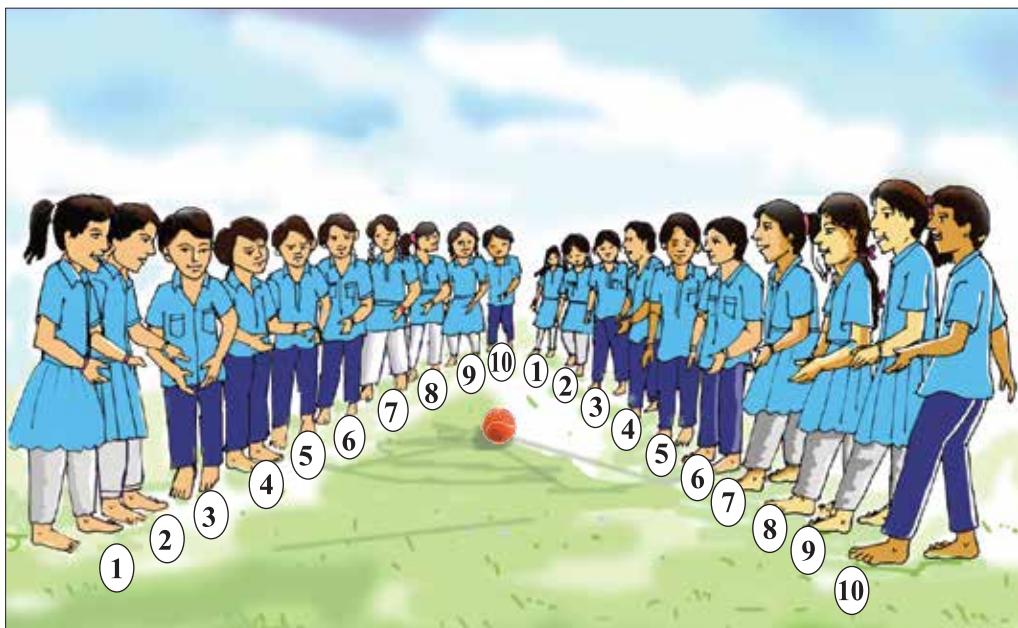
We also follow different types of instructions or Codes to do different types of work in different times. For example, we play different sorts of games inside and outside classroom following instructions. Sometimes these instructions are pre-set or we prepare according to our necessity.



### Activity : Collecting ball following instruction

#### What to do :

1. We stand in two lines face to face as shown in the picture. The number a student stands by will be his/her number. Each of us will remember the number.



2. A teacher or a student out of the team will instruct the team members using either to add, substruct, multiply, or divide two numbers or using any two of the mathematical operations.  
For example, 12 divided by 3 or 3 multiplied by 3 being 2 added.
3. Listen to the instruction and do the counting.
4. The two members getting the same number after the counting, will collect the ball and will come back to previous place.
5. While collecting the ball, the collecting players should be such careful that opposite team's ball collecting player can't touch him/her.
6. Allow each of the members to collect the ball at least for once.
7. Decide the winner team on the basis of points.

**Special instruction:** Ball collector team will not be awarded any points if the player of opposite team touches the ball collecting player. Otherwise full point (1) to be credited.



## Discussion

### ◆ Think about the following ideas

1. Which factors are taken into consideration to be a winning team?
2. What do we learn from this game?
3. Share ideas with classmates.



## EXERCISES

### 1. Fill in the blanks.

- 1) Tools such as TV to deliver information are called \_\_\_\_\_.
- 2) Exchanging information is known as \_\_\_\_\_.
- 3) \_\_\_\_\_ is knowledge that we receive by communication.
- 4) Computer has to be given a series of ----- to do any work.
- 5) The instructions that are given a computer to do any task is called -----.
- 6) A ----- can do very large and complex tasks accurately.

### 2. Put a tick (✓) mark on the correct answer.

- 1) Through which media can we exchange information?
  - a. radio
  - b. television
  - c. mobile phone
  - d. newspapers
- 2) What is the ancient way of sending information?
  - a. e-mail
  - b. pigeon
  - c. telephone
  - d. radio
- 3) What is to be given a computer to do any task?
  - a) Air
  - b) Light
  - c) Instruction
  - d) Water
- 4) What instruction does a driver get when a red light is on in the traffic signal?
  - a) Go ahead
  - b) Go back
  - c) Go to the right
  - d) Stop



**3. Answer the following questions.**

- 1) How can we exchange information with people who live far away?
- 2) Write five sources of information.
- 3) Why is it so important to know and share the information?
- 4) What are supposed to be done to be a winning team in ball collection game?
- 5) Write down the steps of crossing a road safely.

**4. Match the words on the left with the related words on the right.**

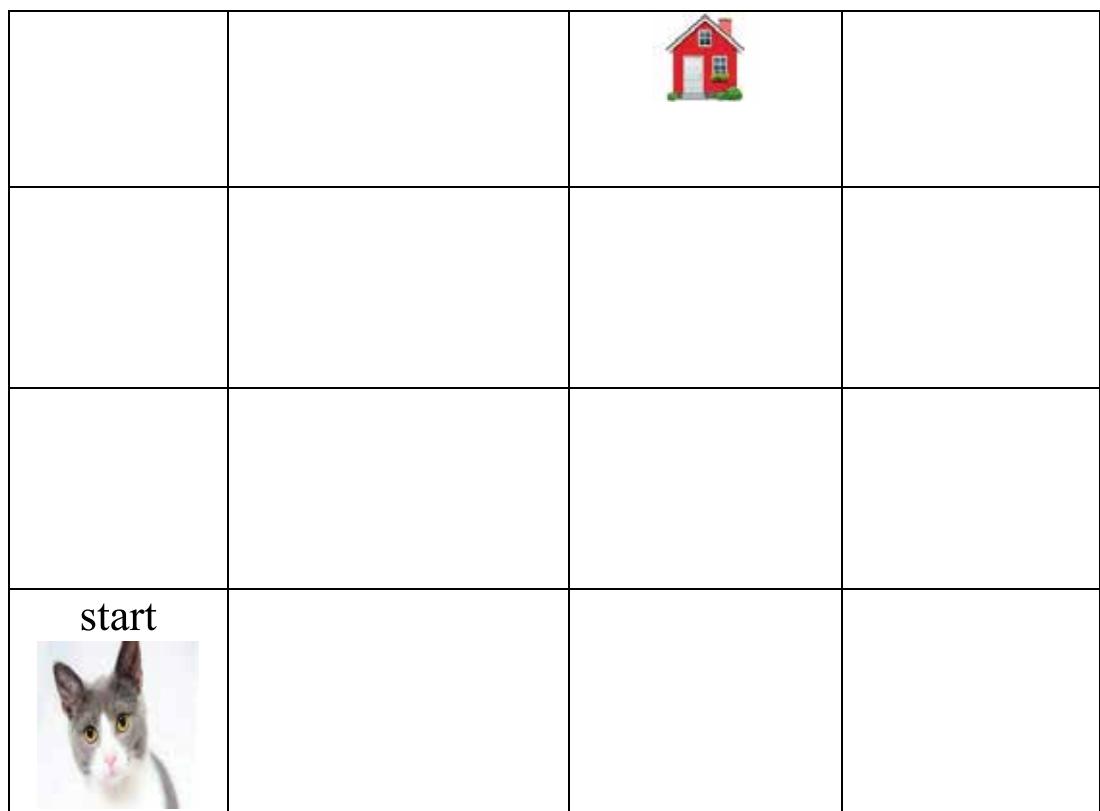
to watch and listen	radio
to listen to news	newspaper
to read the news	telephone
to speak	television



**5. Follow the instruction at the right to take Mini at her home.**

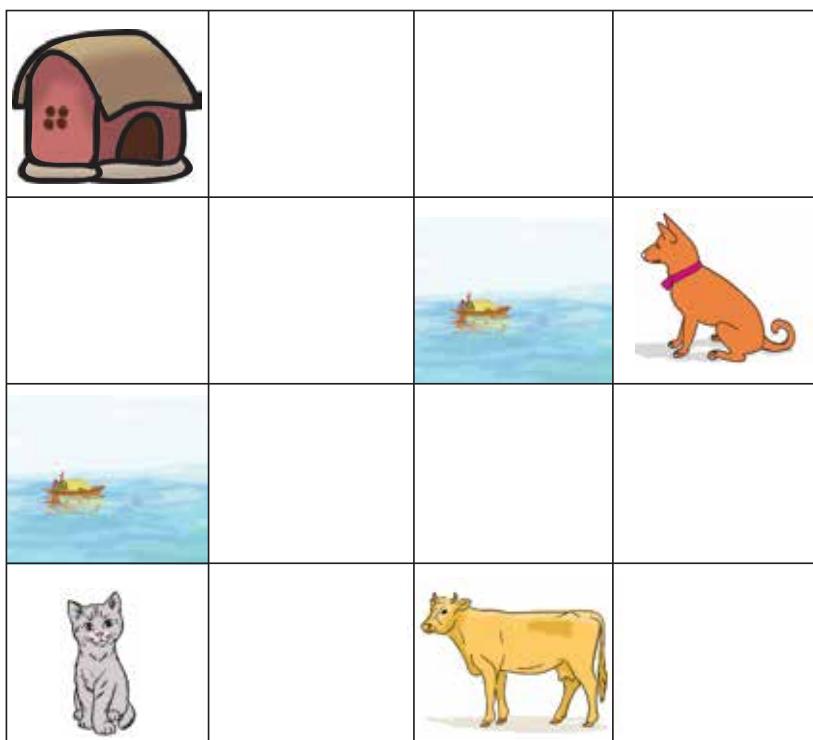
**Instruction (Code)**

1	Two blank space up	
2	Turn right	
3	Two blank space ahead	
4	Turn left	
5	One blank space ahead	



6. In the following pictures your starting point is home. Find out the animals using the given symbols.

Symbol	Meaning of the symbol
	To go ahead
	To go back
	To get down
	To go up
	To turn right
	To turn left
*movement across the blank space and river is not allowed.	



## Chapter 12

# Population and Natural Environment

The number of people who live in the same area is called its **population**. Bangladesh has a very large population. According to the census of 2011, the population of Bangladesh is about 15 crore.

## 1. The impact of population growth on our life

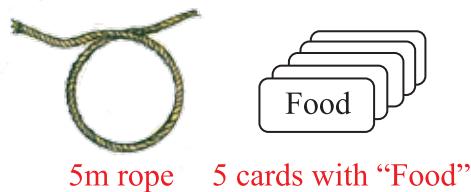
**QUESTION:** What happens to our life if population increases?



### Activity: Impact of population growth on food & accommodation

#### What to Do

1. Prepare a 5 metre rope and 5 cards with “Food” written on them.
2. Form a group of ten, and make a loop with the rope on the floor.
3. One student gets into the loop with 5 cards.
4. 2nd student gets into the loop and takes one card from the 1st student.
5. Continue the same process until 10th student gets into the loop.



#### Think and Share

- ◆ What happened to the cards for each student and space in the loop as the number of students increased?



## Summary

The more the population increases, the more food and space are needed.

But food and space are limited. If the population continues growing, we will face different types of problems such as shortage of food and space to live, etc.

In fact, there is a shortage of food in some parts of the world due to the growing population.

People in a family need food and space to live. If the number of people in a family increases, they need more food to eat and space to study and sleep. Also, it would be easy to get disease in a crowded house.



enough space to sleep



not enough space to sleep



## Discussion

### ◆ ‘How can we make our family happy?’

1. Make a table like the one shown below.
2. Think about the following question.
  - ◆ What sort of problems do you face if the number of family members increases?
3. Share your ideas with your classmates.

What sort of problems do you face, if the member of a family increases?



## 2. The impact of population growth on the natural environment

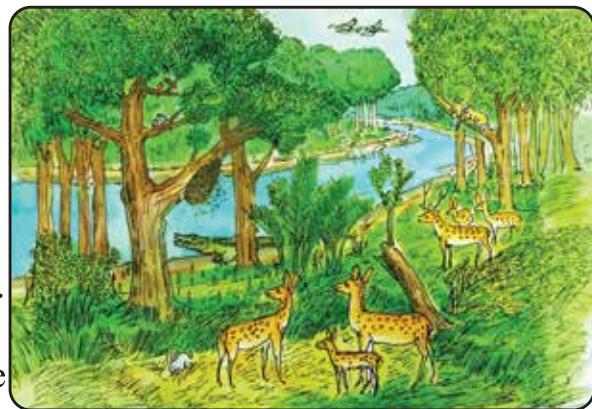
People need food, water, clothes and many more things to live.

Food comes from plants and animals. Water comes from rain or rivers. Soil, rocks and woods are used to build houses and buildings. Some clothes are made of plant parts such as jute and cotton. Some shoes or bags are made of animal skins.

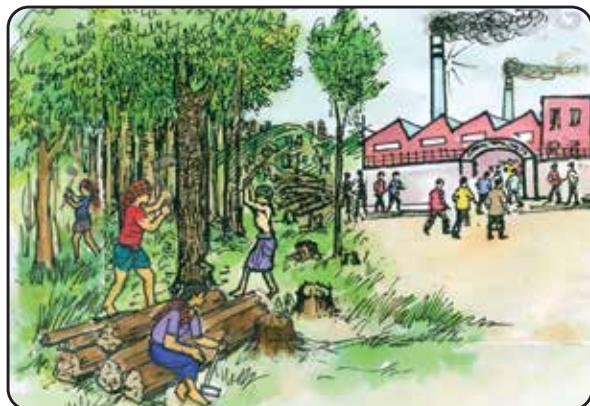
Those things such as plants, animals, water, and soil are called **natural resources**. We get natural resources from the natural environment.

When the population grows it needs more natural resources.

People are destroying the natural environment to meet their additional needs.



people get natural resources from the natural environment



people are destroying the natural environment



### Discussion

#### ◆ What happens to the natural environment if the population increases ?

1. Think about the following questions.
  - ◆ How does population growth affect the natural environment?
  - ◆ How can we protect the natural environment?
2. Share your ideas with your classmates.



## EXERCISES

### **1. Fill in the blanks.**

- 1) Food comes from plants or \_\_\_\_\_.
- 2) The number of people living in the same area is called \_\_\_\_\_.
- 3) Clothes are made from plants such as \_\_\_\_\_ and \_\_\_\_\_.
- 4) People in a family need \_\_\_\_\_ and \_\_\_\_\_ to live.
- 5) People get resources such as wood and rocks from the \_\_\_\_\_ environment.

### **2. Put a tick (✓) mark on the correct answer.**

- 1) Which one is a natural resource?
 

a. pen	b. book
c. soil	d. table
- 2) Who mainly destroys the natural environment?
 

a. animals	b. plants
c. livestock	d. human beings

### **3. Answer the following questions.**

- 1) What happens to our life if the population continues to grow?
- 2) Name five resources that we get from the natural environment.

### **4. Using the words in the box, explain what happens to the natural environment when the population increases. Write in two sentences.**

natural resources destroy natural environment plenty/huge



# Glossary

<b>Terms</b>	<b>Meaning of Teams</b>	<b>Page</b>
Amphibian	Vertebrate that starts life in the water and then lives on land as an adult.	12
Animal	Living things that have the ability to move. They have sense organs that help them to see, hear, smell and taste things.	8
Backbone	A series of bones that helps to support the animal's body.	11
Bird	Vertebrate that has feathers, two wings, two legs, and lays eggs.	13
Carbon dioxide	A gas that cannot help something to burn.	39, 40
Communication	Sending information from one person to others.	71, 72
Components of environment	All things in our environment.	2
Electricity	A form of energy that we can use to run appliances.	59
Energy	The ability to do things.	60
Environment	All the living and nonliving things that surround us.	2
Fish	Vertebrate that lives in water, is covered with scales, and move with its fins in water.	12
Flowering plant	Plant that bears flowers.	10
Gas	A state of matter that flows and has no definite shape or volume of its own.	19, 20
Heat	A form of energy that makes things warm.	59
Herb	Plant that is smaller than shrubs, having soft stems which do not become woody	10
Humus	Decayed remains of plant and animal.	32
Ice	Frozen water.	19
Information	Knowledge that we receive about someone or something by communication.	69
Invertebrate	An animal that does not have a backbone.	11
Light	A form of energy that we can see.	59
Liquid	A state of matter that has its own volume but does not have definite shape. It flows and takes the shape of any container.	19, 20
Living thing	Thing that grows, changes and produces other living things by itself	6
Mammal	Vertebrate that has hair or fur, does not lay eggs, and produces milk for its young.	13
Man-made environment	Environment having man-made things.	4
Man-made thing	Thing that is made by people.	4
Matter	Material that has weight and takes up space	17



Media	Tools such as television, radio and newspaper that are used to deliver information.	70
Natural environment	Environment having natural things.	4
Natural resource	Something from Earth that people use.	25, 77
Natural thing	Thing that is not made by people.	4
Non-flowering plant	Plant that does not bear flowers.	10
Non-Living thing	Thing that does not eat, drink, grow or make other things by itself.	7
Nutrient	A substance that living things need in order to survive and grow.	44
Oxygen	A gas that can help something to burn.	39, 40
Plant	Living thing that has roots, stems, and leaves and make its own food.	8
Population	The number of people who lives in the same area.	75
Reptile	Vertebrate that has dry, scaly skins, and lays eggs on land.	12
Shrub	Plant that is woody, smaller than trees, having several branches arising from near the base of the main stem.	10
Soil	The loose material that covers the Earth's surface.	30
Solid	A state of matter that has its own volume and shape.	20
Technology	A piece of equipment, tool, device, machine, or method that makes our work easier, better or quicker.	63
Tree	Plant which is large in size, has a woody main stem, giving rise to branches and leaves.	10
Vertebrate	An animal that has a backbone.	11
Water Vapour	Gaseous state of water which is in the invisible form.	19



The end

# Academic year 2023, Science -3



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