ENVIRONMENTAL STUDIES

STANDARD THREE

DHULE
DISTRICT

The Constitution of India

Chapter IV A

Fundamental Duties

ARTICLE 51A

Fundamental Duties- It shall be the duty of every citizen of India–

(a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;

(b) to cherish and follow the noble ideals which inspired our national struggle for freedom;

(c) to uphold and protect the sovereignty, unity and integrity of India;

(d) to defend the country and render national service when called upon to do so;

(e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities, to renounce practices derogatory to the dignity of women;

(f) to value and preserve the rich heritage of our composite culture;

(g) to protect and improve the natural environment including forests, lakes, rivers and wild life and to have compassion for living creatures;

(h) to develop the scientific temper, humanism and the spirit of inquiry and reform;

(i) to safeguard public property and to abjure violence;

(j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement;

(k) who is a parent or guardian to provide opportunities for education to his child or, as the case may be, ward between the age of six and fourteen years.

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ENVIRONMENTAL STUDIES

STANDARD THREE

The digital textbook can be obtained through DIKSHA App on a smartphone by using the Q. R. Code given on title page of the textbook and useful audio-visual teaching-learning material of the relevant lesson will be available through the Q. R. Code given in each lesson of this textbook.

DHULE DISTRICT

Maharashtra State Bureau of Textbook Production and Curriculum Research, Pune.

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The Constitution of India

Preamble

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC and to secure to all its citizens:

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the unity and integrity of the Nation;

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.

NATIONAL ANTHEM

Jana-gana-mana-adhināyaka jaya hē
Bhārata-bhāgya-vidhātā,

Panjāba-Sindhu-Gujarāta-Marāthā
Drāvida-Utkala-Banga

Vindhya-Himāchala-Yamunā-Gangā
uchchala-jaladhi-taranga

Tava subha nāmē jāgē, tava subha āsisa māgē,
gāhē tava jaya-gāthā,

Jana-gana-mangala-dāyaka jaya hē
Bhārata-bhāgya-vidhātā,

Jaya hē, Jaya hē, Jaya hē,
Jaya jaya jaya, jaya hē.

PLEDGE

India is my country. All Indians are my brothers and sisters.

I love my country, and I am proud of its rich and varied heritage. I shall always strive to be worthy of it.

I shall give my parents, teachers and all elders respect, and treat everyone with courtesy.

To my country and my people, I pledge my devotion. In their well-being and prosperity alone lies my happiness.

Preface

The 'Primary Education Curriculum - 2012' was prepared in the State of Maharashtra following the 'Right of Children to Free and Compulsory Education Act, 2009' and the 'National Curriculum Framework 2005'. The Textbook Bureau has launched a new series of textbooks based on this syllabus approved by the State Government from the academic year 2013-2014 in stages. We are happy to place this textbook 'Environmental Studies' of Standard Three in this series in your hands.

Our approach while designing this textbook was that the entire teaching-learning process should be child-centred, emphasis should be given on active learning and constructivism and at the end of Primary Education the students should have attained the desired competencies and that the process of education should become enjoyable and interesting. Also, the present textbook has been written following 'Ten Core Elements' which have been indicated in the syllabus.

There are many colourful illustrations in this textbook. It is an attempt to make comprehension and construction of knowledge more effective through the language of pictures. Some activities have been included in this textbook under the titles 'Can you tell ?', 'Try this', 'Use your brain power !' They will help the students to understand the concepts introduced in the lessons and will also reinforce them. The textbook will motivate the children to observe their environment. Conscious efforts have been made to impart values which are relevant today in the context of the textbook.

Variety in the exercises will help the children to revise and retain the concepts in the lessons and will motivate them to study on their own. Children will find the exercises interesting. They will also help the teacher with continuous comprehensive evaluation.

This textbook introduces the children to their natural, social and cultural environment. It attempts to develop the students' skills of problem solving and application and a healthy attitude towards the environment.

The language of presentation used in this book is simple. The topics have been presented in an inter-disciplinary manner without forming compartments of science, geography, history and civics. It may lead to an approach that looks at several dimensions of an issue or topic simultaneously. We have tried to keep in mind the diverse experiences of all the children in Maharashtra while writing the book.

This book was scrutinized by teachers from all parts of the State, by educationists, experts and members of syllabus committee to make it as flawless and useful as possible. Their comments and suggestions have been duly considered by the Subject Committees while finalising the book.

The members of Science, History, Geography and Civics subject Committees, Panel members, quality reviewers and the artists have taken great pains to prepare this book. The Bureau is thankful to all of them. We hope that this book will receive a warm welcome from students, teachers and parents.

(C. R. Borkar)
Director
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The following footnotes are applicable :-

1. © Government of India, Copyright 2014.
2. The responsibility for the correctness of internal details rests with the publisher.
3. The territorial waters of India extend into sea to a distance of twelve nautical miles measured from the appropriate base line.
4. The administrative headquarters of Chandigarh, Haryana and Punjab are at Chandigarh.
5. The interstate boundaries amongst Arunachal Pradesh, Assam and Meghalaya shown on this map are as interpreted from the "North-Eastern Areas (Reorganisation) Act.,1971," but have yet to be verified.
6. The external boundaries and coastlines of India agree wih the Record/Master Copy certified by Survey of India.
7. The state boundaries between Uttarakhand and Uttar Pradesh, Bihar and Jharkhand and between Chhattisgarh and Madhya Pradesh have not been verified by the Governments concerned.
8. The spellings of names in this map, have been taken from various sources.

Environmental Studies-Part 1-Standard III-Learning Outcomes

Suggested Pedagogical Processes	Learning Outcomes
The learner may be provided opportunities in pairs/ groups/individually and encouraged to : • observe and explore the immediate surroundings, i.e., home, school and neighbourhood for different objects/plants/animals/birds for their concrete/ simple observable physical features (diversity, appearance, movement, places of living/found, habits, needs, behaviour etc.) • observe, explore their home/family for the people whom they live with, what works they do, the relations and their physical features and habits and share the experiences in different ways. • explore the neighbourhood for the means of transport, communication and what works people do. • observe their home/school kitchen for food items, vessels, stoves, fuels and cooking processes. • discuss with elders and find out from where we/birds/ animals get water, food (plants/animals, which part of the plant we eat etc.), who works in the kitchen, who eats what, who eats last.	**The learner-** 03.95.01 identifies general observable features of leaves, trunk, bark of plant etc., in ambient surroundings (like shape, colour, texture, aroma) and also identifies general observable features of animals/birds, for example movement, places where they found/kept, eating habits, sounds. 03.95.02 identifies relationships with and among family members. 03.95.03 identifies objects, signs (vessels, stoves, transport, means of communication, transport signboards etc.) places (types of houses/shelters, bus stand, petrol pump etc.) activities (works people do, cooking processes etc.) at home/school/around us. 03.95.04 explains roles of family members, family influences (traits/features/habits/methods), need for living together by different ways.

• visit different places in the neighbourhood, for example, market to observe the process of buying/selling, journey of a letter from post office to home, local water bodies etc. • ask and frame questions and respond to the peers and elders without any fear or hesitation. • share their experiences/observations through drawing/ symbols /tracing / gestures/ verbally in a few words / simple sentences in their own language. • compare objects/entities based on differences/ similarities for observable features and sort them into different categories. • discuss with the parents/guardians/grandparents/ elders in the neighbourhood and compare their clothes, vessels, works done by people and their games. • collect the objects such as, pebbles, beads, fallen leaves, feathers, pictures, etc., of their finds from their surroundings and arrange in an innovative manner, for example, heaps, pouches and packets. • critically think to guess/estimate and predict about the happenings, situations, events and the possible ways to check, verify, test them. For example, which directions (left/right/front/back) to be followed to reach a nearby object or place. • which vessel (of same volume) contains more water; how many spoons of water to fill a mug or a bucket etc. • perform simple activities and experiments to observe, smell, taste, feel, touch, hear using different senses as per their abilities to identify, classify, differentiate between objects, features, entities etc. • collect observations and experiences on the experiments and activities and shares that orally /gestures /sketches / tables /writing in simple sentences. • manipulate waste material, fallen dry leaves/flowers, clay, pieces of fabrics, pebbles, colours to create or improvise make drawings, models, designs, collage. For example, using clay to make pots/vessels, animals, birds, vehicles, furniture from empty matchboxes, cardboard, etc. • transport and communications for various means of transfer and studying and finding out what people do. • understanding the differences between cities and villages on the basis of houses, costumes, vehicles, industries, amenities etc. • showing various transport routes on maps. Locating famous places of their districts according to transport routes. • reading maps of local surroundings, district, State and country according to legends. • understanding the routine of the living organisms from morning to night. • considers respecting nature because nature provides for the needs of all the living organisms including us. • observe and narrate the difference between our house and houses in the surroundings (man, animals or birds).	03.95.05	describes need of food for people of different age groups, animals and birds, availability of food and water and use of water at home and surroundings.
	03.95.06	forms the groups of objects, birds, animals, features, activities according to their similarities and differences using different senses.
	03.95.07	explains the difference between objects and activities of present and past (at time of the elders) (for example, clothes/vessels/ games played/work done by people).
	03.95.08	identifies the direction and position of places (house/classroom/school) with the help of signs/using symbols/verbally or orally by using simple maps.
	03.95.09	guesses the properties, estimates quantities of materials/activities in day-to-day-life by using standard and non-standard units (measuring by hand, spoon, mugs etc.)
	03.95.10	records observation, experiences, information of different objects, activities, places visited in different way and predicts patterns (for example, phases of moon, seasons).
	03.95.11	creates drawings, designs, motifs, models, top, front, side views of objects, simple maps (of classroom, sections of home, school, etc.) and be able to write down slogans, poems etc.
	03.95.12	observes the rules in various games (local/ outdoor/indoor etc.) and other group activities.
	03.95.13	gives their opinion on good and bad touch.
	03.95.14	shows sensitivity for plants, animals, elders, disables and various family set ups in surroundings.
	03.95.15	differentiates between town and village.
	03.95.16	shows famous places and the means of transport available in the taluka and district on map.
	03.95.17	gives information related to district, State and the country with reference to directions.
	03.95.18	relates the processes of living being with the phenomenon of day and night.
	03.95.19	relates that occupations and industries are a result of man's needs.
	03.95.20	classifies the habitats of various animals/ birds in the surroundings on the basis of their characteristics, similarities and differences.

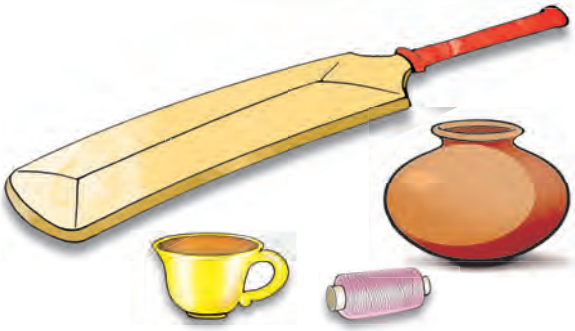
Note : If the shades of the colours of the national flag in this book do not correspond to the shades officially recognized, it is because of technical limitations.

Contents

Sr.No.	Name of the Lesson	Page No.
1.	Our Environment	1
2.	So many kinds of animals !	7
3.	Animal Shelters	15
4.	Directions and Maps	20
5.	Understanding Time	30
6.	Getting to Know the Place we Live in	33
7.	Our Village, Our City	38
8.	Our Need for Water	46
9.	Where does water come from ?	53
10.	More about Water	58
11.	Our Need for Air	65
12.	Our Need for Food	69
13.	Our Diet	74
14.	Inside the Kitchen !	81
15.	Our Body	86
16.	Sensory Organs	92
17.	Pearly Teeth, Healthy Body	101
18.	My Family and Home	106
19.	My School	112
20.	Our Community Life	119
21.	Public Services for Community Life	123
22.	Who fulfils our needs ?	127
23.	Growing Up and Growing Old	133
24.	Our Clothes	138
25.	Changes in our Surroundings	143
26.	As we Go from the Third to the Fourth Standard	150

1. Our Environment

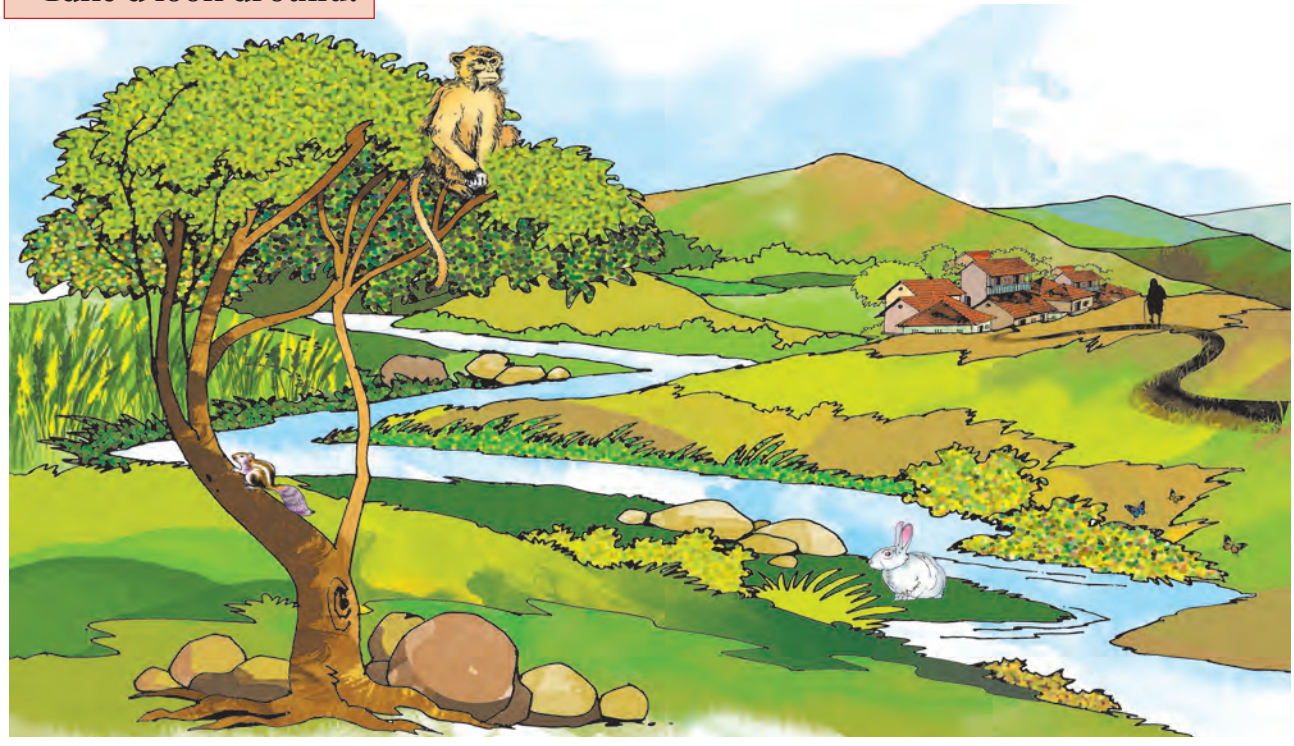
Can you tell ?



Look at the pictures alongside. You can easily name all these things. What materials are they made from? Where do we find these materials? What are the uses of these things?

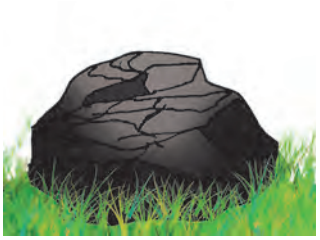
You can name these things, too. Where do we find them? What are they used for?

- **Take a look around.**



There are many things around us. They form our environment. There are stones and rocks and soil. There are rivers, streams and lakes. There is air. There are hills and mountains. There are jungles. There are fields, houses, roads and also barren lands. We also see many different animals around us. Different types of trees, bushes and climbers make our environment beautiful. We, too, are a part of this environment.

• A sparrow and a roadside stone



Now let us look at a stone and a sparrow in our surroundings and compare them.

A stone remains where it is. Its place changes only if someone picks it up and moves it. It doesn't eat. So it doesn't grow bigger. It doesn't have babies either.

It's not the same with sparrows. They build nests. They move here and there on their own.

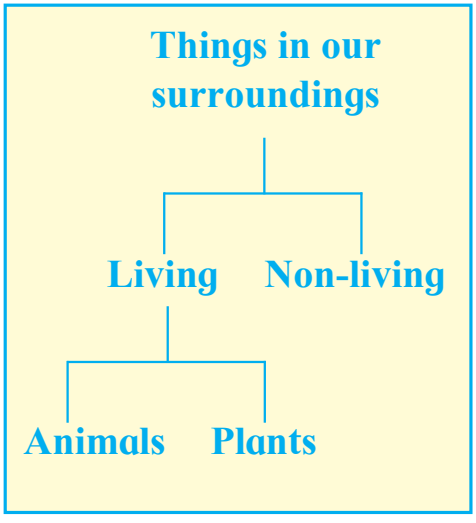
They eat insects and grains. That is why they grow.

They lay eggs in nests. Little sparrows hatch from these eggs. Sparrows take a lot of care of their young ones.

• Why do we see these differences between the sparrow and the stone ?

The sparrow is a living thing and the stone is a non-living thing.

Things in our surroundings form two groups – **living things** and **non-living things**.



Living things are of two kinds, **plants** and **animals**.

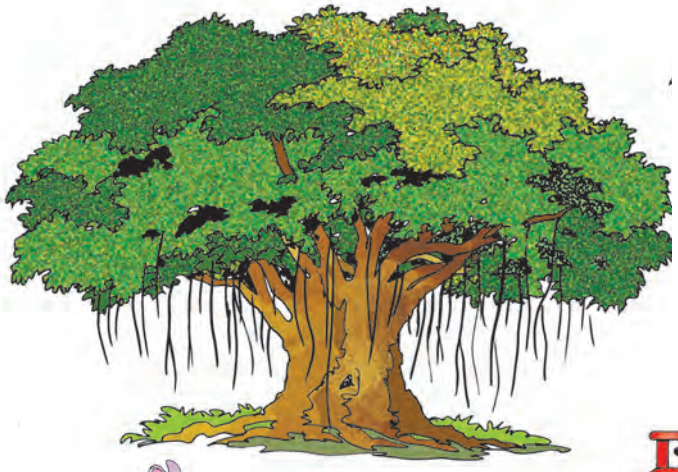
Animals have babies and seedlings grow from seeds. The seedlings then grow into plants. This tells us that plants are living things.

Plants, too, move. For example, when a bud blooms into a flower, its petals open. But movements of plants are not so easily seen. Plants also need food.

Of course, plants do not move from place to place like animals do. Their roots hold them down in one place. This is a big difference between plants and animals.

Can you tell ?

Are the things in these pictures living or non-living ?
If it is a living thing, is it a plant or an animal ?



Use your brain power !

- A railway engine goes to and fro. Is it living or non-living ?
- Wood comes from trees which are living things. A chair is made from wood. Now, is the chair living or non-living ?

Can you tell ?

- Which birds do you see in your surroundings ?
- Can you name some things that are made from stone ?

The relationship between all things in the environment

Water and air are a part of the environment. All living things need them. Living things also need food. They get their food from the environment.

Whatever living things need to survive, they get from their environment. Birds build nests. They need cotton, twigs and threads to build them. They get these things from the environment.

Human beings use so many things from the environment. We get cotton, wool and silk from our environment. We weave cloth from them.

We make things like mats, baskets, paper from materials in our environment. We build houses using clay and stone and wood. These materials, too, we get from our environment.

The seeds of some plants are scattered by the wind. As a result, seedlings of those plants grow in new places. Thus, plants, too, get help from their environment.

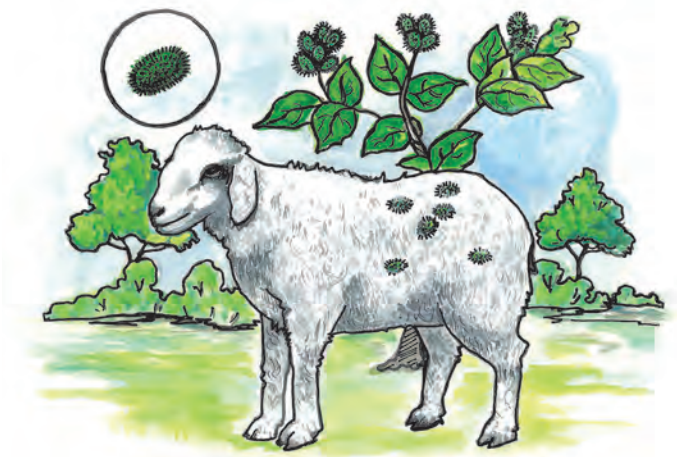
Living things take many things from their environment. What effect does that have on the environment ?

Animals like vultures and foxes eat the flesh of dead animals. Thus, they clean the environment while they satisfy their hunger.

Remains of dead animals decay. They mix with the soil. Leaves fall off trees. They, too, rot and get mixed in the soil. This makes the soil fertile. Plants get nourishment from fertile soil.

Thus, living things bring about changes in non-living things, too.

Do you know?



A sheep's body is covered with wool. The sheep feeds on leaves of shrubs. As it does so, the seeds of some shrubs can get caught in its wool. When the sheep goes somewhere else, the seeds may fall off there. Thus, the sheep helps new seedlings of the shrub to grow in many different places. In this way, the sheep which is an animal and the shrub which is a plant help each other.

What we have learnt –

- There are many things in our environment. Some of them are living things and some are non-living things.
- Living things can move on their own.
- Living things need food. Food helps them to grow.
- Living things produce young ones like themselves.
- Living things are of two kinds – plants and animals.
- Living things get all that they need from their environment.
- Living things bring about changes in non-living things too.
- All things in the environment depend upon each other.

Always remember –

The needs of all living things are fulfilled by things in their environment. Such things should not be allowed to go waste. We must take care that we do not cause harm to the environment.

Exercises

A. What's the solution ?

There are a lot of unused pages in last year's notebooks. They must not get wasted.

B. Draw pictures.

- Draw a picture of a spider's web.
  Find out why a spider weaves a web.
  Under the picture, write the information you get.

C. Think and tell.

(1) What are the uses of cotton?
(2) What are chappals made from ?
(3) If there is a loud noise nearby, what will a sparrow do? What will a stone do ?
(4) What does the house lizard eat ?
(5) Make a list of the things in your house that are made of wood.
(6) Name the animals that feed on mice.

D. Fill in the blanks.

(1) The place of a stone …….. only if someone picks it up and moves it.
(2) We weave ……. from cotton, wool and silk.
(3) Leaves …….. …….. trees. They, too, rot and get mixed with the soil.

E. Answer the following questions :

(1) What are the things that we get from our environment?
(2) What help do plants get from the environment?
(3) What makes the soil in the forest fertile?

F. True or false ?

(1) The seeds of some plants are scattered by the wind.
(2) Plants are non-living things.
(3) Sparrows grow by eating insects and food grains.

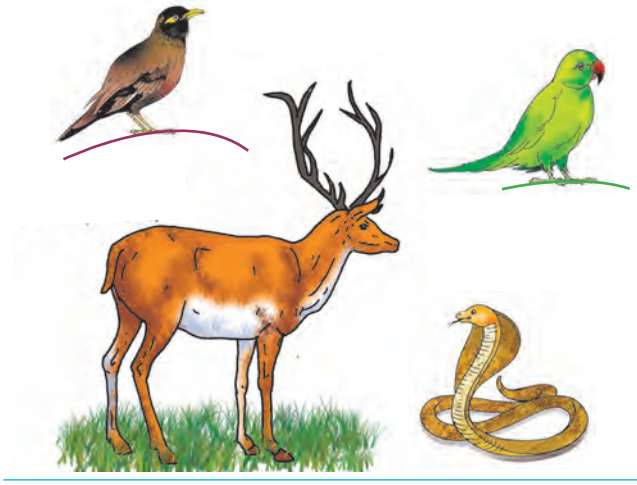
Activity

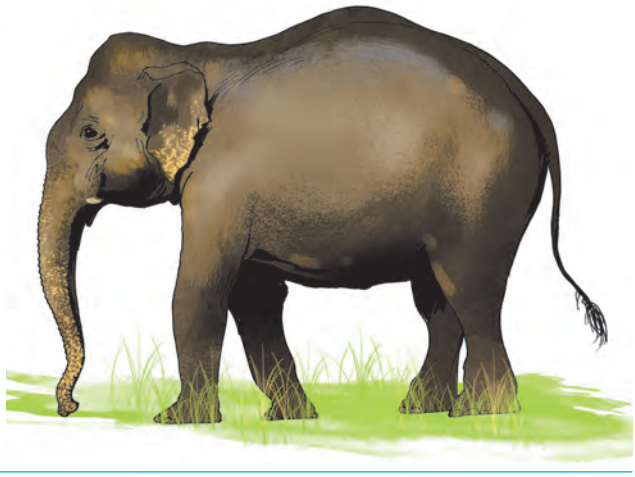
- Many festivals are connected with plants and animals. Find out :
  Are any such festivals celebrated where you live ? How are they celebrated?

2. So many kinds of animals !

Can you tell ?

You will easily recognize the animals in the picture. Tell their names and also their special features.





Can you tell ?

Name us !

- Animals that fly in the sky; animals that live in water.
- Animals that are black; animals that have many colours.
- Very large animals; very tiny animals.

• Where will you find us ?

An eagle flies high in the sky.

A cow walks on the ground.

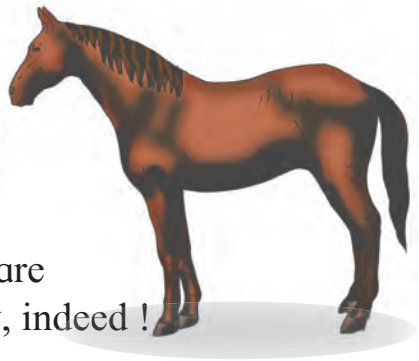
Fish swim in water.

• We are of different colours !

The egret is white. The crow is black. The buffalo, too, is black. But, the peacock has many different colours.

• We may be big, we may be small !

The horse and the bullock are large in size. The goat and the dog are of medium size. The mouse and the squirrel are small.



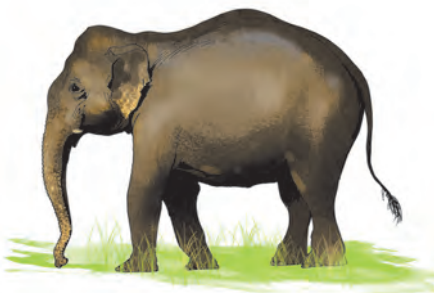
The earthworm and the cockroach are smaller still. Gnats and ants are very tiny, indeed !

Can you tell ?

- Which animals run very fast ?
- Which animals move very slowly ?

• We move in different ways !

A squirrel is a small animal. It is nimble. It climbs up a tree quickly and swiftly runs along its branch.



The elephant's body is bulky. Its legs are heavy. The elephant cannot run at any great speed.

The deer has thin legs. It runs very fast.

A frog's hind legs are long. So it can easily hop, jump and leap.

Can you tell ?

- Why do we keep cows ? • Name some other animals that are useful to us.
- Why do we not like it if there are mice or bedbugs in our house ?

• You find us useful !

People love to keep animals.

The dog guards our house. People like to keep cats, too. Cows, buffaloes and goats give us milk. Some people keep hens. We get meat, milk and eggs from animals.

Bullocks help with farm work. Hitched to a cart, they can draw heavy burdens, too. Horses and donkeys, too, are used to carry burdens.

We look after the animals we keep. We feed them.

We take care of them when they are ill.

The animals we keep become very dear to us.

• We, the gatecrashers !

Some animals enter our houses even though we don't want them.

Mice and rats destroy stored grain, besides gnawing other things in the house.

Sometimes we find bedbugs in our house. They suck our blood.

Spiders make cobwebs in the house.

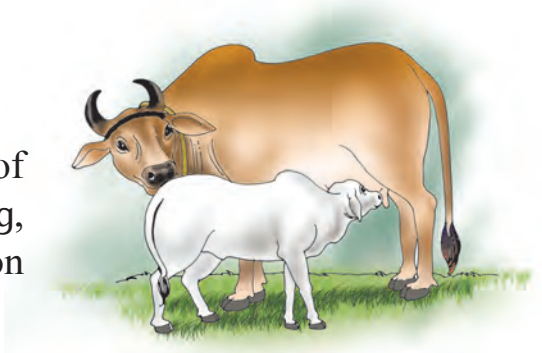
Mosquitoes, flies, gnats and cockroaches are a nuisance, too. Even so, these troublesome animals, too, have an important place in Nature.

We have seen that animals around us can be grouped in different ways. We formed these groups using our everyday observations.

However, when scientists classify animals, they look at more important characteristics of animals. Let us see how they do it.

• We suckle our young.

The young ones of animals like the cow, dog, goat and rat grow up on their mother's milk.



These animals have four legs. They have hair on their body. They have external ears.

• We fly.

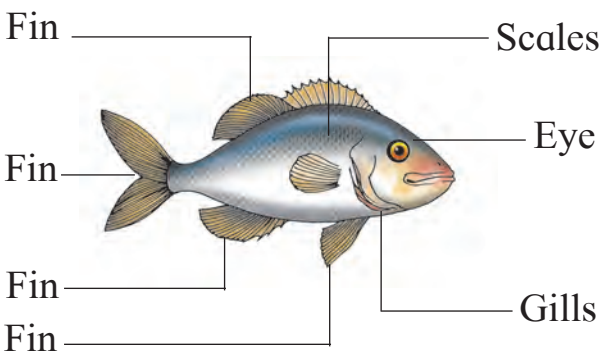
Birds have only two legs. They have two wings to fly with. Their body is covered with feathers.

There are differences in the flying ability of different birds. The eagle can soar high into the sky and stay in the air for a long time.

But the cock does not fly high, and comes down soon, too.

• We live in water.

There are many different kinds of fish. They live in the water. Fish have fins. They use their fins to move in water. There are scales on a fish's body.

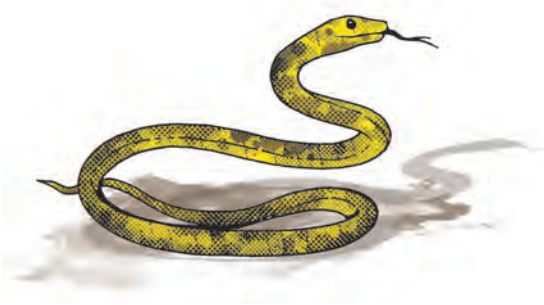


Do you know ?

A fish has gills behind its eyes. Fish use their gills to breathe in water.

• We creep and crawl.

Chameleons, house lizards and snakes are animals that crawl. They have scales on their bodies.



Chameleons and house lizards have four legs, but, these legs are very short.

The snake does not have any legs at all.

• We are called insects.

Butterflies have wings, too. But we don't call them birds. They are insects. They are smaller than birds. Besides, they have six legs.

Animals which have six legs are called insects. So, butterflies are insects.

Mosquitoes, houseflies and cockroaches are insects, too.

Do you know ?

Bats have wings but they don't have feathers on their body. Young ones of bats feed on their mother's milk.

Bats are not birds like the crow, sparrow, parrot and cock. They are included in the group of the cow, tiger, deer and mouse.

Use your brain power !

Into which of the following groups would you put the owl, the monitor lizard (*ghorpad*) and the cat ?

Groups	Animals
Cow, dog and goat (We suckle our young.)	
Crow, sparrow, parrot and cock (We fly.)	
Chameleon, house lizard and snake (We crawl.)	

This was all about a few animals we are familiar with. But, there are many more animals in the world.

There are a lot of differences in the colours, shapes and sizes of animals. There are differences in the ways they move and the places they live in. These differences that we see among animals gives rise to a lot of variety in animals.

The number of animals that live in the sea is also very large. There is great variety among them, too.

It is very interesting to learn about all such animals. Do try to find out more about them when you are older.

What we have learnt –

- Different animals are found in the air, on the ground and in water.
- There are differences in the colours, shapes and sizes of animals and also in the ways they move.
- We find some animals useful. We keep such animals.
- Some animals are a nuisance for us.
- Scientists classify animals according to certain important characteristics.

Always remember –

Variety is the rule in Nature.

Exercises

A. What's the solution ?

Mosquitoes grow in stagnant water. They spread diseases like malaria, dengue, chikungunya. Steps are to be taken to stop their growth.

B. Think and tell.

(1) A beetle is an animal that flies. But is it a bird or an insect ?

(2) What is common between a fish and a chameleon ?

(3) Name an animal which has stripes on its body.

(4) Why do people who live in deserts keep camels ?

(5) Why do people keep sheep ?

(6) Why do people keep hens ?

(7) Write the names of animals which run very fast.

(8) Write the names of birds which soar high into the sky.

(9) Which animals have spots on their body ?

(10) Which animals have a mane ?

C. Fill in the blanks.

All crows are …… . All parrots are …… . But, cows have different colours. They may be black, …… or …… .

D. Find and tell.

Obtain a picture of any one of the following animals :

Shekru (giant squirrel), hariyal (yellow-footed green pigeon), rhinoceros, lion.

Collect some information about it. Write it down and present it to your class.

E. Answer the following questions :

(1) From which animals do we get milk ?

(2) Why do we not want mice in our houses ?

(3) Where do we find fish ?

(4) Which animals have feathers on their body ?

(5) How many legs do birds have ?

F. True or false ?

(1) An egret is white.
(2) A parrot has scales on its body.
(3) A cat is useful for carrying burdens.
(4) A house lizard has hair on its body.
(5) A cock does not fly very high.

G. Match the following :

Group A	Group B
(1) Chameleons	(1) Have six legs
(2) Kites	(2) Creep or crawl
(3) Bats	(3) Live in water
(4) Butterflies	(4) Can fly but are not birds
(5) Fish	(5) Soar high in the sky

H. Name the following animals :

(1) Makes cobwebs.
(2) Is colourful.
(3) Has a trunk.
(4) Runs with great speed.

I. How many legs do each of the following animals have ?

- Snake
- Eagle
- Deer
- House lizard
- Housefly

Activity

- **Find out about :**

(1) The special feature of the glow-worm.
(2) The special feature of the chameleon.

3. Animal Shelters

Can you tell ?

- The cat is lying in wait for someone. Who is that ?
- What has frightened the crows ? Why are they trying to frighten the cat away?

Can you tell ?

- What do birds use to build their nests ?
- Which animals live in burrows ?
- Where do the hens we keep live ? Who builds their shelter ?

• Why do we need houses ?

Very cold weather, gusty winds, scorching sun, heavy rains can cause us great discomfort. We live in houses to protect ourselves from them. A house also protects us from thefts.

Some people live very close to forests. They have to face the threat of wild animals. A house protects them from the wild animals, too.

Like us, do animals also need shelters? Some animals do. They build shelters for themselves. Some other animals find shelter in safe places in the environment.

A new term :
Shelter : a safe place where one is protected from any danger. A place where one is protected from the sun, rain, wind, etc.

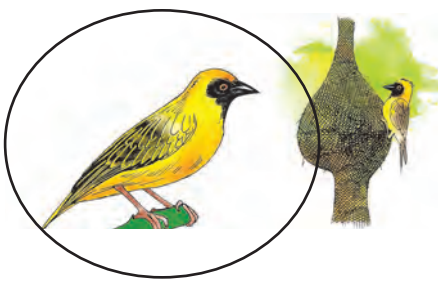
• Animals who build shelters for themselves

You must have seen birds' nests. Nests are shelters that birds build. Birds are afraid of animals that eat eggs. So they need a safe place to lay their eggs.

Baby birds come out of the eggs. There are animals

that eat these young birds. The young birds are too weak to defend themselves. The nest keeps the young ones safe. That is why birds build nests. They use things like grass, straw and twigs to build nests. They may even use cotton wool, and pieces of thread and string. This makes the nest soft and warm inside.

But the nests of all birds are not all alike.



Birds choose convenient places to build nests. Look at the weaver bird. It chooses a thorny tree which has some branches hanging over water. It builds its nest on the highest of these branches. Animals that eat eggs find it difficult to reach this nest.

The tailor bird is smaller than a sparrow. It selects a plant with bigger leaves and builds its nest by stitching the leaves together. It uses a fine tendril to stitch them together. This little nest is big enough for the little tailor bird.

Some insects also build their own shelters. For example, honey bees build their honeycombs on trees or under the roof of an overhanging cliff.

Rats and mice live underground in fields. They dig into the soil and make holes and burrows to live in.

Rats and mice also live in areas where people live. They make holes in the walls or under the floors in houses. They mostly take shelter in mud houses and not in those built with cement. That is because they cannot dig holes into cement construction.

• Animals that find ready shelters in the surroundings

Some animals do not make any efforts to build a shelter. They simply look around for a safe place. Some doves and pigeons live in forests. Some live in small hollows in high cliffs. Some live near our houses. They find shelter in gaps in walls.

Tigers, leopards, hyenas live in caves.

Some types of bats live in tall trees. But some live in dark caverns in mountains. Or, they look for shelter in old, deserted, tumble-down buildings.

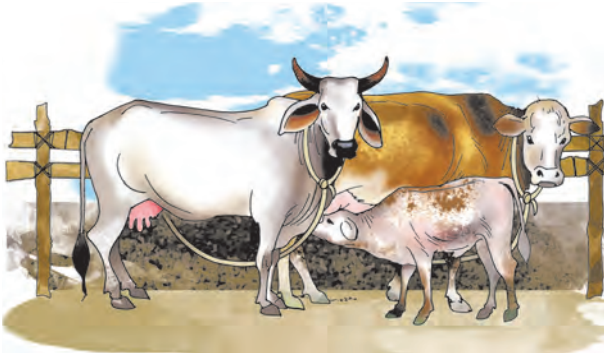
Do you know?

It is believed that a cobra lives in an anthill. But that is not true. Anthills are built by ants, not by a cobra. The cobras live in holes.

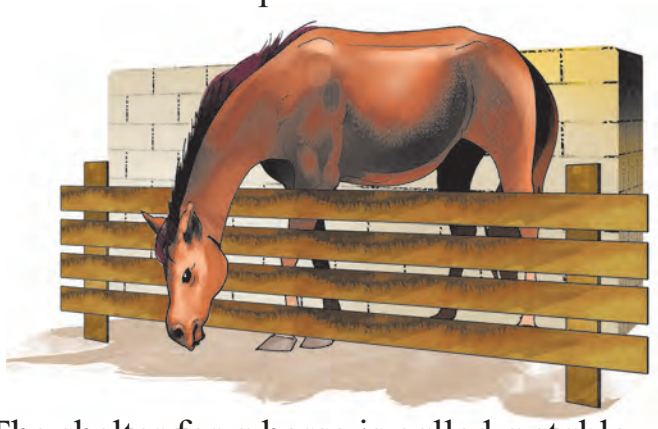
• Shelters for domestic animals

When people keep animals, they build shelters for them.

The shelter built for hens is called a chicken coop or henhouse.



A cowshed is built for cows.



The shelter for a horse is called a stable.

What we have learnt –

- Animals need a shelter to protect themselves from the cold, wind, sun and rain.
- Some animals build their own shelters.
- Some animals look for ready shelters in their surroundings.
- We build shelters for the animals we keep.

Always remember –

Is it right to keep animals in cages for our pleasure ?
No, let them live in their natural surroundings.

Exercises

A. What's the solution ?

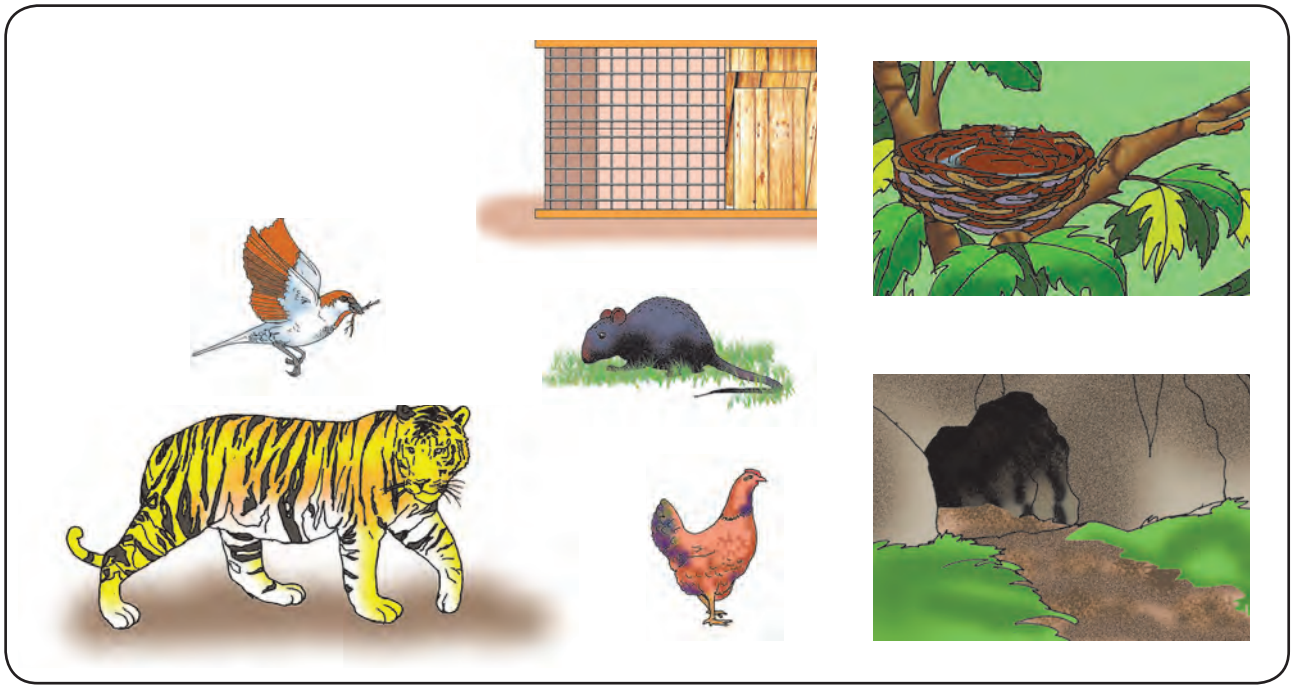
The population of birds in several cities is falling. What could be the reason for that ?
Their number should increase again.

B. Think and tell.

(1) What material do ants use to make anthills ?

(2) Some doves and some pigeons have left the jungles and have come to live in areas where people live. Some mice have also done so. What could be the reasons for that ?

(3) In the picture below, match the animals and their shelters.



C. Fill in the blanks.

(1) The nests of birds are not all …… .

(2) The …… bird is smaller than the sparrow.

(3) Some animals do not make any …… to build shelters for themselves.

(4) Tigers, leopards and …….. live in caves in mountains.

(5) The shelter made for a horse is called a …… .

D. Answer the following questions.

(1) What does the tailor bird use to stitch its nest ?

(2) What makes it difficult for animals that eat eggs to reach a weaver bird's nest ?

(3) How do birds make their nests soft and warm ?

(4) Why do mice and rats not enter houses built with cement ?

(5) Where do bats find shelter besides dark caverns ?

4. Directions and Maps

Try this.

Stand in two equal rows in the classroom facing each other. Now tell the girl/boy standing in front of you, the answers to the following questions :

1. On which side of you is the blackboard ?
2. On which side of you is the main door of the classroom ?
3. On which side of you is the teacher's table ?

Your answers and the answers of the girl/boy in front of you are different, aren't they? Why is it so? If the blackboard is to your right, it will be to the left of the girl/boy standing in front of you. If the blackboard is behind you, it will be in front of the girl/boy facing you.

In the same way, your answers about the main door and the teacher's table will also be different from those of the girl/boy facing you. It is difficult to make out the location of an object based on answers like 'on the right', 'on the left', 'in front of' and 'behind'. Therefore, in order to tell exactly where an object is located, we use directions.

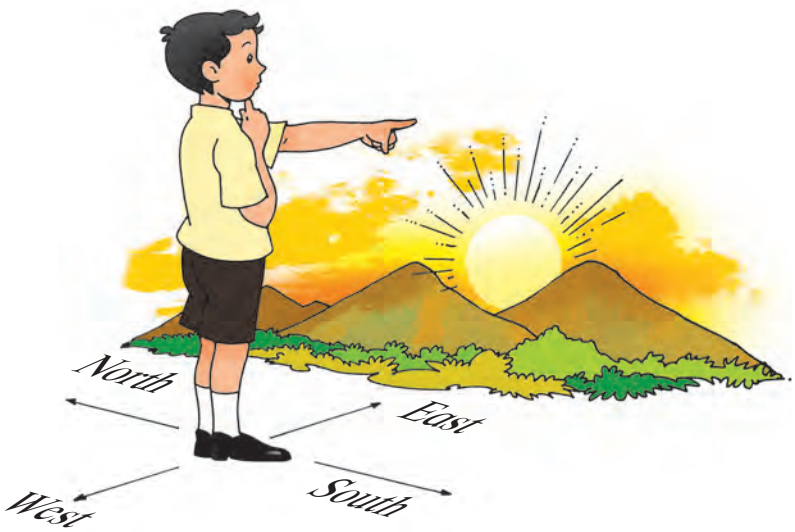
For teachers : • In this chapter, we introduce directions and maps. As these are abstract concepts, they need careful handling so that students understand them properly. • Emphasis should be placed on activities. • In this chapter, only the main directions should be considered. • Allow students to handle a compass themselves. • Students should be made aware of the important fact that maps are read by matching the directions on the map to the directions on the ground.

Try this.

Now we will use directions to find the answers to the same questions. With your teacher's help, write the names of the four main directions on the walls of your classroom. Now stand facing each other again. Tell each other the direction in which the blackboard, main door and teacher's table are located.

Now your answers and the answers of the girl/boy facing you will be the same. Directions can be used to tell exactly where an object is located.

Let us learn how to find the directions.



The four main directions are east, west, north and south. How do we find them?

The direction in which the sun rises is the east. The direction in which the sun sets is the west.

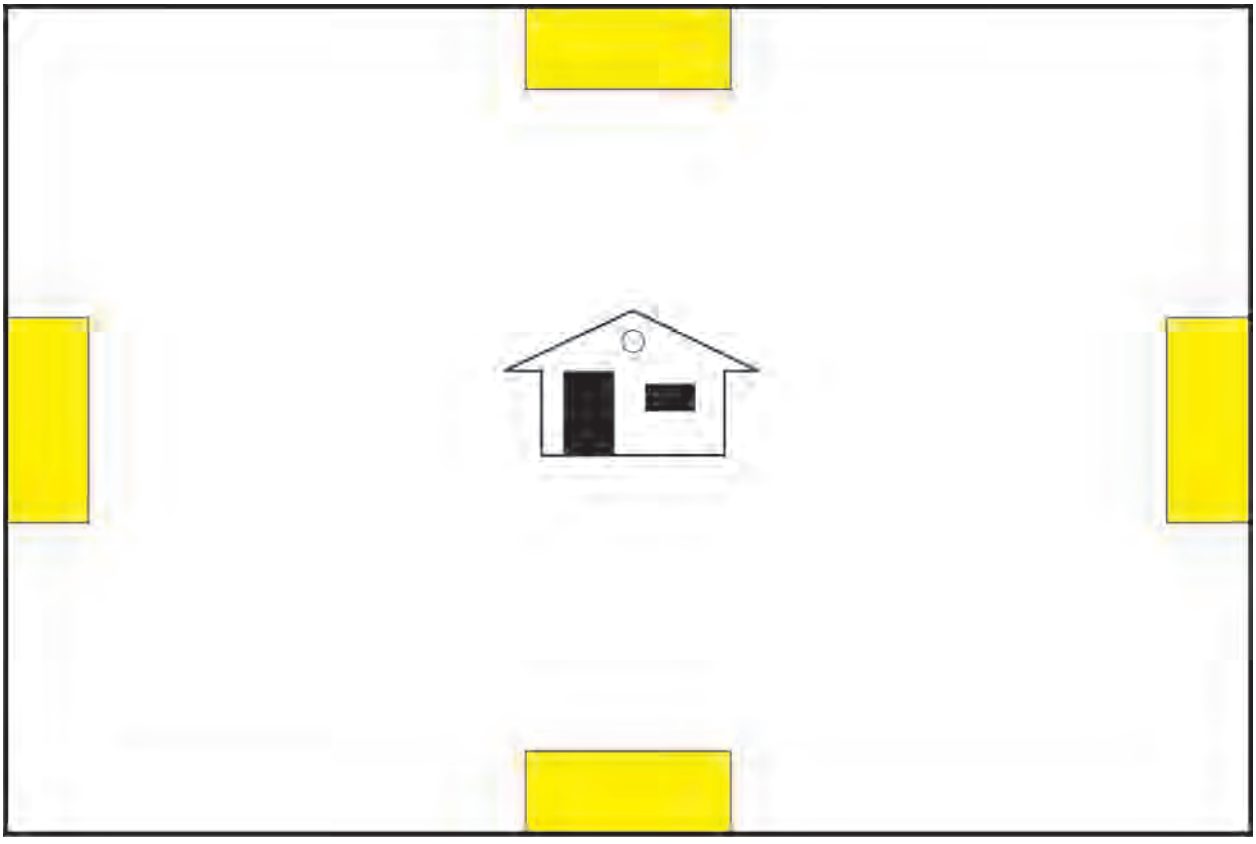
East and west are opposite to each other. If we stand facing east, the west is behind us. At that time, the north is to our left and the south is to our right.

Try this activity in the open at sunrise. It will help you to understand directions better.

Frame this ...

A large frame is given below. Your house is at the centre of the frame. The frame has a yellow strip on each of its four sides for writing the directions.

On which side of your house does the sun rise? That side is the east. In the yellow strip on the side of the house where the sun rises, write 'East'. In the strip on the side opposite to the East, write 'West'. 'North' and 'South' will be written in the remaining two strips. Think carefully where they would be and write down the words in the proper strips.



In the frame, show the following things near your house, in the right places.

(1) Neighbouring houses

(2) One shop near your house

(3) One tree

(4) The road nearby

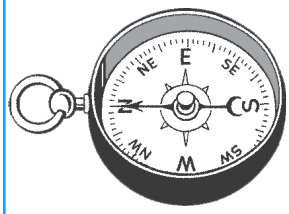
(5) The bus-stop nearby

Now see what your neighbourhood looks like!

For teachers :

- Students are expected to draw the complete road as it runs in their neighbourhood. Guide the students to do it properly.
- Check that the students have filled in the directions correctly as per their neighbourhood. If necessary, help the students with this.

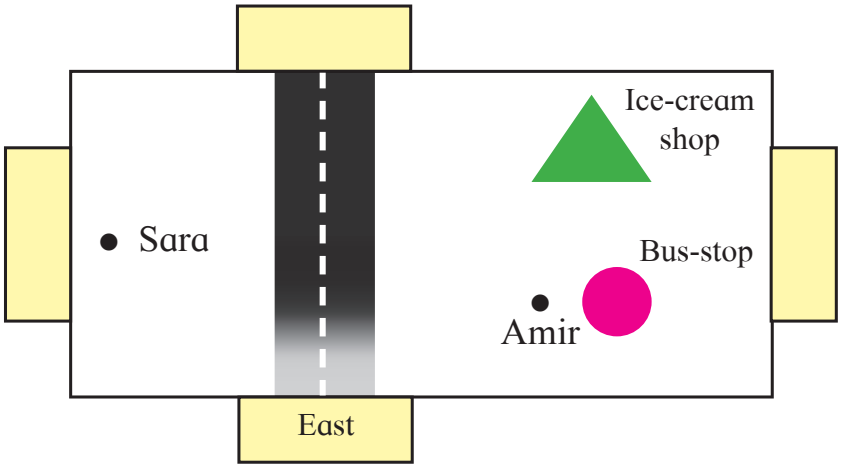
Do you know ?



1. The sun rises and sets every day. That is why, the sun is used to determine directions.
2. The magnetic needle in a compass always lies in the north-south direction. Ask your teacher or parents to show it to you.

What's the solution ?

Sai and Abhay have been asked to solve this problem. Can you help them ?



a. In this picture, the east is marked. Use that to write the other three directions in the yellow boxes.
b. In which direction do we travel to go from the ice-cream shop to the bus-stop?
c. Amir wants to go to the ice-cream shop. In which direction must he walk?
d. Sara wants to go to the bus-stop. In which direction must she go ?

Let's play a game.

Determine the east with respect to your place. What are the things situated in each of the directions? Now move around in a circle. When the group leader names a direction, quickly stand facing that direction. Those who are wrong are 'out'.

Use of directions in maps

In a map, directions are always shown. They are indicated with the help of an arrow pointing north. The directions on the map have to be matched with the directions on the ground before reading the map. That is, the map must be aligned with the directions on the ground.

For example, the east on the map must be matched to the east of your surroundings. By doing this, you can tell at once, the directions of the places shown on a map. Use this method while reading the maps in your textbook, too.

Use your brain power !

1. Stand facing the rising sun. In which direction is your right ear? In which direction is your left ear?
2. In which direction will your shadow fall at sunset?

District, State and Country

'India is my country'. We have been reading this sentence in the pledge ever since Standard One. You must have read the words, 'state', 'nation' and 'world'. In this textbook too, you will find the words, 'earth', 'world', 'country', 'state', 'district', 'taluka' and 'village' in many places. Come, let us get to know 'district', 'state', 'country', 'the earth' and 'world'.

We live in a house. Our houses are built on land. This land is spread very far and wide. A vast section of land on the earth is called **a continent**. Like continents, salt water too occupies the surface of the earth. This part is called **'ocean'**. The earth is also called the **'world'**. There are many countries on the land on the earth. The countries are made up of several States. We live in the **State of Maharashtra. Our country, India**, is made up of many such States. Maps of your **district, Maharashtra State, India and the world** have been given in this lesson. Complete the activities based on the maps.

Do you know ?

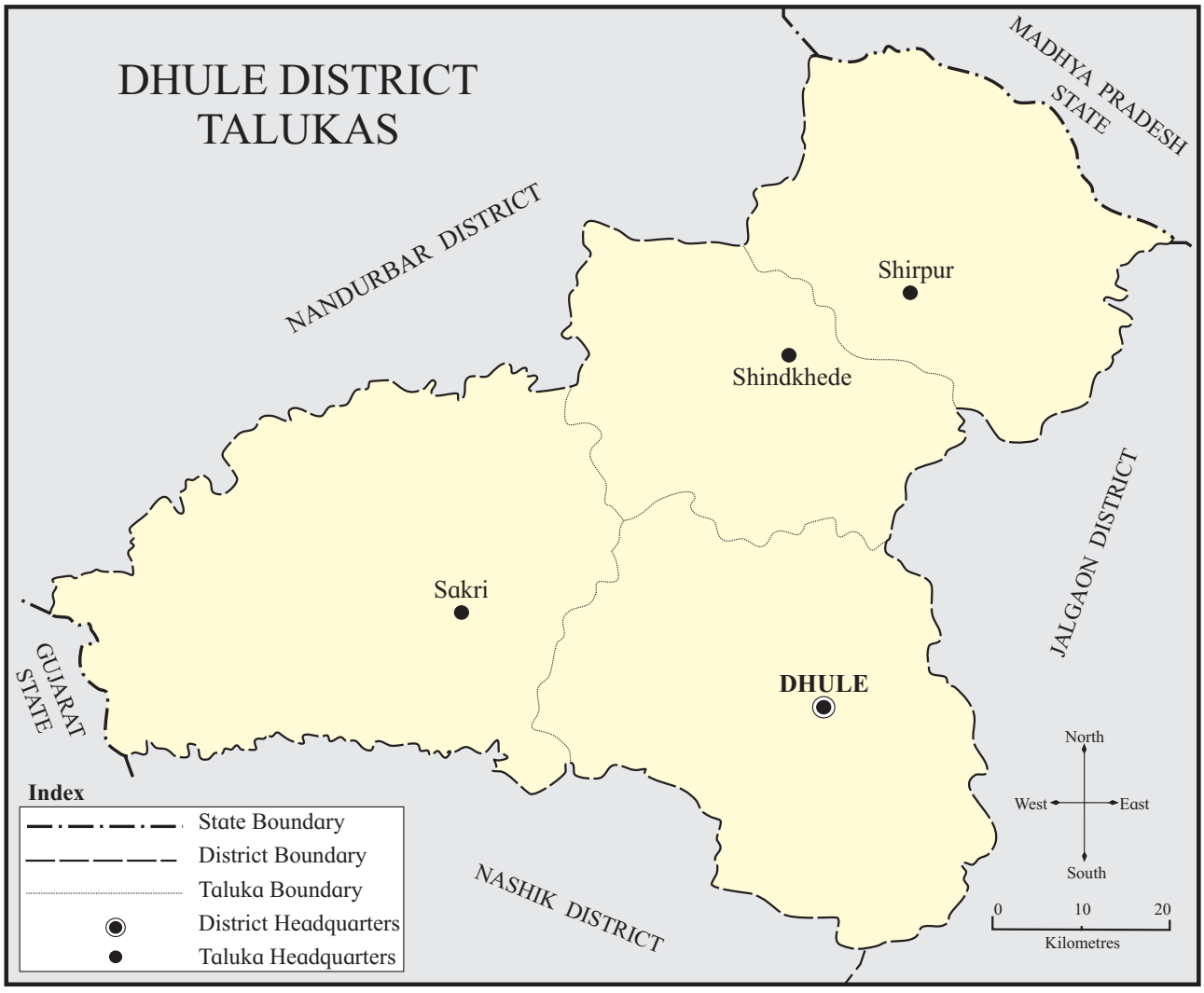
The index in a map : Symbols, pictures, signs and different shades of colours are used to present the information in a map. A list of these symbols, etc. is given along with the map. This list is called the **index**. The index helps us to understand the map.

Always remember–

We made use of the rising sun to determine directions. Other components of nature can also be of help to us.

Make friends with maps !

Several villages, settlements and cities like our own together form a taluka. A district is composed of several talukas. A map of our district is given below. The map shows the talukas and their headquarters. An index is also given. It will help us understand the map. Read the map using the index and the directions. Carry out the activities given below.

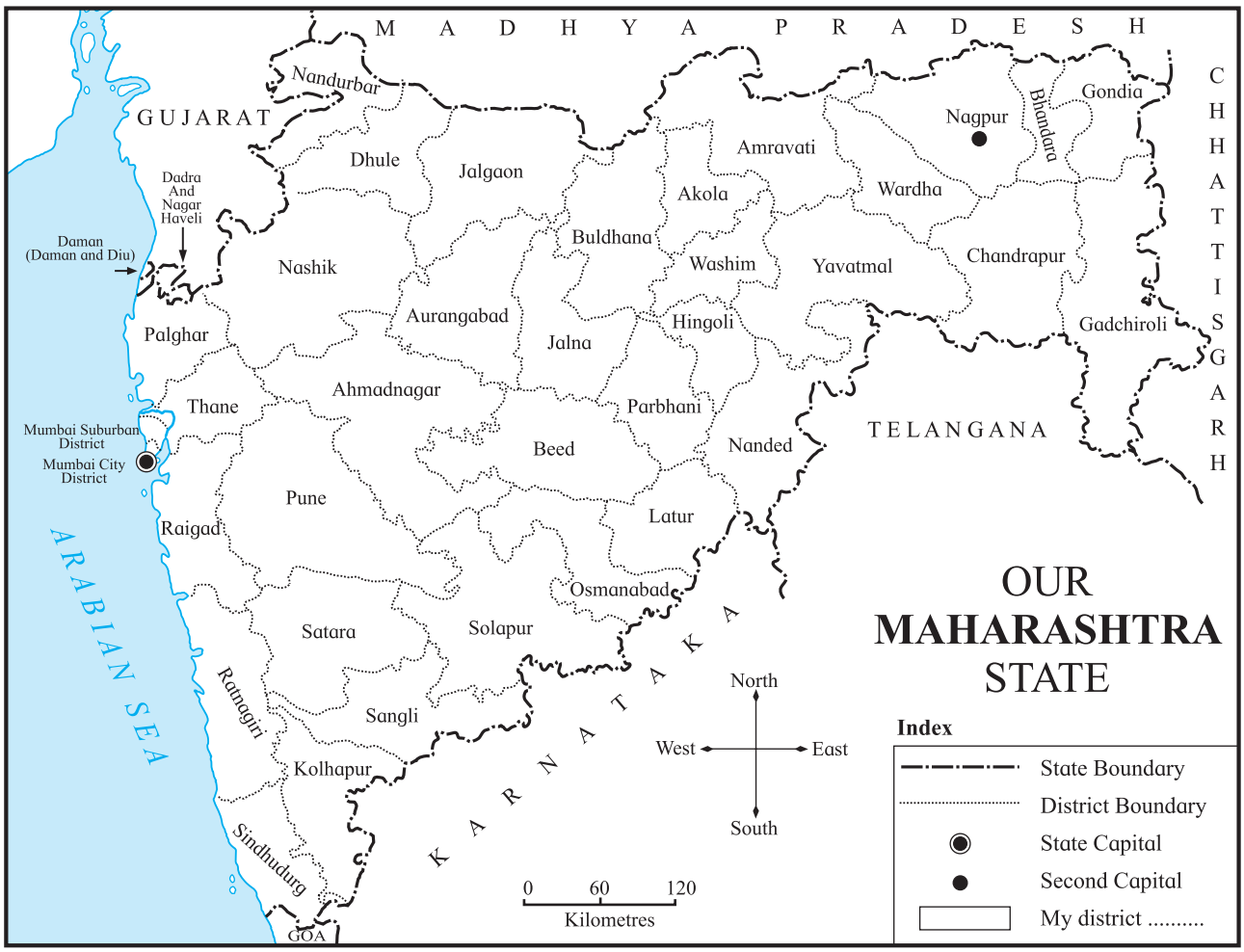


1. Write the name of your village, town or city in your taluka.
2. Circle the name of our district headquarters.
3. Draw a box around the names of the districts neighbouring your taluka.
4. Write the names of the talukas neighbouring your taluka.

5. Colour the taluka neighbouring Madhya Pradesh State in a different colour.

Make friends with maps !

- A map of our Maharashtra State is given here.
- The different districts are shown in it.
- The map also shows that Mumbai is the capital of our State and Nagpur is the second capital.



- Find your district on the map and colour it.
- A box is given in the index to represent your district. Colour it in the same colour. Write the name of your district after ‘My district’ in the index.
- In the box below, write the names of the districts neighbouring your district.

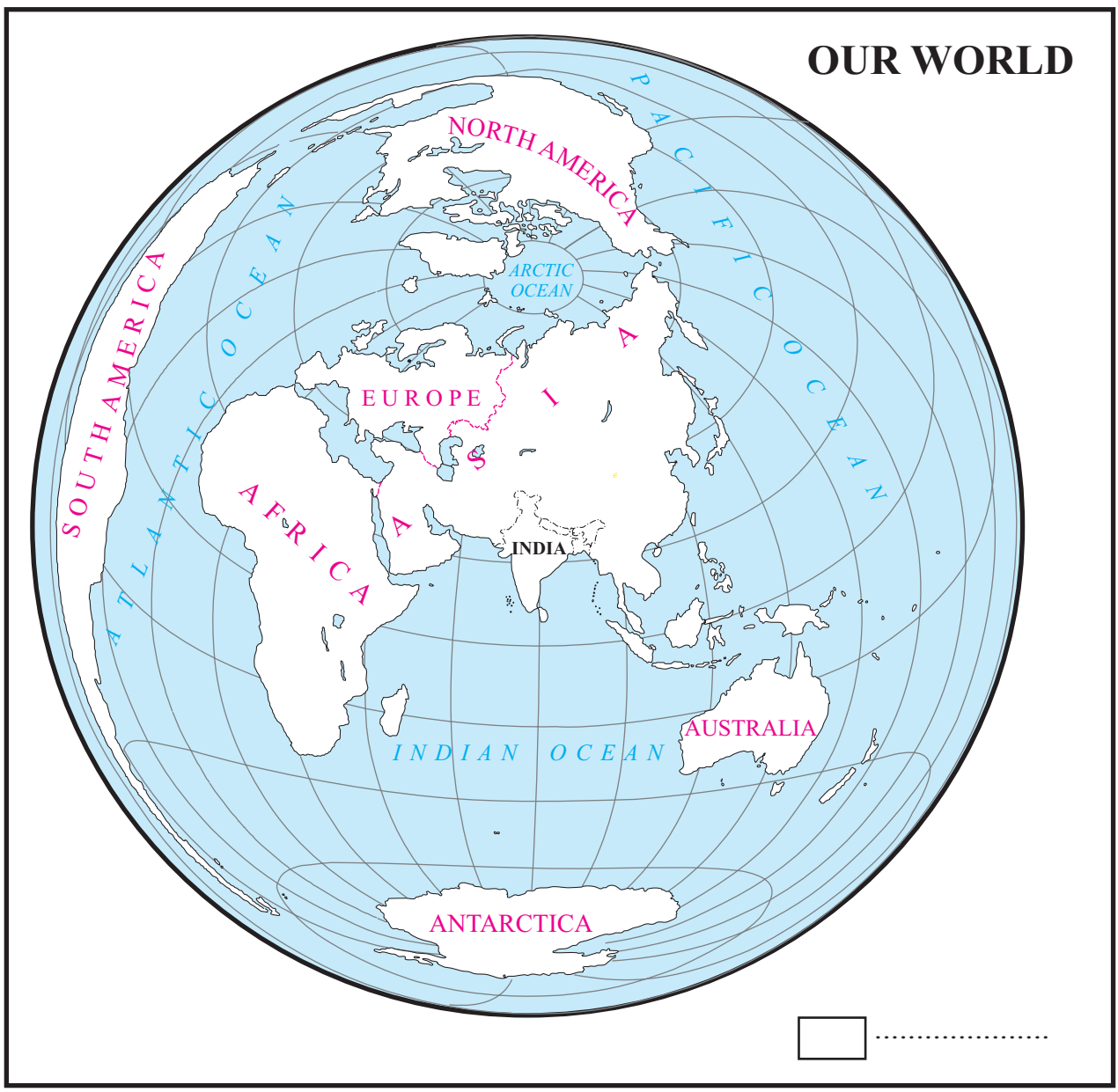
Make friends with maps !

- A map of our country is given below.
- The capital of our country, New Delhi, is also shown on the map.

- Find and colour our Maharashtra State on the map of our country.

Make friends with maps !

- A map of the world is given below.
- Land (continents) is shown in white and water (oceans) is shown in blue.
- This special map has been created so that all the land and water on earth can be seen at a glance.



- In the map of the world given above, colour the part labelled 'India'.
- Colour the box next to the map in the same colour and write **India** on the dotted line.

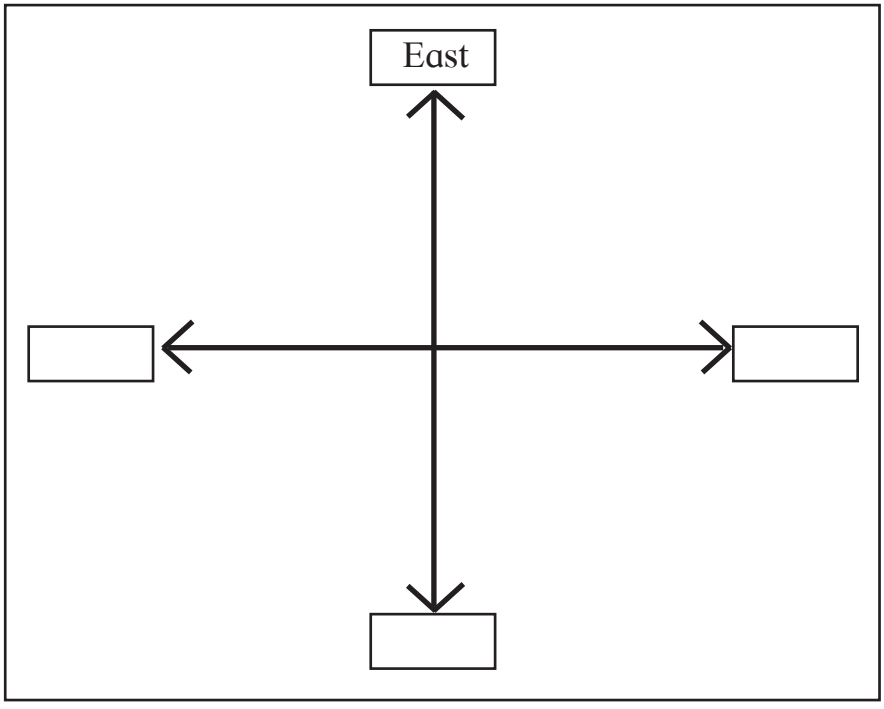
'This is our country.'

What we have learnt –

- The four main directions.
- The use of the directions given on a map.
- An introduction to our district, state and country, using maps.

Exercises

(1) A box is given below with the east marked in it. Fill in the other directions, too.



(2) What do we make use of to determine the east?

(3) Which is the direction opposite to the north?

(4) Which directions does the magnetic needle show?

CRRPGI

Activity

Find the directions in your neighbourhood. Open your textbook to page 25 which shows the map of your district. Using the directions given on the map, align the map with the directions of your neighbourhood.

5. Understanding Time

Time has three parts. What has gone by is the past.What is going on now is the present.What is yet to come is the future. 'Today is Monday'. The word 'today' shows the present time. 'Tomorrow is my birthday'. The word 'tomorrow' shows the future. 'Yesterday, Granny told me a story'. The word 'yesterday' shows the past. Time can be understood using means such as calendars, school timetables, etc.

Can you tell ?

- For which purposes do we use a calendar?
- When and why do you turn the page of a calendar?
- What do the numbers in a calendar tell us?

A calendar

Do you know ?

A statue

Coins

Shards of pottery

It is important to understand 'time' for studying history. Sometimes, old statues, coins, shards of pottery, etc. are found while digging the foundation of a building. These things are studied carefully. Through these studies,we come to know about the period of time to which they belong.

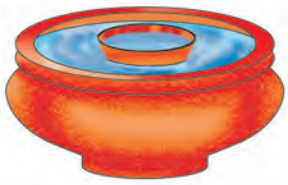
Use your brain power !

Today's newspaper becomes old tomorrow. But, if we cannot remember a particular fact, we search through old newspapers to find the information we need. This means that today's newspaper will, tomorrow, become an important means of getting to know history.

Can you tell ?

How do we measure time ?

To understand time, we divide it into seconds-minutes-hours, day and night, fortnight, month, year. In this way, time can be measured. Water-clocks, clocks and the calendar are instruments of measuring time.



A water-clock

An hourglass

A calendar

Do you know ?

In the fourteenth century, the hourglass came into use in Europe. It consisted of two connected glass vessels fitted in a wooden frame. Dry fine sand was poured into one of the vessels. The connecting hole between the vessels allowed the sand in the top vessel to fall into the lower vessel. The hourglass was constructed in such a way that it took one hour for all the sand to fall from one vessel into the other. The clock was turned over as soon as all the sand had fallen into the lower vessel. This is how a period of one hour was measured. These clocks were used in India, too.

Try this.

Stick photographs of yourself from the past and present in the frames below. In the frame of the future, draw a picture of what you will look like in 20 years.

Past	Present	Future
I was like this when I was a baby.	Now, I am like this.	I will be like this after 20 years. (Imaginary drawing)

Can you tell ?

- Why do we make partitions of time in different ways?

For convenience of everyday work, time is divided in different ways. For example, while using words like 'now', 'a while ago', 'in a while' or 'today', 'yesterday' and 'tomorrow', we are unknowingly measuring time in our minds.

What we have learnt –

- For convenience of day-to-day work, time is split into parts. When we use words like 'right now', 'in a while' or 'later', we unknowingly measure time in our minds.
- Time is measured by using instruments such as clocks, calendars and school timetables.
- Time is divided into parts such as second-minute-hour, day and night or week, fortnight, month and year.
- We get an understanding of time through historical buildings or old objects, like coins, statues or shards of pottery found in an area. They help us to understand the history of that place.

Exercises

A. Answer the following questions in one sentence.

(a) Which instruments are used for measuring time?

(b) How do we divide time in order to understand it?

B. Match the following :

A	B
(a) What has gone by	(1) Present
(b) What is going on	(2) Past
(c) What is yet to come	(3) Time
	(4) Future

7LNSUP

Activity

Find out the English and Marathi months in which the birthdays of your family members occur. Write the names of these months in the proper order.

6. Getting to Know the Place we Live in

Try this.

Find the names of towns in the word puzzle given below.

S	P	N	V	L	T	H	O
I	U	A	A	A	H	A	W
N	N	S	A	T	A	R	A
D	E	H	Q	U	N	D	S
H	S	I	I	R	E	A	H
U	Z	K	H	A	D	K	I
D	U	R	G	P	E	N	M
K	O	L	H	A	P	U	R

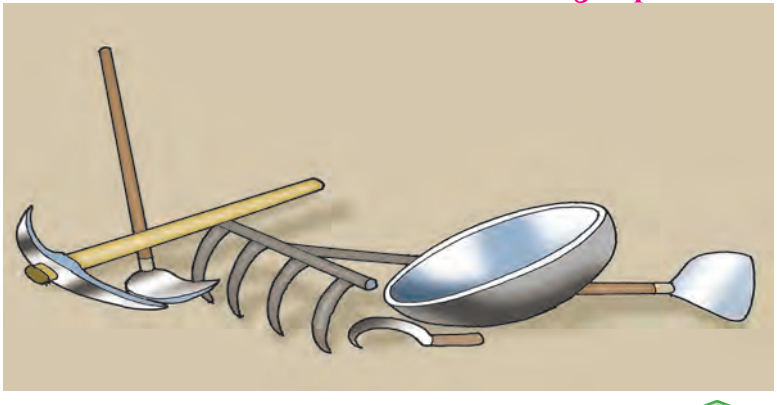
- How does a town form?

In very old times, before man began farming, he lived a nomadic life. He was dependent on hunting animals and gathering fruit, roots and bulbs for food. Later, man learnt to grow crops. He began to settle where he found suitable land and water. People began to build houses in such places and settled there. They began to help each other in farming. Their houses were close by. Thus, settlements were formed. The settlements began to grow bigger. Many settlements merged together to form villages. People felt safer living in such settlements.

As farming developed, people had to do different kinds of work. One person could not do all of them. So work was divided between the people. For example, making wooden implements, repairing them, weaving cloth, making jewellery and making clay pots. Thus, there were artisans engaged in different occupations.

- Which are the different implements needed for farming?
- Collect information about the ancient and modern farming implements.
- Visit an agricultural exhibition.

Farming implements



Can you tell ?

- Which historical buildings, monuments, objects, etc. are seen in your area ?

A village, town or city has buildings such as temples, caves, mosques, churches, memorials, forts, museums, etc. A place becomes known by these buildings. They tell us about the richness of the place. They help us to understand our history. These buildings are our treasures. They must be protected. To protect them is our responsibility.

A place may also become famous because of a religious place, fair, or fort. For example, Raigad district is known for the Raigad fort.

Fort Raigad

Try this.

(1) Ask your teacher or parents how your place got its name.

(2) Find out and write down names of places which have been named after a person, fruit, flower, tree, animal, bird or water.

Each town has a name. Similarly, roads, squares and alleys also have names. Find out how they got these names.

Do you know ?

While returning from Surat, Chhatrapati Shivaji Maharaj stopped near Talegaon (Dindori) in Nashik district. He had set up his army camp or '*tal*' there, giving the place the name, Talegaon.

Dhamangaon Paat in Ahmadnagar district was so named because formerly, there was an abundance of dhaman trees there.

There is a village called Ashti-Dhotar-jodyachi in Partur taluka of Jalna district. Fine dhotarjodis of excellent quality were made there. This gave the village its name.

Shivram Hari Rajguru was an important revolutionary in India's struggle for freedom. He was one of the three famous revolutionaries, Bhagat Singh, Rajguru and Sukhdev. Rajguru was born in Khed in Pune district. After elementary education, he moved to Amravati. There at the Hanuman Vyayamshala, he took up the cause of patriotism. At 15 years of age, he went to Benaras to study Sanskrit. He knew several languages such as Marathi, Sanskrit, Hindi, Urdu and English. Bhagat Singh and Sukhdev were his close friends. Later, he took part in revolutionary activities and became a martyr for the country. In his memory, Khed, his birthplace, has been renamed 'Rajgurunagar'.

Try this.

World Heritage Day : 18th April is World Heritage Day. On this day, pay a visit to a fort or national monument. Learn about its importance. Collect information about the rules for protecting world heritage sites.

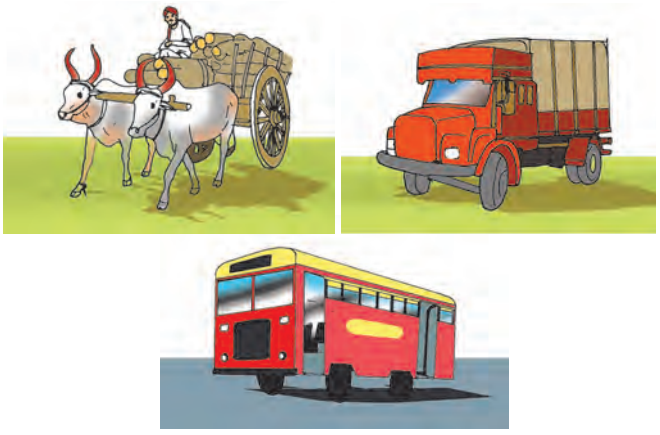
- Obtain pictures of historical buildings, monuments and old *wadas* in your surroundings. Stick them in frames.

Just as a place becomes renowned because of forts or historical buildings, it also gains renown because of its people and their good deeds. Collect information about soldiers, writers, artists, etc. in your neighbourhood. Invite them to your school and interview them.

Do you know ?

Sant Gadge Maharaj's real name was Debuji Zhingraji Janorkar. He belonged to Shendgaon (Shengaon) in Daryapur taluka of Amravati district. Sant Gadgebaba raised social awareness through *keertans*. During his *keertans*, he would ask people questions and answer them himself. 'Why are our people poor? Because they do not have education.' He appealed to the people to get educated. He is known as one of the great saints of the 20th century. His village will forever be remembered for his work in the service of people.

A weekly market



Means of transport

Try this.

Visit a weekly market and meet a shopkeeper there. Interview her/him with the help of the following questions :

(1) How many years have you been in this occupation ?

(2) Which items do you sell in your shop ?

(3) Where do you get these items from ?

(4) What means of transport are used to carry the goods ?

People in villages are dependent on weekly markets for their daily needs. These markets sell all essential items. Mainly, food grains, vegetables, farming implements, clothes, etc. become available here. The market is also the place where people can meet one another and enquire about each other's well-being.

Do you know ?

Donkey Market - Jejuri

People belonging to various castes and communities attend the fairs of folk-deities of masses in Maharashtra with reverence. Many things related to people's living such as different types of markets are also a part of these fairs. Jejuri in Pune district and Madhi in Ahmadnagar district are places of pilgrimage. They are also well-known for their donkey markets. At Malegaon, another place of pilgrimage in Nanded district, a market is held for donkeys and horses. Places come to be known for reasons such as these.

Think and tell.

Are the pictures of a weekly market and of the means of transport related in any way ?

Try this.

Find the names of persons, places, relations, animals and vegetables hidden in the puzzle alongside.

S	A	S	S	D	N	S
P	N	I	C	E	I	U
I	A	S	H	E	E	P
N	N	T	D	P	C	E
A	D	E	U	A	E	B
C	E	R	O	K	R	A
H	D	E	V	I	K	A

What we have learnt –

- Many settlements merged together and formed a village.
- As farming developed, people had to do different kinds of work.
- Some places become known for their historical buildings.
- A place gets its renown from its people and their important deeds.
- Essential items are available in a market.

Exercises

A. Answer the following questions in one sentence :

(1) Which buildings can be seen in a town ?

(2) What makes a town famous ?

B. Fill in the blanks with the correct word :

(1) ------- is known for Fort Raigad .

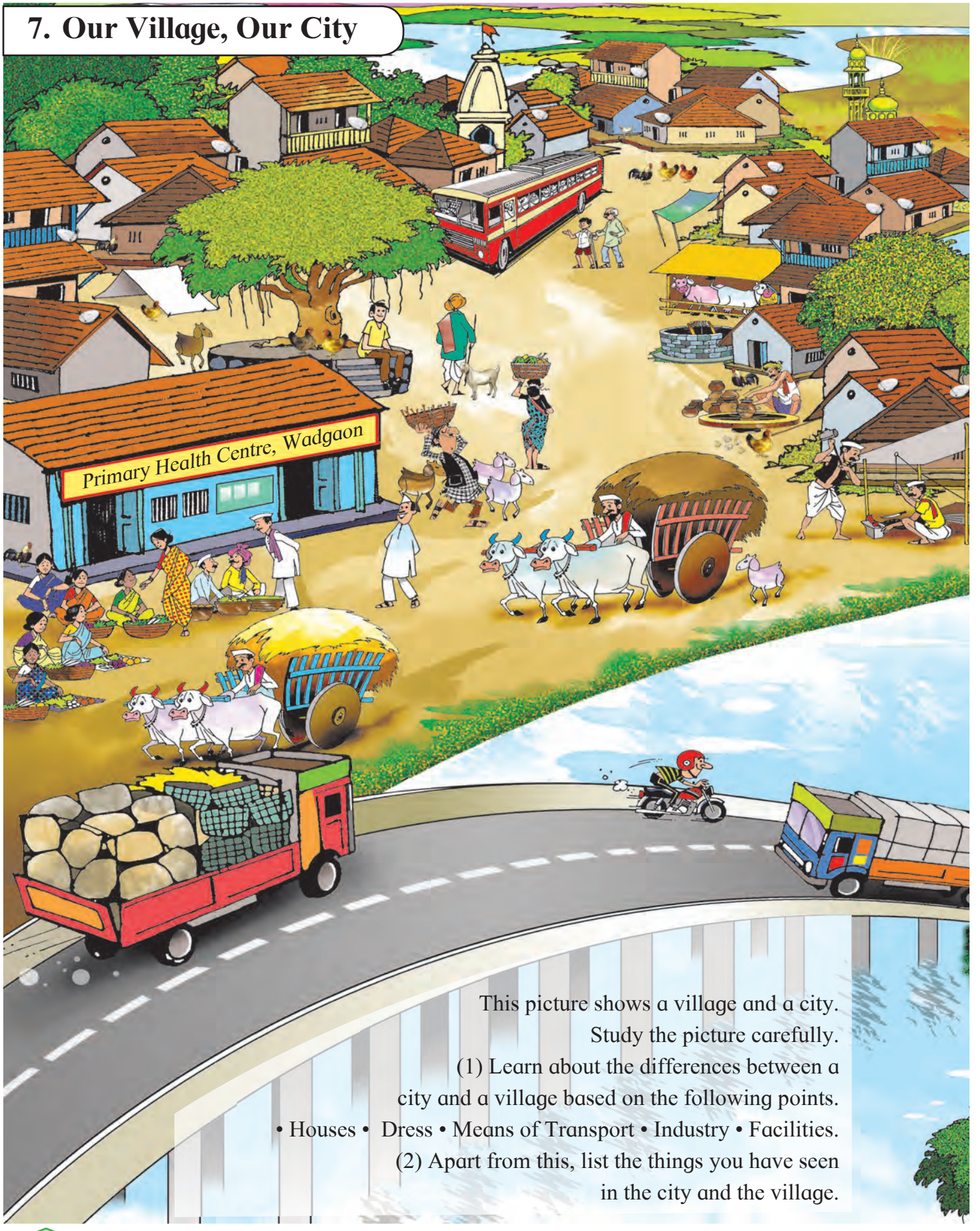
(2) People in a village are dependent on the ------- market for their daily needs.

Activities

(a) Find out about the historical buildings in your neighbourhood.

(b) Find out some information about your own town/village/city.

7. Our Village, Our City



This picture shows a village and a city.
Study the picture carefully.
(1) Learn about the differences between a city and a village based on the following points.
• Houses • Dress • Means of Transport • Industry • Facilities.
(2) Apart from this, list the things you have seen in the city and the village.

HOSPITAL
CITY MALL

Can you tell ?

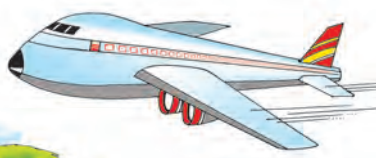
(1) Which of the things in these pictures are produced on a farm?
(2) Where else can these things be obtained?
(3) Which articles in the picture are produced in a factory?
(4) Where else can you find these articles?
(5) For what purposes do we need these things?
(6) Which means of transport are used to move these goods to urban and rural areas?

• Grains, vegetables, milk, etc. come from villages. • Bicycles, toys, books, etc. come from the city. • Farming implements, cloth, medicines, automobiles, soaps, glass, light bulbs, etc. are made in factories. Factories are mostly situated near the city. People living both in villages and cities use all these things. Thus, rural and urban people are dependent on each other for their needs. • Means of transport and communication are necessary to fulfil the needs of the people.

Earlier, there was a big difference between the city and the village. Now, this difference is reducing. The facilities available in cities are now becoming available in villages as well.

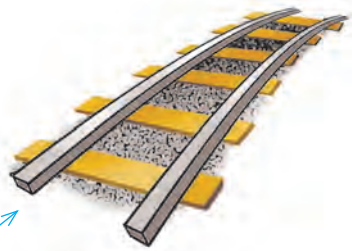
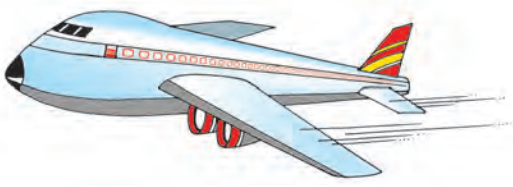
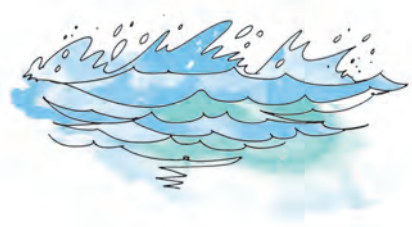
• Means of transport

As man's needs increased, he invented new means of transport. Earlier, goods were transported by animals like bullocks, elephants, camels, horses and donkeys. Next, vehicles such as bullock carts and horse carts were used. Then ships, automobiles and trains were invented, followed by aeroplanes. Thus, transport became faster.

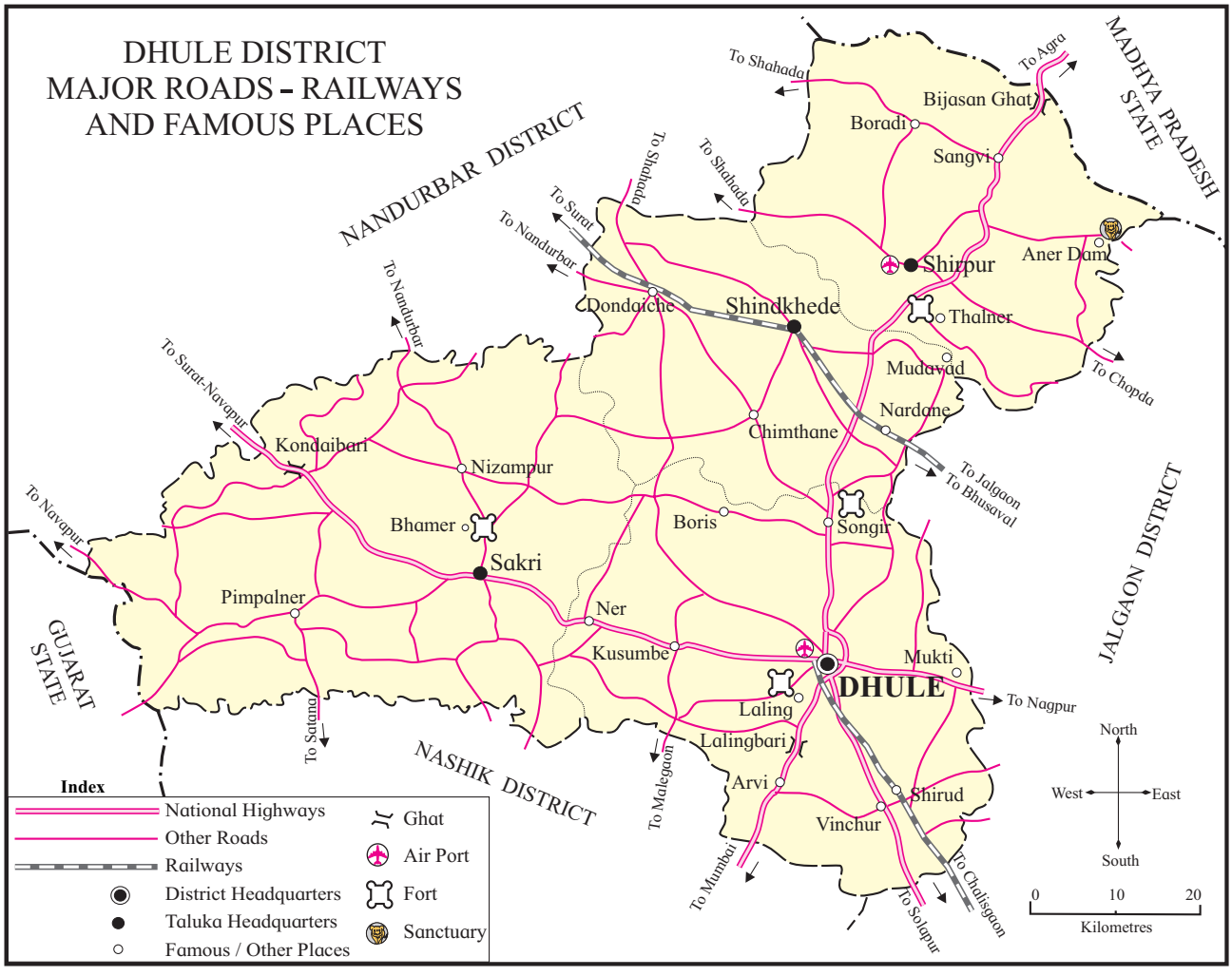


Can you tell ?

Column **1** below shows various means of transport. Column **2** shows what they travel on. Make the correct pairs.

1	2
	
	
	

Nowadays, transport facilities are available in most villages and cities. Study the map of your district to find out which transport facilities and which famous places are found there. Complete the activity based on the map given overleaf.



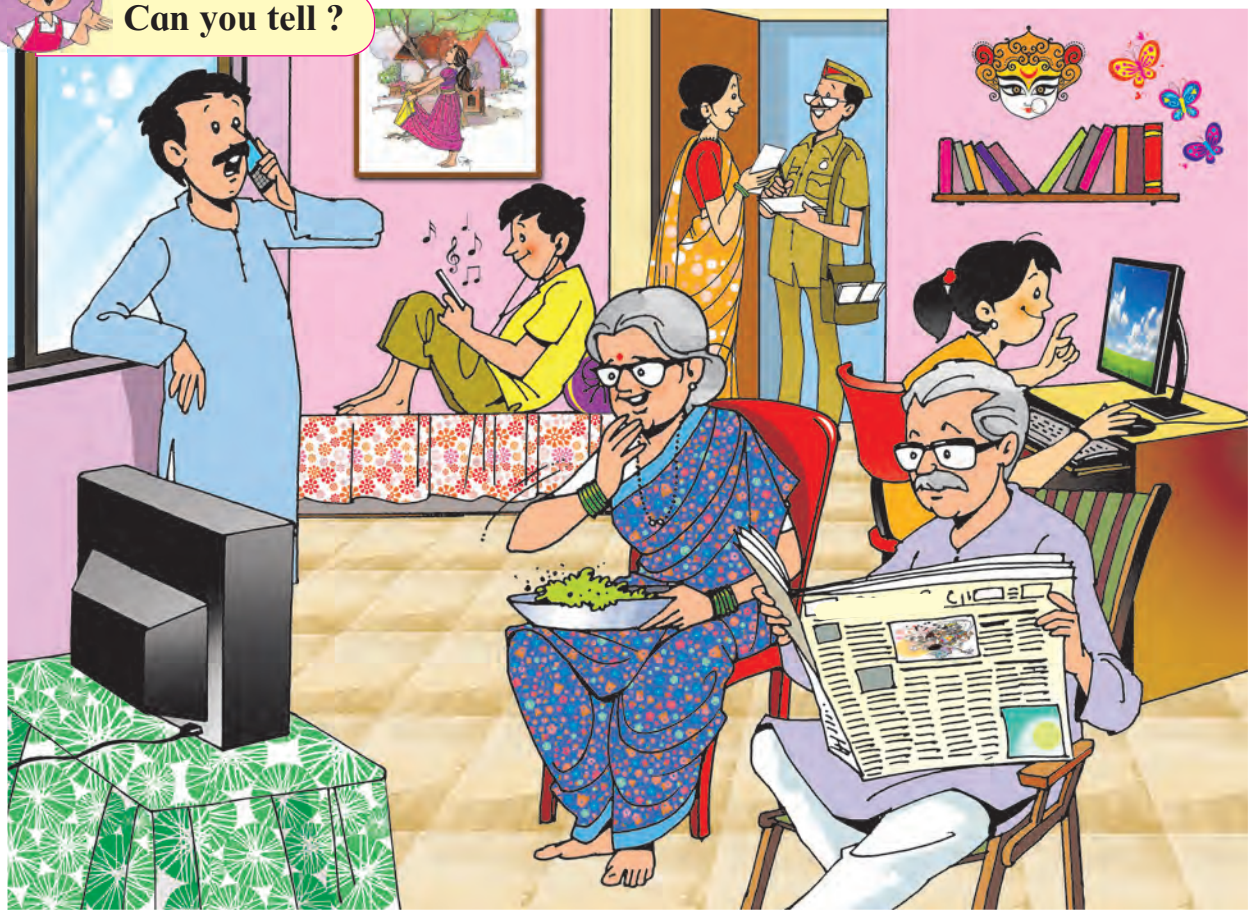
1. Our district has a historical heritage. Study the map and colour the symbols of forts found on the map.

2. Write the name of the sanctuary in the district in the box.

3. Find the famous places on the Mumbai-Agra national highway and draw a box around their names.

4. Trace the Surat-Jalgaon railway.

Can you tell ?



1. What is Grandfather reading ?
2. What is Tai using to find some information ?
3. What is Grandmother watching ?
4. Dada is listening to songs. What has he put in his ears to do this ?
5. What is Father using to speak to someone ?
6. Who is at the door ? What is Mother taking from him ?

We commonly use things like letters, computers, mobile phones, newspapers, TV, music players, etc. All of these are used as means to send and receive information and messages. All these are means of communication.

• Dialects

Man uses language to talk to each other and to communicate his thoughts to other people. The same language is spoken in different ways in different regions. The pronunciation of the words changes with the region. Words from other languages enter our language. It is influenced by other languages. In this way, different dialects of the same language form in different regions. For example, Ahirani, Malvani and Varhadi are some dialects of the Marathi language. **Marathi** is the **State Language** of Maharashtra.

Do you know ?

In the olden days, means of sending messages were not very advanced. In those days, information was communicated by different means. Sometimes, trained pigeons were used for this purpose. A message was sent by writing it down on a piece of paper or cloth and tying the piece to the bird's leg.

What's the solution ?

Services like mobile phones, telephones and computers are not available in the area where Rohan and Rupali live. They need to send a message to their relatives in another town. How will you help them to send their message?

Always remember –

Recently, there has been great development in the means of transport and communication. However, increased use of these means has also led to an increase in pollution. Therefore, everyone should use them carefully.

What we have learnt –

- The inter-relationship between cities and villages.
- Means of transport and communication.
- The need for means of transport and communication.
- Transport facilities and famous places in our district and taluka.

Exercises

A. Vegetables, onions, wheat, motorcycles, books, TV, radio.

(a) Of the above, which items come to the city from the village?

(b) Of the above, which items come to the village from the city?

B. Read the passage and answer the questions.

Pooja was leaving to meet her friend. Just then, the postman came with a letter. While travelling on the bus, Pooja saw some people transporting goods on horseback. When she reached her friend's house, her friend was speaking on her mobile phone.

(a) Which means of transport are mentioned in the passage ?

(b) Which means of communication are mentioned in the passage ?

C. Pen, scissors, letter, mobile, clothes iron, bottle, telephone, watch, spectacles, book, cap.

- Find the means of communication in the list above and circle them.

D. Complete the following:

- Draw a picture of a city and a village that you have seen.

  In this picture, show which items go from the village to the city and from the city to the village.

Activity

There were no TVs or music players when your grandparents were young. Very few people had a radio. Have a discussion with them and find out how they entertained themselves.

D4NQ1D

8. Our Need for Water

Can you tell ?

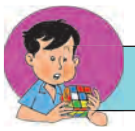
This happens, doesn't it ?

- Sometimes, tears flow from our eyes.
- Our mouth waters when we see a tamarind pod.

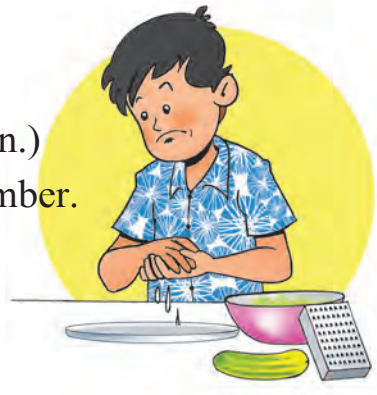
- Our nose runs when we have a cold.
- When we get a cut, it bleeds.

What does this tell us ?

Tears, saliva, water running from the nose and blood are present in our body. They are substances that flow. They contain water.



Try this.



(Do this under adult supervision.)

Take a small piece of cucumber. Grate it. Squeeze it hard.

Take a slice of lemon. Squeeze it hard, too.

What do you see ?

Juice flows out of the grated cucumber and the lemon slice.

What does it tell us ?

There is water in a cucumber and a lemon.

Why do we feel thirsty ?

We need water if our body has to function properly.

Water keeps our blood thin. Water helps to digest our food. Unwanted substances leave our body through urine.

We must have enough water in our body at all times. When there is a lack of water in our body, we get thirsty. Like us, other living things, too, need water.

Can you tell ?

- Which animals are drinking water at the river bank ?
- Who is playing in the river ?
- Some people are carrying water home. What will they use it for ?

• A public source of water

In many villages, cows, buffaloes and goats come to the river or pond to drink water. Grass and other bushes can be seen growing near the waterhole. Animals bathe themselves in it. Birds like the lapwing, kingfisher and egret can also be seen around the water source. People from the village wash their clothes in it. They carry water to use at home.

What's the solution ?

- The water in the public source has to be kept clean.

Do you know ?

People who keep animals provide drinking water to them without fail. We know that these animals, too, get thirsty. But there are thousands of other animals. We do not realize that they, too, need water.

Ant

Honey bee

Crab

Scorpion

Ants, honey bees, crabs, scorpions and all other animals need water.

Can you tell ?

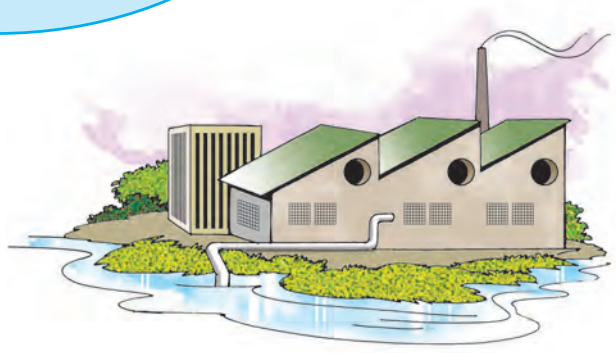
- Why do we go near a waterhole in a jungle to see wild animals?

Wild animals also need water. They come to a waterhole in the forest when they are thirsty. So, people, too, go there in order to sight the wild animals.

The importance of water

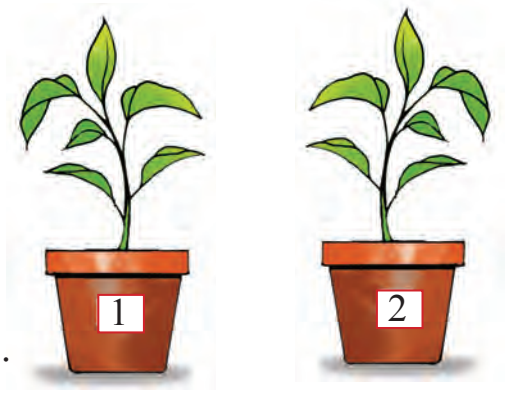
People need water not only for drinking but also for cooking and cleaning. We need water for agriculture and industry as well.

Water is very important in our lives.



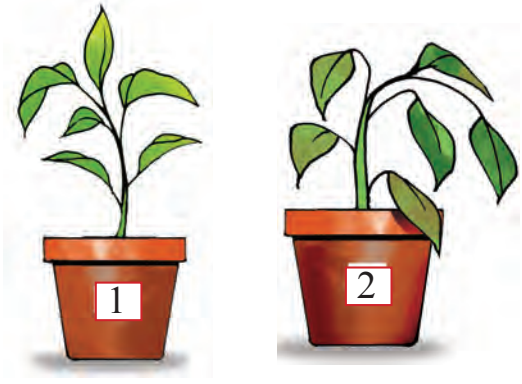
Try this.

- Take two potted plants of equal growth.
- Label them as 1 and 2.
- Every morning, for the next five days, water only Plant 1. Do not water Plant 2.



What do you see ?

- Plant 2, which was not watered, slowly dries up.
  Plant 1 looks fresh and green.



What does this tell us ?

- Plants need water to live.

• Plants need water.

We water our potted plants. Farmers water the crops in their fields.

Could these plants live without water ?

Thus, we see that plants, like animals, need water.

Use your brain power !

- The trees in the forests also need water to grow. From where do they get the water they need ?

- Rainwater seeps into the soil. Roots of plants spread deep into the soil. These roots absorb the water that has seeped into the soil.

Do you know ?

Some plants, like bulrushes, grow only in water.

We can try our best to grow them in soil, but they cannot survive there.

The lotus, water chestnut and hyacinth are also plants that grow in water.

Use your brain power !

- Why do we need to water a garden more often in summer ?
- Why is water in ponds and wells much reduced in summer ?

What we have learnt –

- Living things need water.
- There is water in the bodies of living things. That is why the body keeps working properly.
- We get thirsty when there is a lack of water in our body.
- Many villages have a common source of water from which water is taken for use at home. Certain birds and plants are commonly found near such sources.
- We need water not only for drinking but also for cleaning, cooking, growing crops and for industry, too.
- The roots of plants go deep into the soil and absorb water.

Always remember –

Everyone should take care to keep the public source of water clean. It is each one's responsibility to do so.

Exercises

A. What's the solution ?

- In summer, animals have to wander around in search of water. You have to provide water for these thirsty animals.

B. Think and tell !

(1) In summer, why do we eat plenty of fruits like watermelons and cucumbers ?

(2) Watch how a pumpkin is cooked. Where does all the water in which it cooks, come from ?

C. Answer in brief.

(1) In which different forms is water present in our bodies ?

(2) Why do we drink water ?

(3) Why do cows, buffaloes and goats come to the source of water ?

(4) How do we know that water is present in plants ?

(5) Why is farming not possible without enough water ?

(6) Why do big cities need more water ?

(7) From where do the plants in forests get water ?

7HGF2H

D. Fill in the blanks with words from the brackets.

(bathe, keep, important, thin, seeped, wild)

(1) Water keeps the blood …….. .

(2) Animals …… in water.

(3) People take care to provide drinking water for the animals they …… .

(4) We go near a waterhole in a forest to see ……. animals.

(5) Water is very …… in the lives of people.

(6) Roots of plants absorb the rainwater that has …… into the soil.

Activity

- Find out the reasons why the water of the common source in your town or village becomes unclean.

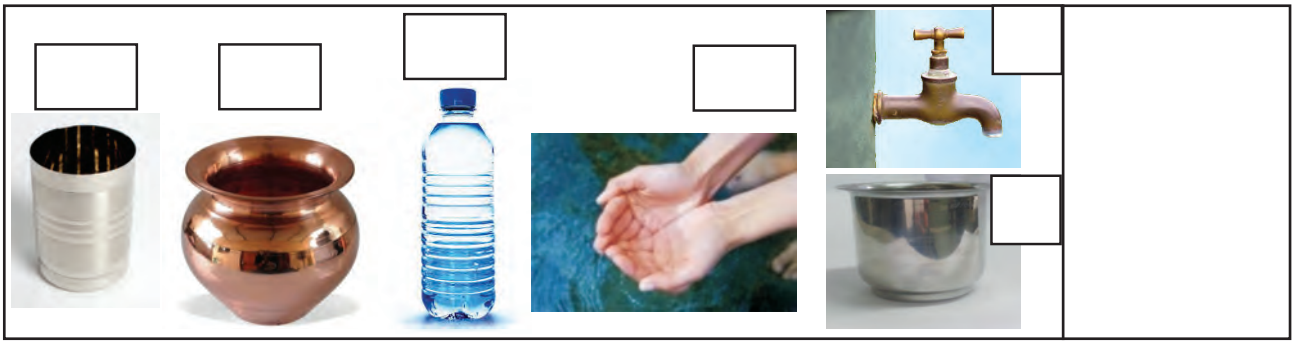
❊❊❊

Can you tell ?

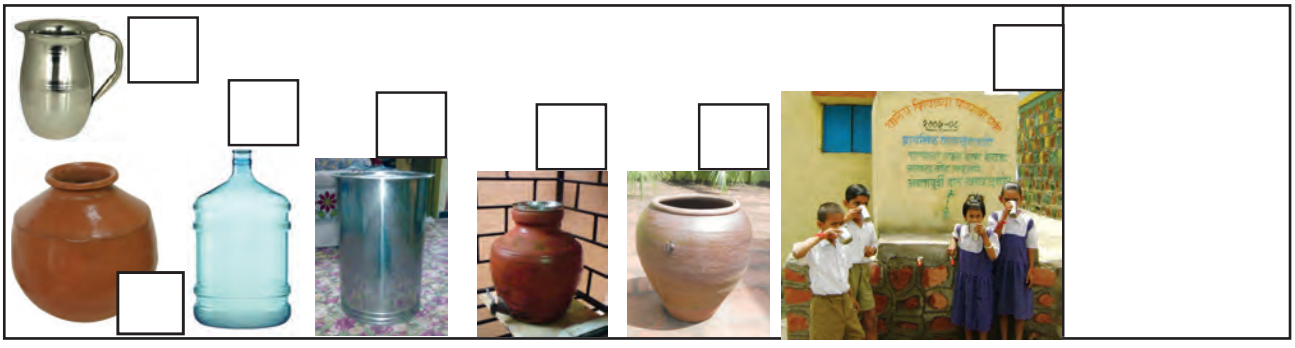
9. Where does water come from ?

Choose the right answer and put a (✓) next to the proper picture. If your answer is different from all of the given pictures, write it in the empty box.

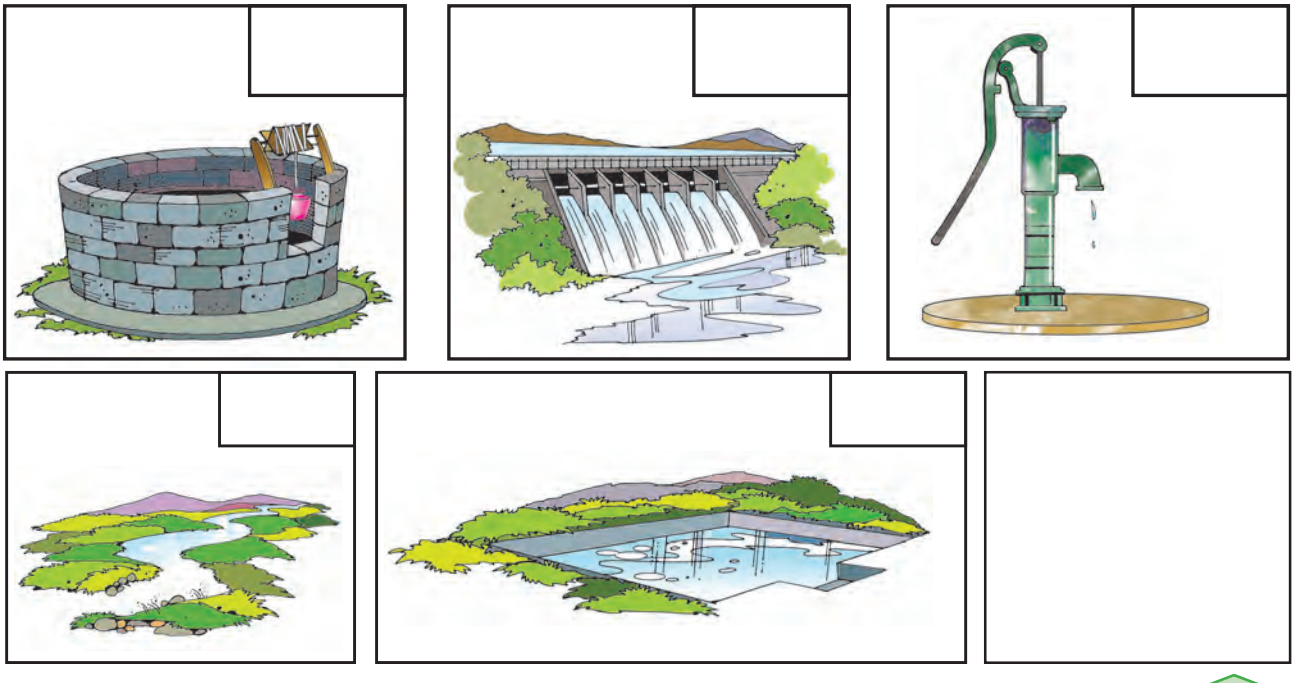
(1) What do you drink water from ?



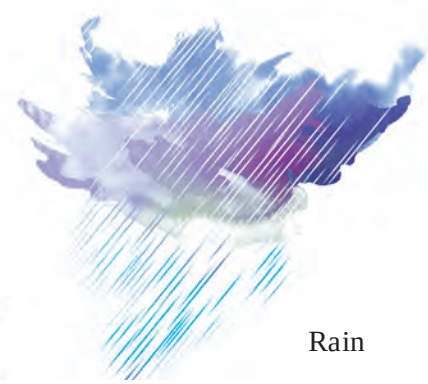
(2) What is this drinking water stored in ?



(3) Where do you think this stored drinking water came from ?



Can you tell ?



Rain

Where does all this water come from ?
The answer to this question is – **rain**. All the water that we get comes from rain.

- When it rains, some water flows over the ground giving rise to rivulets, streams and rivers.
- Some water collects in low lying areas. Thus, lakes are formed.
- A flowing river is sometimes blocked by building a wall. This is called a dam. When it doesn't rain, the water from the dam can be used.
- Some rainwater seeps into the ground. To obtain this water, we dig wells. This water can also be taken out by using hand-pumps and bore-wells.
- Sometimes, water in the ground comes out in the form of springs.

Some sources of water are formed naturally. However, places like wells and dams are man-made. If rainfall decreases, the water stored in these places also decreases. You can see such water sources in your locality, taluka or district. Study the district map given alongside and complete the activities.

How is a river formed and how does it flow ?

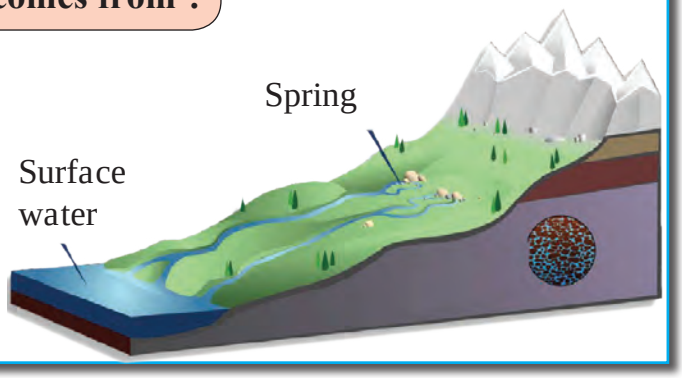
- Rain also falls on high places like mountains. This rainwater flows downhill.
- Numerous rivulets of water flowing downhill join together to form a river.
- A river flows down mountains and plateaus, through valleys and over plains.

Water bodies : Flowing water and stores of water are examples of water bodies. Springs, streams, rivers, lakes, reservoirs, creeks, seas and oceans are all water bodies.

Landforms : Due to the high and low levels of land at different places, land gets different forms. Mountains, peaks, hills, hillocks, plateaus, plains, passes and valleys are some of the landforms.

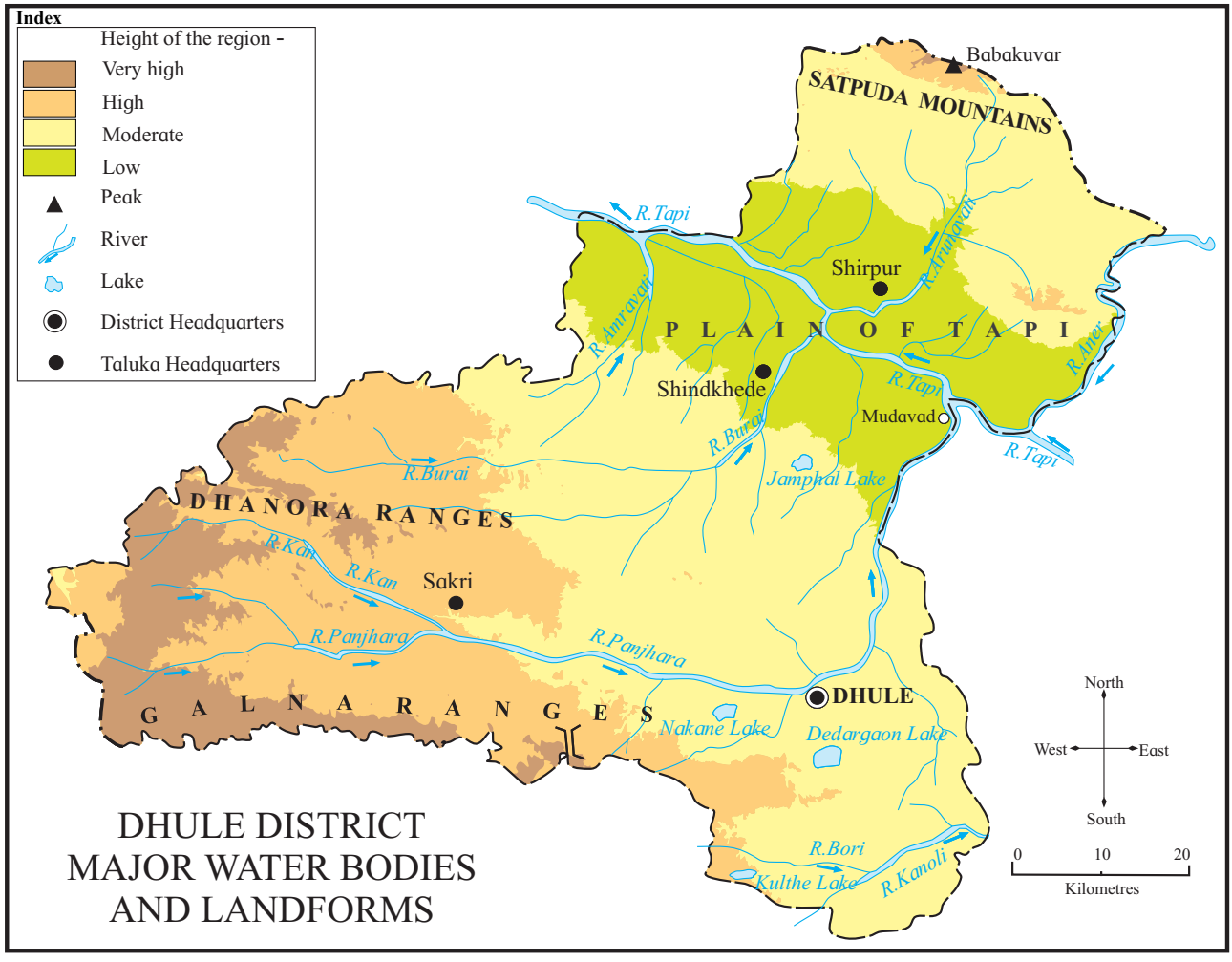
Do you know where a spring comes from ?

Rainwater seeps into the ground. It seeps deep into the ground through cracks in the soil and rocks. Even under the ground, it flows from a higher level to lower levels. This groundwater comes out of the ground in some places. This is what we call a spring.



Make friends with maps !

This map shows the water bodies and landforms in our district. The water bodies are shown in blue. Landforms are shown in different colours. These colours are given according to the height of the region.



1. In the box, write in which direction the Satpuda mountains are situated.
2. Draw a box around the name of the river which originates in the Satpuda mountains.
3. The Tapi river is the major river of the district. In the box, write the name of the river which flows from the Dhanora ranges and joins the Tapi.
4. What is the height of the region of the plain of Tapi ?
5. Trace the course of the Panjhara river. Draw a box around the name of the range from which this river flows.

Try this.

Take three bottles of the same shape. Fill one bottle to the brim with water. Imagine that you are the only one using all this water. This means you can use all the water in the bottle.

Now fill the second bottle with water. Imagine that another student from your class will also use this bottle with you. Divide the water equally into two parts. Now see how much water you get. Is this water less or more than the amount you had the first time ?

Now fill the third bottle. Imagine that four other children in the class besides you will use this water. Now you will have to divide the water in the bottle into five equal parts. Now see how much your share of the water is. Is the amount of water you have this time less or more than the first two times ?

Think about why this happened.

What's the solution ?

Rahul and Saguna drink water. After playing, they wash their hands and feet, they bathe every morning and wash their plates after eating. However, they use too much water while doing these things. Their mother scolds them. They wonder how they should use water carefully.

What good ideas can you give them for using water carefully ?

Always remember –

If you collect rainwater…

Mawsynram and Cherrapunji are two places in India which receive the highest rainfall in the world. In summer, however, there is a shortage of water in those places. The same thing occurs in the Konkan region of Maharashtra. This is because adequate efforts are not made to store rainwater. Storing rainwater will help solve this problem.

Use your brain power !

- If rainwater is collected and stored, can it be used later ?
  How will you store rainwater ?
- If human beings begin to use all the water for themselves, what will happen to other living things ?

Do you know ?

Pipelines are used to carry water from distant wells, lakes and water tanks to our homes. In some areas, water is also supplied through tankers.

What we have learnt –

- All the water we get is rainwater. Rivers, lakes and springs are all formed because of the rain.
- Rivers start in high places like mountains and flow downhill.
- It is necessary to collect rainwater.

For teachers :

1. A map of the district is given in the textbook. Have the children carry out the accompanying activities carefully.
2. Do use the bigger district map in the school for this activity.

Exercises

Answer in short.

(1) Where does the water in your house come from ?

(2) From what do rivers, wells, springs and lakes get water ?

(3) What will happen if we do not collect rainwater ?

Activities

- Count the number of hand-pumps or taps in your neighbourhood.
- Make a list showing the number of taps in each part of your neighbourhood.

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10. More about Water

Try this.

Take some clean water in a glass. Look at its colour.
What colour is it ?

Smell a fragrant flower. Did you like the smell ?
Now smell the water. Does it have a smell ?

Taste a ripe mango or chikoo or guava.
How does the ripe fruit taste ?

Now taste the water. How does it taste ?
What does this tell us ? **Pure water has no colour, taste or smell.**

New terms :
Transparent : If you can see through a substance, it is said to be transparent.
Opaque : If you cannot see through a substance, it is said to be opaque.

Try this.

(This should be done with adult supervision.)

- Light a candle and stand it on a table.
- Look at it through a cardboard.
- Now look at the same candle through a glass pane. **What do you find ?**
- You cannot see the flame through the cardboard. But you can see it through the glass. **What does that mean ?**
- The cardboard is **opaque**, but glass is **transparent.**

- Now look at the candle through a glass of water.
  What do you find ?
- The candle can be seen through the water in the glass, as well.

  What does this mean ?

  Water, too, is transparent.

Pure water

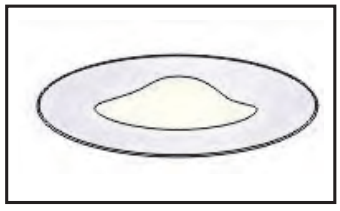
Has no colour | Has no smell | Has no taste | Is transparent

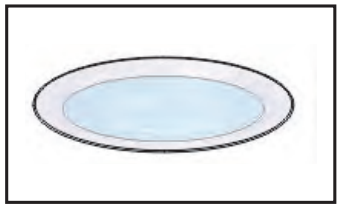
Try this.

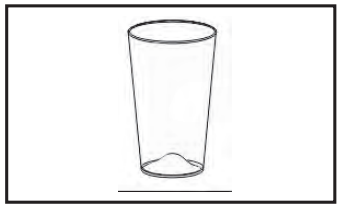
- Take some wheat or jowar flour and some water. Take two dishes and two glasses.
- Put a little flour in one of the dishes.
- Pour some water in the other dish.
- Now put some flour in one of the glasses.
- And put some water in the other glass.
  What do you see ?
- A small heap of flour is formed in the dish. A heap of flour is formed in the glass as well. The water, however, takes the shape of the plate or the glass.

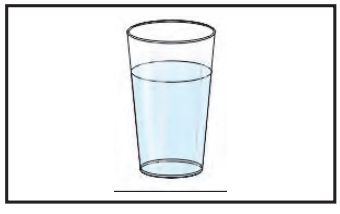
  What does this tell us ?

  Water takes the shape of the container into which you pour it.









Water does not have a shape of its own. That is why, it spreads when it spills on the floor.

Use your brain power !

- We can see the bottom of a pool of water only if the water is clean. Why?
- While carrying a bucket of water down a slope, the bucket fell and the water was spilt. Will the water form a heap? Or, will it flow away?

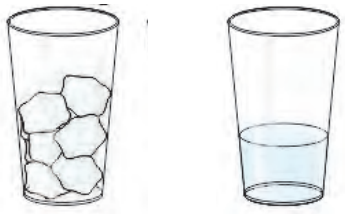
More about water

- It takes the shape of its container.
- It spreads on a flat surface.
- It flows down a slope.

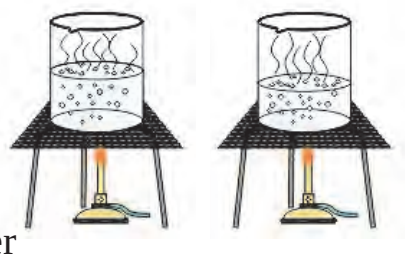
- **The three states of water**

Try this.

Place a few ice cubes in a glass.
See what happens to them after a while.



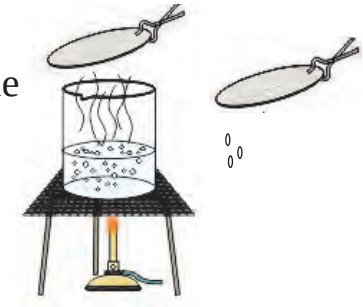
Try this.



Do this experiment with the permission of an adult and under his/her supervision.

Heat some water on a burner. What do you see after some time?

The water begins to boil. Keep it boiling for some time and observe it. What do you see? There is less water in the beaker. **Why is there less water than before?**



Using tongs, hold a steel plate in the steam coming from the water only for a few moments and remove it. What do you see on the underside of the plate? Droplets of water have formed on it.

Where did these droplets come from ?

When water becomes very cold, it freezes. That is, it turns into ice. When ice is left uncovered, it gets heat from the air around it. It melts. That is, it forms water. When water gets enough heat, it turns into vapour.

The boiling water in the experiment turned into vapour. That is why, the water in the beaker was reduced.

As steam cools, it turns into water. The plate held in the steam was cool. So, the steam that collected on its underside cooled down and droplets of water were formed.

New terms :

State : the form in which a substance may be found.

Water vapour : the form in which water is held in the air.

The water we use every day is its liquid state. Ice is its solid state. Vapour is the state of water in which it is a gas. Water vapour is the gaseous state of water.

The three states of water

Solid state	Liquid state	Gaseous state
Ice	Water	Water vapour

Try this.

Have some fun.

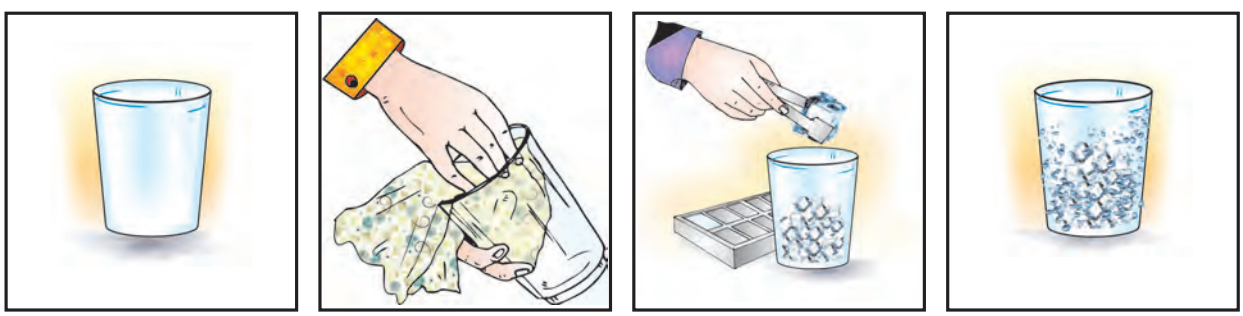
- Take a glass. Wipe it dry inside and outside with a clean piece of cloth.
- Place five or six ice cubes in the glass.

What do you see?

- It is no surprise if the glass becomes wet on the inside. But, you see that the outside of the glass has also become moist. Isn't that strange?

What does this tell us?

The air around the glass contains water vapour. When we put ice cubes in the glass, the glass becomes cold. That makes the air around the glass cold, too. The water vapour in the air also cools and forms very tiny droplets of water. They make the glass moist.



Try this.

(This should only be done under adult supervision.)

- When chapatis have been made and the griddle is still very hot, sprinkle a few drops of water on it. What do you see?
- The drops sprinkled on the griddle become round like beads and disappear even as you watch.

What does this tell us?

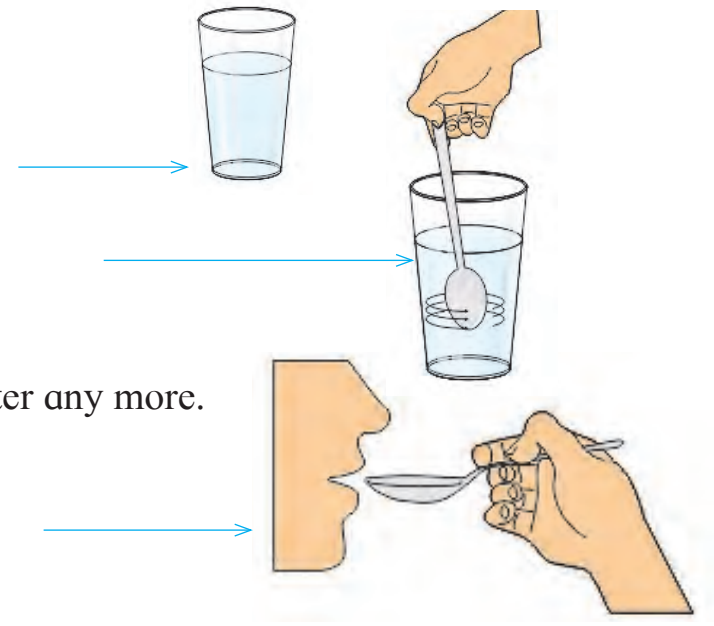
- The griddle is very hot.
  The heat from the griddle changes the water into water vapour all at once.

Use your brain power !

- Why do wet clothes on the clothesline become dry after some time?

Try this.

- Take water in a glass.
- Add a pinch of salt to the water.
  Stir it with a spoon.
  What do you see?
- You do not see the salt in the water any more.
  With the spoon, place a drop of this water on your tongue.
  You find that it tastes salty.
  What does this tell us?



- The water was salty. It means that the salt is still there in the water though we cannot see it. In other words, the salt has dissolved in the water.

Some substances dissolve in water.

Use your brain power !

- Several substances dissolve in water. Name some of them.

Do you know ?

Water has to be frozen to make ice. Many people have refrigerators in which ice can be made. In factories, ice is made in large quantities. Ice candy or ice fruit is made by freezing water to which sugar, fruit juice and colour have been added.

What we have learnt –

- Water has no colour, smell or taste. Water is transparent.
- Water takes the shape of the container in which it is kept.
- Water spreads on a flat surface. It flows down a slope.
- Water is found in three states : solid, liquid and gaseous.
- Several substances dissolve in water.

Always remember –

We know that liquid water has many uses. But, the solid ice and the gaseous water vapour are also useful in many ways.

Exercises

A. What's the solution?

Due to the cold, the coconut oil in the bottle has frozen. We have to pour it out.

B. Think and tell.

(1) During the rainy season, why do crisp biscuits become soft ?

(2) Why does water become coloured when crystals of potassium permanganate are added to it ?

(3) When we add jaggery to water and stir it, why does the water taste sweet ?

(4) The mountain peaks in the Himalayas are always covered with snow and ice. What could be the reason for that ?

C. Find out.

Why does the hot tea in a thermos flask remain hot for a long time?

D. Carry out this experiment and write about it.

Name of the experiment : To see if rangoli dissolves in water.

Description : I took half a glass of ……. . I added a pinch of …….. to it.

I stirred it with a …… .

What did I see?

The particles of rangoli were seen in the water, as before.

What does this mean?

……

E. True or false?

(1) Water is transparent.

(2) Pure water looks bluish in colour.

(3) When water is heated a lot, it turns into ice.

(4) Sugar does not dissolve in water.

F. Fill in the blanks with words from the brackets.

(shape, transparent, solid, pure)

(1) …… water has no colour, smell or taste.

(2) Water is …… .

(3) Water does not have a ……. of its own.

(4) Ice is the …… state of water.

G. Say why –

(1) We can see a nail that has sunk to the bottom of the water.

(2) Sugar disappears when it is added to water and the water is stirred.

Activity

- Collect samples of water from various sources such as water from a well, tap water, muddy water, water drawn with a hand-pump.

  Observe the samples.

  Caution : DO NOT DRINK OR TASTE THIS WATER.

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11. Our Need for Air

Can you tell ?

A riddle to solve !

There's something there, it is to be found
Up and down and all around.
You can't touch it, you can't see it,
But sure as sure, you can name it!

Try this.

Blow a balloon.
What did you fill into it?

Air

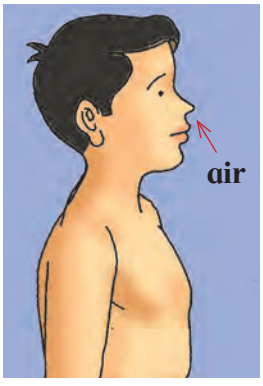
There is air all around us. Though we can feel it, we cannot see it. Air does not have colour, smell or taste.

New terms :

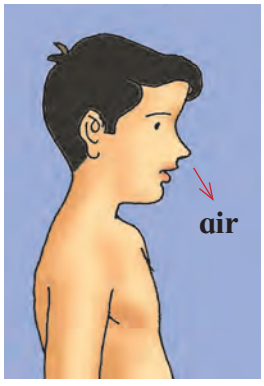
Inhalation : We breathe in air through our nose. That is inhalation.

Exhalation : We breathe out air through the nose. That is exhalation.

Respiration : Inhalation and exhalation are together called breathing. We breathe continuously. That is called respiration.



Inhalation



Exhalation

Can you tell ?

When a man is sleeping quietly, why do we see his chest going up and down?

• Why do we breathe ?

We need our body to function properly. We need air for that purpose. When we breathe in, we take air into our body. Air makes us feel fresh and lively. Air is necessary for our body to get the vigour we need to work properly.

Like us, all other living things also need air. If we look carefully, we can see a dog's chest also going up and down. It tells us that animals also breathe.

Do you know ?

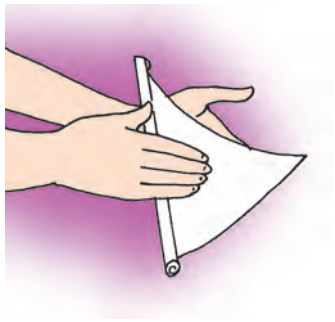
● Fish live in water. It makes one wonder how they get the air to breathe. But fish are able to use the air that is dissolved in water.

Some people keep fish in a glass fish-tank. It is called an aquarium. It is always full of water. The fish in the aquarium use the air dissolved in the water for breathing.

As a result, the amount of air dissolved in the water can get reduced. If all the air was used up, the fish would die. Therefore, more air is continuously added to the water in the aquarium. That is why, we see air bubbles rising up through the water in such fish-tanks.

Try this.

- Take a glass more than half full of clean water.
- Take a small piece of a newspaper sheet. Roll it to make a straw, about 10 cm long.
- Dip one end of the straw into the water.
- Through the other end, blow into it with your mouth.



What do you see ?

- Bubbles rise up in the water.

What does this tell us ?

- You blew air into the water. This air rose up and escaped in the form of bubbles.

What we have learnt –

- There is air everywhere.
- We cannot see it with our eyes.
- Air does not have colour, smell or taste.
- Living things need air for respiration.

Always remember –

Every day one must spend some time playing in an open playground to get fresh air.

Exercises

A. What's the solution ?

In a crowded place, someone is feeling suffocated, that is, finding it difficult to breathe.

B. Fill in the blanks.

(need, air, breathing)

(1) As ..... goes on continuously, a sleeping man's chest can be seen going up and down.

(2) There is ..... spread all around us.

(3) Like us, all living things have a ..... for air.

C. Answer the following questions :

(1) What do you fill into a balloon when you blow it ?

(2) Why do we need air ?

(3) How do you know that a dog also breathes ?

(4) For what does a cat need air ?

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D. True or false ?

(1) We can see air all around us.

(2) Fish use the air dissolved in water for breathing.

Activity

- Hold an empty mug upside down on the surface of the water in a bucket.
  Press it down into the water.
  Dip it down in water in different ways. What do you see happening ?
  Tell your friends about it.

12. Our Need for Food

Can you tell ?

- This girl had become very thin and weak during her illness. After a few days, she recovered and became fit and healthy again. What helped her to recover?

Can you tell ?

- What makes this baby gain height and weight?

Why do we feel hungry ?

Our body must function properly. That is why we need food. Food helps our body to grow. It helps to repair the wear and tear of our body. It also gives us the strength we need to work.

If we don't get enough food, we feel tired. Vigour is lost.

At such a time, we feel very hungry. If we eat a little, we feel better at once.

When we work a lot, our body feels fatigued. It makes us very hungry.

Like us, all living things need food.

Can you tell ?

- Do all living things eat the same kind of food ?
- A cow eats grass. Would a cat live on grass too ?
- A cat loves to eat mice. Does that mean a goat would also like to eat mice ?

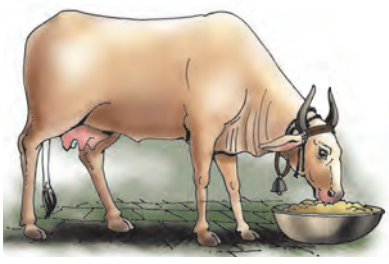
To each, their own food.

New terms :

Oilcake : The fibrous part that is left after extracting oil from seeds such as groundnut, sesame or cottonseed is pressed into slabs. This is called oilcake.

***Ambon* :** A fermented mixture of oilcake, jaggery and coarse particles of grain mixed in water and used as animal feed.

All living things need food. But all living things do not eat the same kind of food.



People who keep cattle feed them grass and hay, and also oilcake and *ambon*. Besides grass and hay, horses are given bengal gram (*harbhara*) soaked in water.

Goats and sheep eat the leaves of various kinds of shrubs besides eating grass.

Cats love to drink milk. But they like mice just as much. They also hunt and eat birds such as sparrows, doves and pigeons.

Dogs may eat chapatis or bhakaris but they prefer to eat meat. People who keep dogs or cats give them meat and fish also.

In forests, animals like the deer, bisons and nilgai eat various kinds of green grass and leaves. If there are crops growing in fields nearby, these animals finish off those crops too.

Wild animals like the tiger and lion live in deep jungles. They hunt other animals and eat their flesh.

Usually, these animals do not hunt in human settlements. But sometimes, when they are starved, they are forced to enter nearby villages. Then, they kill and carry away cattle.

Many times, foxes dare to enter human settlements. But they are not as strong as tigers. They cannot kill cattle. They are mostly content with stealing fowl.

Use your brain power !

- Why do farmers set up a scarecrow and use sling shots when the crops in their field are ready for harvesting ?

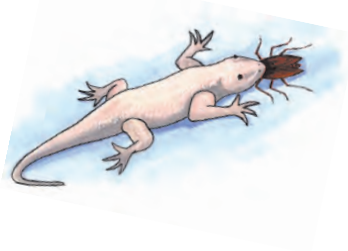
We see many differences in what birds eat, too. Many birds eat grain. Farmers grow a variety of cereals and pulses in their fields. As the crop becomes ready for harvesting, the ears become full of grains. Birds in the surroundings come in flocks to feed on them. They can destroy the crop. What is done to prevent such destruction?

It is easily possible for birds to find grains in areas where people live. That is why some birds live in such areas.

Other birds feed on other kinds of food. Hens eat worms. Crows eat the flesh of dead animals. Some birds eat the fruits of trees.

We see many small animals around us. What do they feed upon?

Bedbugs suck people's blood. Ticks suck the blood of cows and buffaloes. House lizards and chameleons eat insects. Caterpillars and some insects nibble at and eat the leaves of plants. Butterflies feed upon the nectar they find in flowers.

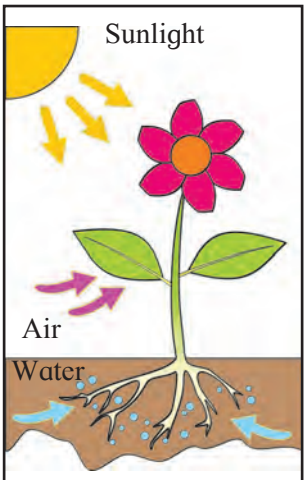


Animals eat the food they find in nature. However, they have to wander from place to place in search of food.

Do you know ?

There are many types of mosquitoes. Most of them suck the sap from the plants. Only a few types of mosquitoes suck our blood.

• The food of plants



Plants make their own food!

Plants, too, need food. But they cannot move from place to place in search of food. Then, from where do you think they get their food?

The roots of plants absorb water from the soil. Some substances from the soil are dissolved in this water. This water reaches the leaves of the plants.

There are many tiny pores or openings on the surface of leaves. They are so tiny that we cannot see them with our eyes. Air enters the leaves through these pores.

Thus air and water come together in the leaf. In the presence of sunlight, plants make their own food using the water and air in the leaves.

A plant's food is made in its leaves. Sunlight is necessary for this process.

What we have learnt –

- Living things need food.
- Food gives the body strength to work. It helps the body to grow, and to repair its wear and tear.
- Animals search for ready food in nature and eat it.
- Food of different living things is different. Some animals eat the flesh of other animals, some eat grass and leaves. Some suck the blood of other animals while others eat insects. Some insects feed on the leaves of plants.
- With the help of sunlight, plants prepare their own food.

Always remember –

The entire living world depends on the food prepared by plants.

Exercises

A. What's the solution ?

A potted plant is not growing well. It needs help to grow better.

B. Think and tell.

(1) What major difference between plants and animals did you come to know from this lesson ? Which difference did you know already ?

(2) From the following list of animals, pick out those that eat flesh and those that do not.
Lion, elephant, donkey, wolf, deer, shark.

(3) A tiger eats flesh and so does a vulture. But there is a difference in their feeding habit. What is that difference?

C. Complete the table.

Write what they eat.

Animal	The part of a plant that it eats
Goat	
Butterfly	
Caterpillar	
Mosquito	

D. Answer in brief.

(1) What happens to us if we do not get enough food to eat?

(2) Why do wild animals come to areas where people live?

(3) Why do foxes not hunt a cow even when they enter human settlements?

E. Write an informative passage on one of the following topics :

(1) How plants make their own food.

(2) Why we need food.

(3) The food of pet animals.

Present your information to others in the class.

Activity

Find out : What does the woodpecker eat ? How does the woodpecker obtain its food?

13. Our Diet

At Raju's house

Father : Come on, let's have our dinner. But, where's Raju? He's always the first to come for a meal.

Mother : He is running temperature. I gave him some soft *dahibhat* a little while ago. He has just fallen asleep.

Father : Let him rest. Shall we start then?

Tai : Yes ! Right away. Today we played a *langadi* match in the school. I'm so hungry.

Mother : Come. Come at once.

Tai : Oh, Mamma, why have you made cabbage? You know I don't like it. I don't want it.

Mother : That's not the way to speak, dear! You want to be healthy, don't you? Then you have to eat all kinds of food preparations. And nothing should be left over in your plate.

Tai : Right! Our teacher also tells us that. I wasn't going to waste anything.

Father : That's my good girl!

Tai : What's this, Dad? You took only one bhakari ! That can't be enough for you!

Grandpa : He works at a desk all day. That doesn't make anyone hungry. We used to do physical labour all day. We ate at least four bhakaris at every meal. But now I have grown old. I don't feel hungry as I used to.

Grandma : Me, too.

Mother : Yes, you eat so little now. Here, Ma, I have soaked half a bhakari in milk for you.

Can you tell ?

- Why did mother give Raju soft *dahibhat* ?
- Why was Tai so hungry?
- Why is one bhakari enough for Father?
- Why do Grandpa and Grandma eat only a little ?

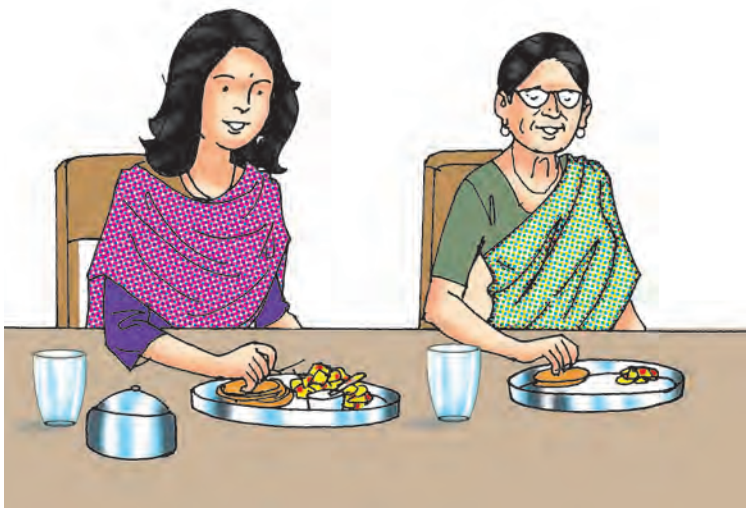
A new term :

Diet : We eat some food preparations as part of our meals every day. We also eat some snacks between mealtimes. Besides, we might also have milk, tea, coffee or sherbets. All that we eat or drink during the day is together called our 'diet'.

• Why does our food intake differ on different days?

Sometimes, we feel very hungry and we eat a lot. That day our food intake is more. At some other time, we do not feel so hungry and we eat very little. That day our food intake is less.

Can you tell ?



Which of these two is likely to have a bigger intake? What could be the reason for that ?

Tai is young. She eats more. So, her intake is also bigger. Grandma is old. So her intake is limited.

When doing certain kinds of work, we make a lot of vigorous movements. Such work is hard on the body. It is called physical labour. Physical labour makes us very hungry.

Some kinds of work can be done sitting at one place. It does not take hard physical effort to do it. Such work is called sedentary work. People who do sedentary work do not feel as hungry as those who do physical labour.

Sedentary work

Physical labour

The diet of people doing physical labour is greater. They need more food.

Do you know ?

Chores like carrying water, washing clothes, sweeping and mopping the floor involve physical labour. Those who do such work feel more hungry.

Whether it is a man or a woman who does these chores, it is necessary that he or she gets enough food.

Do you know ?

When children are growing, bodily growth is very rapid. So, girls and boys of growing age need a lot of food.

Can you tell ?

- Will pumpkin be cooked at all the children's houses on the same day?
- Would you like it if you got the same menu at every meal every day?
- Why can we not get mangoes throughout the year?

• Variety in food

We eat a lot or a little depending on how hungry we are. That is, our hunger determines how much we eat. Here, we are thinking about the amount we eat.

We also need to consider which food items we eat.

Different people include different items of food in their diet.

What could be the reasons for that?

If only a certain combination of dishes is prepared every day, then we have to eat the same food all the time. Having such meals would be a boring chore. So, different dishes are prepared in turn.

In regions where rice grows in plenty, rice becomes a major part of the diet of the people living there. In regions where jowar or bajra are a major crop, people include more of 'bhakari' in their meals. In certain regions, wheat is the major crop. People in those regions eat more chapatis. Fish is available in plenty in the sea. Therefore, the people in Konkan have a lot of fish in their diet.

Depending on their seasons, we get different vegetables and fruits at different times of the year. Accordingly, the food items in our diet also change.

When there is a ceremony, special dishes are prepared. We make sweets especially when we celebrate a festival.

• What care should we take about our food –

If we wish to be healthy, then we must take care about our diet. So, we should eat all the dishes made at home. We must not avoid eating things merely because we don't like them.

Sprouted pulses and leafy vegetables should be included often in our diet.

We should also have yoghurt and buttermilk occasionally.

Newspapers and TV frequently advertise cold drinks. They also advertise many food products. We are tempted to buy them. They are tasty. Their wrappers are attractive. But that does not mean that they are also good for health.

What we have learnt –

- All that we eat and drink in a day is together called ‘diet’.
- Age, physical labour and the state of health cause diet to differ from person to person.
- Diet also changes according to the food items available in the different seasons.
- The foodstuffs readily available in different regions are different. This brings about diversity in people’s diet.
- Eating a variety of foodstuffs in our diet helps to meet all the food-related needs of our body.
- The attractive and tasty food products that we see in advertisements may not be necessarily good for health.

Always remember –

To keep good health, care must be taken about the food we eat.

Exercises

A. What’s the solution?

I need to wait after school for kabaddi practice. But I feel very tired. I cannot pay attention to anything. But, I don’t want to miss the practice.

B. Think and tell.

- Classify the different kinds of work given in the list below as sedentary work and physical labour.

(a) playing kho-kho	(b) sorting out stones from rice	(c) cycling
(d) reading a book	(e) sweeping the floor	(f) climbing a mountain
(g) drawing a picture	(h) carrying loaded trunks	(i) weeding the garden

C. True or false ?

- One must eat all the food preparations made at home.
- It is necessary to eat all the food products that we see in advertisements.
- Eating foodstuffs which are attractively wrapped helps to improve health.
- All expensive foods are good for health.

D. Answer in one word.

(1) In which season do we have mango pulp (*aamras)* ?
(2) In which season do we get sugarcane juice ?
(3) In which season do we get *harbhara* ?
(4) Playing in the sun has made you very thirsty. You have the option of having a fresh lemon sherbet or a cold drink bought in the market. Which drink is better for you ?

E. Whose diet is more? Why ?

F. Think and tell.

- A three-year old feels full on eating half a bhakari. Would half a bhakari be enough for his mother, too ?
- One man eats five chapatis every day. But one day he has a high fever. Will he eat five chapatis that day? Why ?
- Diet differs from person to person. What are the reasons for that ?
- Why does mother have to soak Grandma's bhakari in milk ?
- Why does mother tell Tai not to leave any food on her plate ?

G. Find out.

Find out how to sprout pulses such as *moong*, *matki*, broad beans (*waal*) or white beans (*chavali*). Write it down and tell others in your class about it.

H. Fill in the blanks.

(1) Whether a person who does physical labour is a …… or a ……..,
they must get plenty of food.
(2) If we want to be healthy we must be careful about our ……. .
(3) We are ……. to buy foodstuffs that we see in advertisements.

Activity

Visit the vegetable market on a winter day. Look at all the fruits and vegetables you see there. Make a list of the things you see in the market in the table below.

Vegetables	Fruits

❋❋❋

14. Inside the Kitchen!

Can you tell ?

- This picture shows puris being made. Puris have to be fried. Wood is being burnt to obtain the heat for frying.

Look at the pictures below and give similar information.

Can you tell ?

- Why do we use heat to prepare some food items?
- Which food items do we eat without cooking?
- Why is it easier to use gas than firewood for cooking ?

How do we prepare food items ?

People prepare a variety of food items according to their liking. They use a variety of ingredients for the purpose like rice, wheat, pulses; vegetables and fruits; eggs, meat and fish.

Many of our food items are prepared by heating.

To cook rice, we add water to the rice and boil it. Puris, pakodas are fried. Oil or ghee is used to fry them. Modaks and idlis are steamed. Chapatis and bhakaris are roasted.

Foodstuffs become tastier and easier to digest when prepared by heating them.

However, not all foodstuffs are prepared by heating. We eat some of them raw, that is, uncooked. We eat fruits mostly without cooking.

We also eat vegetables like cucumbers and tomatoes raw. A cucumber salad or a banana shake are made without heating.

Have you noticed ?

1. Papad may be roasted or it may be fried.

   Take two papads of the same kind. Roast one. Fry the other.

   What is the difference in their taste? Which do you like better?

2. Peanuts may be eaten plain or roasted.

   What is the difference in their taste?

   How do you like to eat them, plain or roasted?

3. What is the difference in the taste of a raw potato and a boiled potato?

Methods of supplying heat for cooking

We can choose from various fuels to supply the heat needed for cooking.

New terms :

A combustible substance : A substance that can burn is called a combustible substance. Camphor burns. Hence, it is a combustible substance. Water does not burn. Hence, it is not a combustible substance.

Fuel : A combustible substance that can be used conveniently for obtaining heat is called a fuel. Cooking gas, kerosene, coal, all are examples of fuel. However, all combustible substances are not used as fuel. Only those which burn easily and give plenty of heat on burning are called fuels.

Nowadays, many people prefer to use cooking gas as fuel. It is easy to use. It lights quickly. It does not give out smoke. Cooking on gas also saves time.

Some people use firewood for cooking. Burning wood is a troublesome task. It also makes a lot of smoke. Besides, trees have to be cut for wood. That is harmful for the environment.

Some people use a coal-burning stove (*shegadi*). Coal also gives out smoke. Those who use fuels like wood or coal that give out smoke, must have windows in their kitchen. That way, we get a lot of light and also prevent smoke from collecting in the house.

Some people use kerosene stoves for cooking.

Nowadays, we also get hotplates for cooking on electricity. They are very convenient to use.

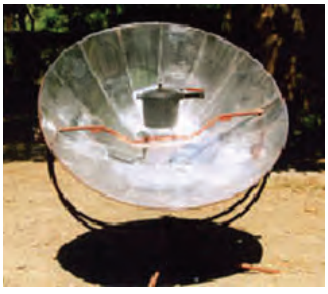
Some people use biogas.

Some people use the heat from the sun for cooking. They use the solar cooker.

A kerosene stove with a burner

A kerosene stove with wicks

An electric hot plate



Some solar cookers

What we have learnt –

- We cook food by heating. It makes the food tastier and easier to digest.
- Boiling, steaming, frying and roasting are some of the different ways of providing heat.
- Salads and milk shakes are examples of food items that are prepared without heating.
- There are various kinds of stoves which make it convenient to burn fuel to obtain heat for cooking.
- Electricity and heat from the sun can also be used to obtain heat for cooking.

Always remember –

Using wood or coal as fuels causes harm to the trees in our environment.

Exercises

A. What's the solution ?

The smoke from the coal stove blackens the kitchen walls.

B. Think and tell.

(1) Which method of heating is used for preparing the following dishes?

- dhokla
- dal
- karanji
- thalipeeth
- basundi
- curry

(2) Make a list of all the dishes that can be made from milk.

(3) Name the dishes made using harbhara.

(4) Make a list of vegetables that are eaten without cooking them.

C. Answer in brief.

(1) What are the advantages of heating foodstuffs when preparing them for eating.

(2) How does the use of firewood harm the environment?

(3) What are the advantages of using gas for cooking?

D. Find out :

How is *khoya* made from milk ? Write out the information and present it to the class.

Activity

Make your own snack.

Take a fistful of salted peanuts, some roasted chana, and some puffed rice (*churmuras*). Add some salt and chilli powder and a few drops of lemon juice.

Mix well and enjoy.

With the help of your elders, you could also add some chopped onion, coriander greens, tomato and cucumber, etc.

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15. Our Body

Can you tell ?

What are these children doing ?

Which parts of their body are they using?

Can you tell ?

Point out the parts of the body named below.

- forehead, cheek, nose and ear
- tummy, chest
- arm, wrist, palm
- thigh, knee, foot

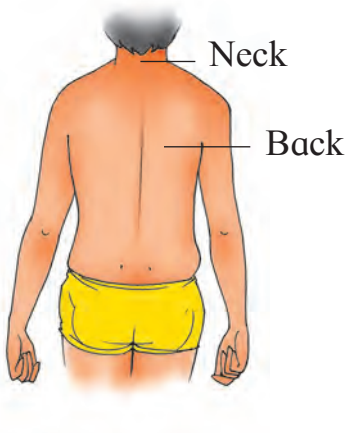
Structure of the body

The head, torso, arms and legs are the main parts of the body. The head, arms and legs are joined to the torso.

Head : The head is covered with hair. Below the forehead are two eyes, with eyebrows and eyelashes. On the sides are the ears.

In front is the nose. Below the nose, is the mouth and below that, the chin.

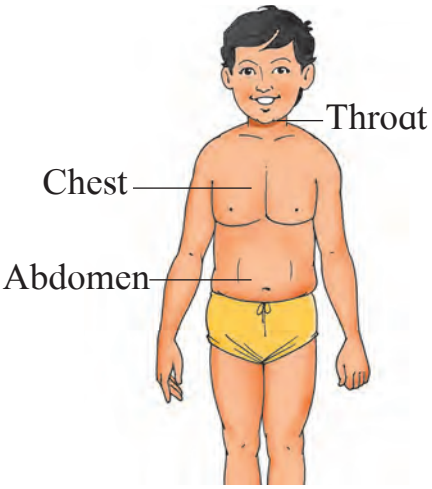
The part that joins the head to the torso is the neck.

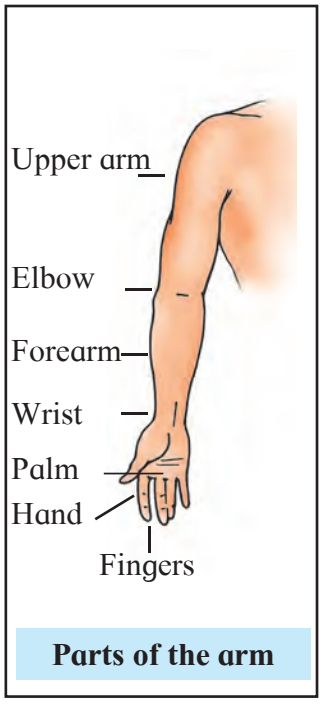


Torso : The chest, abdomen and back together make up the torso.

The part where the arm is joined to the torso is called the shoulder.

The leg is joined to the torso at the hip-joint.





Parts of the arm

Arm : The arm has three parts – upper arm, forearm and hand.

The fingers are part of the hand.

The upper arm and forearm are joined at the elbow.

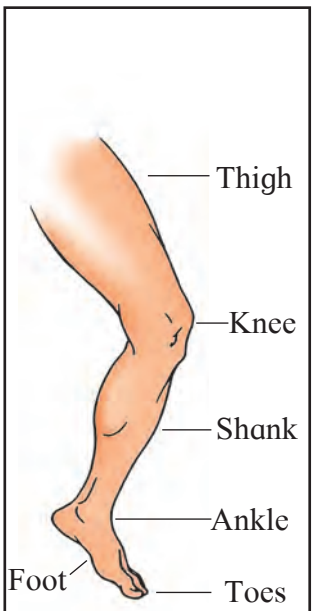
The forearm and hand are joined at the wrist.

Leg : The leg, too, has three parts – thigh, shank and foot.

Toes are part of the foot.

The thigh and shank are joined at the knee.

The shank and foot are joined at the ankle.



Parts of the leg

New terms :

Organ : A part of the body that is used for a particular purpose. We use our legs for walking. So legs are organs. We use our ears for hearing. So ears are also our organs.

External organs : Organs that are on the outside of our body. Legs, arms, ears and nose are our organs. They are on the outside of our body. Hence, they are our external organs.

Can you tell ?

- How will you walk without bending your legs at the knees?
- Can you comb your hair without bending your arm at the elbow?

Movements of the body

Try to bend a wooden stick. Can you do so? Why not?

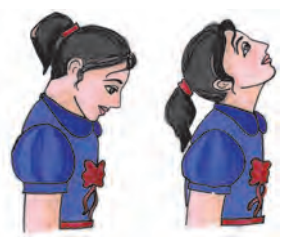
Suppose that our legs and arms also could not bend. Would we able to make movements?

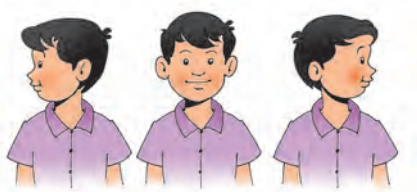
Some of our body parts can bend. That is why, we are able to make movements.

Which parts of our body can we bend?

Try this.

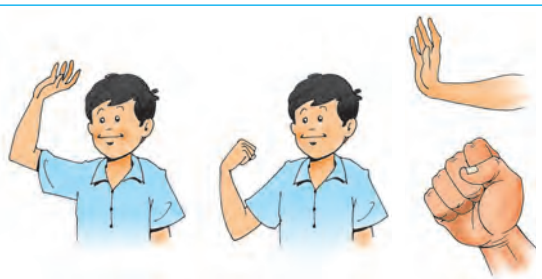
Stand in front of the mirror and move your neck as shown in the pictures.





The neck : The neck bends forward as well as backward. It turns left or right. It also bends left or right.

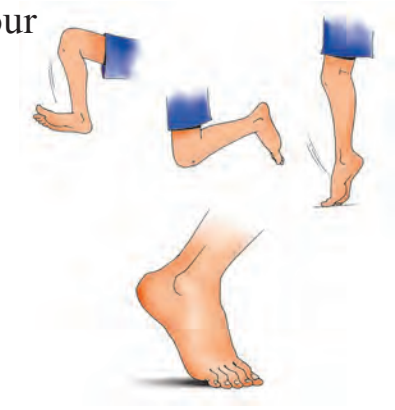
Arms : We can bend our arm at the shoulder, elbow and wrist. The fingers of our hands can bend too. That is why, we can make a fist. We can do many things with our hands. We use our hands to write and to pick up things. Mother shapes a laddoo with her hands. Baby holds the rattle in her hand.



The waist : We can bend our torso only at the waist. We can bend forward at the waist. That makes it easier for us to do many things. We can pick up things from the floor, tie our shoelaces and play games, too.

Legs : Our legs can bend at the hip-joint, the knees and the ankles. Our toes too can bend, but not as much as our fingers.

We use our legs too for several purposes. We use our legs to stand. We walk and run. We climb up and down stairs. We hop and jump. We work some machines, too, using our legs.

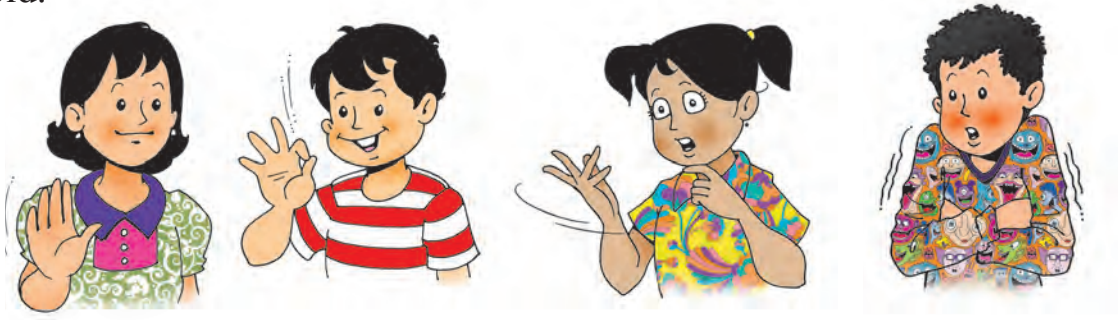


One task, many methods

Try this.

One day, you decided not to open your mouth at all to speak. So, you have to talk only by signs and gestures.

- You are asked, 'Shall I leave or wait?' Your answer is, 'Wait.'
- You are asked, 'How's the curry?' Your answer is, 'Delicious!'
- You are told, 'The cat's not feeling well'. Your answer is, 'What happened to it?'
- You are asked, 'How's the weather?' Your answer is, 'I'm feeling very cold.'



We use our mouth to speak. But, when playing this game, which parts of your body did you use to make signs ?

What's the solution ?

You want a box from a very high shelf where your hand cannot reach.

To carry out any task, we can choose one from a number of methods of doing it. If we cannot use the usual method, we can get someone to help. Or, we can use some special device. Somebody may find it difficult to do something. We should then offer all possible help.

Use your brain power !

What was the little boy able to do because Tai picked him up ?

I am unique.

There are countless people in the world. But, all of them have the same body parts. Even so, no two persons are exactly alike. That is because each one has a different figure and form. There are differences in height and weight, hairline and the features of the face.

In the whole world only you look like yourself. Did you know this?

Do you know ?

Sometimes, twin brothers or sisters look exactly alike. But, even between them, there are small differences.

What we have learnt –

- Head, torso, legs and arms are the main parts of our body. Chest, abdomen and back together make up the torso. The head, legs and arms are joined to the torso.
- The part of the body that joins the head and the torso is the neck. The arms are joined to the torso at the shoulders and the legs, at the hip-joints.
- Our body parts can bend at certain places. That makes it possible for us to make different movements.
- Our body makes various movements with the help of the neck, arms, legs and waist.

Always remember –

Our body helps us to do all our tasks.
So, we must take care of our body.

Exercises

A. What's the solution ?

Your friend has forgotten to bring her spectacles. How will you solve the difficulties she faces in the class?

B. Think and tell.

Your friend's leg is in a plaster cast. What difficulties will he face?

C. True or false?

(1) Our thumb is one of the main parts of our body.
(2) We can climb stairs with the help of our legs.
(3) The neck bends forward and backward.
(4) The torso can bend only at the waist.

D. Fill in the blanks.

(1) The leg is joined to the torso at the …….. .
(2) The part that joins the foot and the …… is the ankle .
(3) Some of our body parts can bend. That is why we are able to make …….. .
(4) No two persons are exactly …… .

E. Write the answers to the following questions :

(1) Which parts of the body form the torso ?
(2) Which are the three parts of the arm ?
(3) Which are the three parts of the leg ?
(4) What is the part that joins the head and the torso called?

16. Sensory Organs

Can you tell ?

Tai is blindfolded. Then, how did she tell what sound she was hearing?

What are the different things that Tai has in her hand? How does the boy guess what they are even when he is blindfolded?

Both of them are blindfolded now. But, they can tell which is a woolly sweater and which is a cotton shirt.

How do they do that?

You can also try these and other simple experiments with the permission of your elders.

Can you tell ?

- What is the colour of a raw mango? A ripe mango? How did you know that?
- What is the taste of salt? Of sugar? How did you know that?

A new term :

Sensory organs / sense organs : An organ that tells us about our surroundings. Our eyes, ears, nose, tongue and skin are our sensory organs or sense organs.

• Our five sensory organs

• **Imagine :** You are walking along the road. There is a ditch ahead. You see it and you walk around it. What would happen if you do not see the ditch ?

• You are playing in your neighbourhood. Suddenly, you hear thunder. You are able to reach your house before it begins to rain.

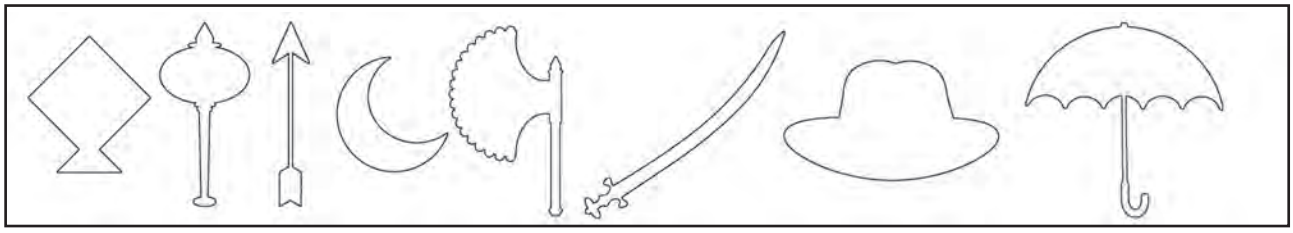
What would happen if you do not hear the thunder?

It is necessary for us to know what is happening in our surroundings. It helps us to decide what to do in any situation and we can keep ourselves safe.

How do we sense what is happening around us? It is our eyes, ears, nose, tongue and skin which tell us about our surroundings. Therefore, they are called our sensory organs.

Can you tell ?

(1) Name the things in the picture from their outlines.



(2) Name the things in the picture and their colours.

Eyes : It is with our eyes that we can see.

We can tell the colour of the things we see. We can tell their shape. We can also guess the distance of things from us.

Try this.

Play a game : 'Curvy, pointy tiger claws, Peeping out of padded paws.'

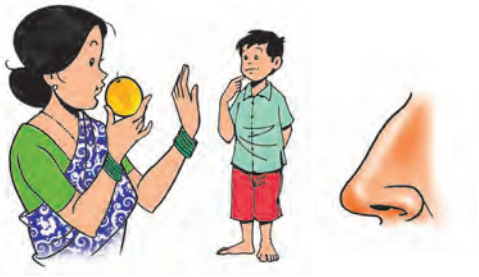
Every student will get a turn to be 'It'. 'It' will face the blackboard and cover his/ her eyes. The teacher selects 5 other students. From their own place, each of these 5 children will take turns to say loud and clear, 'Curvy, pointy tiger claws, peeping out of padded paws.'

'It' must listen carefully and guess whose voice it was. If he / she is right, everyone claps. If he / she guesses the names of all five children, he / she gets a pat on the back from the teacher.

Ears : We hear with our ears. Mainly, we come to know what a person is saying to us. The ears also tell us whether the sound we hear is sweet or harsh. They can tell us whether the sound is that of a bird or an animal. They also tell us which direction a sound is coming from.

Can you tell ?

Why is Mother saying,
'Don't eat this mango'?



Nose : We can smell with nose. We perceive the smell of a fragrant flower or incense stick because of the nose.

Again, it is the nose which tells us that there is a foul smell in the air or that the food is spoilt. At such times, we can take proper precautions.

Use your brain power !

- In summer, how can we tell, without even looking outside, that it is raining nearby?
- What would be the benefit of knowing the direction from which a sound comes?

What's the solution ?

- There is a foul smell in the house.
- A food item is giving out a rotten smell.

Tongue : We can taste with our tongue. Sugar and jaggery are sweet. Bittergourd is bitter. Lemons and raw mangoes are sour.

Salt is salty! It is due to the tongue that we know these tastes. If we eat a chilli, our tongue gets a burning sensation. We say that the chilli is hot.

Try this.

Another game : Feel it to find out!

You can play this game with four or five of your friends.

Take a big cardboard carton. Make a hole in one of its sides just big enough for your hand to go through. Place some small things in the box. For example, an eraser, a coin, a piece of a pencil, a pebble, a tamarind seed, etc.

Take turns at playing this game. Put your hand through the hole, pick up one thing and guess what that object is only by feeling it. Name the object before taking it out. Then take it out and show the others what it is.

Skin : We come to know if something we touch is hot or cold, rough or smooth, because of our skin.

• Co-ordination in our movements

We carry out many tasks.

For every task we make different kinds of movements. We use different parts of our body for these different movements.

The woman in this picture is roasting some peanuts in a pan. Which parts of her body is she using?

Her head is bent forward. She is holding the pan steady with the tongs in her left hand. With the spatula in her right hand, she is stirring the peanuts in the pan.

Her eyes are on the pan. She is watching to ensure that the peanuts are properly roasted.

Well roasted peanuts have a typical savoury flavour. When her nose gets that smell, she is going to put off the gas stove.

You can see that several parts of her body need to work together smoothly. If they were not co-ordinated she would fumble. The peanuts might spill. They may be overdone or they may not get roasted well enough.

We need co-ordination to get any task done smoothly. Lack of co-ordination gives rise to mistakes or muddles.

Use your brain power !

How are movements co-ordinated when stitching cloth on a sewing machine?

• Overcoming disability

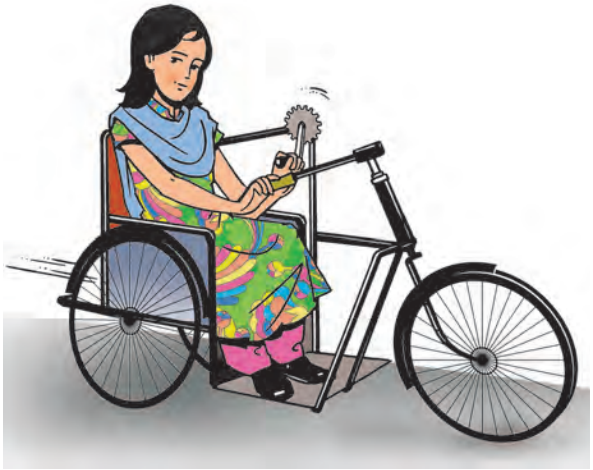
If a part of our body does not function well, we face many difficulties. If our eyes do not function well, we cannot see properly. If our ears do not work as they should, we cannot hear well.

In such a situation, our movements are not smooth. We find it difficult to do things on our own. But such situations can be overcome. Some disabilities can be corrected by medical treatment. In some matters, we can take the help of other people. Often, some special devices can be used to overcome the disability. Then, it becomes possible to carry out our own tasks independently.

If we cannot see well, we can use spectacles. If we cannot see at all, we can make use of sounds, or feel with the hands to get things done. You might have seen a blind person using a white cane. Blind people use a cane to feel the way in front of them. The sounds they hear around them also help them to know the situation around them. Thus, they can make their way independently even on a crowded road full of traffic.

A person who cannot hear well, can use a hearing aid.

Those who cannot hear at all, can use sign language. In some cases, a surgery can help a person to hear.



If there is a defect in the leg, a special wheelchair can be used.

Then the defect in the leg is no more a hurdle.

Do you know ?

Arunima Sinha is a young woman from Uttar Pradesh. Once, when she was twenty-two years old she was travelling on a train. She had to fight off some thieves. In the scuffle, she was thrown off the train. Another speeding train ran over her. She was seriously injured.

Doctors saved her life, but they had to cut off her right leg. While she was in the hospital many people would come to see her. Each person would worry about her future. But, Arunima resolved that she would never give up. She would achieve something so extraordinary that no one could ever say she was helpless.

Doctors gave her an artificial leg. As soon as she got used to her new leg, she began to train for mountaineering. Just one year after her accident, she climbed one of the high peaks in the Himalayas. The very next year, she climbed Mount Everest, the highest peak in the world!

What can we learn from Arunima's story?

What we have learnt –

- Our sensory organs tell us about the situation all around us.
- The eyes, ears, nose, tongue and skin are our five sensory organs.
- We can see with our eyes, hear with our ears, smell with our nose. We taste things with our tongue and feel them with our skin.
- When we work, we need to have co-ordination in all the tasks. Difficulties may arise due to lack of co-ordination.
- If any organ does not function well, we may face difficulties in doing our work.
- We must not give up in the face of difficulties. They can be overcome.

Always remember –

Even if there is a disability in any organ,
we can find a way out of that difficulty. We can
learn to be self-reliant.

Exercises

A. What can be done?

Dinner is ready and mother has asked Sakina to call Grandpa. But, Grandpa cannot hear at all. How will Sakina tell him to come ?

B. Think and tell.

(1) Yesterday's yoghurt is spoilt. It cannot be eaten. How would you know that?

(2) Some ingredients we use in the kitchen are named below. What are their colours?

- Turmeric
- Coriander leaves
- A ripe chilli
- Salt
- An unripe tomato

C. Which sensory organ gives you the following information ?

(1) The guava is sweet.

(2) The cuckoo is singing on the tree outside.

(3) The sunflower is yellow.

(4) The incense stick has a nice fragrance.

(5) The medicine is bitter.

(6) The towel is rough.

D. Observe and write.

When playing cricket, the ball is to be hit with the bat. Which parts of your body do you use to do so? How do you co-ordinate your movements?

E. Answer in brief.

(1) How are the two hands used while roasting peanuts?

(2) What is meant by 'sensory organs'?

(3) What help do we get from our sensory organs?

(4) Why is co-ordination necessary?

F. Fill in the blanks.

(1) Our eyes tell us how …….. something is.

(2) Our ears tell us which direction a …….. is coming from.

(3) The smell tells us that the air is …… .

(4) Our ……. tells us that something is hot.

(5) Our tongue feels as if it is burning when we eat a …… .

Activities

- Those who cannot hear at all use sign language. Find out more about it.
- Listen to the sounds of different musical instruments.

17. Pearly Teeth, Healthy Body

Can you tell ?

- How many children in your class have lost a tooth or two?
- Will those who have lost some teeth, get new ones?
- People lose their teeth when they grow old. Do they also get new teeth?

• Grandfather's new teeth !

We had all gathered to play in the evening. Subhash had not come. He'd gone with his Grandpa to the dentist. Three months ago, Grandpa's teeth had all been removed. He was to get his dentures today.

Monikatai told us, 'Such dentures look like real, but the teeth are actually false.'

Ahmed who is in the first standard promptly asked, 'Why get false teeth? My brother's teeth also fell, but they all grew again. Won't Subhash's Grandpa get new ones like him?'

That made everyone laugh.

Monikatai explained to Ahmed, 'The teeth that we get when we are babies are called milk teeth. They start falling when we are seven or eight years old. After that, we get new teeth once again. These are called permanent teeth. When these teeth fall, we don't get any new ones.'

Balu wondered, 'So what if we don't get new teeth again? Why should we get false ones?'

Monikatai said, 'Balu, you're in the third standard, aren't you? Several of your classmates must have lost their teeth. You have also lost some. Don't you have trouble eating and talking?'

Then Balu remembered, 'Oh yes! You're right! I love guavas. But now I can't eat them.'

Mary teased him 'And, you know, Balu can't say 'sh' either! His front teeth are missing. When he tries, it sounds like a whistle!'

Everyone laughed again.

'Now you know why it is so important to look after permanent teeth,' said Monikatai wisely.

Just then Subhash and his Grandpa returned. Grandpa smiled at us. His new dentures were shining bright !

Can you tell ?

- Many people lose their teeth when they grow old. But some people lose their permanent teeth quite early. What could be the reasons for that?

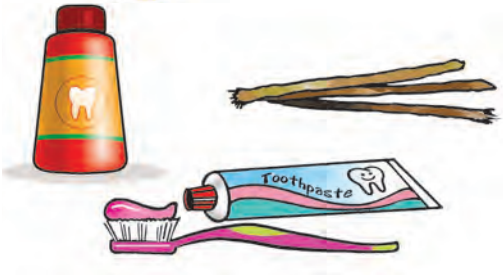
Taking care of our teeth

After eating something, we should wash our mouth, scrub our teeth inside and outside, with a finger. We should swill plenty of water in our mouth and rinse it well four or five times.

If we do not do that, particles of food remain in the mouth. They stick to our teeth and tongue. They get stuck in between the teeth. If they remain there, the teeth begin to rot. Then we get bad breath, that is, the mouth smells bad. If this happens often, the gums are also affected. They may ooze blood and pus. These foul substances go into our stomach. Then, we can fall ill.

Because of the rotting particles in the mouth, our teeth decay. Slowly the teeth become lose and in the end, they fall.

We must avoid this. For that, we must brush our teeth in the morning and before going to bed at night. We must also clean our gums and tongue.



Neem or babul sticks are sometimes used for cleaning teeth. Some people buy tooth powder from the market or make it at home. Many people use a toothbrush and toothpaste.

Neem and babul sticks or homemade tooth powders do not clean well from the gaps between our teeth. Also, tooth powder can be rough, while the neem or babul sticks are hard. They can injure our gums.

Using a brush and toothpaste, we can clean the gaps between the teeth properly. Besides, the foam of the toothpaste helps the particles stuck between teeth to come loose and get washed away.

Use your brain power !

- Which is the best method of washing your mouth clean? Why?

Why must we wash our hands before we eat?

Try this.

- Take a glass beaker half full of water.
  Tell any student of your class to wash his or her hands in the beaker of water.

- Then look at his/ her hands.
- See if the water in the beaker has changed in any way.

What do you see ?

- The hands that were washed in the beaker became clean.
- The water in the beaker looks slightly muddy.
  You will find that the same thing happens, no matter which of your classmates tries this.

What does this tell us ?

- All day, while playing or working, our hands become dirty.

So, we must wash our hands before we eat.

Do you know ?

- Sometimes when we get scratches, or a wound that bleeds, people apply wet mud to the injury. But, it is wrong to do so. It infects the cut or wound which may start oozing pus.

• Keeping our body clean

Remember, it is for us to keep our body clean. If we eat with unclean hands, the dirt on the hands goes into our stomach. We can get a stomach upset. So we must not forget to wash our hands before we begin to eat.

Just as it is necessary to keep our teeth clean, it is important to keep our hair and nails clean, too.

We must also keep our sensory organs clean. We must bathe every day. We must wash our hair at least once a week.

If we don't keep ourselves clean, we may contract different diseases.

Who are the really smart ones?

- Everyone brushes their teeth in the morning. But the smartest people? They brush their teeth before they go to bed every single night, too!
- Everyone washes their hands after a meal. And the smartest? They wash their hands without fail before a meal, too!

What we have learnt –

- The teeth we get when we are small are called milk teeth. They start falling at seven or eight years of age.
- Then we get new teeth once again. These are called permanent teeth.
- If permanent teeth fall, we do not get new teeth in their place. So, we must take care of our teeth.
- If our teeth are dirty, foul substances go into our stomach. We can fall ill.
- We must wash our hands before we eat.
- We must keep our hair, our nails, our sense organs and the entire body clean.

Always remember –

It is for us to keep our body clean.

Exercises

A. What's the solution ?

Your friend has a toothache. He is not telling anyone because he is afraid of the dentist. But, it is necessary for him to go to the dentist.

B. Think and tell.

(1) Which is the best way to brush your teeth? Why?

(2) Why should we not allow nails to grow?

(3) Why must we wash the grapes we buy from the market before eating them?

(4) It is more important to brush your teeth before going to bed at night than to brush them in the morning. Why is that so?

(5) Why is it a custom to wash one's feet and hands on coming back home?

C. Fill in the blanks.

(1) …….. ……. start falling at the age of seven or eight.

(2) If rotting ……. …….remain in the mouth, they cause teeth to fall.

(3) If we use a brush and …….we can clean the gaps between our teeth properly.

(4) We must clean our …… and gums while brushing our teeth.

(5) We must keep our five …… ……. clean.

D. Answer the following questions :

(1) Why do our gums get affected?

(2) Why must we wash our hands before having a meal?

(3) What are the benefits of using a brush and toothpaste for cleaning one's teeth?

(4) What will happen if we do not keep ourselves clean?

(5) Why do we fall ill if our teeth are not clean?

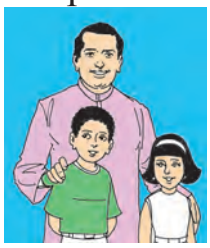
Activity

Find out from a doctor what home remedies should be used if someone gets cut or bruised.

18. My Family and Home

Try this.

Write about your family including the number of people in your family and the occupations of your parents.



- A family consists of a mother, father and their children.
- In some families, there are grandparents also.
- The number of people in a family may differ.

We are born in our family. We grow up in our family. We are brought up by our parents. They take care of us. In a family, we are secure in every way. Our family provides us with food, clothing and shelter. Other members of our family also take care of us. There is affection among family members. We like to be a part of a family because of the love and caring that we get. Family members help one another in times of difficulty. They try to see that no one suffers from any illness. But if we fall ill, our parents take care of us.

Small families and big families

Some families consist only of parents and one or two children. Such families are called small families. Some families consist of grandparents, aunts, uncles, brothers, sisters and cousins. Such families are called big families.

Extended family

Our family is linked with many other relatives. Aunts and uncles from the mother's and father's side, their children are all related to our family. Such a family is called an extended family. Our family gets extended because of our relatives.

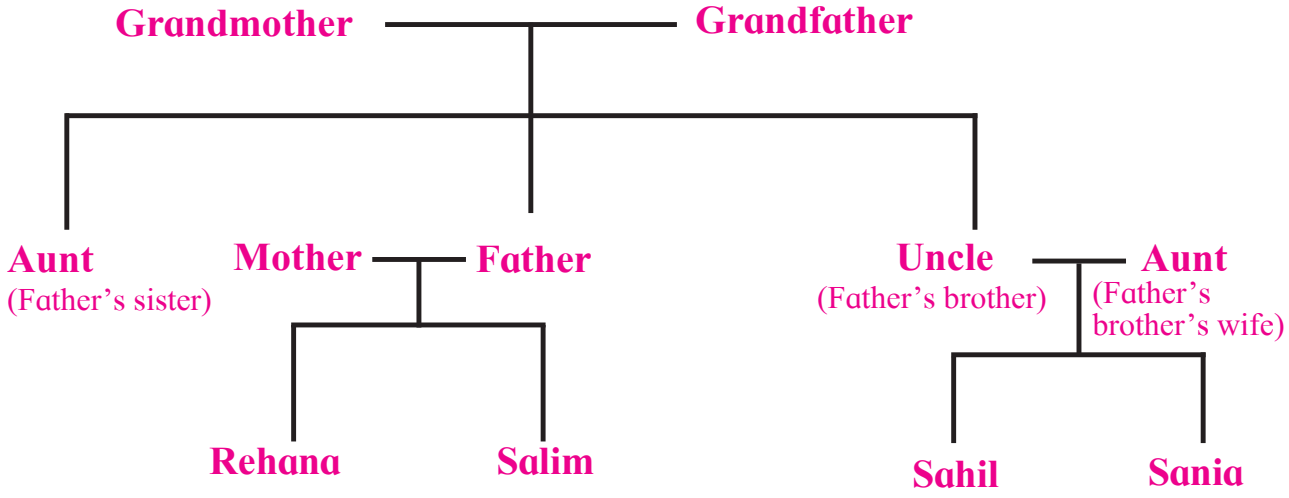
Extended family

Members of an extended family may not live in one house, but there is love and affection between them. They meet each other on several occasions.

- Who are the members of your extended family ?
- How are you related to them ?
- On what occasions do the members of your extended family meet?

Try this.

A family tree : Rehana who is in the third standard was looking at a photo album of the people in her house. While looking at snapshots of birthdays and weddings, she found some familiar faces but some of the faces were unfamiliar. Some faces appeared again and again in the album. Rehana asked her mother, 'Who are all these people?' Her mother said, 'They are all our relatives – your aunts, uncles, grandparents, you can see them all in these photos.' Rehana asked her mother to explain it to her in detail. Rehana's mother then drew a diagram for her.



Rehana's Family Tree

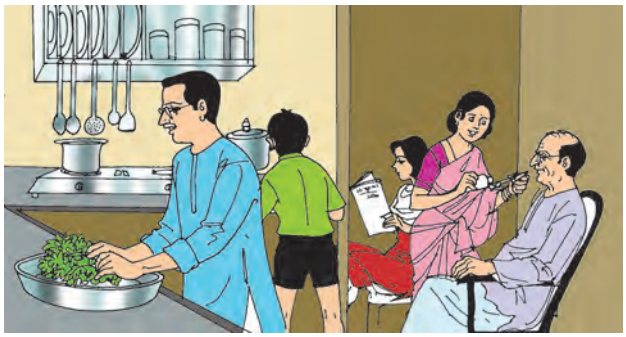
In a family, generations follow one after the other over a period of time. They can be shown on the family tree.

- Draw your family tree with the help of your parents.

Changes in the family system : The family system changes as time goes by. At one time, grandparents, aunts, uncles, parents, siblings and cousins all lived together and formed one big family. This was called a joint family. When members of a family move away because of their jobs or occupations, they start living separately, forming different families. Such smaller families are called nuclear families. The family system has changed in this way.

Our household chores

Only one person is working.



Every person in the house is working.

Try this.

- Prepare a list of chores that are done in your house.
- Who does these chores in your house ?
- Which of these chores do you like to do ?
- Do you do each other's chores ?

Storing water, cooking and cleaning are chores that need to be done in a family every day. Functions and festivals are often celebrated in the house. We have to welcome and entertain guests. The elderly people in the family need special attention. We should care for their health. There are many household chores which must be shared by everyone. If everyone in a family shares the work, no one has to bear the burden alone. Each chore is important, and family members do these chores with love and affection. We should be grateful for that.

Keeping the house clean and beautiful

Try this.

Make a list of all the things that need to be done to keep the house clean and tidy.

A tidy house

A littered house

- Write down the differences that you see between the two pictures above.

A clean and tidy house is pleasing. If there is a mess everywhere, no one can find their things on time. Keeping the house clean and tidy is the responsibility of every person in the family. We should throw rubbish in the dustbin and not throw it around. Garbage should never be thrown outside the house. This will help to keep the environment clean.

Always remember–

- Wet and dry garbage should be separated and put into separate bins. Wet garbage is useful for making manure. Paper, glass and metal can be sorted out from dry garbage and recycled.

Do you know ?

The use of electronic devices like mobiles, CDs, DVDs, pen drives and computers has increased greatly. When these things are damaged, they become useless. This gives rise to e-waste. The disposal of e-waste is a big problem.

Try this.

Decorating the house

- Get together and decide how you want to decorate the house.
- Ask adults to help with those things that you cannot do yourself.
- What materials have you used for the decoration ?

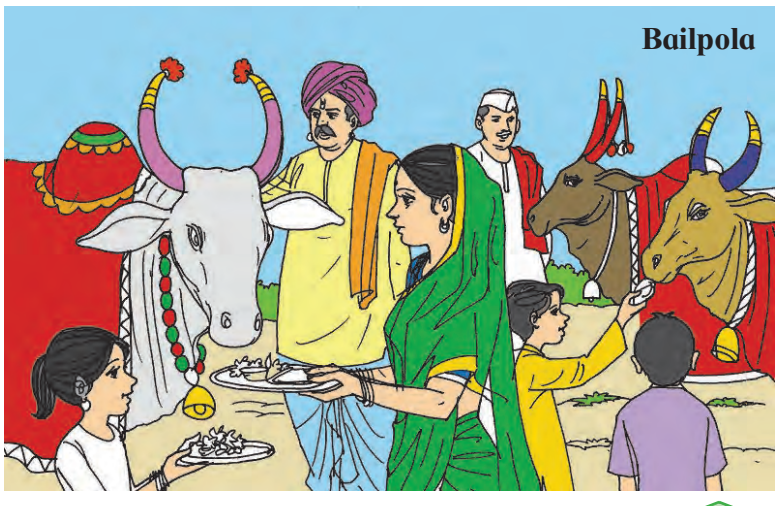
In the list of materials given below, put a cross (×) against those materials that should not be used as far as possible. Explain why they should not be used.

Flowers	Thermocol	Plastic	Paper	Rangoli	Chemical colours
☐	☐	☐	☐	☐	☐

Can you tell ?

Festivals

- Why do we celebrate festivals ?
- What are our festivals linked with ?



Bailpola

We celebrate many festivals in the family. In the same way, different kinds of festivals are celebrated in different regions of the country. Agriculture is the main occupation in our country. Many of our festivals are related to agriculture and environment. Holi is the festival that marks the end of winter. In Punjab, 'Baisakhi', is celebrated at harvest time. In Maharashtra, we celebrate 'Bailpola' when the sowing of the crops is over. During the harvest season in Tamil Nadu, 'Pongal' is celebrated, while in Kerala they celebrate 'Onam'. Dasara, Diwali and Gudi Padwa are celebrated when the farm produce is ready.

Paryushana Parva, Buddha Poornima, Ramzan Eid, Christmas and Pateti are important festivals. Whatever the festival, all Indians take part in them happily and wish one another well.

'Independence Day' and 'Republic Day' are our national festivals. All citizens celebrate them. India gained independence from the British on 15th August, 1947. Hence that day is celebrated as Independence Day. The Indian Constitution came into effect from the 26th of January, 1950. So, this day is known as Republic Day.

Festivals bring people together. The feeling of togetherness grows. Festivals include songs, dances, rangolis, games, competitions and races. This gives us joy. While celebrating festivals, we must take care not to harm the environment. Small children and old people suffer if music is played too loudly. Loud noises cause noise pollution.

Do you know ?

India has several adivasi tribes. The 'Warli' tribe lives in Thane district. In June, at the beginning of the monsoon, they celebrate a family festival called 'Koli Bhaji'. Koli is a wild plant that is used as a vegetable. This plant grows after the rains begin. Family members go out into the surroundings and collect fresh tender koli. The vegetable is cooked and an offering is placed before the Gods. Then all the members of the family eat together.

Do you know ?

Makar Sankrant is a festival celebrated in winter. On this day, friends and relatives give each other tilgul (sesame and jaggery). Sesame is an important winter crop. Sesame is a good food for winter as it helps to keep us warm.

What we have learnt –

- In a family, we are secure in every way.
- Families are of different types – small families, big families, extended families.
- A family tree shows several generations of people.
- Every household chore is important.
- We must keep our house and surroundings clean.
- Many of our festivals are linked with agriculture and environment.
- Independence Day and Republic Day are our national festivals.
- Festivals increase the feeling of togetherness among people.
- During festivals, we meet each other, talk to each other and feel connected.

Exercises

A. Answer the following in one sentence.

(a) What does a family provide ?

(b) Who takes care of us when we are ill ?

(c) When do members of an extended family come together ?

(d) What kinds of activities occur during a festival ?

B. Write whether right or wrong.

(a) We must help each other in times of difficulty.

(b) All family members should share the household chores.

(c) Garbage should not be thrown in a garbage bin.

(d) Music should not be played so loud as to cause noise pollution.

Activities

(1) Make a list and draw pictures of ornaments and utensils of your grandparents' time.

(2) With the help of a teacher or parents, find out the stories behind different festivals.

19. My School

Surekha and Mihir woke up earlier than usual.

They began to get dressed without their parents' help. They were in a hurry to get to school. Mother asked, 'Surekha, why are you in such a hurry today?'

Surekha replied, 'Today is the birthday of my school. We will get sweets today. We cleaned our classroom yesterday. Today, there is a class cleanliness and decoration competition. I like my school very much.'

Father said, 'Mihir, we didn't have anything like this in our time.' Mihir replied, 'Daddy, just as we celebrate my birthday at home, in the school, we celebrate our school's birthday. My school ranks first in sports and various other competitions. We hold elocution and sports competitions within the school, too. Daddy, I like working on the projects, going on trips and taking part in get-togethers.'

Can you tell ?

(1) When was your school established?
(2) How do you celebrate the Foundation Day of your school?
(3) What do you like about your school?

Do you know ?

In the olden days in our country, students used to go to their teacher's house to receive education. They lived there for a few years and completed their education. In the later period, a teacher and students of different ages came together. The teacher would then teach the students. Students traced letters and numbers on the ground. In this period, opportunities for girls' education were very rare. When the British introduced the present school system, Mahatma Phule and Krantijyoti Savitribai Phule began in Pune, to educate girls.

Changes in school : Earlier, schools were held in every town and village. In villages, students gathered under a large banyan tree or in a shady place, where one teacher taught students of different ages. They were taught reading, writing and simple arithmetic. When the British came to India, they introduced the modern school system. Our people realized that there can be no progress without education. People began to come forward to send their children to school. This is how the present day schools were formed.

Try this.

With the help of your teacher and parents, find out more about the following people. They have done great work in the field of schools and education.

Mahatma Jotirao Phule

Savitribai Phule

Maharaja Sayajirao Gaikwad

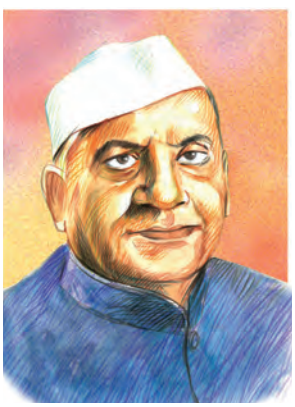
Rajarshi Shahu Maharaj

Pandita Ramabai

Maharshi Dhondo Keshav Karve

Dr Babasaheb Ambedkar

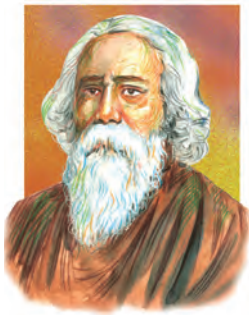
Karmveer Bhaurao Patil



Dr Panjabrao Deshmukh

Do you know ?

- Many people were curious to see the annual results of Savitribai Phule's school for girls. When the girl who stood first was given a prize, she said, 'I don't want a prize, I want a library for the school.' This girl used to study until late in the night at home. Jotirao and Savitribai had arranged to give agricultural and technical education to the children in the school.
- Our national anthem was written by Gurudev Rabindranath Tagore. He had started a school in Bolpur in Bengal. The school was held in the midst of green trees, colourful flowers, chirping birds under the blue skies. The school was called 'Shantiniketan'. Children loved that school very much. How peaceful it was ! No noise or chaos. No sounds of automobiles, no clatter of horse carriages. A school in the shade of a tree! Students were taught to sing and dance. They were taught arts and crafts. Children put up their own plays, sang, danced and learned new subjects. Children from other countries also came to study here. Tagore was awarded the Nobel Prize in 1913. He gave the prize money to his school.



Rabindranath Tagore

Mahatma Gandhi

- Mahatma Gandhi's views about education are important. He laid stress on the dignity of labour and on learning by doing.
- Maulana Azad was the first Education Minister of independent India. He appointed the 'University Education Commission' and the 'Secondary Education Commission'. He also played an important part in the establishment of the University Grants Commission. He firmly believed that Science and Technology must be included in curriculum. The 11th of November, the date of his birth is observed all over the country as National Education Day.

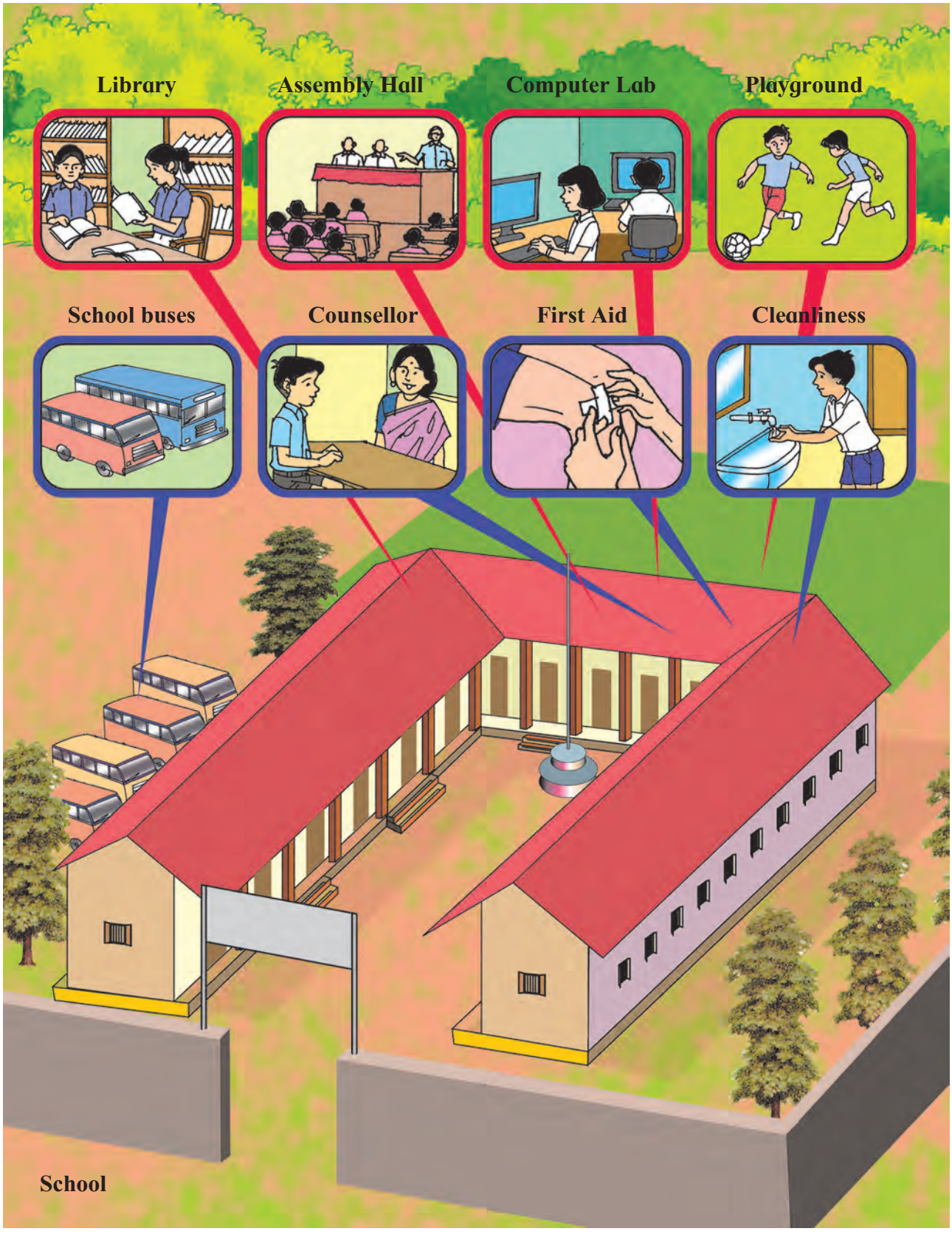
Maulana Azad

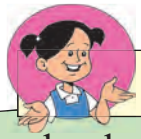
Can you tell ?

- What games are played on a school playground?
- How is a school kept clean?
- How do you help to keep your school clean?
- Which school activities do you take part in?
- How do you go to school every day?

We learn many new things in school. We recite poems, sing songs and draw pictures. We also get to play in school. We play kho-kho, kabaddi and also lejim in school. We must go to school regularly. Going to school on time teaches us punctuality.

In school, we learn how to keep ourselves clean. We also learn the importance of keeping the public places clean. Personal and public hygiene helps to keep us healthy.



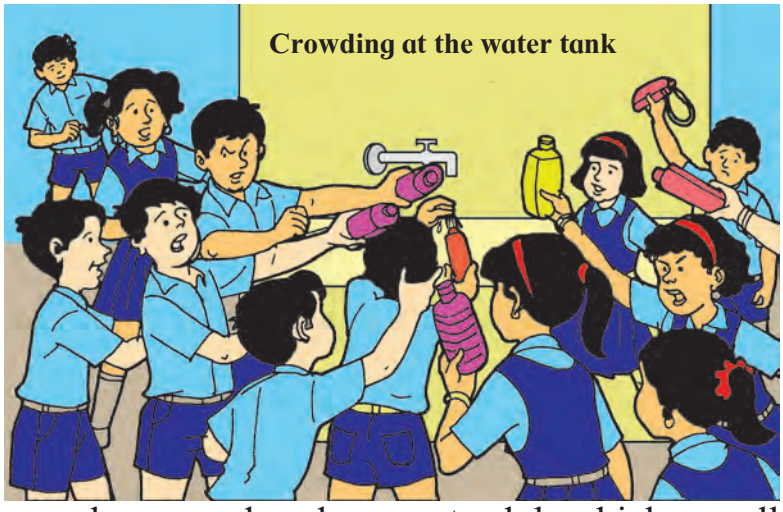


Try this.

In some schools, 2-3 students in each classroom take turns to remove the garbage in the classroom after school is over. They keep the class clean. Thus, children get used to voluntary work. They feel affection for the school and the class. Does your school have such an arrangement? If not, prepare a monthly timetable for cleaning your classroom. Include all of your classmates in this task. A certificate or rotating cup or shield can be given for a clean classroom.

Can you tell ?

- Why is there a crowd and some hullabaloo near the water tank?
- What rules should be followed while using school facilities?
- Where else can we use the rules of school discipline?



Crowding at the water tank

We all like school. A school has facilities like a library, playground and computer lab which we all use. Everyone should be able to use these facilities. We should follow certain rules while using these facilities. We should wait in queues. Books borrowed from the library should be returned on time. We should not tear or damage the pages of the books. We must keep the walls and benches in the classroom clean. We must return the sports equipment to its proper place after using it.

Can you tell ?

- Why do friends quarrel?
- What will you do to resolve a quarrel peacefully?
- How will you behave with the person you have quarrelled with, after the quarrel has ended?
- Will you take the help of a teacher to resolve the quarrel?

Some children are fighting so the teacher intervenes.

Quarrels may arise between friends, but they should be resolved amicably. Every person who is quarrelling, should get a chance to present their side. Quarrels should not lead to physical fights. The teacher should be asked to help if a quarrel cannot be resolved. Resolving quarrels peacefully is a good way to end them. It teaches us to solve problems in community life amicably. If issues in community life are resolved peacefully, many of our problems will be solved.

Can you tell ?

Are there any children in your area who do not attend school? Why do they not go to school?

Each child must get the opportunity to attend school. School is for everyone. We learn how to get along with others at school. We get to know a lot of people. At school, we realize that we are a part of society.

Do you know ?

There is a ban on employing children below the age of 14 years in factories, mines and in other hazardous occupations. In 2006, the right against exploitation was expanded to include child labour. It made all kinds of child labour illegal.

What we have learnt –

- Personal and public hygiene helps to keep us healthy.
- We all like school.
- Issues arising in community life should be resolved amicably.
- Each child must have the opportunity to attend school.

Exercises

A. Answer the following questions in one sentence.

(1) What games do you play in school?

(2) What facilities does a school offer?

(3) How should a quarrel be resolved?

B. Fill in the blanks.

(1) Going to school on time teaches us ---------- .

(2) -------- borrowed from the library should be returned on time.

(3) Each child must get the ------ to attend school.

C. Put a '✓' against a correct statement and a 'x' against a wrong statement.

(1) Pages of books should not be torn. ☐

(2) Sports equipment should not be put back in its place after use. ☐

(3) School is for everyone. ☐

Activities

(1) Discuss the old and new 'drinking water' facilities in the school.

(2) What efforts will you take to make your school an ideal school? Draw up an action plan in brief.

(3) If you get a chance to visit another school, compare that school with your own school.

(4) During school functions, gift saplings instead of flowers. Encourage others to do the same.

(5) Interview teachers from other schools and note down their special activities.

(6) Make a collection of school songs.

❊❊❊

20. Our Community Life

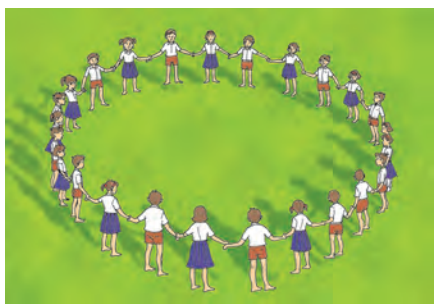
Can you tell ?

- What difference do you see in the two pictures shown above?
- Whose company do you enjoy?
- How do you decide which game to play?

We like the company of other people. At home we live with our parents. We also have neighbours. We miss our friends if we can't meet them. We miss even our pets, when they are not around.

People like to live in groups. Living in the company of our family, neighbours and other people means living in a community.

A girl talking to a group of children



Children holding hands in a circle

Helping a boy who has fallen off his bicycle

Community life is interdependent

We all need community life. If we don't have friends and other people around us, who will we speak to? Who will we share our joys and sorrows with?

In a community, we get companions. We feel secure in their company. We help them and they, too, help us. This is known as co-operation. Mutual co-operation is the greatest benefit of community life. Rules are needed to build this co-operation.

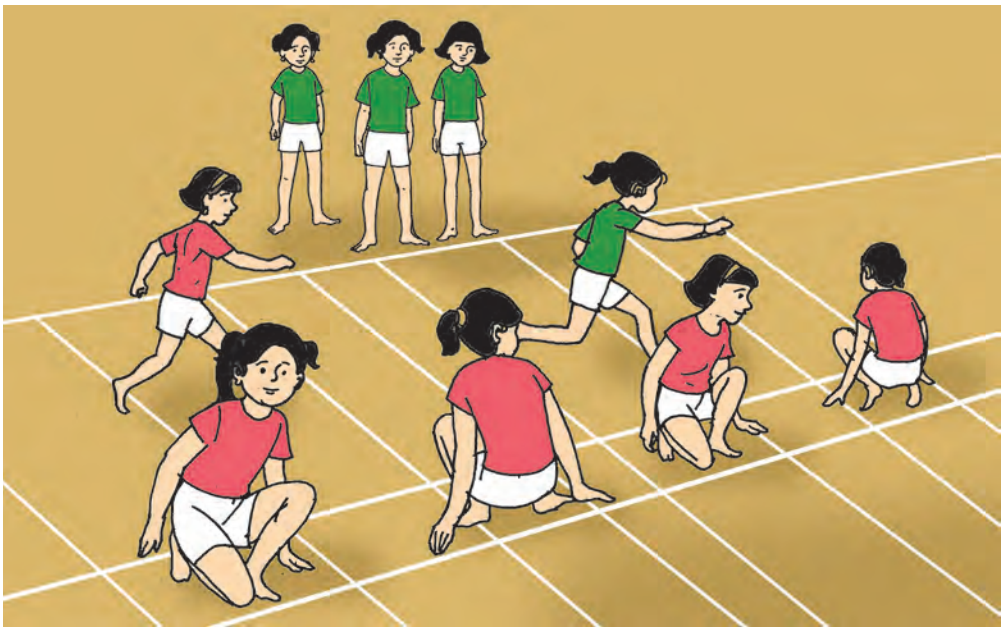
Use your brain power !

What if there were no farmers…	**What if there were no schools…**	**What if there were no hospitals…**	**What if garbage were to pile up…**

Our daily needs are fulfilled in a community. Education and health facilities for everyone can be developed in a community. Goods have to be produced to satisfy needs. This is called production of goods. The process of reaching those goods to people is called service. Production and service are both necessary to satisfy needs. Many people contribute to this. One person cannot produce everything; neither can he give all services by himself. Community life is interdependent.

Rules for living in a community

Rules are necessary for smooth running of community life. We have to deal with other people in our community all the time. For smooth running of our day-to-day affairs, everybody has to follow certain restrictions. These are known as rules. Rules bring discipline to community life.



Girls playing kho-kho

Can you tell ?

- Why are rules necessary in games ?
- What are the advantages of playing according to the rules ?
- What is the most important thing about team sports ?

Before playing any game, we must first understand its rules. The rules of the game are the same for everybody. Every player has to follow the rules. Only then does the game go on smoothly. Similarly, in order to make sure that community life also goes on smoothly, we must follow the rules.

Games have an important place in our lives. We imbibe the qualities of co-operation and unity through games. Participation, determination and passion are more important in games than winning or losing. Sports help us to stay healthy.

Find the rules necessary for community life from those given below. Put a '✓' against the correct rules and a '×' against the wrong ones.

- Jump the queue and climb on the bus. ☐
- Cross the road on the zebra crossing. ☐
- If injured, go to a doctor or Primary Health Centre at once. ☐
- Report a leaking tap in a public place to the gram panchayat or the local government body. ☐
- Do not travel without a ticket. ☐

Discuss.

Rules help to prevent quarrels, fights and partiality. What do you think?

Always remember –

'Let us all help each other.
Let us all follow the right path.'

– Sant Tukaram

What we have learnt –

- People like to live in a community.
- Mutual co-operation is the greatest benefit of community life.
- Our daily needs are fulfilled in community life.
- Rules are needed for smooth running of community life.
- Games teach us co-operation and unity.
- Sports keep us healthy.

Exercises

A. Answer in one sentence.

(1) With whom do we live at home?

(2) When do we feel secure?

(3) Why should we follow rules?

B. Fill in the blanks.

(1) People like to live in ..... .

(2) In a community, we get ..... .

(3) Community life is ..... .

C. Match the following.

A	B
(a) Helping each other	(1) rules are necessary.
(b) For a community to run smoothly	(2) is called co-operation.
(c) Rules are the same	(3) are called rules.
	(4) for everybody.

Activities

(1) Make a list of rules followed in the game of cricket.

(2) Make a list of traffic rules.

(3) Write five lines about the rules you follow at school and at home.

***

21. Public Services for Community Life

Public facilities and amenities

Can you tell ?

- With the help of the pictures above, make a list of public facilities and amenities. Mention the benefits of each.
- What difficulties would we face in the absence of these facilities?

In a home, we live with our family. Our life outside the home is our public life. Several services are required for public life to go on smoothly. Public facilities are those services which are available to all of us. We use several such services like transport, schools and hospitals. Public services are equally available to all and are meant for everybody. We must use them responsibly.

Local government and local services

We live in cities or villages. The population of cities is large whereas in villages, it is quite small. In cities there are factories, markets and greater chances for employment. Cities have public services on a large scale.

The administration of a place, be it a city or a village, is run by the government in that place. It is known as 'local government'.

A gram panchayat runs the administration of a village.

A municipality runs the administration of a town and for big cities, there is a municipal corporation. Which of these governing bodies operates in your city, town or village?

Do you know ?

Each village has a gram panchayat. Maharashtra State was formed on 1st May 1960. At that time, Maharashtra had 21,636 gram panchayats. That figure rose to 27,993 in 2010. To form a gram panchayat, the population of a village must be at least 500. If the population is less than that, 2-3 such villages may together form a group gram panchayat.

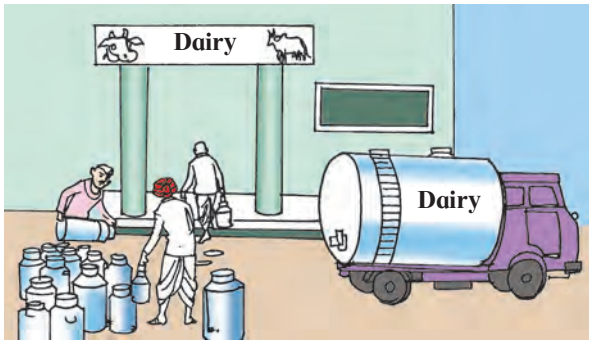
Try this.

Make a list of the services offered by your local government.

A girl visiting a bank with her father

Reading an inland letter

Co-operative spinning mill



Dairy

Can you tell ?

The pictures above show the services available in a village. Which other services are available in your place ?

Public services are provided to us out of the money collected from us as taxes. We must use them carefully. Sometimes, public services are overburdened but we can solve this crisis by working together.

The local government provides the services of water supply and public hygiene. But we need many more services. You must have seen a bank in your city or village. People put their money into a bank. The money is kept safe there. People can save this money. They can withdraw that money from the bank when they need it. Banks also offer loans to people in need.

The postal service is useful for keeping in touch with our friends and relatives. Letters can be sent to any part of the world.

The people in a locality sometimes come together and find out what the local needs are. Based on their findings, they decide to start an industry or service in co-operation with one other. They contribute some of their own money to start that industry or service. The profits are distributed among everyone. Institutions formed by people's co-operation are called co-operatives.

Do you know ?

Almost 400 years ago, a postal service was run in Golconda as follows :

There were small huts at intervals of every two or three miles. In the first hut, there was a harkara. Harkara means a man who carried the post. The first harkara took the postbag from the first hut and dropped it in the second hut. The second harkara stood ready to take the bag. He took the bag and ran to the third hut and dropped it in.

This is how, the post was carried to other places. This system was called the 'dak' system.

What's the solution ?

Water is wasted when taps do not have faucets.

A children's council in a school in Bahiratwadi in Akola district carried out a project. They started a discussion on the issue of how to save water. Some children pointed out that water in the village was wasted because the taps did not have faucets. The children found out whose responsibility it was to put faucets on the taps. Then, it was decided to urge the gram panchayat to fix faucets on the taps. They wrote a letter to the gram panchayat concerning this issue. A few days later, they also sent a reminder. A few days after that, faucets were fixed on taps. This is how the children solved the problem.

- **How will you solve water-related problems?**

What we have learnt –

- Public facilities are services that are available for everybody.
- The gram panchayat runs the administration of the village.
- The municipality runs the administration of the town.

- There are municipal corporations for big cities.
- Public services should be used carefully.
- Money is kept safe in the bank.
- We can send letters anywhere in the world.
- Institutions formed by the co-operation of the people are called co-operatives.

Exercises

A. Answer the following questions in one sentence.

(1) What are public services?

(2) What public services do we use in public life?

(3) Which services does the local government provide?

B. Fill in the blanks.

(1) …… give loans to people in need.

(2) The …… is used to keep in touch with friends and relatives.

(3) Institutions formed by the co-operation of the people are called …… .

C. Complete the words.

(1) It runs the administration of the village. G _ _ _ P _ _ _ _ _ _ _ _

(2) It runs the administration of the town. M _ _ _ _ _ _ _ _ _ _ y

(3) It is present in big cities. M _ _ _ _ _ _ _ l C _ _ _ _ _ _ _ _ _ n

Activity

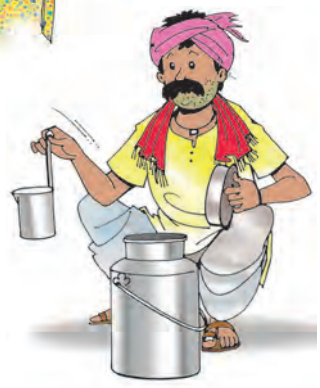
Open an account in a bank with the help of your parents/guardians.

22. Who fulfils our needs ?

Can you tell ?

Answer the following questions.

1. What does your father do ?
2. What did your grandfather do ?
3. What would you like to be when you grow up ?



Look at the pictures given above and answer the following questions.

1. You must have seen some of these people. Name their occupations.
2. Which of these people have you met ?
3. Which of your needs do they fulfil ?

Air, water, food and shelter are the basic needs of every living thing. They are our basic needs as well, but human beings have many other needs besides these. For example, we need clothes to wear, teachers to guide us and a doctor if we fall ill. Different people work to fulfil our various needs. Their work fulfils some of our needs as well as their own needs. Such work is called an occupation.

• Types of occupations

There are various types of occupations. They can be divided into four main classes as follows :

1. Nature based occupations (e.g. agriculture, fishing, etc.)
2. Manufacture (e.g. making automobiles, making pots, making cloth, etc.)
3. Trade (e.g. selling farm produce, shopkeeping)
4. Providing Service (e.g. those given by a teacher, a doctor, a bank)

• The importance of agriculture

- Agriculture is an important occupation in our country. Everyone in the country gets food because farmers work in the fields.
- Our food includes items such as bhakari, chapati, rice, dals, vegetables and salads.
- These items are prepared from crops grown in the fields.
- Crops like jowar, bajra, wheat, rice, pulses as well as leafy vegetables and other vegetables are grown in the fields.
- Other needs are also taken care of through farming. For example, we get sugar from sugarcane. Textiles made from cotton are used to make garments.
- Farming of fruits, flowers and medicinal plants is also carried out on a large scale.

• Agro-based occupations

Agricultural products can be used to undertake many other occupations. Fodder is created in fields. It is used to feed cows, buffaloes and sheep. Thus, as we cultivate the land, we can raise these animals also. We obtain milk, meat and leather from animals. Grain is grown in fields. It can be used to feed chickens. Fruit grown on farms can be used to prepare squashes, jams and jellies. Sheep rearing, poultry, animal husbandry and fruit processing are all occupations dependent on agriculture. They are called agro-based occupations.

Some village occupations are family businesses. Sometimes, people carry on the work that their father and grandfather did before them. However, in our country, we can choose the job we want to do.

Do you know ?

In ancient times, man did not know about farming. He would wander around in search of food. He used to hunt. He ate fruits and tubers. When man learnt how to grow crops, he could get food in one place. There was no need to wander about for food any more. He began to have free time. In that free time, many discoveries were made and many industries were developed.

Industry

In industries, raw materials are obtained and then they are processed to make new finished products. A potter making pots is a type of industry.

Have you seen how a pot is made ? Look at the pictures below.

Potter uncle first obtains good quality clay.

To improve the quality of the pots, he mixes some other substances in the clay.

He mixes water in the clay and makes it soft and easy to shape. This is called kneading the clay.

He turns the kneaded clay on a wheel to shape the pot.

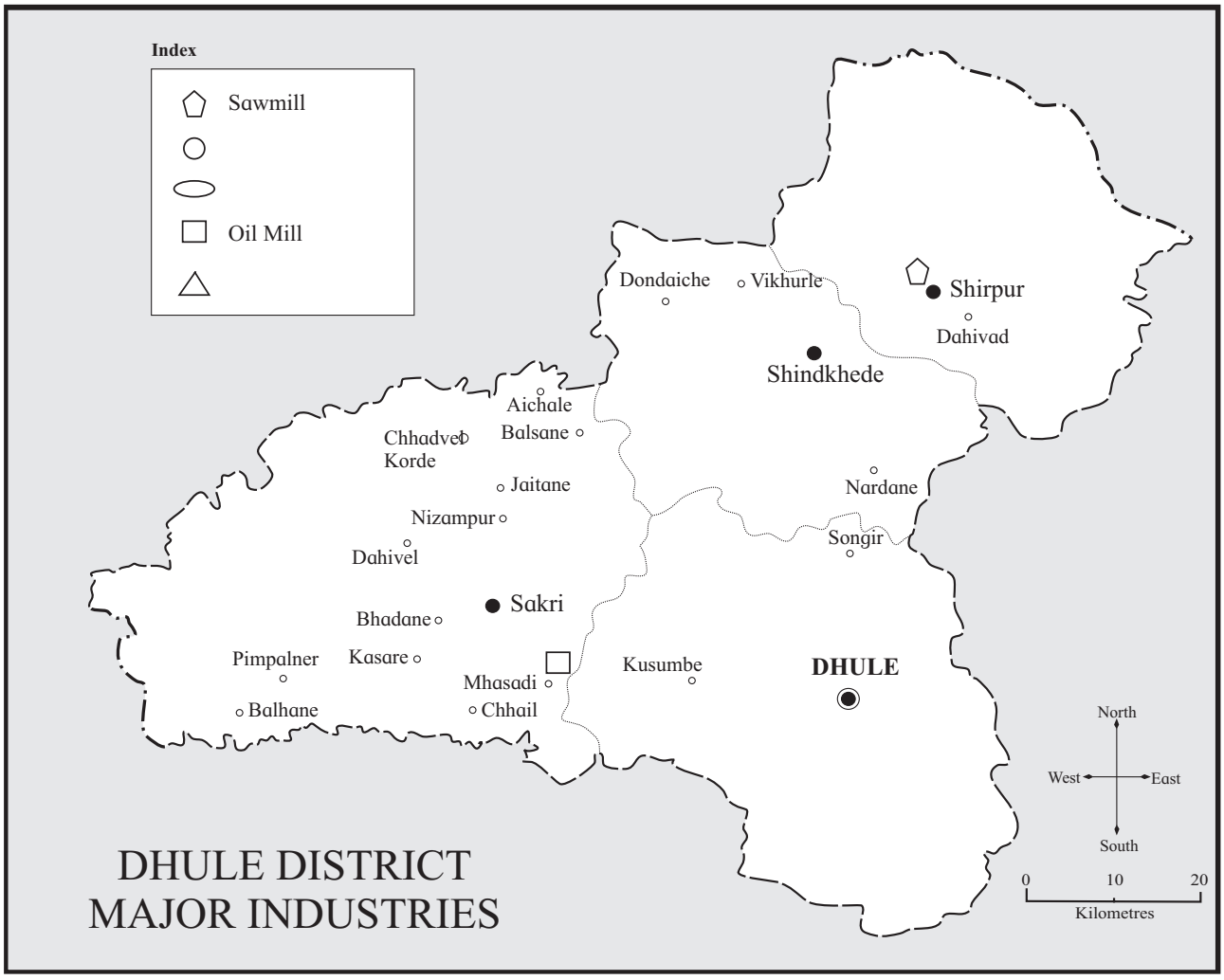
The pots are baked in a kiln to make them hard.

A ready pot

In the pottery industry, clay is the raw material, pots are the finished product. The process includes whatever is done to make the finished product (pots) from the raw material (clay). Such a process is called ‘industry’.

Just as potter uncle makes pots out of the clay, other items can be made out of wood, bamboo, flowers, etc. If the products are made at home on a small scale, it is called a cottage industry (or handicraft).

Some factories are big. Many people work there with the help of machines. Your school bus, bicycle and paper for your textbooks and notebooks are all products made in factories. There are such industries in your district, also. Complete the activity using the district map on the next page.



1. Circle the name of the place which has the sawmill industry.
2. There are several industries in your taluka. Write the names of the industries you know in front of the unused symbols in the index.
3. Use the symbols in the index to show the various industries in your taluka.
4. Find the place of the oil mill on the map. Colour its symbol and write its name in the box.

For teachers : While doing this activity, guide the students where necessary, particularly with questions 2 and 3.

Do you know ?

Use the table below to see how the raw material, industry and finished products are linked.

Raw material →	Industry →	Finished product
Sugarcane	Sugar industry	Sugar
Cloth	Garment industry	Shirt/Jeans/Frock
Bamboo	Basket-weaving	Baskets
Maida	Bakery industry	Biscuits/Bread

Use your brain power !

You may have seen or used the products shown in the pictures. Write the names of these products in the boxes given below the pictures.

- Which of the products in the pictures are grown in fields ?
- Which products can be made at home ?
- Which products are made in factories ?

Do you know ?

In some villages, towns and cities, certain occupations or industries are run on a large scale. These industries or occupations become famous because of the craft and the speciality of the product, for example, the ‘Solapuri’ bedsheets of Solapur, ‘Kolhapuri’ chappals of Kolhapur, the ‘Paithanis’ of Paithan. Find out about such industries or occupations in your locality.

Always remember –

Man has developed many occupations. However, the materials he needs for these occupations are obtained from Nature. Nature takes care of the needs of all living beings. We must respect Nature.

What we have learnt –

- Occupations and industries develop out of the needs of human beings.
- Types of occupations and industries.
- The importance of agriculture.
- What is meant by industry.
- Information about industries in the district.

Exercises

A. Answer in brief.

(1) If we do not farm the land in our country, what will happen ?

(2) What are the occupations of the people in your locality ?

(3) Give three examples of industry.

B. Write the missing links.

(1) Cotton → …… → Textile

(2) …… → fruit processing → jam / jelly

(3) Iron → automobile industry → ……

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Activity

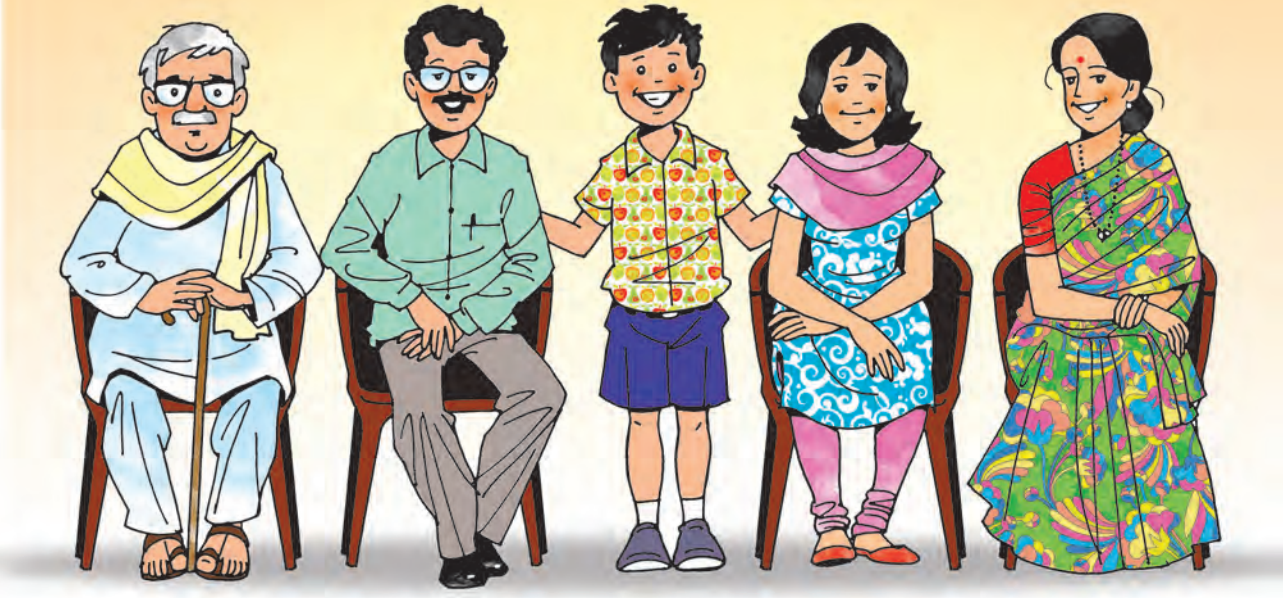
Visit a weekly market / a mall / a cloth shop.
Obtain some information about the occupations there.

For teachers : Help students to talk to local craftsmen, and see how they work. Nature takes care of the needs of all living things including us. Therefore, try to encourage respect for Nature in the minds of the students.

23. Growing Up and Growing Old

Can you tell ?

- What is the boy's mother in this picture wearing ?
- What is his sister wearing ?
- What is the colour of his grandfather's shirt ?
- What is the colour of his father's shirt ?



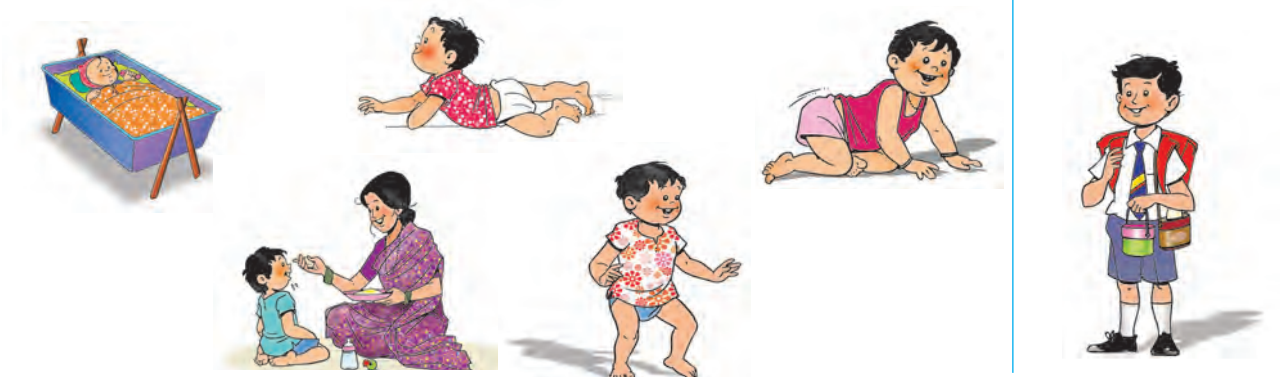
- How did you guess who the mother is and who the sister is ?
- How did you guess who the grandfather is and who the father is ?

Can you tell ?

Talk to the grown-ups to find out the following :

- When does a baby start holding up its head ?
- When does a baby start teething ?
- When do babies begin to turn over ?
- When do babies learn to stand up ?
- Why aren't newborn babies fed rice ?
- Why do small babies need to be carried ?

As we grow : A little baby is born. Everyone is happy. The mother lovingly takes care of her baby. She bathes the baby every day. She feeds it milk when it is hungry. She sings it to sleep with lullabies. Slowly, the baby grows. It becomes taller. Its weight also increases.



As the baby grows up, it learns to crawl. Its teeth come out one by one. Then it learns to stand and, later, to walk. All this while, it gains in height and weight.

The baby learns to recognize its mother. It learns to recognize other people. It begins to have other foods. Mother feeds the baby rice with milk. Gradually, it begins to speak. Whether it is a boy or girl, Nature does not differentiate between the two in their growth. When they become bigger, they are not babies any longer. A little boy becomes a big boy. A small girl becomes a big girl.

At the age of six, children start school. They keep growing in height until the age of eighteen.

Until forty years of age, a person remains fit. There is no gain in height but weight keeps increasing. Good habits and good food help to maintain good health. We benefit from regular exercise.

Even after forty years of age, there are changes in our body. Gradually, eyesight becomes weak, hair starts turning gray.

In old age, the body's strength decreases further. Hearing and memory become weaker. Teeth begin to fall. We sleep less and develop various disorders.

One day, death occurs.

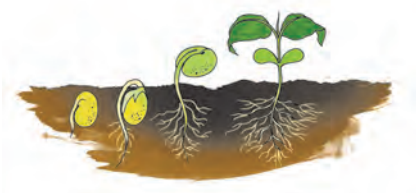
Do you know ?

- A baby is given vaccines to prevent the diseases it may contract later.
- Certain vaccines have to be given at certain stages of growth. It is important to give every child, the proper vaccinations.

Can you tell ?

These are three pictures of the same mango tree. Which is the oldest picture? Which picture is the most recent? Which picture is the one of the time in between? How did you guess?

• Growth of plants



Just as people change over a period of time, so do plants. When a seed sprouts, or germinates, a new plant is produced. For the sprout to grow, it must take root in the soil. Only then does the seedling that grows from the sprout flourish.

The seedling absorbs water and some nutritious substances from the soil. The leaves begin to make food. The plant begins to grow. It gives out new leaves. It also begins to grow taller.

At the proper stage of its growth, the plant begins to flower. Fruits develop from flowers. These fruits have seeds. From those seeds, new plants grow.

A new term :

Germination : The sprouting of seeds is also known as germination.

A tree must withstand the sun, wind and rain all the time. Sometimes, it is attacked by pests. This makes the tree weaker. At last, the tree trunk breaks. The tree falls down.

All plants die. However, the causes are different.

What we have learnt –

- There are certain stages of the growth and progress of a baby.
- A person continues to grow till the age of eighteen.
- After forty years of age, a person approaches old age.
- Changes take place in plants with time, just as they do in people.
- Starting from germination in the soil, there are definite stages of the growth of plants. Plants also grow in height and strength.
- Animals or plants, all come to an end eventually.

Always remember –

A proper diet and regular exercise are necessary for keeping good health.

Exercises

A. How will you guess ?

You want to guess whether a stranger is older or younger than your parents.

B. Think and tell.

(1) How does a cat move her kittens from one place to the other?

(2) Grandfather's hair turns white. Some old men show another sign of old age on their heads. What is it?

(3) How does old age affect the skin?

(4) Beans like moong, matki and chawali sprout after being soaked in water. What other word will you use to describe this process?

C. Draw a picture.

- Draw a picture of the fruits and seeds of a pea plant.

D. Find the information and share it with the rest of the class.

- Take a fruit of any of these plants: mango, chikoo, lemon, amla, tamarind or beans. Draw its picture and colour it. Study the number of seeds it contains and write the number under the picture. Share the information you have obtained with the rest of the class.

E. Fill in the blanks.

(1) When a baby is born, everyone is ..... .

(2) Regular ..... has its advantages.

(3) ..... develop from flowers.

F. Answer in brief.

(1) Until how many years of age do children continue to grow?

(2) How can good health be maintained?

(3) When do plants begin to flower?

G. True or false ?

(1) As a baby grows, its height and weight also grow.

(2) A plant can grow even if the sprout doesn't take root in soil.

(3) The seedling absorbs water and some nutritious substances from the soil.

Activity

In a pot, sow the seeds of a plant of your choice. Observe its growth. Every Sunday, draw a picture of the plant according to your observations.

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24. Our Clothes

Can you tell ?

1. ____

2. ____

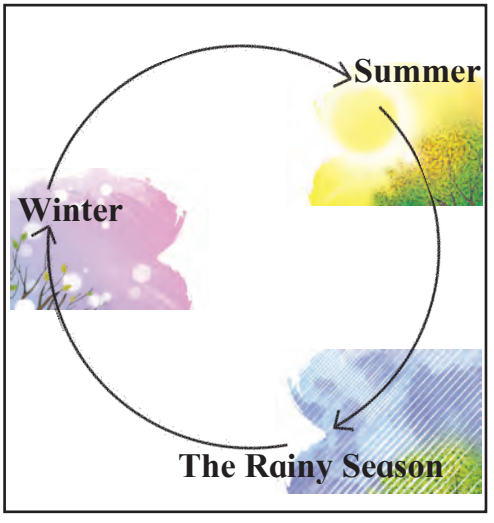
3. ____

Look at the above pictures carefully. What time of the year does each picture show ?

1. What kind of clothes are the people in the first picture wearing?
2. Why are they wearing these clothes ?
3. What kind of clothes are the people in the second picture wearing ?
4. When do we see people using raincoats and umbrellas ?
5. Make a list of the clothes used during different times of year in your neighbourhood.

Why do we see changes in the clothes people wear during different times of the year ? It is because the weather changes at those times. We need different clothes to protect our bodies against such changes in weather.

- Changes in weather divide the year into three parts. These parts are called **seasons**.
- The three seasons are **summer**, **the rainy season** and **winter**.
- Each season is approximately four months long.
- The seasons follow each other continually. This is called the **cycle of seasons**.
- As the season changes, there are changes in Nature and the environment, too.



Always remember –

The seasons have an important effect on the lives of human beings and other living things. With each season, there are changes in the clothes we wear and the food we eat. Seasons also affect farming and other occupations. There are many changes in the weather according to the seasons.
We should adapt to these changes.

Use your brain power !

- In which months do the summer, the rainy season and winter occur ?
- We wear warm clothes in winter as protection against the cold. What will happen if we wear warm clothes in summer ?
- Animals do not wear clothes. How do they protect themselves from the cold ?
- Many trees shed their leaves in winter. When do they grow new leaves again ?

Try this.

1. Look at the clothes that people around you are wearing.
2. Write down differences in their clothing based on the points given below.

- Colour • Type • Uniform according to occupation.

• Variety in clothing

- Since our country is so large, we find that there is variety in people's dress according to the region.
- Men are seen wearing dhoti, pyjama lungi, and trousers. They also wear caps, hats and other headgear such as *mundase*, *pheta* and *pagdi*.

- Women and girls wear saris, salwar-kameez, frocks as well as shirts and trousers.

- People dress up for festivals and important occasions. Some people wear traditional costumes. They wear bright clothes woven with golden thread. You must have realized that people wear clothes of different colours, styles and designs. Thus, there is a lot of variety in clothing. Mainly, the weather decides what we wear, but taste, convenience and occupation also play a part. Similarly, we also find a lot of variety in traditional costumes.

You wear a uniform to school. Since all the students wear the same uniform, you look the same in school. You get a different identity. Similarly, people of certain occupations wear special uniforms. Find out more about such occupations.

Who am I ?

(1) I wear a white coat and examine patients.

(2) I wear blue clothes and put out fires.

(3) You always see me in khaki clothes.
I go wherever there is a fight.

(4) I work in a hospital and take care of patients.

(5) I am always ready to protect the country.

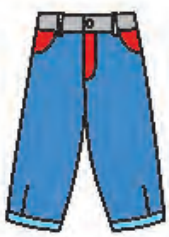
Use your brain power !

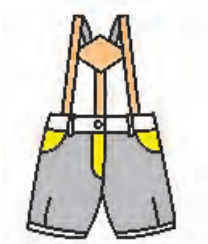
1. Kamal has to walk to her uncle's house, but it is raining heavily. What will she have to do to reach her uncle's house without getting wet ?
2. Jacob has worn woollen clothes, but he is feeling very hot. What kind of clothes should he wear ?

What's the solution ?

Manjeet and Sania are going on a trip to a hill station. Which of the items shown below do you think they should take with them ?

Put a '✓' in the box below the ones you have chosen.





Do you know ?

The clothes worn by soldiers match the environment around them. This is done so that enemy soldiers cannot spot them easily. For example, they use khaki clothes in deserts, green clothes in jungles and white clothes in snowy areas like the Himalayas.

What we have learnt –

- As the season changes we have to make changes in the way we dress.
- Variety in clothing is due to taste, occupation and tradition.

Exercises

Answer in short.

(1) Which seasons do you experience in one year ?

(2) Why do we need to change types of clothes according to the seasons ?

(3) Write the names of three occupations that require uniforms.
(Name occupations not mentioned in the chapter.)

(4) Write the names of some traditional clothes worn in your neighbourhood.

Activity

Visit a clothes shop or exhibition. Draw pictures of clothes that you like. Write four or five lines about them.

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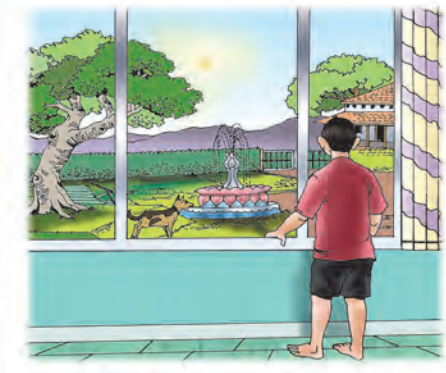
25. Changes in our Surroundings

Can you tell ?



We can see things around us clearly during the day. Why can't we see them clearly at night?

During the day, we get sunlight. That is why we can see the things around us clearly. It grows dark after sunset. There is not enough light. We see the stars in the sky at night, but we don't see the things around us clearly.

Day and night affect living beings.

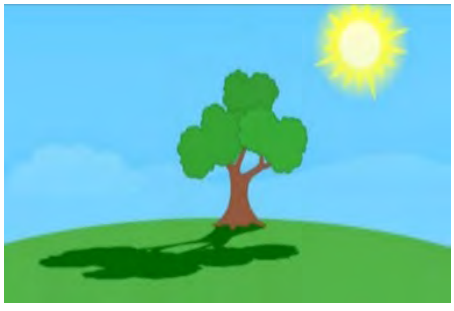
Can you tell ?

Observe and describe.

- How does the colour of the sky change before sunrise?
- How does the colour of the sky change after sunset?

Can you tell ?

How does the shadow lie?



- After sunrise in the morning, in which direction does the shadow lie?
  Is it long or short?
- How does the shadow change when the sun is directly overhead?
- How does the shadow look in the evening before the sunset?

• Long shadows, short shadows

In the morning, the sun rises in the east. Before the sun rises, we can see various shades of colours in the sky to the east. When the sun rises, its light is soft. The shadows fall to the west and they are long.

The sun gradually begins moving higher in the sky. Shadows become shorter. When the sun is directly overhead, shadows are very short.

The sun slowly begins shifting to the west. The shadows begin moving to the east and become longer. After the sun sets, various shades of colours are seen in the sky to the west.

At other times the sky is blue.

Do you know ?

People specially go to see the sunset at scenic places. Mahabaleshwar in Satara district is a famous hill station. A spot in Mahabaleshwar is very well-known for its view of the sunset.

Tourists visiting Mahabaleshwar make it a point to visit to the Sunset Point in the evenings to experience the spectacular sunset.

A Sunset

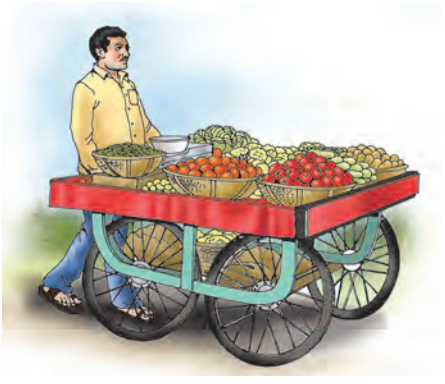
• From dawn to night-time

Birds are the first to sense the end of the night. Their chirping begins from early dawn. If there is a rooster nearby, you can hear it crow.

The birds leave their nests. They start flying in flocks and begin to search for food.

Buds, too, begin to blossom gradually. Their petals start unfolding. The flowers have sweet nectar. Bees come to collect it. Butterflies, beetles and other insects start hovering around the flowers.

People around us set themselves to work too. We also get ready to go to school.



Cowherds take cows and buffaloes out to graze. Once their stomachs are full, they sit in a quiet place and ruminate. In the evening, the cattle return to their sheds. Flocks of birds return to their nests. We return home from school.

But, some nocturnal animals set out to search for food after the sun sets. Moths, crickets and glow-worms are some such animals. Tigers, bats and owls are also nocturnal animals. Raatrani (queen of the night) and rajanigandha (tuberose) are flowers that bloom at night.

New terms :

Rumination : Some animals graze until their stomachs are full. Later, they bring back the swallowed food into their mouth again, a little at a time, and chew it. Then they swallow the chewed food a second time. This is called rumination or chewing cud. Rumination helps them to digest their food properly. Cows and buffaloes are animals that ruminate.

Nocturnal : Some animals sleep during the day. They search for food at night. Such animals are called nocturnal animals.

Bat

Owl

Raatrani

Try this.

- Find an open space from where you can see the sky clearly.
- Go there at a fixed time every evening for a week.
- Do you see the moon in the same place every evening?
- Does the shape of the moon look the same every evening?

Phases of the moon

The moon rises at different times every night. If you search for the moon at a fixed time every evening, you will see it in different places. The shape of the moon also changes every day.

Phases of the moon

The day the moon looks completely round is called the day of the full moon. For fifteen days after that, it appears to become smaller and smaller. On the fifteenth day, it cannot be seen at all. That is called the day of the new moon.

After the day of the new moon, the moon appears to grow bigger and bigger for fifteen days and is completely round again on the day of the next full moon.

The different shapes of the moon that we can see every day are called the phases of the moon.

What we have learnt –

- When the sun rises, there is light. Then, it is day. When the sun sets, it becomes dark and it is night.
- The sun rises in the east and sets in the west.
- In the morning, shadows fall to the west and are long. When the sun is directly overhead, shadows become very short. In the evening, shadows become long and fall to the east.
- The daily routine of all living things is connected to day and night.
- The shape of the moon and the time at which it rises, change every day. The different shapes of the moon are called the phases of the moon.
- The day on which the moon is completely round, is called the full moon day. The day on which the moon cannot be seen is called the new moon day.

Always remember –

All living things are connected to the cycle of day and night. Therefore, there must be regularity in your daily routine.

Exercises

A. What can be done?

- Slices of amla are to be kept to dry in a place that receives sunlight all day.

B. Think and tell.

- When your shadow is very short, where is the sun in the sky?
- What is meant by ‘crescent moon’ ?
- After how many days does a new moon follow another new moon?
- Make a list of flowers which bloom in the morning.

C. Observe and complete the table.

On a clear day, go to an open field near your school. Find a tall object like a pillar, a tree or a flagpole, or erect a pole in the courtyard of your school. Write your observations in the table.

Date: __/__/____

Time	8.30 am	10.30 am	12.00 pm	1.30 pm	3.30 pm
Length of the shadow					
Direction of the shadow					

What do you learn from these observations ? Write your conclusions under the table.

D. Fill in the blanks.

(1) Bats are …….. animals.

(2) When their stomachs are full, cows and buffaloes sit in a peaceful place and ……...

(3) …….. are the first to sense the end of the night.

(4) When the sun rises, its light is …….. .

E. Answer the following questions :

(1) When do shadows become long?

(2) What are shadows like when the sun is directly overhead?

(3) After the day of the new moon, for how many days does the moon grow bigger?

(4) Why do bees hover around flowers?

F. True or false?

(1) The moon cannot be seen on the day of the new moon.

(2) Some living things set out to search for food after the sun has set.

(3) The day when the moon looks triangular is the day of the full moon.

(4) Birds start chirping at dawn.

(5) The sun gradually shifts towards the east.

G. What are the following called ?

(1) The different shapes of the moon seen every day.

(2) Animals that rest during the day and search for food at night.

(3) The day on which the moon is completely round.

(4) The day on which the moon cannot be seen.

Activity

Make a list of animals that ruminate. Find their pictures and paste them neatly in your notebook.

26. As we Go from the Third to the Fourth Standard

Can you tell ?

- When you are grown up, what do you want to be?

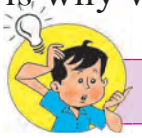
In a previous lesson, you drew a picture of how you would look after 20 years. That was imaginary, because no one knows how you will look after 20 years. However, what do you wish to be when you grow up? What do you want to achieve? That is something you can decide for yourself. But, to achieve it, you must learn a lot. You will have to work very hard.

Learning does not mean only going to school. We learn at school, of course. But we also learn from our elders at home. We can learn from the environment, too. That is why we study the environment.

• Caring for the environment

Our environment does not belong to us alone. It belongs to others, too. It takes care of all our needs. That is why taking care of the environment is our duty. We must take care of ourselves, our home and our school to begin with. Then all our surroundings will become beautiful.

We must use the things we receive from the environment carefully. That is why we must never waste food or water.



Use your brain power !

- What will happen if we pluck flowers in a public garden?
- What will happen if we throw garbage from our homes on to the road?
- Why must we not carve our names on the walls of historical monuments?
- Why must we not throw plastic carry bags and bottles here and there?

Can you tell ?

- What do you like about your environment and why?

• Our house and home

Have you ever watched birds building their nests? They work very hard for their little ones, don't they? Members of your family also work hard for you.

You should be affectionate towards them. You should learn to respect elderly persons. We must contribute to the work that our parents and other members of our family have to do.

We must treat all women with respect, whether they belong to our family or not.

Use your brain power !

- Why do your parents tell you to behave yourself ?
- Do you ask if your parents have eaten well ?
- What can you do to help the adults in the house ?
- How do you help when someone at home is not feeling well ?

• Think and tell.

What does it mean to depend on one another ?

• Components of the environment

Plants and animals are all components of the environment. We are also a part of the environment. Everybody should be able to live a happy and contented life. Everyone must feel safe and secure. What we do and how we behave affects our environment.

Try this.

Apply ink on your fingertips. Get their impressions on a piece of paper. Do your fingerprints and those of your friends look different?

Look at two leaves on the same twig. Do you see any differences?

• How to behave with one another

All the leaves of one tree are not identical. Some of them are big,while some are small. Some have slightly different colours. All flowers are not exactly similar. It is the same with people. Our appearance is different from that of all others. In fact, our fingerprints do not match those of anyone else in the world. There is something unique about each person. We should not consider anyone inferior to ourselves.

You must have seen that some trees are big and strong. Some climbers have a weak stem. Big trees support the climbers. We must support each other in the same way.

Do you know ?

India won Independence on the 15th of August 1947.

• Independence

We celebrate our Independence Day on the 15th of August every year. We must be proud of the fact that our country is independent. We have freedom of thought in our country. We have a right to choose what to study when we grow up. We can choose our occupation. All the citizens of our country have equal rights.

However, independence does not mean that we can behave as we wish. Look at Nature. Everything in Nature follows rules. Ants walk in a queue. Bees are constantly working.

We must be good citizens of independent India. For this, we must have honesty, punctuality, perseverance and discipline. Good habits that are cultivated in childhood are of great use when we grow up.

Use your brain power !

What are the advantages of a queue over a crowd ?

We can learn a lot by studying the environment. You will continue to learn more about it in higher classes.

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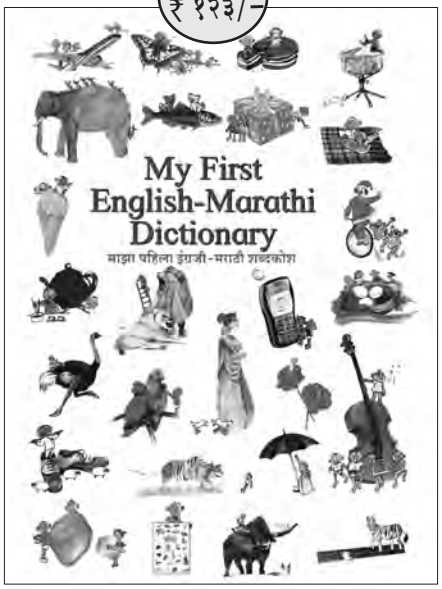

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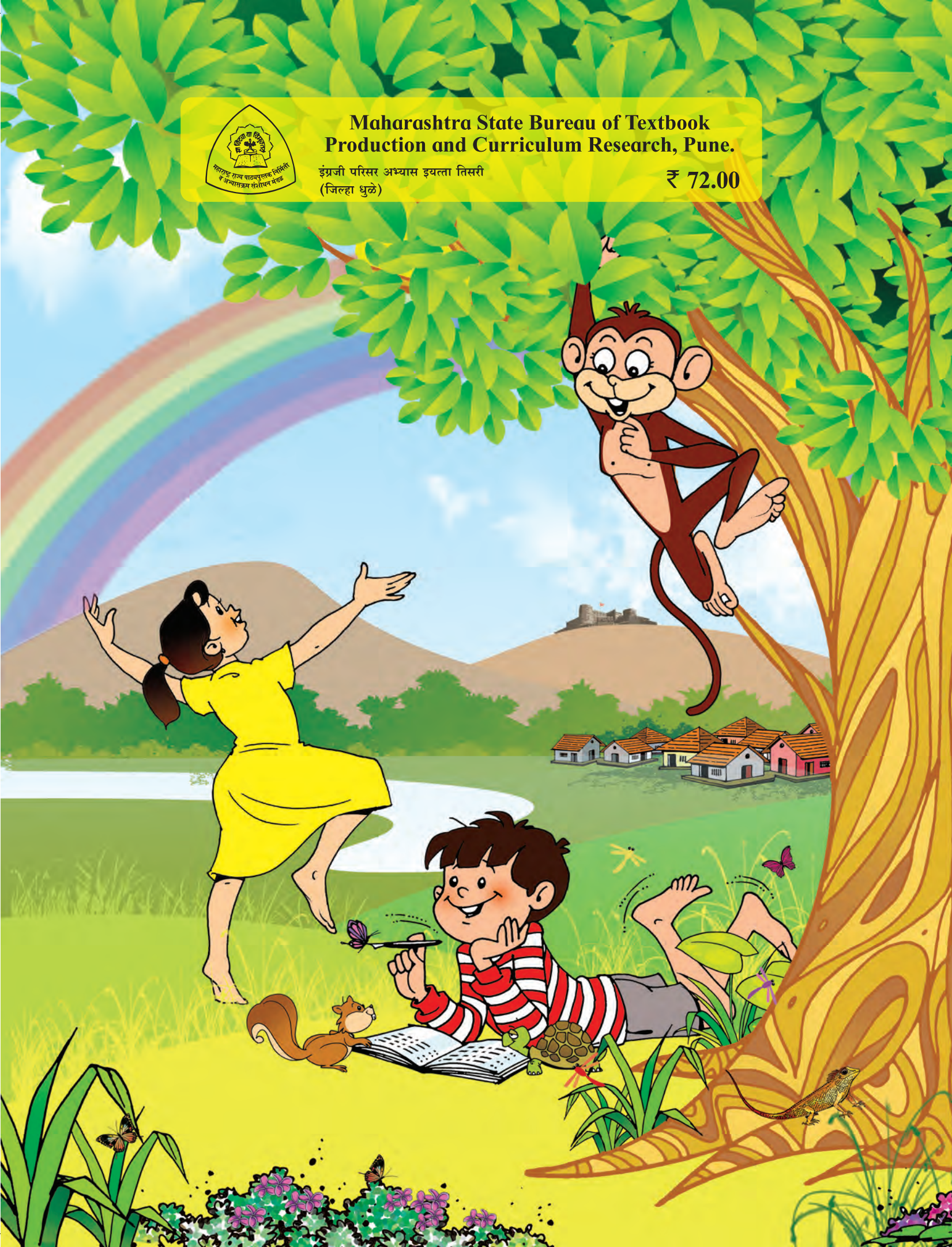

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