GOVERNMENT OF KARNATAKA

ENVIRONMENTAL STUDIES

TEXT CUM WORK BOOK

(REVISED)

PART-1

ENGLISH MEDIUM

4

FOURTH STANDARD

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KARNATAKA TEXTBOOK SOCIETY (R.)
6th Cross, Malleshwaram,
Bengaluru - 560 003

Preface

The Textbook Society, Karanataka has been engaged in producing new textbooks according to the new syllabi prepared which in turn are designed based on NCF - 2005 since June 2010. Textbooks are prepared in 12 languages; seven of them serve as the media of instruction. From standard 1 to 4 there are the EVS, mathematics and from 5th to 10th there are three more core subjects namely mathematics, science and social science.

NCF - 2005 has a number of special features and they are:

- connecting knowledge to life activities.
- learning to shift from rote methods.
- enriching the curriculum beyond textbooks.
- learning experiences for the construction of knowledge.
- making examinations flexible and integrating them with classroom experiences.
- caring concerns within the democratic policy of the country.
- making education relevant to the present and future needs.
- softening the subject boundaries-integrated knowledge and the joy of learning.
- the child is the constructor of knowledge.

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The new books are produced based on three fundamental approaches namely Constructive Approach, Spiral Approach and Integrated Approach.

The learner is encouraged to think, engage in activities, to master skills and competencies. The materials presented in these books are integrated with values. The new books are not examination oriented in their nature. On the other hand they help the learner in the all round development of his/her personality, thus helping him/her become a healthy member of a healthy society and a productive citizen of this great country, India.

Young learners in their initial stages of learning i.e., between the ages of 5 and 10, acquire most of the concepts which they need in consolidating learning in later stages. If this learning is properly planned and well executed in the classroom, children may find learning easy and enjoyable.

Based on these principles, in the early stages from class 1 to 5, the following subject areas have been introduced- Mother tongue, state language, English as a practice language, mathematics and environmental studies. Environmental studies include science and social science related to their daily life experiences, information about their environment, society, country, their duties and rights. These topics are presented through interesting situations and activities. Opportunities have been provided for self learning and creativity. At this stage importance is given to children sitting in pairs and groups and to exchange their experiences. The efforts have been made to make illustrations colourful, attractive and meaningful. Teachers are expected to make use of these and help children learn meaningfully and with pleasure. The textbooks aim at making learning interesting, enjoyable and satisfying.

The Textbook Society expresses grateful thanks to the chairpersons, writers, scrutinisers, artists, staff of DIETs and CTEs and the members of the Editorial Board and printers in helping the Text Book Society in producing these textbooks.

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CONSTITUTION OF INDIA

Part III (Articles 12 – 35)
(Subject to certain conditions, some exceptions and reasonable restrictions)

guarantees these

Fundamental Rights

Right to Equality

- before law and equal protection of laws;
- irrespective of religion, race, caste, sex or place of birth;
- of opportunity in public employment;
- by abolition of untouchability and titles.

Right to Freedom

- of expression, assembly, association, movement, residence and profession;
- of certain protections in respect of conviction for offences;
- of protection of life and personal liberty;
- of free and compulsory education for children between the age of six and fourteen years;
- of protection against arrest and detention in certain cases.

Right against Exploitation

- for prohibition of traffic in human beings and forced labour;
- for prohibition of employment of children in hazardous jobs.

Right to Freedom of Religion

- freedom of conscience and free profession, practice and propagation of religion;
- freedom to manage religious affairs;
- freedom as to payment of taxes for promotion of any particular religion;
- freedom as to attendance at religious instruction or religious worship in educational institutions wholly maintained by the State.

Cultural and Educational Rights

- for protection of interests of minorities to conserve their language, script and culture;
- for minorities to establish and administer educational institutions of their choice.

Right to Constitutional Remedies

- by issuance of directions or orders or writs by the Supreme Court and High Courts for enforcement of these Fundamental Rights.

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About the book

This text book is developed based on the guidelines of the National Curriculum Frame work(NCF-2005), set by the National Council of Educational Research and Training(NCERT) considering the progress in the research and development and the new challenges that humankind is likely to face in the years to come.

While attempting to adopt the NCF 2005 framework to the text books of 'Environmental Studies' for classes 3 and 4 for the State of Karnataka, we have taken into account the socio-economic, environmental and cultural aspects of the State for easy connect and better understanding. We have tried integrating the science and social science concepts by softening the subject boundaries in the text books of Environmental Studies. The idea is that the children should view the natural and the social environments in a holistic manner from the beginning of the school education. We have included a wide range of topics from family to plants and animals to festival on the lines of the NCF 2005 guidelines.

As students move from 2nd standard to higher standards, their observation skills using their senses to gather and record information improve. During this stage, the students are able to observe, explore, experiment, read, write, possess the knowledge of numbers, appreciate, empathise and ask questions about their immediate environment. They start understanding the perspectives. Students discover wider range of things and phenomena, though still predominantly focussed on their immediate environment and day-to-day experiences. They begin to make links and apply knowledge of environment to their daily life. Considering these developments, we have introduced some of the basic concepts of their immediate natural and social environment in the textbooks. We have designed these books with objective of familiarizing children with their surroundings / local knowledge so that they start appreciating the environment they are living in and value every component that comes with it. We also have included simple activities involving observation, measurements, analysis, synthesis to engage them in the learning process and make the learning exciting and participative. The idea is also to stimulate children to enquiry - based learning. We have tried our best to make these books gender neutral in terms of language and presentation of the concepts. At the beginning of every lesson, we have given the competencies that the children should develop after each lesson, to help teachers facilitate the learning process. We have made the books as attractive as possible with illustrations. This has an added advantage of making communication simple and easy.

While the thought provoking para of Rabindranath Tagore from 'Civilization and Progress', which NCF 2005 opens with, is indeed inspiring for every teacher to search and adopt new and innovative teaching-learning approaches, encouraging children's creative spirit and enquiry-based learning, we welcome comments and suggestions from the teachers, parents and public for further refinement.

Environment Education is that Education of the Environment, through the Environment and for the Environment, natural and social.

Dr. R. Shailaja,
Chairperson, Text Book Committee.

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About the Revision of Textbooks

Honourable Chief Minister Sri Siddaramaiah who is also the Finance Minister of Karnataka, in his response to the public opinion about the new textbooks from standard I to X, announced, in his 2014-15 budget speech of constituting an expert-committee, to look into the matter. He also spoke of the basic expectations there in, which the textbook experts should follow: "The textbooks should aim at inculcating social equality, moral values, development of personality, scientific temper, critical acumen, secularism and the sense of national commitment", he said.

Later, for the revision of the textbooks from class I to X, the Department of Education constituted twenty seven committees and passed an order on 24-11-2014. The committees so constituted were subject and class-wise and were in accordance with the standards prescribed. Teachers who are experts in matters of subjects and syllabi were in the committees.

There were already many complaints, and analyses about the textbooks. So, a freehand was given in the order dated 24-11-2014 to the responsible committees to examine and review text and even to prepare new text and revise if necessary. Eventually, a new order was passed on 19-9-2015 which also give freedom even to re-write the textbooks if necessary. In the same order, it was said that the completely revised textbooks could be put to force from 2017-18 instead of 2016-17.

Many self inspired individuals and institutions, listing out the wrong information and mistakes there in the text, had send them to the Education Minister and to the Textbook Society. They were rectified. Before rectification we had exchanged ideas by arranging debates. Discussions had taken place with Primary and Secondary Education Teachers' Associations. Questionnaires were administered among teachers to pool up opinions. Separate meetings were held with teachers, subject inspectors and DIET Principals. Analytical opinions had been collected. To the subject experts of science, social science, mathematics and languages, textbooks were sent in advance and later meetings were held for discussions. Women associations and science related organistation were also invited for discussions. Thus, on the basis of all inputs received from various sources, the textbooks have been revised where ever necessary.

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Another important aspect has to be shared here. We constituted three expert committees. They were constituted to make suggestions after making a comparative study of the texts of science, mathematics and social science subjects of central schools (NCERT), along with state textbooks. Thus, the state text books have been enriched based on the comparative analysis and suggestions made by the experts. The state textbooks have been guarded not to go lower in standards than the textbooks of central school. Besides, these textbooks have been examined along side with the textbooks of Andhra Pradesh, Kerala, Tamil Nadu and Maharashtra states.

Another clarification has to be given here. Whatever we have done in the committees is only revision, it is not the total preparation of the textbooks. Therefore, the structure of the already prepared textbooks have in no way been affected or distorted. They have only been revised in the background of gender equality, regional representation, national integrity, equality and social harmony. While doing so, the curriculum frames of both central and state have not been transgressed. Besides, the aspirations of the constitution are incorporated carefully. Further, the reviews of the committees were once given to higher expert committees for examination and their opinions have been inculcated into the textbooks.

Finally, we express our grateful thanks to those who strived in all those 27 committees with complete dedication and also to those who served in higher committees. At the same time, we thank all the supervising officers of the Textbook Society who sincerely worked hard in forming the committees and managed to see the task reach its logical completion. We thank all the members of the staff who co-operated in this venture. Our thanks are also due to the subject experts and to the associations who gave valuable suggestions.

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LESSON – 1

THE ANIMAL KINGDOM

N1U8S2

After studying this lesson you will be able to,

- *identify the similarities and differences between human beings and animals (external characteristics).*
- *understand the relationship (mutual dependance) between human beings and animals.*

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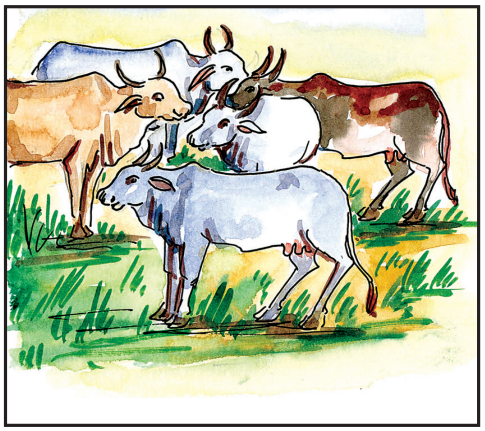
In your previous class, you have learnt about different animals. You know that birds and insects are also animals. Do you know that we, human beings, are also animals? Observe the animals that you see around you. Identify the similarities that you find between animals and yourself.

1)_____

2)_____

3)_____





Look at the given pictures. Observe the differences between you and a cow.

Write the differences that you have observed in the table given below.

Me	Cow

Vanaja, of class 4, is a smart girl. She has made a list of animals that she saw when she went on a field trip with her teacher. But she has forgotten to write their size, colour, food and dwelling. You write them.

Sl. No.	Name of the animal	Size	Colour	Food	Dwelling
1.	cow				
2.	fish				
3.	crane				
4.	butterfly				
5.	monkey				
6.	garden lizard				
7.	rabbit				
8.	grasshopper				
9.	tortoise				
10.	bat				

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Fill in the blanks :

- A few animals like fish live in _____.
- Monkeys, birds and insects live on _____ .
- Many animals like _____ and _____live on land.

Different animals eat different kinds of food.

- Animals which eat the products of plants such as grass, leaf, etc. are called _____ .
- Animals which eat flesh, egg and other products of animals are called _____ .
- Animals which eat products of both plants and animals are called _____ .

Observe the size of the animals you see around you. Spill a few grains in the yard of your house. Sit far away and observe the shapes and sizes of the birds and insects that come to eat those grains.

- Which animal is the milk used in your house got from?

_____

- Make a list of the food items used in your house. Draw a circle around the food items which are obtained from animals.

_____, _____, _____, _____, _____,

_____, _____, _____, _____, _____.

- Write 5 uses of animals.

_____

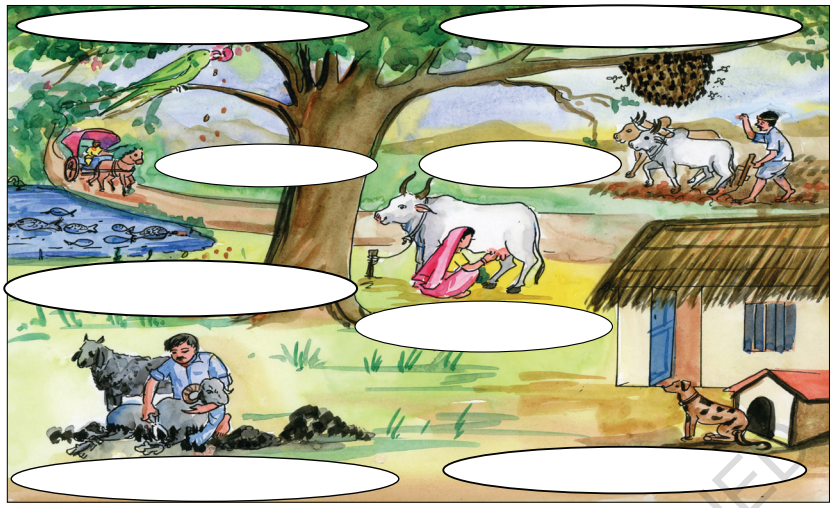
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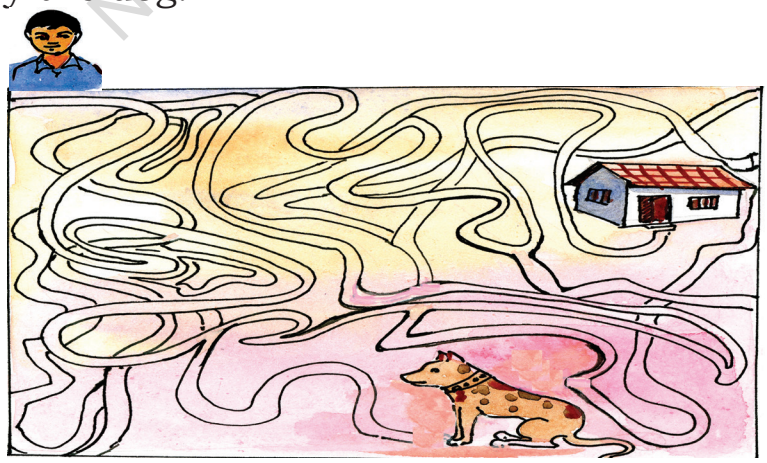
The picture given above shows how the animals are useful to us. Write these uses in the space provided in the picture.

Do you rear animals in your house? How do you look after them?

_____

_____

Sathish and Joseph are friends. Sathish has come to Joseph's house to meet him. A dog is guarding Joseph's house. Help Sathish to reach Joseph's house without being caught by the dog.



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Match the following:

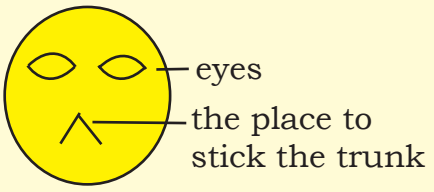
Animal	Use
ox	wool
buffalo	ploughing
sheep	honey
hen	milk
horse	eating dead animals and keeping the environment clean.
honey bee	horse carriage(jutka)
fish	egg
eagle	eating insects in water and keeping the water clean.

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Do it yourself.

Here are a few tips to make an elephant's mask.

1) Draw a line like the face of an elephant on a thick card board or a sheet of paper as shown in the picture. Let that mask be a little bigger than the dimension of your face. Mark holes for the eyes, as shown and cut it.

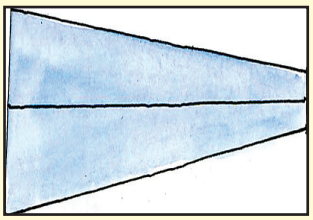


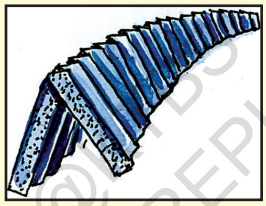
2) Draw the shape of ears on another cardboard or a sheet of paper as shown in the picture and cut it. Paint the face and the ears. Stick the ears to its place.

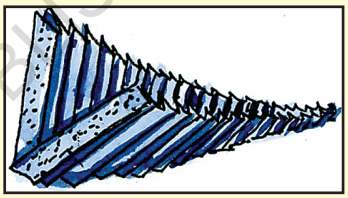


3) Take a long cardboard or a sheet of paper to prepare the trunk. Paint this sheet. Fold it in the middle. Cut it and let one side be broader than the other.

Fold the paper from one side as shown in the picture. Press the foldings for some time.



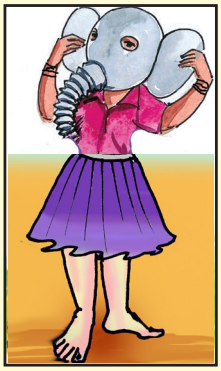




Stick the broad side of the paper to the part of the trunk. Make small holes on both sides of the mask. Tie a piece of thread, joining both the sides.

4) Now the mask is ready. Put it on your face and enjoy.





(Prepare the mask of different animals with the help of your friends and enjoy.)

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Who am I ?

• *I have colourful feathers. I am the village clock.*	
• *I am big with a large belly. I have tails both at the front and the back.*	
• *I have a very small, smart body, long ears and small whiskers. I hop swiflty.*	
• *I climb the top of the tree, where no one can climb. I eat fruits.*	
• *I am the aunt of the tiger. I eat rats.*	

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Do you know this ?

- *The tiger is the national animal of India. Now-a-days the number of tigers is decreasing. The Project Tiger, a project of the Government of India, is to preserve tigers.*
- *The number of insects is very large in the animal kingdom.*
- *A cheetah can run upto 120 km per hour.*
- *The blue whale, which is 33 m long, is the biggest animal in the animal kingdom.*
- *Some animals like chameleon and leaf insects change their colour to suit their environment and protect themselves from enemies.*



LESSON – 2

HONEY, SWEET HONEY

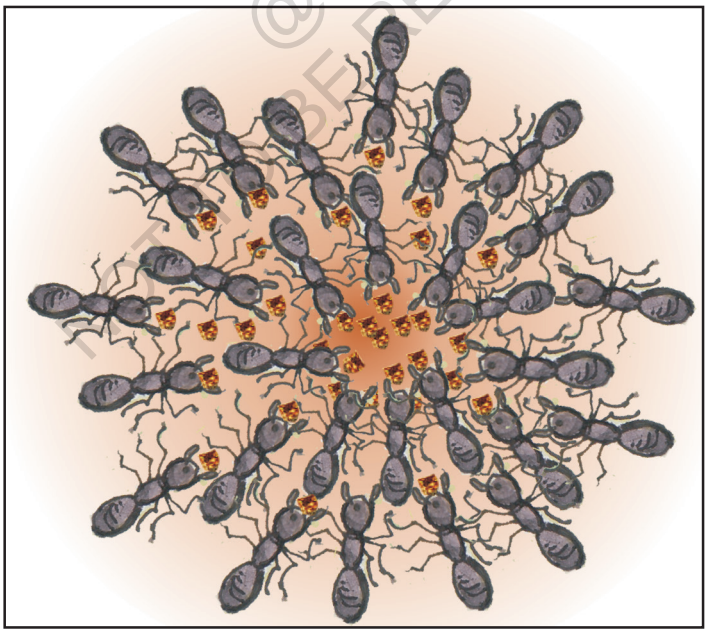
Y9E7I8

After studying this lesson you will be able to,

- *observe the behaviour of animals.*
- *know the process of collecting honey and its uses.*

Children were standing in a corner in the village fair eating some sweetmeat. A few pieces of sweetmeat fell on the ground. Soon a few ants gathered around the pieces of sweetmeat to eat.

Fathima : Look here Radha, how many ants have gathered around the pieces of sweetmeat!

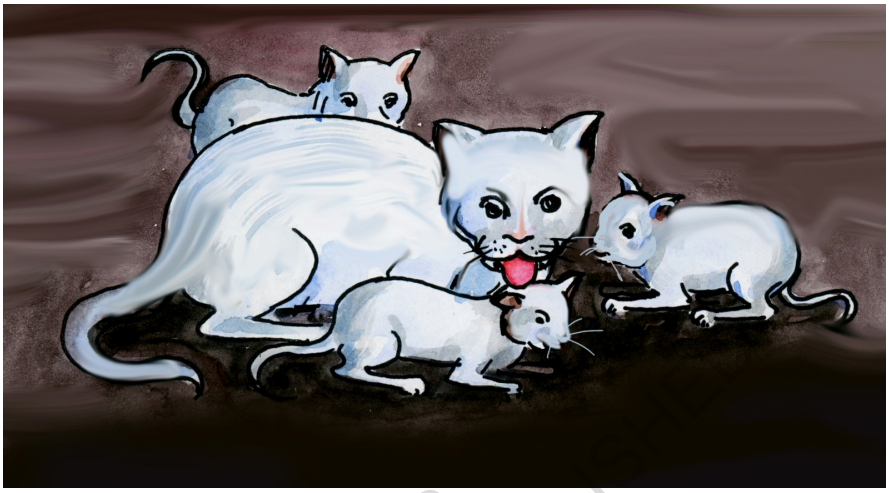


Radha : Yes, Fathima. See, how unitedly they are carrying their food.

Tejas : Oh! Look, there. How lovely the kittens are!

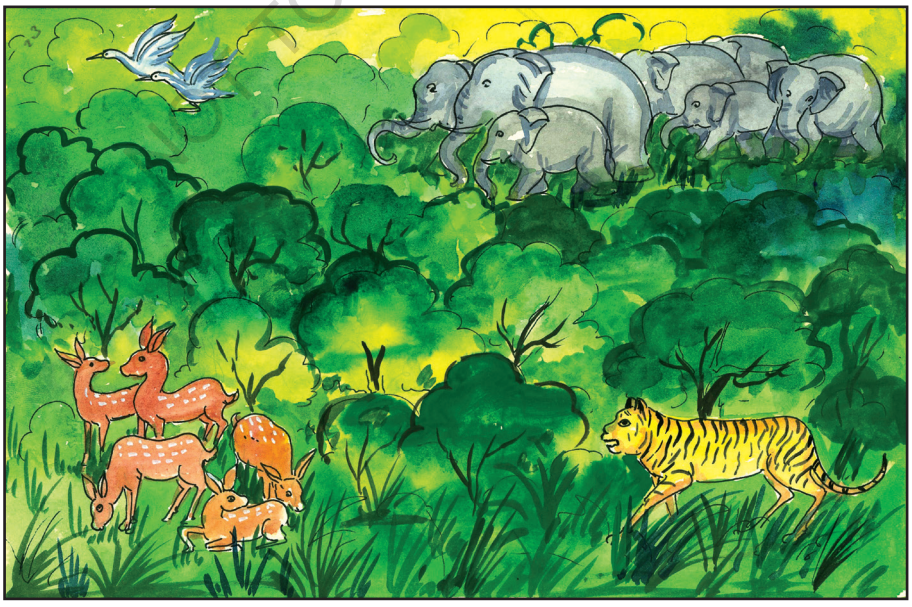
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Fathima : Oh! How white they are! The cat is licking the kitten with love.



Radha : Animals also live together like human beings, don't they?

Tejas : Yes, my father told me that most of the animals live together. Once, when I had been to Nagarahole forest, I saw a herd of deer and elephants also in groups. I saw a tiger also. But it was all alone.



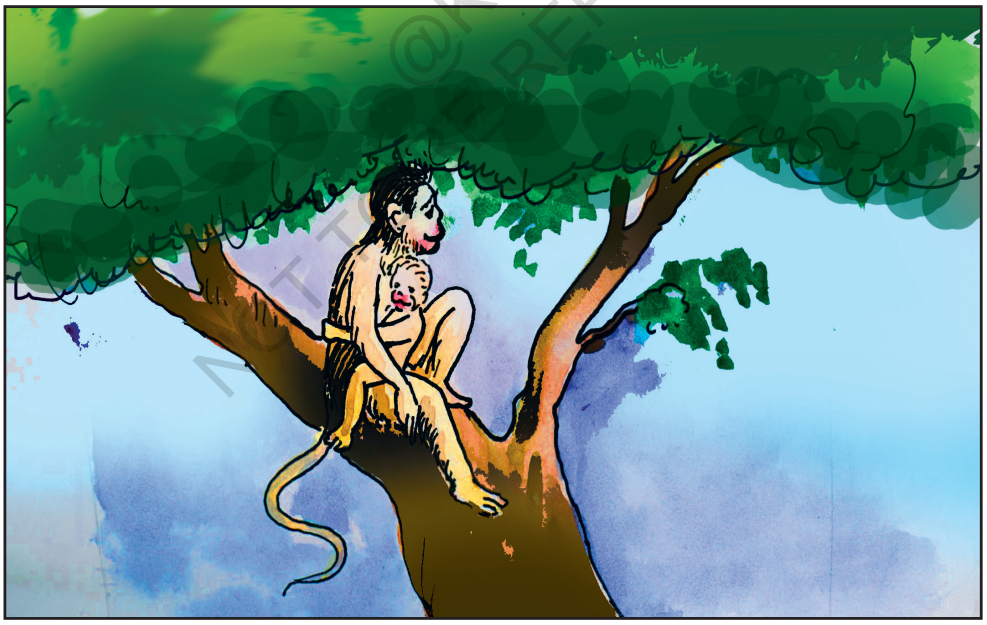
Fathima : Look at the dogs fighting for a piece of bread.

Radha : Look at the sky. The birds are flying together.



Tejas : Yes, Radha. Look at the tree! The monkey is sitting on a branch.

Fathima : The baby monkey is holding on to the belly of its mother.

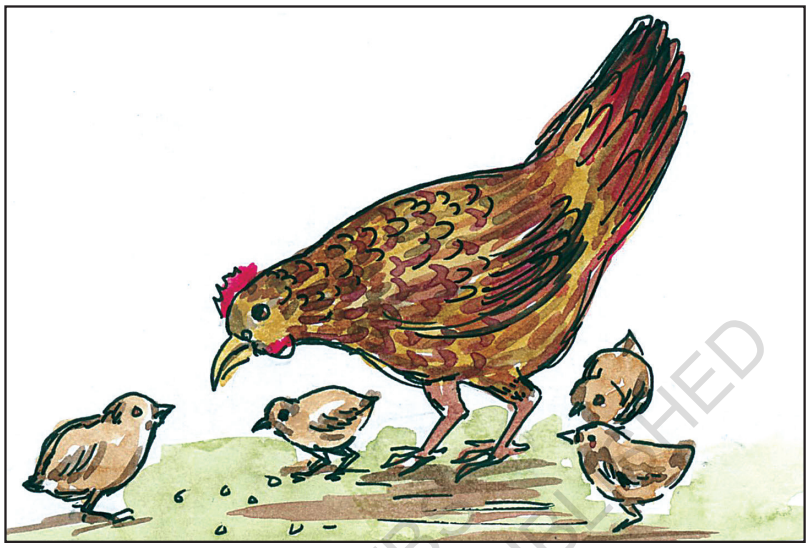


Radha : Oh! What if the baby monkey falls down?

Tejas : No, the baby monkey is holding its mother very firmly.

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Radha : Look there, Tejas. The hen is teaching its chicks how to search for food.



Observe the behaviour of animals around you as these children have done.

Fathima : Look at the honey bee, sucking nectar from a flower.



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Radha : Come, let us talk to the honey bee.

Tejas : Honey bee, honey bee, where is your hive?

Honey Bee : Look there, my hive is in that tree.



Tejas : We see only the bees there.

Honey bee : That is my family.

Fathima : What! You have such a big family!

Honey bee : Yes, there are thousands of bees in a family. There is one queen bee and the rest are worker bees. The worker bees build the hive, collect food, look after the queen bee, etc. The work of the queen bee is only laying eggs.

Radha : Oh!

Tejas : Your hive looks very beautiful!

Honey bee : We produce a sticky material called wax. We build the hive with the wax. We build it on the branches and in hollows of trees, terrace of the big buildings etc.

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Fathima : Your food is the nectar of the flowers, isn't it?

Honey bee : Yes, we store the nectar in the hive and eat it when we need food. It is the honey.

Tejas : I too like honey. My grandmother told me that it has medicinal qualities.

Honey bee : True. Do you know that all the honey you eat is not pure? People mix jaggery or sugar syrup to honey and sell it.

Fathima : Then how do we find out whether the honey is pure or not?

Honey bee : Do this.

Do it yourself

Take a glass tumbler. Put some water in it. Add two or three drops of honey into the water. If it mixes with water before it settles down, it is not pure honey. If it settles down and mixes with water very slowly, then it is pure honey.

Now, do you know which is pure honey?

Tejas : Oh!

Honey bee : Oh! It's getting late. I have to collect the nectar. I have to leave you children.

Radha : All right, honey bee. Let us meet again.

Fathima : Do you know I have seen small bees. They build a hive in the space between the stones.

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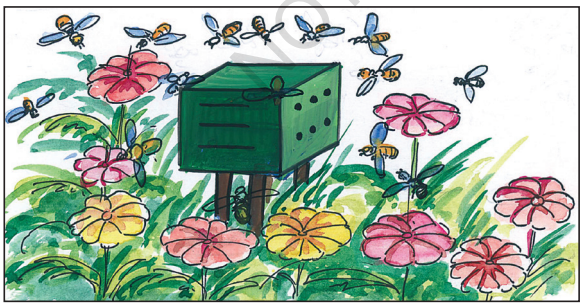




Observe the pictures. The size of the bees and the type of the hives are not same. Observe the different types of bees and hives around you.

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Tejas : I have seen the rearing of bees and collection of honey near Nagarahole forest.





Fathima : Wooden honey boxes are kept in gardens. People get the honey collected in it.

Tejas : Yes, I have seen such boxes in my uncle's garden.

Radha : A lot of honey is used at home. I like honey very much.

Tejas and Fathima : We like it too.

Radha : My grandfather tells me that there are other products from the hive.

Do you use honey at home? For what purpose do you use it ?

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Sing and enjoy

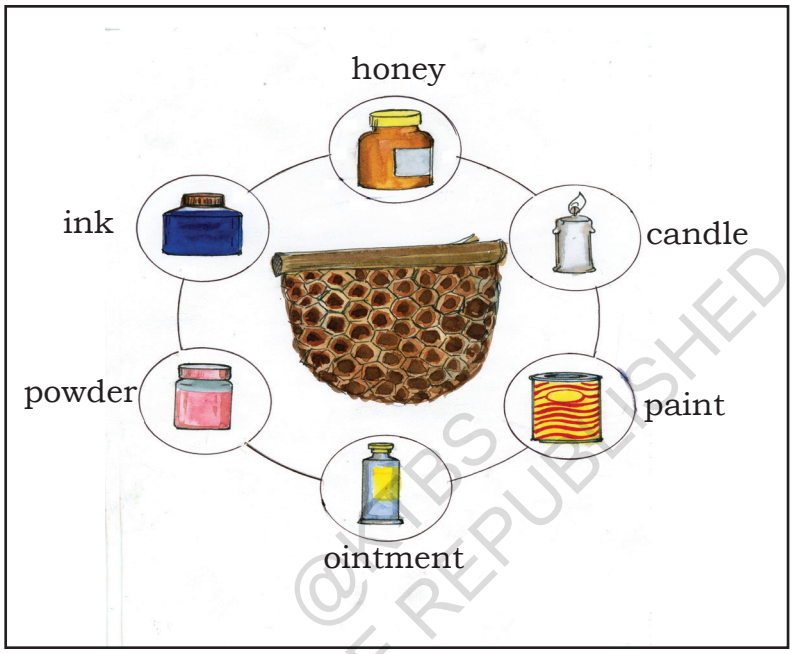
Bees are going in big big swarms
from flower to flower, here and there
Collecting nectar. Oh! So sweet
And then they return to their combs.

Bees, Bees, big and small
How good they look in varieties though!
Producing lots of wax and honey
Only for us, not themselves.

Preserve the bees who produce honey
Bees are our dear, dear friends
They provide honey for our health
Its use is unlimited.

Which are the other things availabe to you from the hive?

Look at the picture and understand.



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Do you know this?

- *A honey bee collects nectar from 50 to 100 flowers in one round.*
- *The only food that man eats produced by the insects is honey.*
- *As the ants and white ants burrow the ground and allow the air to pass into the soil, the plants grow luxuriantly.*
- *Hives, nests, ant-hills, termitaria and spiders' web etc., are the wonderful constructions of the animal kingdom.*
- *The ant which carries leaf on its back to protect itself from the sunlight is called umbrella ant (sauba ant).*

LESSON – 3

GO AROUND THE FOREST

T6N9C8

After studying this lesson you will be able to,

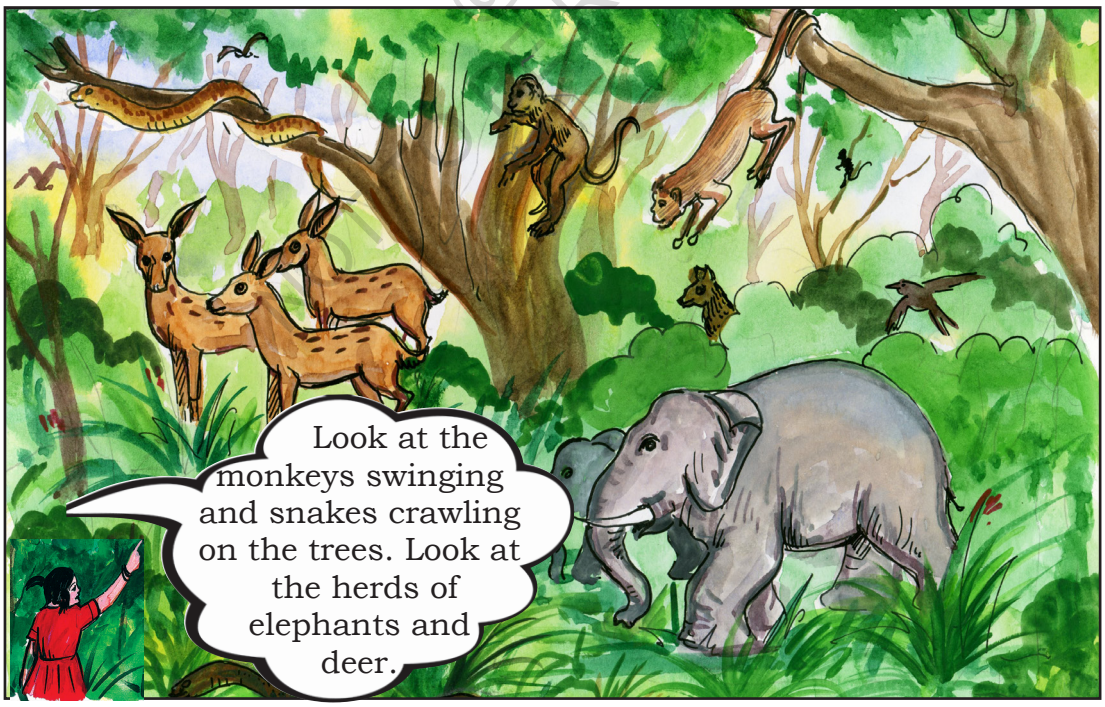
- *know about trees that are near the house and in the forest.*
- *know about the fruits available in the forest.*
- *develop the attitude of not felling the trees, as they are ours.*
- *realize the necessity of growing trees.*

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Sita lives with her family on the outskirts of a forest. Besides her family, there are many other families too. Sita loves the forest and the trees in the forest. Now she will introduce the forest where she lives. Listen to her.

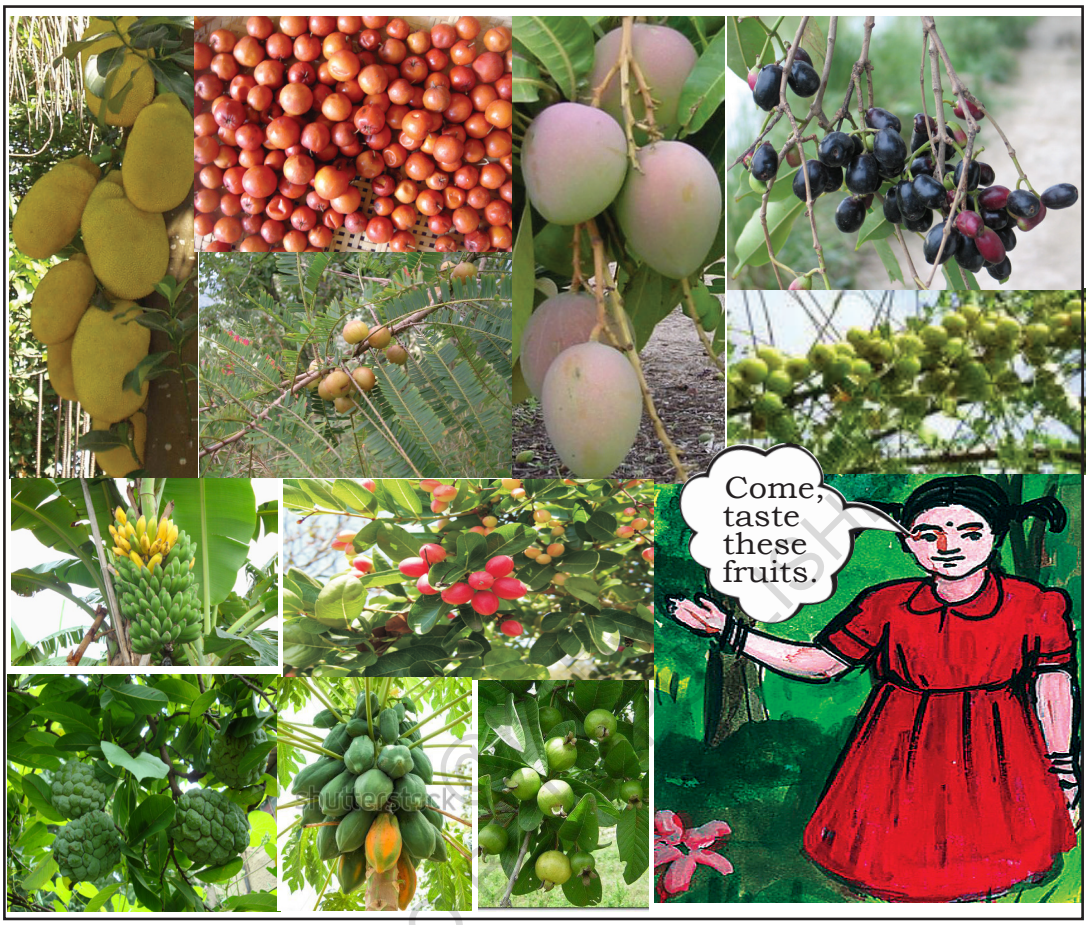



See, here are teak, sandalwood, matti and honne trees. They are surrounded by creepers with fragrant flowers.


Look at the monkeys swinging and snakes crawling on the trees. Look at the herds of elephants and deer.


Trees provide shade for all.


Oh! Sweet fruits. Have you ever tasted these fruits?



Draw a circle around the fruits you have eaten in the picture given above.



Make a list of fruits which are available or grown in your locality.

_____ , _____ , _____ , _____ , _____ ,

_____ , _____ , _____ , _____ , _____ .

Do you know that the trees in the forest provide us with so many things? Look at the picture and know this. Write the names of the things given in the picture under them.



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In your previous class, you have learnt about the trees. Name 10 trees that grow in your place. Do these trees grow in the forest also? Ask from your elders.

_____ , _____ , _____ , _____ , _____ ,

_____ , _____ , _____ , _____ , _____ .

Make a list of 5 trees that grow in your place and in the forest.

Trees that grow in your place	Trees that grow in the forest
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

Observe the trees in the pictures. Write two uses of each tree in the space given. Take the help of elders.



Teakwood tree

_____

_____



Sandalwood tree

_____

_____



Jamboo tree

_____

_____



Banyan tree

_____

_____

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Pongamia



Neem tree



Gooseberry



Bamboo

You already know the things obtained from the forests. What will happen if the forest is destroyed? Think and answer.

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Know this

In the previous class, you have learnt about the Appiko Movement. Do you know the reason for this movement? In the Western Ghat region of our state, the destruction of forests has increased due to paper industry, plywood industry, hydro-electric plant construction of dams, etc. As a result of this, the forests that existed for many generations were destroyed. This affected the life of the people. Angered by this, people embraced the trees whenever someone came to cut down the trees and prevented the destruction of the forest. Their desire for conserving the forest was successful. The forest department accepted their demand for growing more trees and plants. Cutting down trees and use of forest products were prohibited. The slogan of Appiko Movement was ***Save forest, Grow forest and Use forest.***

Answer the following questions in brief.

1. What is a forest? Write your opinion.

   _____

   _____

2. Write the name of 5 plants that grow generally in forests.

   _____, _____, _____, _____, _____

3. Write the name of 5 animals that live in forests.

   _____, _____, _____, _____, _____

4. Name 5 fruits that are available in forests.

   _____, _____, _____, _____, _____

5. Write 5 uses of forests.

   _____

   _____

   _____

   _____

   _____

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Practise to grow and protect trees (mango, coconut, etc.) near your house, school and your locality.

Do it yourself

First decide where to plant saplings and how many saplings are to be planted. Whether to plant a sapling that gives fruits or flowers or shade. Then get saplings from the nursery of the forest department or neighbours who have grown such saplings. Otherwise, with the help of your friends, sow the seeds in the school backyard or near your house and allow them to grow. Dig a pit so that the roots are covered and fill half of the pit with soil. Pull out the sapling which is soaked with water from the ground or the plastic bag without damaging its roots. Place the sapling in the pit and fill the pit with soil. Press the soil with your hands near the stem so that the sapling should stand straight and firm. Make a bed around the sapling. Later, pour some water. Put a small treeguard around it, so that it is not eaten by goats and other animals. Water the plant regularly. Take the help of your family members and friends in growing the trees.

Sing and enjoy

Trees add beauty to nature
Lots of greenery and fruits they give Air, Water, Food and Energy
This is what we get from trees
Trees are nature's boon to us.

Sing and enjoy

No land without forests
No fruits without trees
No fauna without fodder
No life without these.

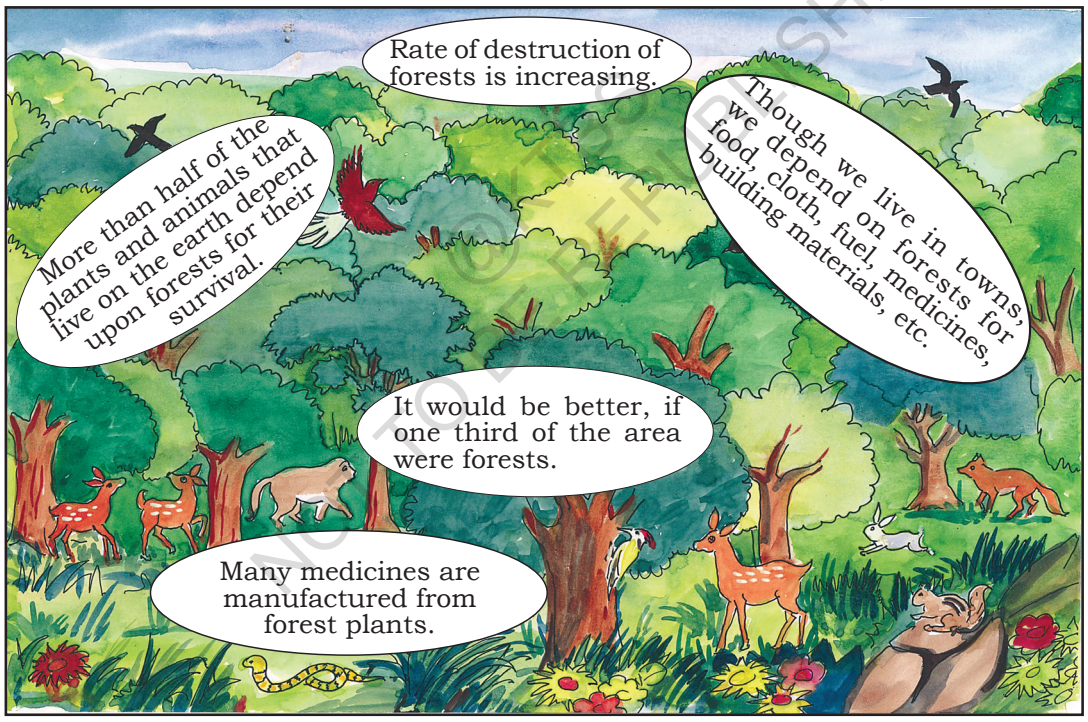
© KSTA NOT TO BE REPUBLISHED

Write the names of trees (saplings) that are planted in the yard of your house or school.

Sl.No.	Name of the tree (sapling)
1.	
2.	
3.	
4.	
5.	

Collect the pictures of trees from the newspapers/ books/magazines. Paste them in your used notebook. Then collect and write the information about those trees.

Sl.No.	Name of the tree	Usefulness
1.		
2.		
3.		
4.		
5.		



Write slogans about conservation of forests.

_____

_____

_____

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Did you know this?

- *Bamboo belongs to the grass family.*
- *Some plants grow from the leaves.*

  ***For example**, Bryophyllum.*



- *The seeds of mangrove plant which grow in the coastal region, germinate on the plant itself. Later on seedings fall on the ground and grow.*
- *The plants such as pitcher plant, Drosera and cobralily eat insects. They are called insect eating (insectivorous) plants.*



Picther plant



Cobralily



Drosera

- *The seed of coco-de-mer is the largest seed in the world. It weighs nearly 18 kg.*



- *Karnataka has 5 National Parks, 5 Bird Sanctaries, and 16 Wildlife sancturies.*

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LESSON – 4

ROOTS - SUPPORT OF THE PLANT

X7E9T1

After studying this lesson you will be able to,

- *make a list of the functions of roots.*
- *observe that the roots of some plants are modified into food.*

You have already learnt about the plant in your previous class. You have also observed different parts of plants. Name the parts of the plant given in this picture.



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Where do the roots of a plant grow?

Have you seen the roots of the plant?

Which plant's roots have you seen?

What is the colour of the root?

Do it yourself

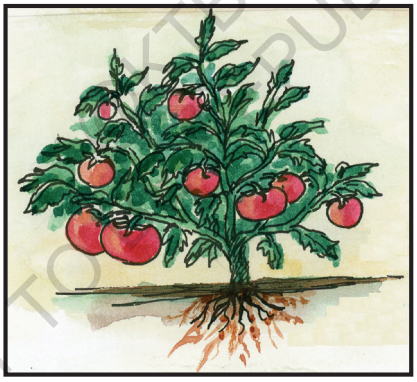
Take two coconut shells or small tin boxes. Fill both of them with soil. Put some ragi or paddy grains in one shell. Don't put anything in the other shell. Sprinkle some water on both the shells daily. The ragi or paddy grains germinate within a week. After seedlings grow bigger, invert both the shells. Observe the soil of both the shells.

Write 2 of your observations here.

_____

_____

Roots bind the soil particles together like a web. This supports the plant to stand straight on the ground.



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Do it yourself

Take some horsegram seeds and sow them in the garden of your school or house. Saplings sprout after a few days. Pull out two such plants gently without damaging and roots. Cut the roots of one plant. Let the other plant be as it is. Take two pots having wide mouths. Make holes at the bottom of the pots so that the excess water can be drained out. Fill both the pots with soil and place one plant in each pot. Keep them in the sunlight and pour sufficient water daily. After, 2 or 3 days observe changes in the plants.

Write 2 of your observations

_____

_____

Plants need water to grow.

Do it yourself

Take a glass bottle or tumbler. Fill it with water. Add one or two drops of red ink or any other colour. Pull out balsam plant from the soil gently without damaging its roots. Wash the roots of the plant and put the plant in the coloured water. Keep it in the sunlight. Observe the plant the next day.



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What did you observe? What is the reason for it?

_____

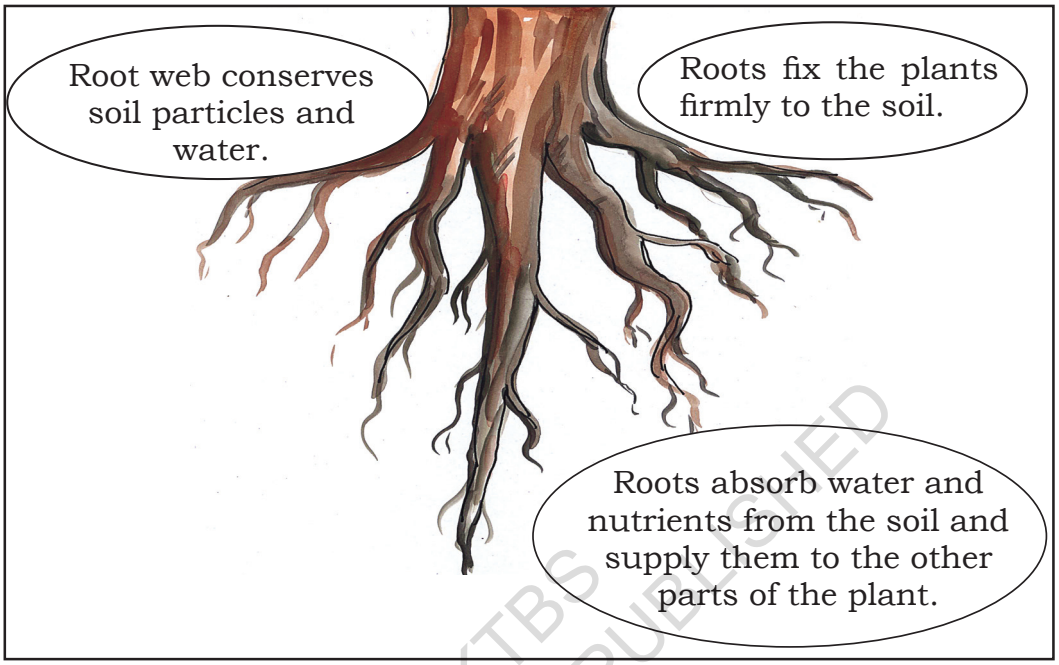
_____



Know this

The roots absorb water and nutrients essential for the plants from the soil .Water and nutrients reach the stem and leaves through the roots.

The root is the supporter of the plant





Name the vegetables given in the above pictures. Do you use them in your house? Why? From which part of the plant do you get them?

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Write the names of 4 roots that you use. Also write down why you use them. One is done for you.

(Get the help of your teacher/elders.)

Sl.No.	Roots	Use
Example	Ashwagandha	Medicine
1.		
2.		
3.		
4.		

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Do you know this ?

- *There is a record that a farmer in Britain grew a carrot as long as 19 feet in the year 2007.*
- *The root of a plant of grass family is 600 km. This is the distance from Bengaluru to Kalaburagi.*
- *There are records that a banyan tree spreads over more than 5 acres with the help of its proproots. For example, the big banyan tree in Bengaluru.*
- *Some plants (appu plants) grow on trees. The roots of these plants are green and open to air. They absorb the moisture from the air.*
- *The roots of some plants which grow in the places with scanty rainfall have the capacity to store water and provide it to the plants when they need. Certain tribal people use the water from the roots to drink. There is a record of roots which store about 70 kg of water.*



LESSON – 5

FLOWERS - COLOURS

R8B7B5

After studying this lesson you will be able to,

- *collect different kinds of flowers and discuss about their shape, colour, petals and fragrance.*
- *identify the uses of flowers in daily life.*
- *recognize flowers printed on different objects.*
- *know the informal measurements used by florists and the cost of the flowers.*

On a lovely morning, many girls in the school had plaited their hair and wore jasmine flowers on their plaits.

Teacher : Oh! There is good fragrance in this room!

Haseena : Sir, some girls have jasmine flowers on their plaits.

Vijaya : Yes, now it is the season of Jasmines flowers, isn't it?

Teacher : In summer there is jasmines, in rainy season there is dahlias and in winter there is chrysanthemums. Thus, there are different flowers in different seasons.

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Activity : *Make a list of flowers available in your locality. In which season are they available? Why do people use them? Collect information about this and write it in this table.*

Name of the flower	Plant/Bush/ Tree/Creeper	Season of availability	Use

Collect the flowers that are available in your locality. Observe them carefully and write their characteristics in this table.

Name of the flower	Colour	Shape	No. of petals	Fragrance Yes/No

Teacher : Come, let's go to the nearby garden and get introduced to a variety of flowers. But nobody should pick flowers.

(All of them went to the garden)



Haseena : Oh! So many flower blossoms! The garden looks very beautiful. There is also a signboard "**Don't pick flowers**".

Teacher : Yes, follow that instruction. You also practise growing flowers near your home and the school.

Nagaraja : Look, there are flowers even in that pond.

Teacher : Children, name 3 flowers that grow in water.

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Sing and enjoy

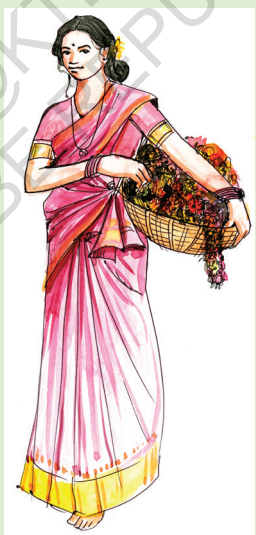
I am in the garden,
used to worship God.
The garlands are fine,
used for decoration.
I am the food for honey bee,
Medicine for the diseases.
My fragrance is in the perfume
My uses are plenty
I am better than human beings.

Sing and enjoy

Florist

"Fragrant flowers
Who needs
Buy them
Sure to be yours"
Moves the flower seller
Singing from door to door. || *1* ||

Jasmine white
Gold flower yellow
Murugha fresh green
All knit in garlands
Come and buy
And all for you. || *3* ||



Announcing her wares
Marigolds fresh
Lilies jasmine
Yellow palmyra
Twined together
Like yours. || *2* ||

Red roses
Radiant lilies
Blossomed lotuses
Milk white lily
Yellow as well
All are yours. || *4* ||

Need varieties of
Fragrant flowers
I have them
So sings the florist
Walks slowly
In front of your houses. || *5* ||

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Do you use flowers?

Do your family members use flowers?

Do you grow or buy the flowers used at home?

Girija : Shahina's father has a flower stall.

Vijaya : Shahina, from where do you get flowers?

Shahina : My father buys flowers from the market. All of us at home, string them.

Teacher : Shahina, what's the price of jasmine flower per kg? How do you sell it after you string them?

Shahina : Today's price of jasmine flower is ₹250 per kg. We sell at ₹10 for a cubit length.

Teacher : Do you know about the cubit length and yard?

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Fathima : Yes, one yard is equal to four cubits in length.

Teacher : These are units of informal measurement. Use of these measurements is useful to the people who string flowers, sellers and buyers of flowers.

Do it yourself

If the cost of 1 kg of jasmine is ₹250, how much will be the cost of 5 kg of Jasmine?

_____

If a cubit length of flower costs ₹4, how much will be the cost of one yard length of flowers?

_____

Go to the market of your locality. Know the price of 5 different kinds of flowers and write them here. One example is given here.

Name of the flower	***Measurement***	***Price***
Example : *Jasmine*	*One cubit length*	*₹ 10/-*

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Teacher : Plant the saplings of flower plants in the yard of your house or grow them in pots. Practise to use flowers.



Vijaya : Sir, Haseena's dress has the design of so many flowers on it.

Teacher : Yes, you can see the designs of flowers on different things. Flowers inspire the painters.

Observe the things around you. Which things do you find having flower designs?

Do it yourself

Collect flowers. Dry the petals well. Prepare greeting cards with them and give them to your friends and neighbours.

Learn to prepare different flowers from colour papers.

Draw flowers on papers, small vessels and pots. Colour them.



Do you know this?

- *The flower of Rafflesia plant is the largest flower. Its circumference is 1 meter and it weighs 7 kg. But its seed is as small as a poppy seed. This flower has a very bad smell.*
- *The flower of Wolffia, a water plant of India, is the smallest flower. A number of Wolffia flowers can be placed on the tip of a needle.*
- *Lantana flower is one among the world's 15 most beautiful flowers.*
- *Not only is perfume extracted from rose, but a sweet called gulkand is also prepared from it.*
- *Karnataka is a prominent state in the field of floriculture. According to a report 75% of the country's flowers are grown here.*
- *The flowers of our country are exported to foreign countries also.*

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LESSON – 6

EACH DROP.....

U1G3D8

After studying this lesson you will be able to,

- *explain the water cycle.*
- *measure the water used in daily life by using informal measurements.*
- *classify the sources of water that are suitable for drinking.*
- *make a list of problems caused due to shortage and wastage of water.*
- *understand the importance of re-cycling of water and rain water harvesting.*

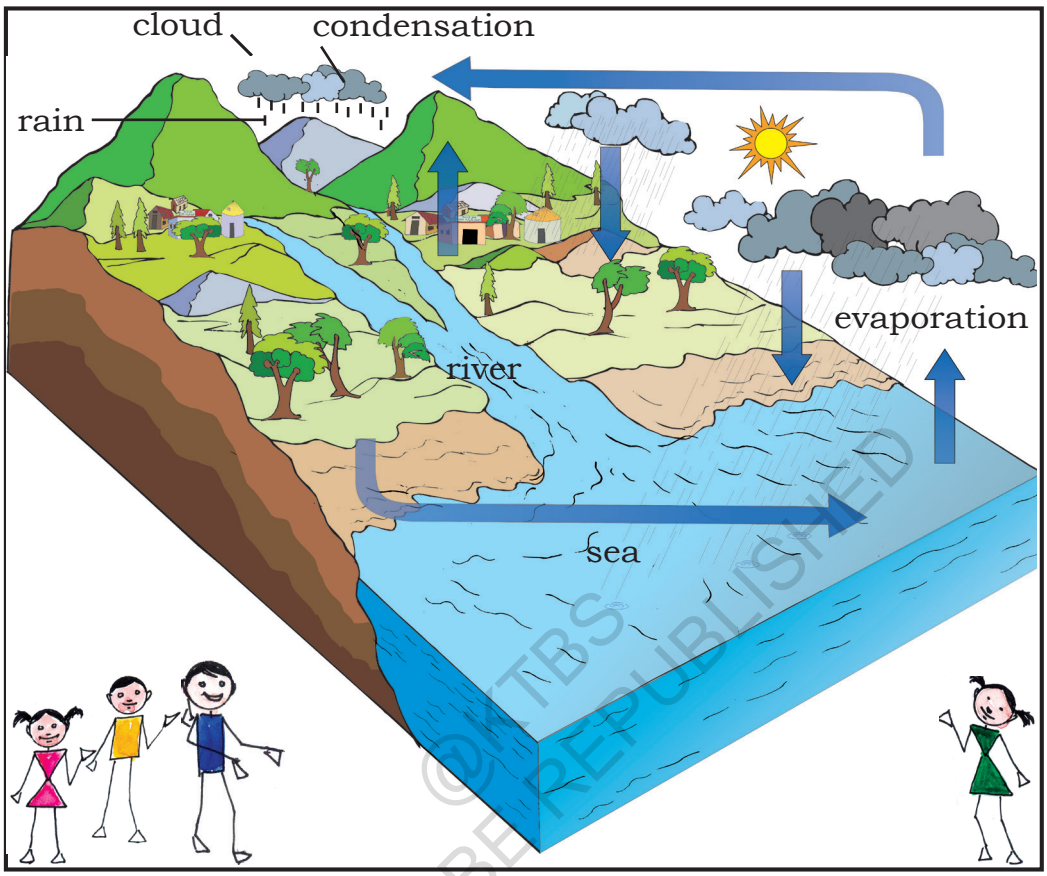


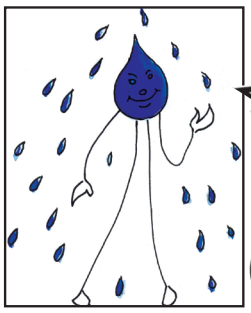


Three parts of the earth is full of water.
The water evaporates due to heat of the sun;
The water vapour travels towards the sky,
It gets cooled and changes into water droplets;
The droplets of water together form clouds,
The clouds float so high in the sky;
Cold cold wind around the clouds,
The droplets of water become heavier;
And fall in the form of rain;
The rain water joins streams and ponds;
This water evaporates once again.

Singing this song, observe the picture given on the next page.

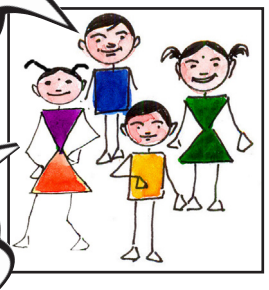
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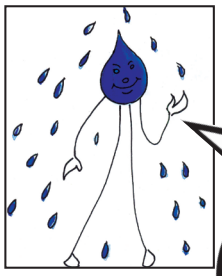
Oh!.....What's that picture you are looking at?

This is the picture of the water cycle.

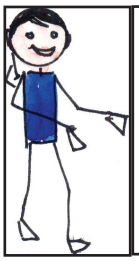


Water cycle! What is it?

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Where do you see the water being evaporating in your house? Write in the space given.

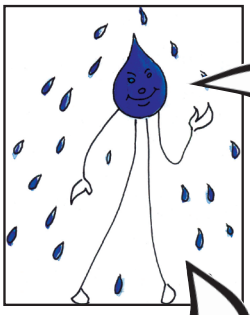






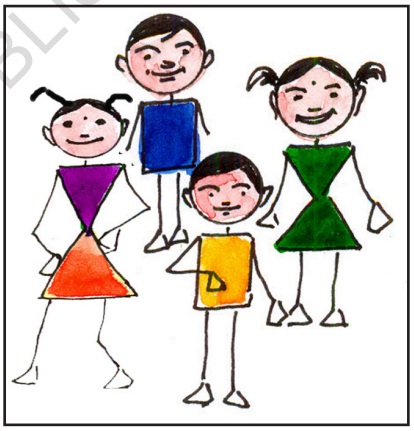
Know this

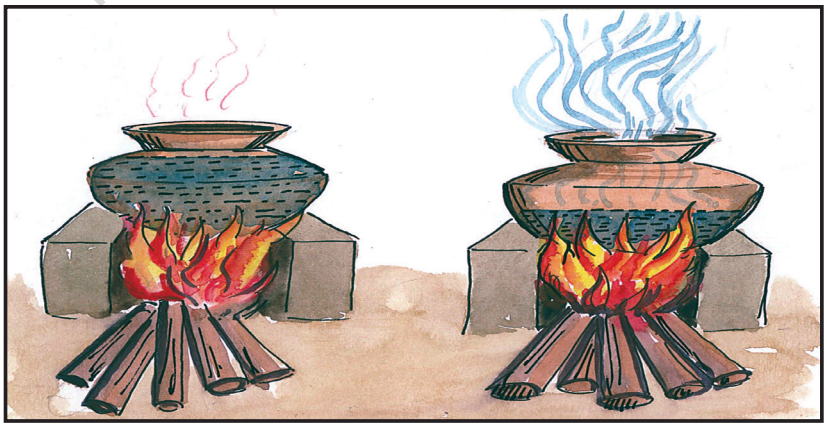
When the water boils, it evaporates. In the same way, due to the sun's heat water gets evaporated.



Observe the vessel on the stove while cooking.

Even in school you can do the experiment of boiling water.



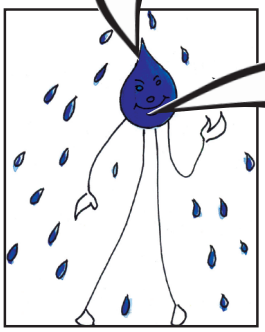


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Write the differences that you have observed in this experiment in the space given.

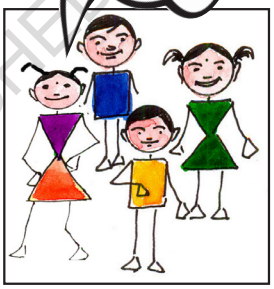






Due to the heat, water boils, gets evaporated and rises up. Then the amount of water in the vessel decreases.

What happens to the water that has evaporated?

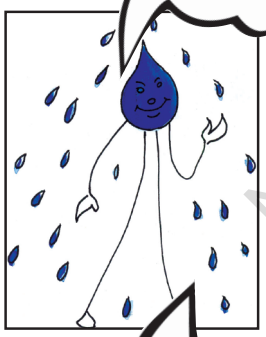




Know this

Water is a liquid. When it is boiled, it becomes vapour. This is the gaseous state of water. This process of changing water from liquid state to gaseous state is called ***evaporation.***

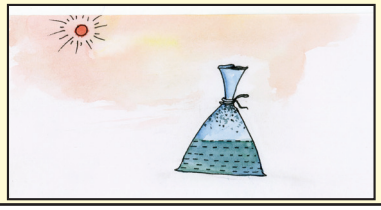
The evaporated water gets mixed in the air.



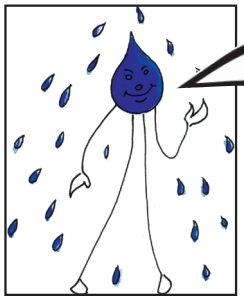
Let's conduct an experiment to know what happens to the evaporated water.

Do it yourself

Take a small plastic bag. Pour some water into it. Tie the open end of the bag with a thread. Place the plastic bag in the sunlight. Observe the bag after one or two hours.



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Answer these questions.

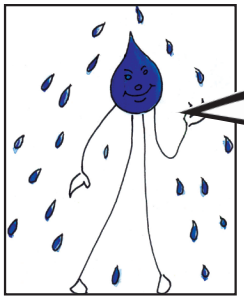
What happened to the water in the bag? What do you see on the upper part of the bag?

Know this

Due to the heat of the sun, water gets evaporated and rises up. Due to the cool air, water vapour turns into drops of water. This process of changing water vapour into liquid state is called ***condensation.***

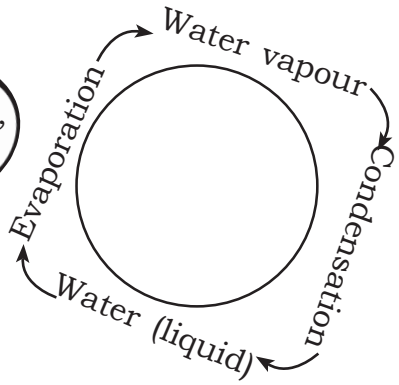






All right... with the help of the experiment that you have observed, fill in the blanks given below. You can use the clues given.

evaporated, sun, air, droplets, cloud, cool, large, earth, rain.

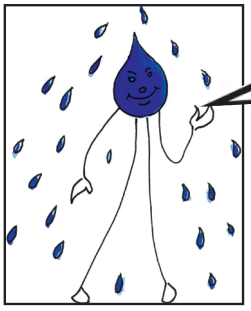


Water in the water bodies, soil, plant and animals gets _____ due to the heat of the_____. The evaporated form of water enters the _____and rises up. It gets condensed by cool air, turns into _____of water. The droplets of water form _____. When the clouds become _____ due to cool air small droplets of water together become _____ droplets and come down to the _____ in the form of _____. This is called **water cycle**.

© KTBS NOT TO BE REPUBLISHED

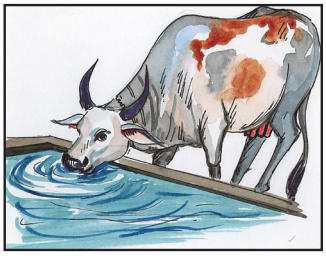
Know this

When the rain drops become too cold, they fall on the earth in the form of small pieces of ice. These are hailstones.



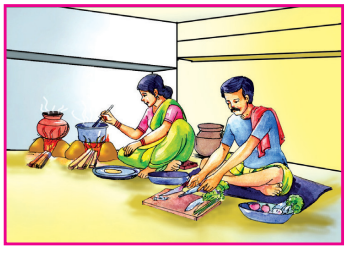
All right...You already know how we use the available water on the earth for our daily activities. Look at the picture and tell.

© NCERT NOT TO BE REPUBLISHED



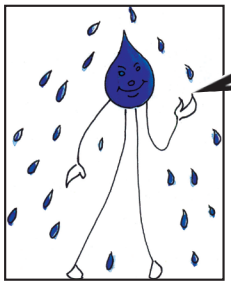





Know this

Water is not only used for the daily activities of living beings, but also very essential for agriculture, industries, water transportation, construction of buildings and generation of hydro-electricity.

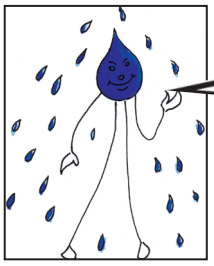


As shown in the 'picture' how much of water is used by you and your family members? Measure the water used by you and your family members with the vessels (bucket, mug, tumbler, pot) used daily at home. Write the measurement in the table given below.

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Activities	Water used by me	Water used by others in the family	Total
Washing face	2 mugs		
Washing hands and legs			

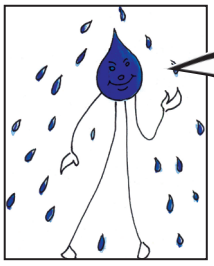
Water is precious; use it carefully.



Hm, child...you already know the sources of water which we use for all these needs. Make a list of these sources of water.



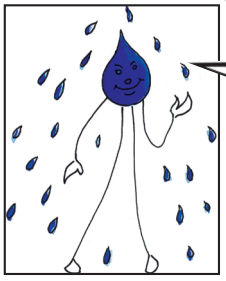




All right, name the sources of water for your locality.

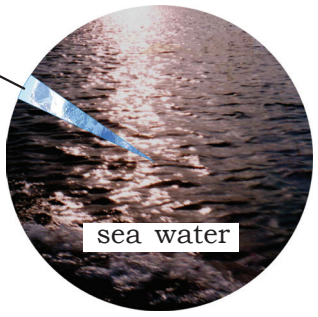






Look at this picture and know the amount of water available on the earth.

fresh water



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Total amount of water available on the earth.

- Salt water or sea water (97.2%). It cannot be used.
- Sweet water
  - Ice (2%) This is the solid form of water. It cannot be used for daily activities.
  - Water (less than 1%) suitable for use.

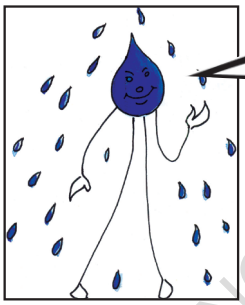


Know this

Only this much of water is available for you.

Imagine that there are only 100 spoons of water on the earth. More than 97 spoons of water is salty. 2 spoons of water is in the form of ice. Less than 1 spoon of water is available for our daily activities.

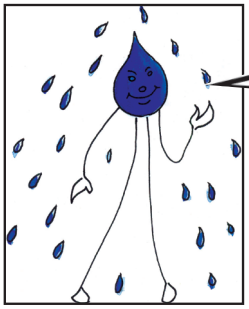
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Are you using water more than your requirement? For which activities do you use water unnecessarily. Write here.



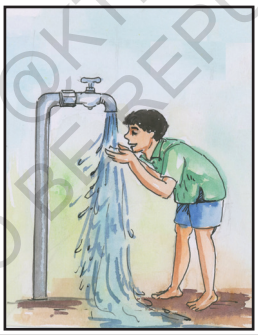
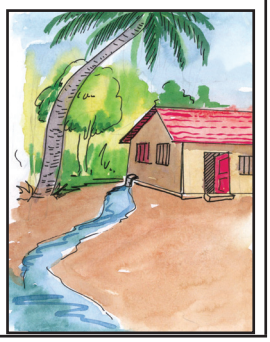




Observe the pictures given below. What is happening here? Write it in the space given below.



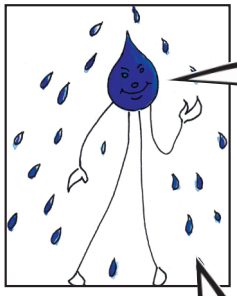


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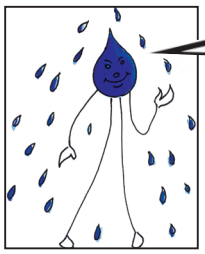


How is water wasted in your surroundings everyday? Write here.





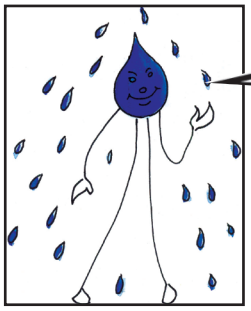
Children... What would happen if there was no water at all?



How will you prevent wasting water in your school and house? Write two steps that you would take to stop wasting water.

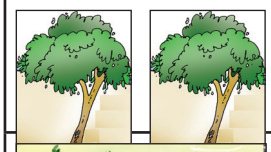
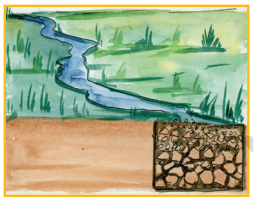


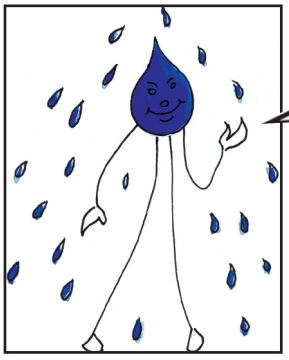


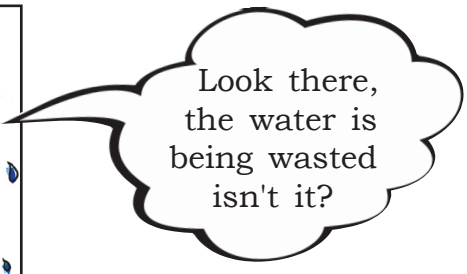


Pictures showing some methods of saving water are given on the next page. Write those methods in the space provided.

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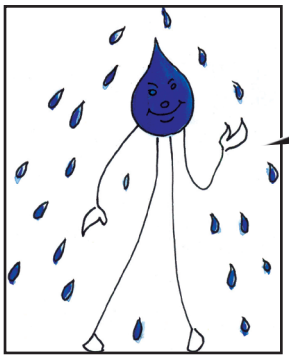




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Drop of water...
This water is already used, how do we use it once again?



For what purposes can we use the water that is already used once? Think and write.

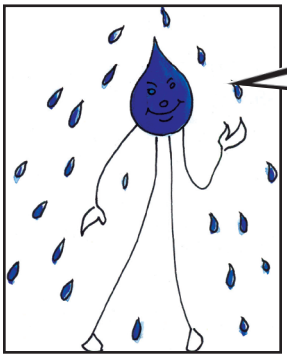
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Know this

The water that is used for washing utensils, clothes, and vegetables can be used again for watering plants. This is called Recycling of water. By Recycling of water we can save water.

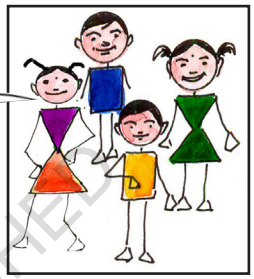


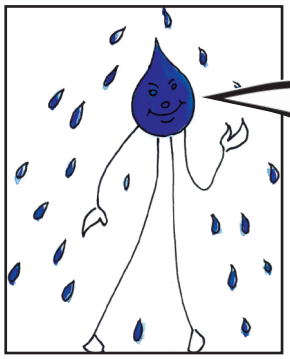




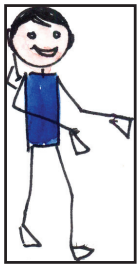
Children, we can store the rain water also. Stored water can be used for certain activities.

Yes,true.





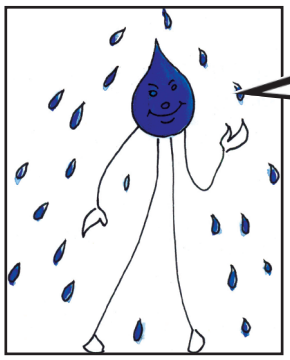
For which activities can we use the stored rain water? Know and write here.



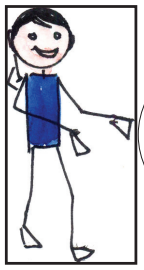


Learn to collect and use the rain water for daily activities.

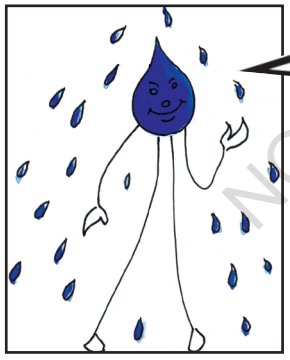
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If there is a rain water harvesting centre in your locality, visit it. If not, with ask your elders about it. Collect information about it and write.





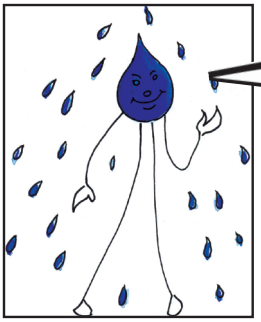


Children... try to enact a short play which gives a message of the conservation of water with the help of elders and friends.

All right save water, we will try.



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Children... today you have learnt about the use of water in a limited way and the conservation of water. So I bid you good bye.

OK, drop of water.



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Do you know this?

- *India has the richest water resource in the world.*
- *The major portion of the fresh water available on the earth is ice.*
- *Water in the air is in the vapour form.*
- *Fish are reared to purify the water of reservoirs.*
- *Water maintains the shapes of the body of plants and animals.*
- *There is about 65% of water in the body of human beings. In other living beings the water is 40% to 90%. In leaves, water is more than 80%.*
- *We should drink at least 2 liters of water everyday.*
- *Mouseen Ram in Assam receives the highest rainfall in India.*
- *Agumbe receives the highest rainfall in Karnataka.*

LESSON – 7

WATER POLLUTION - CONSERVATION

M9X5A6

After studying this lesson you will be able to,

- *know the reasons of water pollution and its evil effects.*
- *make a list of diseases that spread through water.*
- *know the reasons for dehydration and preparation of Oral Rehydration Solution.*





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Here are two glasses of water.

Which glass of water will you drink? Why?

_____

_____

_____

You know that we use water from different sources such as well, pond, river etc., for different activities.

From where do your elders bring water for cooking and drinking?

_____

_____

Know this

If the water is not pure *and* ***not fit for drinking****, it means that water is polluted. The water may contain soil particles, dirt and small insects that may be visible or not visible to our naked eyes. Dirt that comes from washing of utensils and clothes, pesticides and fertilizers, industrial wastes make water polluted. Then it becomes unfit for drinking. This is called* **water pollution**.

Find out the sources of water in your locality. If they are polluted, discuss the causes for such a pollution with elders or teachers. Write in the table given below.

Source of water	Polluted /not polluted	If polluted, reasons for pollution

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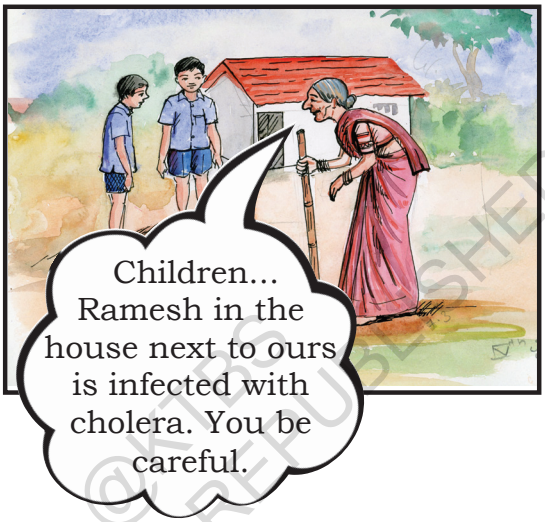


Why did grandmother tell you not to play with the drain water?

_____

_____

_____



How could Ramesh be infected with cholera? Think and write.

_____

_____

_____

Ask your teachers and elders about other diseases which are caused by polluted water and write here.

_____

_____

_____

Visit the Primary Health Centre in your locality. Discuss with the doctor and get more information about the diseases spread by water.

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Know this

Diseases like cholera are spread through water. If not treated properly in time, it can lead to death. In the case of vomiting and diarrhoea, the body loses the water content and the patient becomes tired. This is called dehydration. To avoid dehydration, a mixture of salt, sugar, lemon juice, boiled and cooled water should be given to the patient. This is called ***rehydration****.*

Discuss with doctors, elders and teachers the first aid treatment that should be given to the patients suffering from diseases that spread through water.

O.R.S. (Oral Rehydration Solution) packets are available in hospitals and medical stores for rehydration.

Ask your teacher about O.R.S.

Know the benefits of drinking O.R.S. and make a list of them.

_____

_____

_____

With the help of doctors, elders or teachers learn how to prepare O.R.S. using salt, sugar and lemon juice.

Learn how to use O.R.S.

It is better to drink pure and clean water than to drink polluted water, get infected with diseases, get medicated and cured later. So take care to avoid polluted water.

Learn from elders, how to purify the polluted water and write here.

_____

_____

_____

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Visit the factories in your locality or nearby places. What do they do with the water that is already used there? Observe and write.

You already know why the sources of water are polluted in your locality. Think and write here the steps that can be taken to prevent these sources of water from pollution.

What steps will you take to prevent water being polluted in your school and at home? Think and write here.

Water is very precious. You know that the quantity of water that is available for our use is very less. Do not waste it and save it from getting polluted.

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Do you know this?

- *Most of the rivers in our state and country are polluted.*
- *If we drink water containing fluorine, mercury, arsenic and lead, it may cause deadly diseases.*
- *In our state, we have reports about the death of the aquatic animals, mainly fish, due to contamination of water.*
- *'Pollution Control Board' is a government organization established to protect the quality of water.*
- *The chemical,* ***Chlorine****, is added to drinking water to purify it from germs and then is supplied to the houses in towns and cities.*
- *The manure pits and soak pits should be at least 10 meters away from the sources of water such as wells, ponds etc. Otherwise the water contaminating germs collected in these pits may be added to the sources of water and pollute them.*
- *When we boil water, all the bacteria will die. It is good for health to boil and cool the water before drinking.*
- *Desalting is the process of reducing the salt content of the sea water and use it for agriculture and household activities. This is very costly.*
- *In cities, it has been made compulsory to collect rain water that falls on the roof-tops of the buildings to prevent scarcity of water.*
- *Purifying and reusing of water once used in the industrial sector is in practice to minimise the scarcity of water.*

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LESSON – 8

FOOD - HEALTH

F6H6M9

After studying this lesson you will be able to,

- *explain balanced diet.*
- *classify different nutrients.*
- *practise the methods of preserving food items.*
- *discuss the food habits of animals and birds and know how their beaks, teeth and other parts are modified to suit their food habits.*

It was Deepa's birthday. She likes carrot halwa very much. Her mother had prepared carrot halwa for her birthday. She ate well and slept well. She had a dream. What did she dream of? Carrot!



Carrot : Deepa, I am a carrot. You had enough of my halwa. Now, let me know what you eat regularly.

Deepa : I eat well, different food items everyday. I know how and from which food items are prepared.

Carrot : All right, make a list of all the food items that you know and eat.

Activity : Like Deepa, you also prepare a list of food items you know.

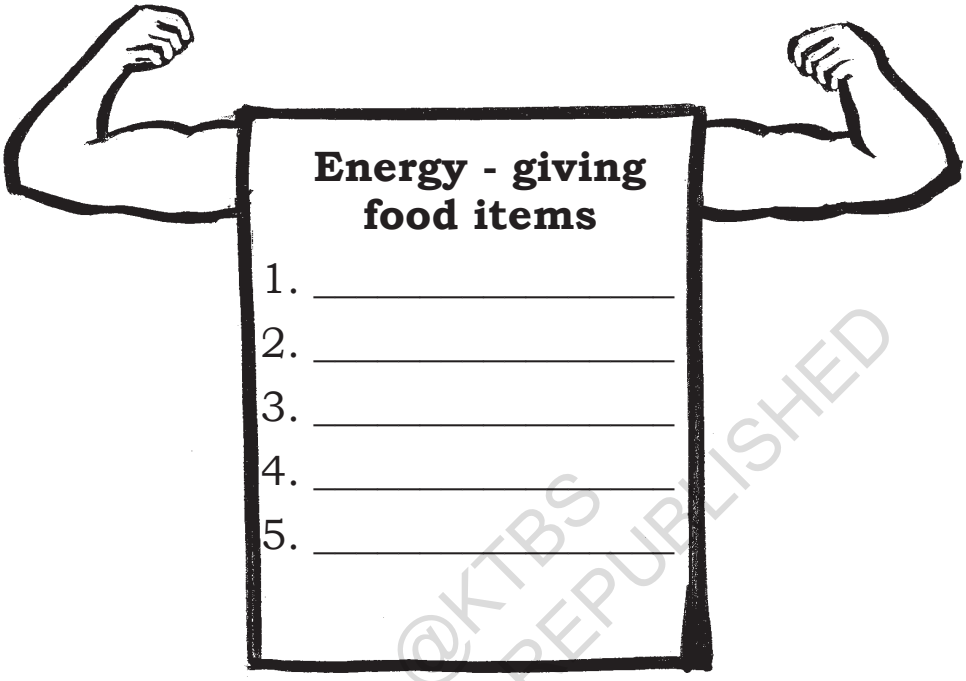
_____, _____, _____, _____,

_____, _____, _____, _____,

_____, _____, _____, _____.

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Carrot : Classify the food items from your list and write them in the space given below.



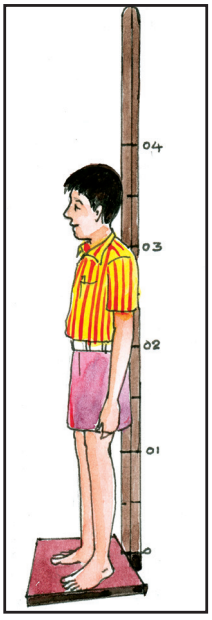
Energy - giving food items

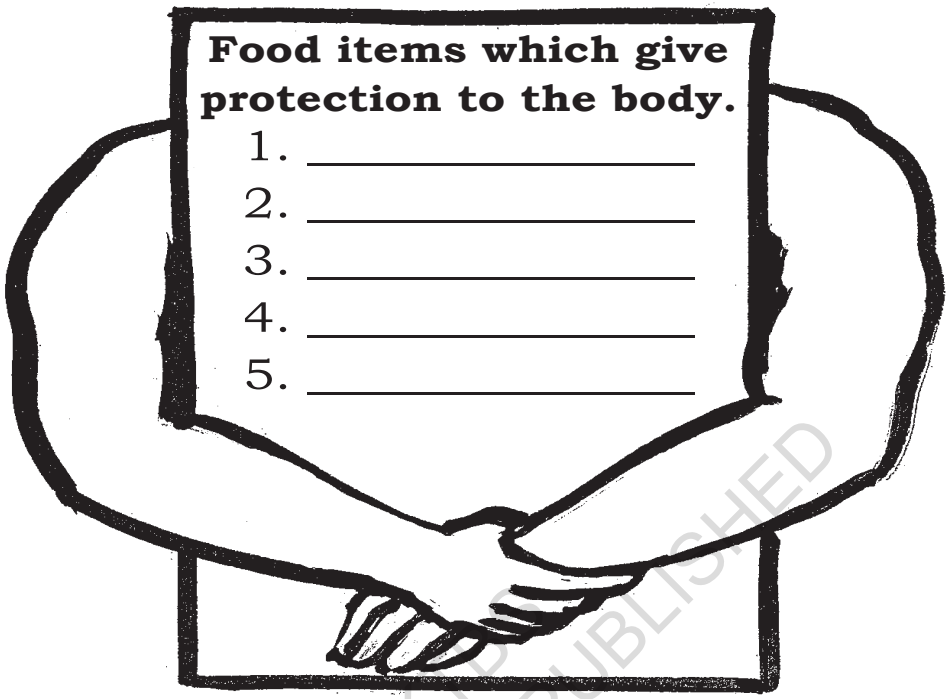
1. _____
2. _____
3. _____
4. _____
5. _____

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Food items which help us to grow.

1. _____
2. _____
3. _____
4. _____
5. _____

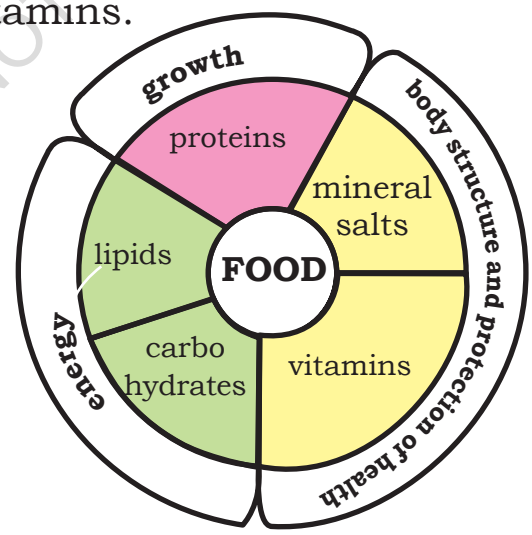




Carrot : Deepa, do you know the food you eat contains the nutrients that give energy, help to grow and protect health?

Deepa : No! I don't know.

Carrot : These nutrients are: 1) carbohydrates 2) proteins 3) lipids or fat 4) mineral salts 5) vitamins.



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In which food items are these nutrients found? Now know it from my friends.

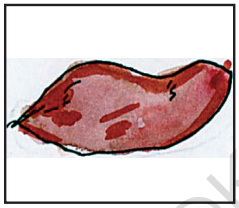


I am ragi. I have carbohydrates as the main nutrient. I give energy to the body.

Pictures of my friends who have a lot of carbohydrates are given here. Identify and name them.



_____,



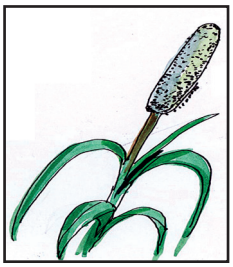
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_____,



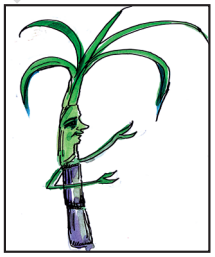
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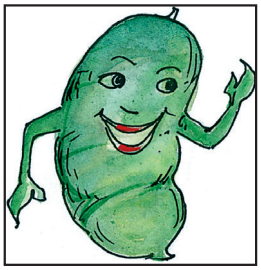


_____,



_____.

Due to the shortage of carbohydrates one has to suffer from weakness.



Deepa, look here, I am cow beans. I have a lot of protein. I help in the growth of your body.

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See my other friends. Identify them and write their names.

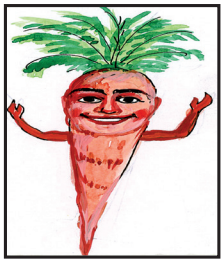


_____, _____, _____, _____, _____.

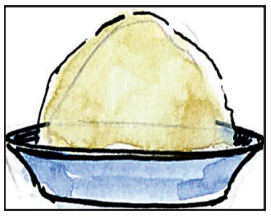
Apart from grains, proteins are present in some other food items also. Observe the pictures and write their names.



_____, _____, _____, _____.



Carrot : Deepa, look here, the butter. It has high fat content. Groundnut oil, coconut oil, sesame oil, ghee also have high fat content.



Deepa : What is the use of fat?

Carrot : Even if we use a little fat, it's enough. Fat gives more energy than carbohydrates.

Deepa : Does it?

Carrot : Do you eat different vegetables, fruits and salt?

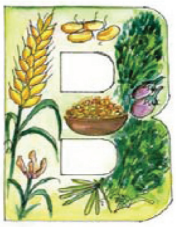
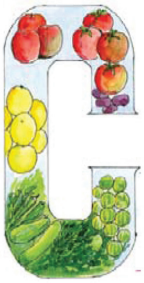
Deepa : Yes, I do. But I don't like greens.

Carrot : Look Deepa, you have to eat all vegetables, greens and fruits. As they are rich in mineral salts and vitamins, they protect you from diseases and keep you healthy.

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Deepa : Yes, I know that there are 4 important vitamins.

Carrot : They are called vitamin A, B, C and D. Look at the table given below.

Vitamins	Food items	Use
	green and yellow vegetables, fruits, leafy vegetales, carrot, butter, ghee, milk and egg.	preserves good eye sight, skin and teeth.
	wheat, ragi, black gram, greens, germinated grains.	protects skin, heart and digestive system.
	orange, lemon, tomato, raw vegetables, gooseberry, apple pineapple germinated grains.	protects teeth and gums
	cod liver oil, when sun rays fall on the skin vitamin **D** is produced.	protects bones and teeth

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Deepa : What happens if we don't eat them?

Corrot : Look at this chart and tell.

Vitamins	Diseases caused due to their deficiency
	Night blindness (one cannot see in dim light).
	Beri beri (accumulation of water in legs, muscle pain, respiration and heart problems).
	Scurvy (soft and bleeding gums, swollen legs).
	Rickets (disorder of bones, bowed legs).

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Corrot : Do you like to be a patient always?

Deepa : No, what should I eat to be healthy?

Carrot : Besides all the food items mentioned, beans, radish, leafy vegetables, fruits with edible skin(apple and guava) and cereals. They are rich in fibres and help in excretion.

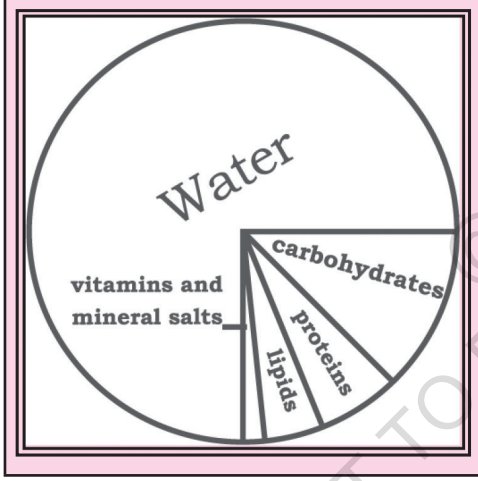
Deepa : Is it possible to eat all these food items at a time?

Carrot : It is not so... You should eat all these food items daily in the right proportion. It provides the required amount of nutrients to the body. The food which provides all the nutrients to our body in a required proportion is called **balanced diet**. Besides you should drink 4 to 5 glasses of water daily.

Deepa : How should the balanced diet be?

Carrot : Look at this chart and know about it.

Chart of Balanced Diet



water	- 75 parts of 100
carbo-hydrates	- 14 parts of 100
proteins	- 5 parts of 100
lipids/fats	- 4 parts of 100
vitamins and mineral salts	- 2 parts of 100

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Sing and enjoy

Carbohydrates in cereals and sugarcane,
Fats in oil and ghee.
Proteins in grains and milk,
Vitamins in vegetables and fruits.
Every food has minerals
To protect our body from diseases
We require all these daily
For they help us grow and be healthy.

Play the game

Take empty chalk boxes. Decorate them with colour papers and write the names of nutrients on them.

Take a drawing sheet, make circles on it and cut them in circular shapes. Write the name of food items or paste the pictures of food items.

With the help of the teacher put the circles having the name or pictures of food items in the respective boxes with the names of nutrients on them.

Call each one of your friends, ask them to take each circle shaped paper, read the name of food items and put it outside the box.

After this mix up of all the circles of paper, keep them away from the boxes. Again each of your friends should come and put the circle of papers in the respective nutrient box.

At the end, count and identify which box contains more number of the circle - shaped papers.

Deepa : Animals and birds also need food as we do, don't they?

Carrot : Yes, they also need food like us.

Write the food of animals given in the table.

Sl. No.	Name of the Animal	Food the animal eats
1.	tiger	
2.	crane	
3.	deer	
4.	elephant	
5.	kite	
6.	butterfly	
7.	mosquito	
8.	cow	
9.	dog	
10.	rat	

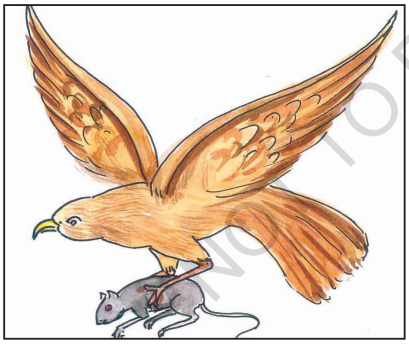
© KITE NOT TO BE REPUBLISHED

Deepa : How do animals eat food?

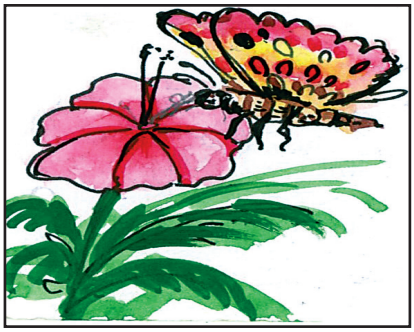
Carrot : See how animals eat food with the help of their beak, teeth and proboscis.

Look at the picture and fill in the blanks.











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- Tiger tears the flesh with the help of its_____ .
- Kite has _____ legs to hold its food.
- Butterfly has proboscis to suck _____ of the flower.
- The crane has a beak to hold its food _____ .
- Elephant eats grass with the help of its _____ .

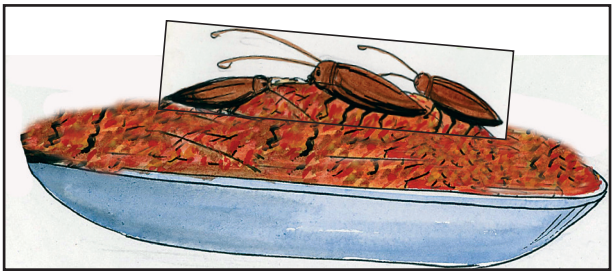
Write how the beak, legs and teeth help the animals to eat their food.

Sl.No.	Name of Animals	Food	Helping organ	How it helps
1.				
2.				
3.				
4.				
5.				

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Deepa: Oh! It's wonderful the way animals eat food. Wait, I feel hungry once again. I'll come back after eating halwa.

Deepa enters the kitchen. She sees the halwa being eaten by cockroaches. She screams.



Carrot: Why Deepa, what happened?

Deepa: Cockroaches are eating halwa. Please drive them away.

I have to eat the halwa.

Carrot : No Deepa, Don't eat that halwa. Once the animals touch the food item, it becomes contaminated. We shouldn't eat such food.

Deepa : What will happen if we eat?

Carrot : Read this news item.

Children fall ill by eating contaminated food.

Children fall ill by eating the food exposed in a fair. It is confirmed that contaminated food is the cause. The children who ate the food which was contaminated by flies and cockroaches are suffering from vomiting and dysentry. They are admitted to a hospital. Four of them, whose condition is very serious have been shifted to the city hospital for further treatment.

Deepa : Poor children!

Carrot : Come, I'll take you to a nearby fair. Look at the shops where eatables are kept uncovered.



Deepa : Those house flies are sitting on the rubbish. They fly and sit on the sweets also.

Carrot : If we eat such food, we get diseases like cholera. So we should always cover the food with plates to avoid insects sitting on them. The vessels in which we store water for cooking and drinking should be covered. Care should be taken to avoid pollution of water. Hands should be washed before eating food... Understand?

Deepa : Yes, I understand.

Carrot : We shouldn't eat stale food. We should wash the vegetables and raw fruits before eating them. Fruits should be cut to pieces just before eating. Vegetables should not be

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over cooked. Overcooking destroys the nutrients present in them. Food, if boiled well, will be soft and it digests easily. The germs present in them will also be killed. Eat hot food. Don't eat oily, fried and very spicy food.

Deepa : Do you know that, I am following all these tips?

Carrot : Then throw out the halwa eaten by cockroaches.

Deepa : OK.

Deepa threw the halwa, sobbing. Deepa's mother woke up Deepa, who was sobbing in her dream. Deepa woke up suddenly and asked her mother why she hadn't covered the halwa with a lid. Mother laughed, and asked Deepa whether she had a dream.

How do you preserve food at home? Explain.

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Fill in the blanks.

1. The nutrients in food are _____, _____ _____, _____ and _____.
2. The nutrient present in grains is _____ .
3. We should drink a minimum of _____ litres of water every day.
4. Night blindness is caused due to the deficiency of _____ vitamin.
5. Orange is rich in vitamin _____ .

Write the reasons for the following statements.

1. We should not eat contaminated food.

   _____

2. We should eat balanced food.

   _____

3. We should cover the prepared food items properly.

_____

4. We should not eat food and cut fruits, kept open and sold on the roadside.

_____

Match the vitamins and their uses.

Vitamin A	Protects bones and teeth.
Vitamin B	Preserves eyesight and skin.
Vitamin C	Protects heart and digestive system.
Vitamin D	Protects teeth and gums.

Do you know this?

- *The sun rays help to produce vitamin **D** in our body.*
- *Goitre is caused due to the deficiency of iodine.*
- *Major food grains that we use are rice, wheat, jowar and ragi.*
- *The food will be spoiled or become stale when germs enter it. When we eat such food, it causes diseases of the abdomen and the intestine. Sometimes the diseases will be severe and may cause death.*
- *Food is preserved at home by drying, salting, fuming, cooling, boiling etc. In the markets the food items are purified and preserved by different methods and then they are sold. **For example**, cool drinks, bread, fruit juice and jam.*

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LESSON – 9

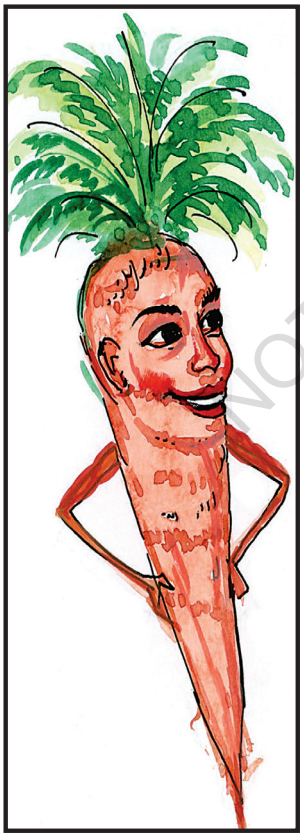
FOOD HABIT

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After studying this lesson you will be able to,

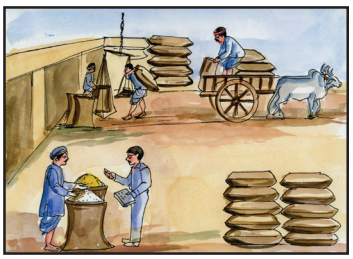
- *explain from where and how we get food.*
- *identify the circumstances of mass feeding. Practise the orderliness that is followed during mass meals.*
- *appreciate the food and cultural diversity.*
- *know the food habits and cultural diversity of your district and of neighbouring districts.*

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I hope you have understood what I discussed with Deepa about food. Have you ever thought where and how we get food from?

Observe the pictures given on the next two pages. Stages of production of food are shown here. Arrange them in the proper order. Write the serial number to show the correct order. Write a sentence for each picture in the space given.







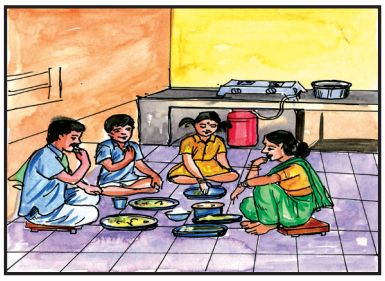


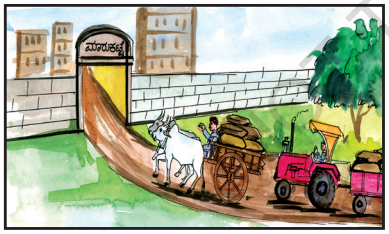


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Make a list of 10 food items that are used in your house. Write from where you get them.

Sl. No.	Food Item	Place where it is available
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Write here the type of food items prepared daily and on festivals in your house.

Food prepared daily	Food prepared during festivals

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Do your parents prepare the same food items for all festivals? If not, write the name of special food items prepared on different festivals.

Sl.No.	Name of the festivals	Food items prepared
1.		
2.		
3.		
4.		
5.		

Compare your list with that of your friends'.



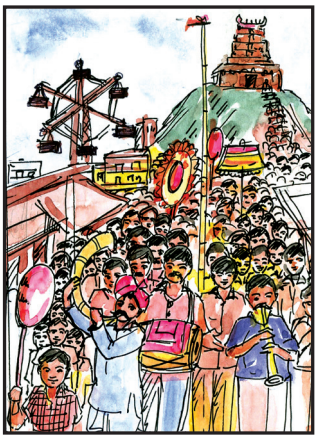
Compare the special dishes prepared in your house and your friends' houses. Write down your observation here.

_____

_____

_____

Have you eaten food in a fair, in a village festival, and urs etc? Come, let us go to our village fair. Look there, people are moving together in a procession. The beats of the drums are getting louder. Tiger - masked dancers and the keelu kudure are giving great entertainment to the people gathered there. People of the village have prepared food for all those who presented cultural items in the fair.



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There is mass feeding. People co-operated for this arrangement. They have given money, grains, firewood, etc. They together have prepared the food. There are different kinds of sweets. Come, let's have food. Some volunteers are removing the leaves after the meal and cleaning up the place of eating. Let us join them. The people who participated in the fair are going home happily. They have the satisfaction of sharing work and eating together.







You might have participated in mass feeding. What are those occasions? Explain a mass feeding that you have participated in.

_____

_____

_____

Write your experience of a fair, that you have participated in.

_____

_____

_____

_____

_____

_____

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Here is a list of precautions that have to be followed during mass feeding.



Know this

- *The materials, the vessels and water used to prepare food should be clean.*
- *The persons who cook and serve food should be clean. Their nails should be trimmed and hair should be covered with cloth.*
- *The place of eating food should be free from dust, germs and insects.*
- *Pure water should be provided for drinking.*
- *The place where the food is cooked should be clean and free from insects and animals.*
- *The place where food is cooked should have proper ventilation and light.*

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The midday meals in your school is an instance of mass feeding. Write the precautions to be followed while eating midday meals.

_____

_____

_____

_____

_____

Do you know that the people of different regions have different food habits? For example, in northern districts like Belagavi and Bidar, most of the food is prepared from jowar. Similarly, in coastal districts like Mangaluru and Udupi, cooking fish is special. In the districts of the plain region like Mandya and Mysuru, ragi and rice are mainly used as staple food.



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Know this

Food habits depend on the food items available in that place. People follow different food habits according to the customs of their locality or family.

Write the special food used in your district.

_____

_____

_____

Have you observed the food habits in other districts? Have you tasted that food? Share your experiences here.

Do you know this?

- *A Python can survive without any food for a year.*
- *The major part of the food you eat is used for keeping your body warm.*
- *It is better to eat fruits before meals. The nutrients present in the fruits will get digested well and enter the blood stream.*
- *It is better to eat raw vegetables or half cooked vegetables. If the vegetables are over cooked, the nutrients present in them will be destroyed.*
- *Radish was grown in Egypt in 278 B.C. It is surprising that the colour of the radish was black.*
- *We should eat food in a balanced way. Over-eating causes ill health.*
- *Vitamin* **B** *is abundant in the outer layer of the rice. If rice is polished more it destroys vitamin* **B**.
- *The nutrients that are present in an apple are equal to the nutrients present in two bananas or five gooseberries.*



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LESSON – 10

SHELTER - ITS VARIETY

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After studying this lesson you will be able to,

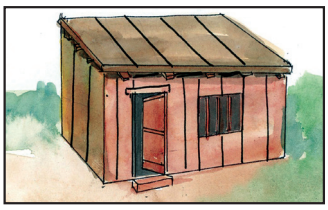
- *recognize the changes in the construction of houses from time to time.*
- *identify the differences between the houses in the urban and the rural areas.*
- *know about the multi-storeyed buildings and slums of urban areas.*
- *find out the variety in habitats and shelters of animals.*
- *identify the variety in the nests of birds and dwellings of animals and in the materials needed to build them.*

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You know about the need of a house, the materials needed for its construction and the way of construction. Let us know about the houses constructed in different parts of our state.

Education department had organized a camp in Dharwad. Children from different parts of the state attended it. They discussed the houses of their region. Come, let's go there. The children are sitting there. They are speaking one after the other. Let's also sit and listen to them.





I am Sangeetha. I have come from Jevargi taluk, Kalaburagi District. It's a hot place with scanty rainfall. People build the houses using Shahabad stones or slabs of stone. The roof is constructed with wooden planks. Over it they put mud. Some people place stone slabs on it.

People of Jevargi use stones to build the houses. Why? Discuss with your friends and teacher and write.

_____

_____

_____

_____

They use mud for roofing. Why? Discuss with your friends and teachers and write.

_____

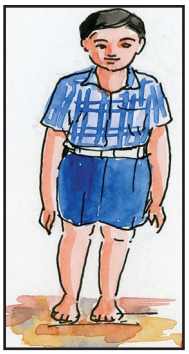
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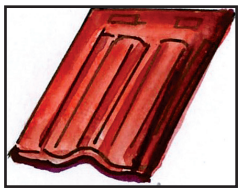
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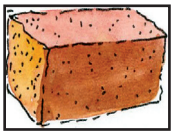
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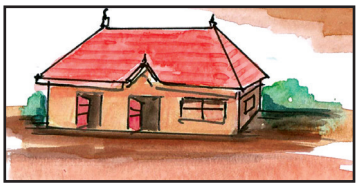


I'm John. I'm from Koppa of Chikkamagaluru district. Rainfall is heavy in our place. People build the walls with bricks or mud. The roof is thatched with hay (dry grass). The roof is sloppy. Every year they cover it with fresh hay. Once in 4 to 5 years they change the entire hay roof. Some people use hard red bricks to build walls and make the sloppy roof with tiles.





In places like Chikkamagaluru, where there is heavy rain fall, the roofs of the houses are sloppy. Why?



Think and write.

_____

_____

_____

_____

What is the benefit of using hay for the roof? Discuss with your friends and write the answer.

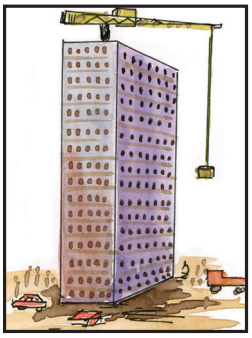
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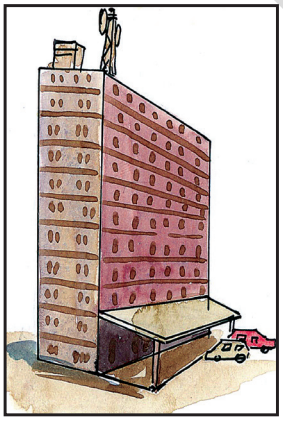
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I'm Haseena from Bengaluru. Now-a-days people are constructing houses one above the other. These are called multi-storeyed buildings. Burnt bricks or bricks made of cement and steel rods are used for the construction. Flooring is done with colourful tiles or marble. There is a facility of staircases along with lifts. To construct such multi-storeyed buildings huge machines such as crane and mixer are needed.





What are the advantages of multi-storeyed buildings? Think and write.

_____

_____

_____

_____

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What are the disadvantages of multi-storeyed buildings? Discuss in groups and write your opinion.

_____

_____

_____



I'm Vivek. I am also from Bengaluru. My house is near a slum. The houses there, are very small. They build the house with bricks, dry leaves and tin sheets.

The roof is either thatched with dry leaves or covered with tin sheets. A few people put tiled roofs. As there is no drainage, the waste water from washing the clothes, bathing etc., stagnates in front of the houses. Therefore, mosquito threat is common. In a small area, hundreds of houses are built close to one another. Therefore there is no proper ventilation and lighting facility. Also the people who stay there, do not keep their surroundings clean. They dump the waste materials every where and dunghills have been created there. The housefly and other insects sit on the dunghills and spread diseases.



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Have you seen such slums? What changes can we bring in the slums? Think and write four changes.

_____

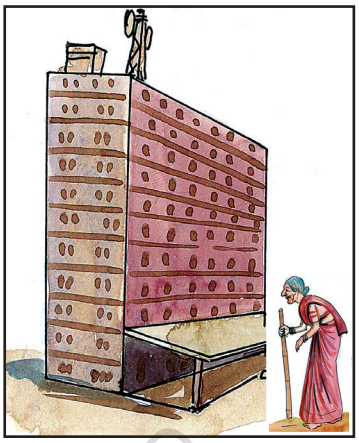
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Did you know that the houses are built depending on the materials available in that locality and the climatic condition?

Now let's listen to the story told by Venkajji.

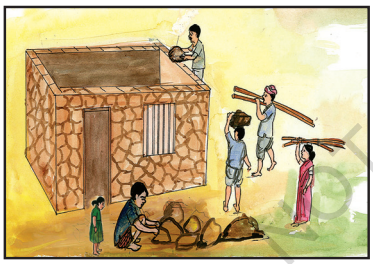


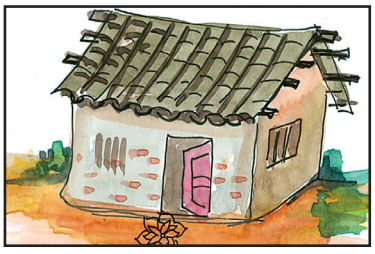
Venkajji lived in a village for a long time and then came to her grandson's house which is in a multistoreyed building in Bengaluru. She was surprised at the splendour. She sat on the sofa and went back to the memories of her childhood days.



I was a small girl then. I lived with my three sisters, two brothers and parents in a thatched hut.

The roof of our hut would leak when it rained. During summer the leaves on the thatched roof would dry due to heat, making holes in them. One day our hut caught fire and was burnt down. After that, my parents decided to build a house. My father, taking the help of another person, built the mud walls.

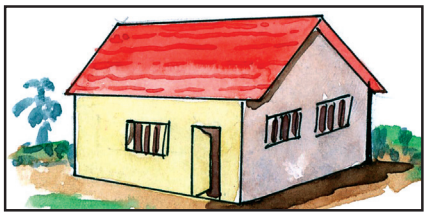




My father brought bamboos from the nearby forest. I, along with my mother, brothers and sisters brought small bamboos. We placed them on the mud walls and spread mud/clay on them. Later we went round the open field and collected cow dung. My mother mixed it with water and plastered the floor and the walls with it. We decorated the front of the house, put rangoli and entered the house.

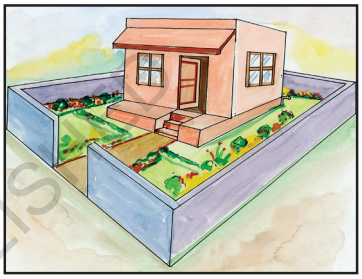
I grew, and got married. I came to my husband's house. That house was better than ours. The walls were built with burnt bricks and they were white washed. Mangaluru tiles were used for roofing.

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The flooring was done with black stone. The doors were made of wood with beautiful carvings on it. The broad windows allowed light and ventilation into the house. Our neighbours also had constructed good houses similarly, but they used slabs of stone for roofing. The cement flooring had a smooth surface.

I did not have to smear the ground with cow dung or mud. I had to cleanse the floor with water. Venkajji who began to sip coffee, given by her grandson, remembered the house of her daughter. It was a concrete house with marble flooring, coloured walls, a small garden around the house and a compound. Her house with all these facilities was really beautiful.



Venkkajji is now looking at the apartment of her grandson. It is a 15-20 storeyed building with more than 500 houses. There is a lift service to reach houses on the top floors. Certain machines were used to construct these houses. There are three bedrooms, a dining room, and a living room in this house. Every thing is really fine. Still houses are constructed like match boxes arranged closely. There is some problem of ventilation and light. Wardrobes are constructed to arrange the household articles in an orderly fashion. Doors and windows are not of wood. They are made of steel or plastic.

Venkkajji was surprised to observe the changes in the construction of houses from the huts to multi-storeyed buildings.

What have you learnt from this story? Write.

_____

_____

_____

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Name the five types of houses that appear in the story of Venkkajji.

_____, _____, _____, _____, _____.

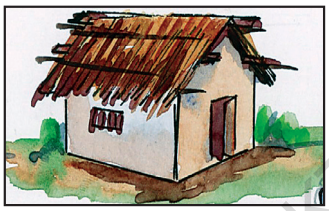
What changes have taken place in your locality in the construction of houses? Ask elders and write.

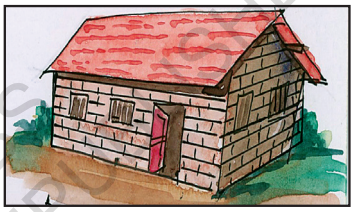
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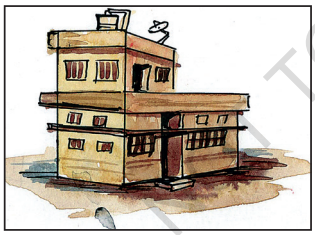
Materials used for the purpose of construction are changing. Write the materials used for the construction of buildings from a hut to a multi-storeyed building.

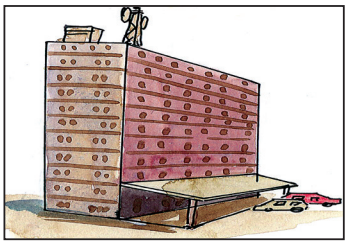




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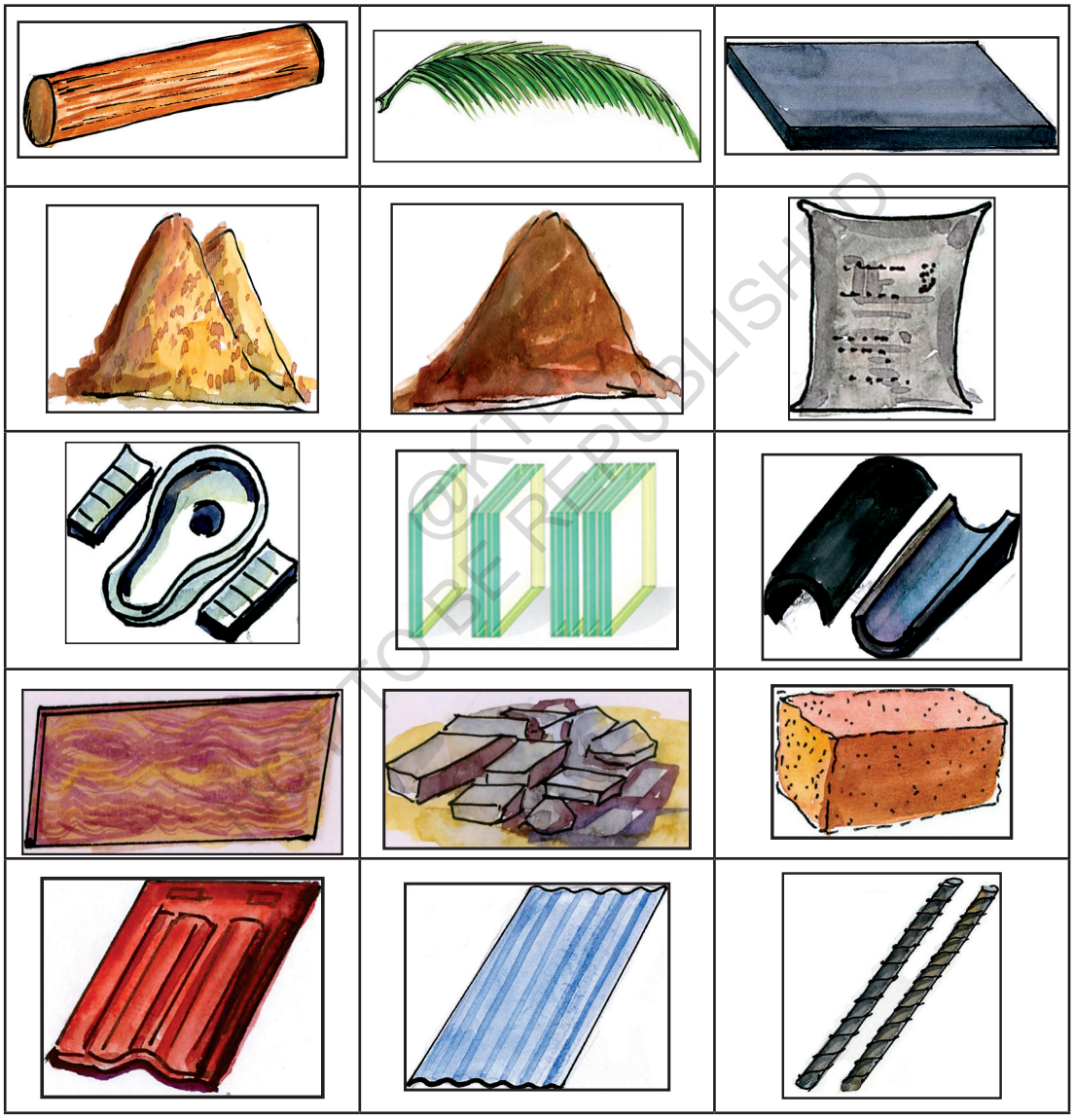
Know the price and write.

1. one bag of cement
2. one brick
3. one lorry load of sand
4. one ton of steel / iron

Now	One year ago

Know the type of wood used for the construction of a house.

Here are the pictures of materials that are essential for the construction of a house. Put a (✓) mark to the material that is used for the construction of your house.



There is a change in the construction of houses. Is there any change in the shelters of the animals and birds? Observe.

Haven't you observed the living places of certain animals and birds? Look at the shelters of the animals and birds and fill in the table given below.

Name of the animals	Their shelter	Materials used for construction of the shelters built by the animals
1. sparrow 2. white ant 3. weaver bird 4. parrot 5. tiger 6. fish 7. woodpecker 8. crow 9. frog 10. rat 11. honey bee 12. snake		

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There is a variety in the shelter of the animals also. They use different materials to build their shelters, don't they?

Do it yourself

Try to build the shelters of animals with paper, cardboard, grass, dry leaves etc. Build a house with materials like match box, cardboard, mud and bricks which are easily available .

Do you know this?

- ***Burj Khalifa*** *in Dubai is the tallest building in the world. Its height is 829.2 meters (2722 feet).*
- ***Dharavi*** *of Mumbai is the largest slum in India. More than 10 lakh people live there. It is also called the largest slum area of Asia.*
- *Now-a-days some projects have been implemented to construct eco-friendly houses by using the materials in a limited way. People are interested in constructing houses by adapting solar heater to heat water, rain water harvesting, management of garbage etc., in the house itself.*
- *There are records about the anthill which spreads for more than 650 acres. They are called* ***great nests****. Lakhs of ants live in them.*

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LESSON – 11
WASTE IS WEALTH

R3V6H5

After studying this lesson you will be able to,

- *distinguish between rural wastes and urban wastes.*
- *understand the proper methods of disposal of waste.*
- *practise the habit of reducing waste.*

One beautiful morning, a cricket came flying and sat on the dust bin. The dust bin began to tell about its difficulties to the cricket.



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Ugh! it smells bad.

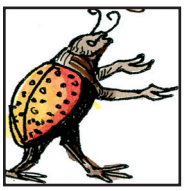


Look here brother, peels of vegetables and fruits, tea leaves and crumbs of bread! They are decaying and cause bad smell.



Hey! Cockroaches, What are you doing here?

We are very comfortable here. Look there. How my children are wandering here and there happily.



Brother, not only cockroaches but rats are also living here.



Brother, The wastes contain tins, plastics and rubber too. They do not decay. It is better to give them to people who buy old things.



Old bottles....
Old tins....
Old plastic....

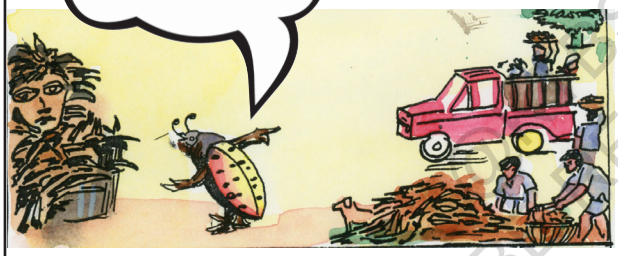
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See the things which have been thrown. Useful things can be made out of these colourful bottles, tins and pieces of paper.



See there. A model has been prepared out of waste materials by children!

Look there, a lorry is coming to take you.



Oh! I am clean now. Wastes should also be collected and classified well.

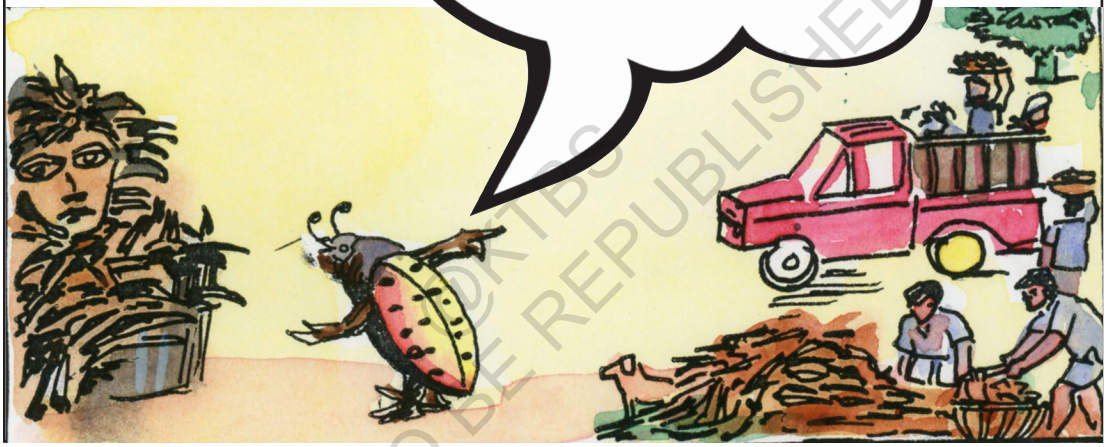




They take me to the outskirts of the locality. I decay there and change into manure.

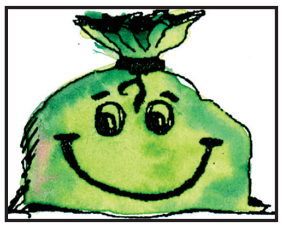
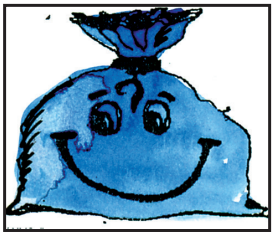
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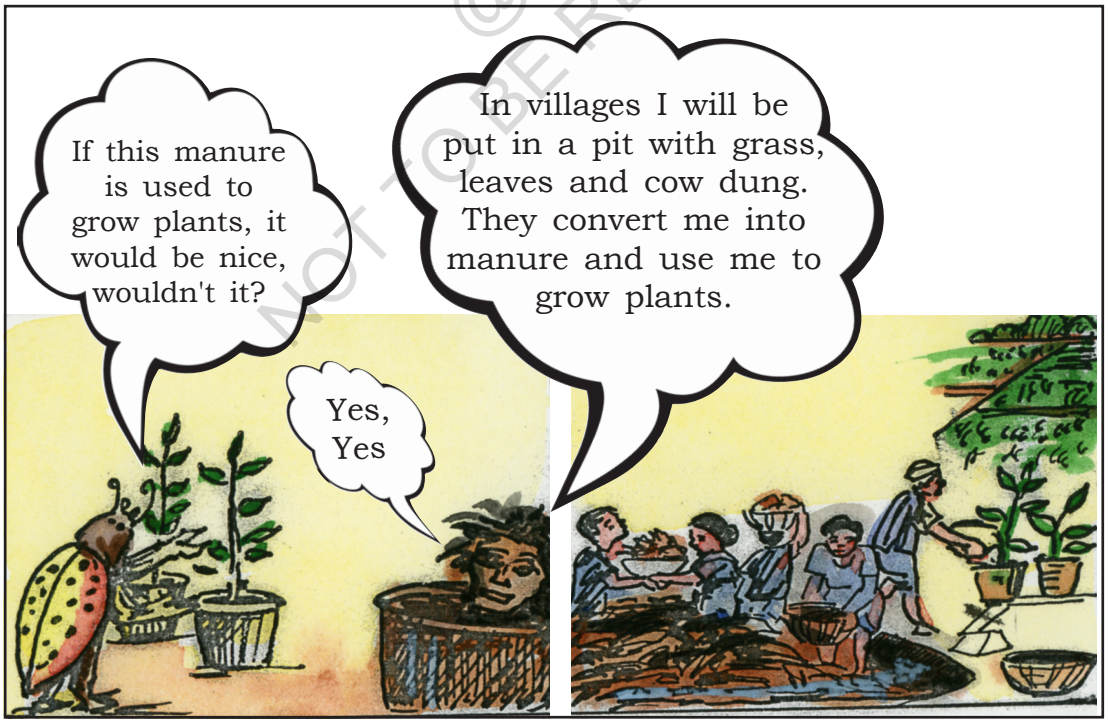
They are municipality workers. They have come with vehicles to collect waste from these dustbins. They remove the wastes from the dustbins and keep the place clean and tidy. They carry the wastes to the outskirts of the locality and dispose them there. See the board with instructions showing the types of wastes to be thrown in the dustbins.



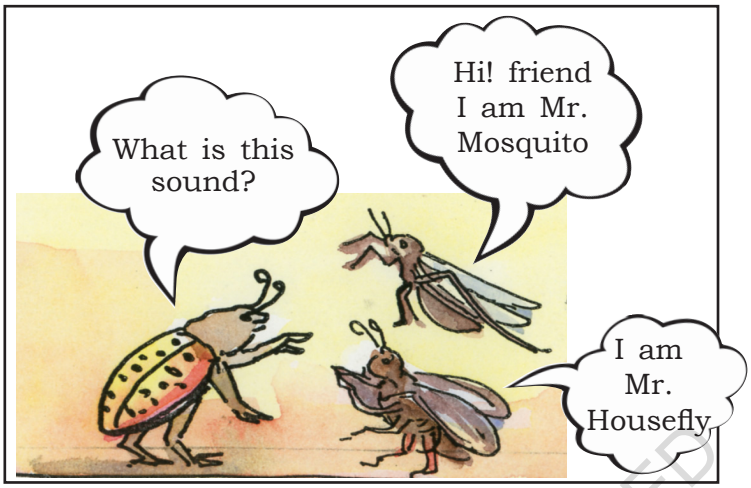
Dry waste		Plastic, glass, pieces of metal, rags, rubber etc., Give them to rag pickers.
Wet waste		Leftover food, kitchen waste, decaying food items, meat, vegetable wastes, dry leaves, pieces of paper etc. Convert them into manure.

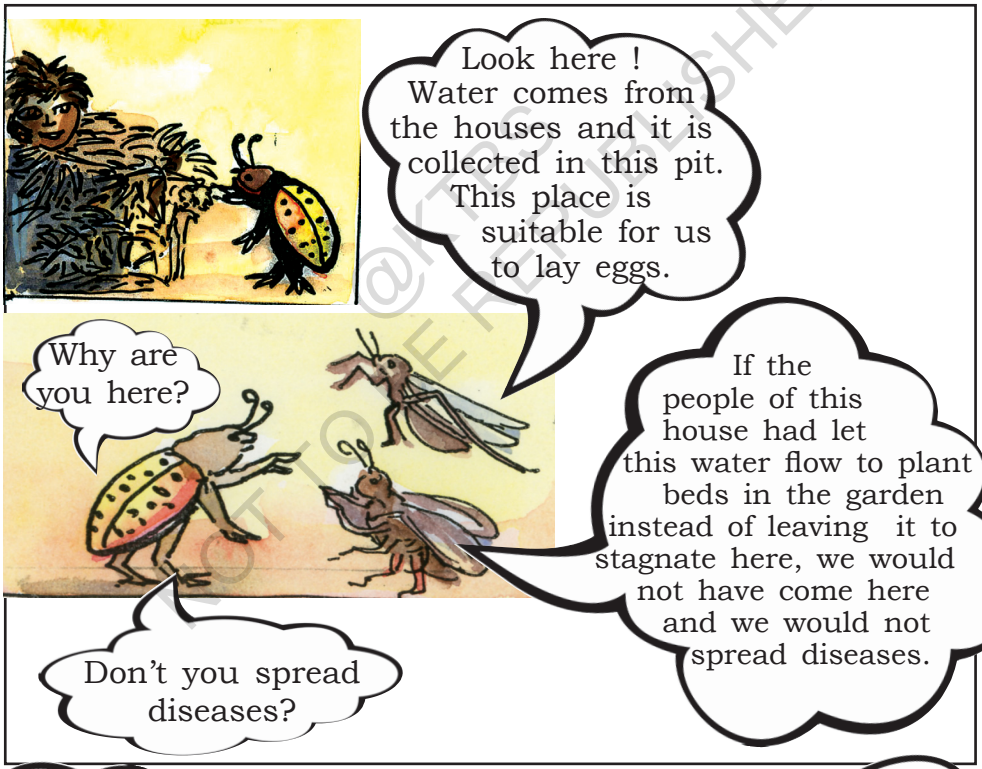
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Hazardous waste		Paints, insecticides, poisonous chemicals, broken tubelights, used batteries, expired medicines, etc. Keep them in bags and put them in the municipality bins for proper disposal.
Polluted waste		Used bandages, infected cotton, drips, syringes and used needles etc. Keep them in bags and put them in the municipality bins for proper disposal.



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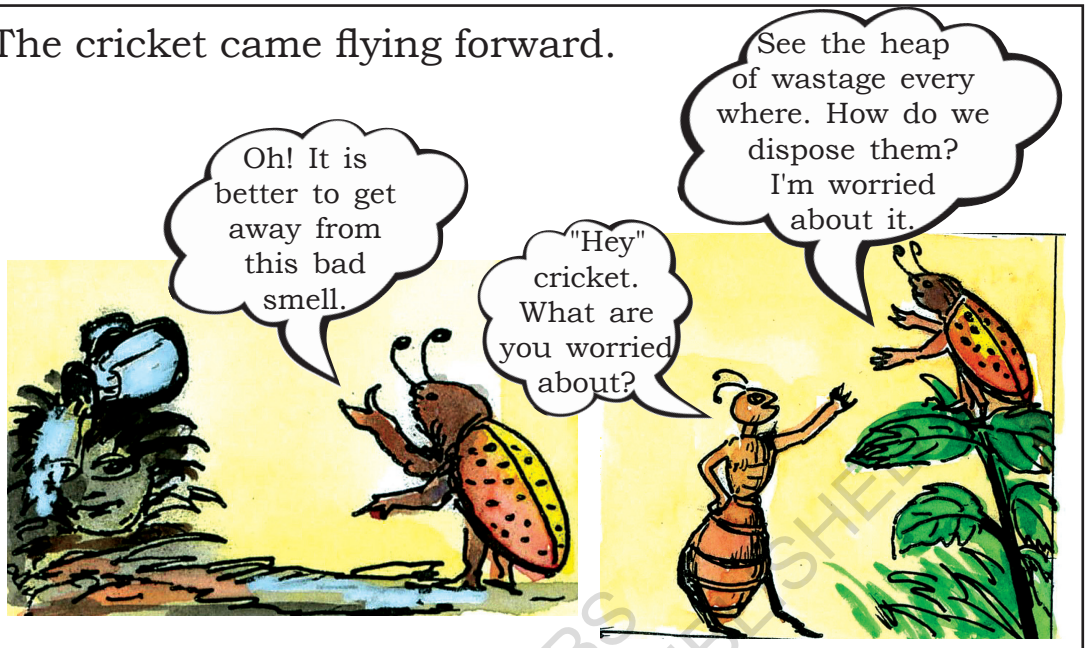






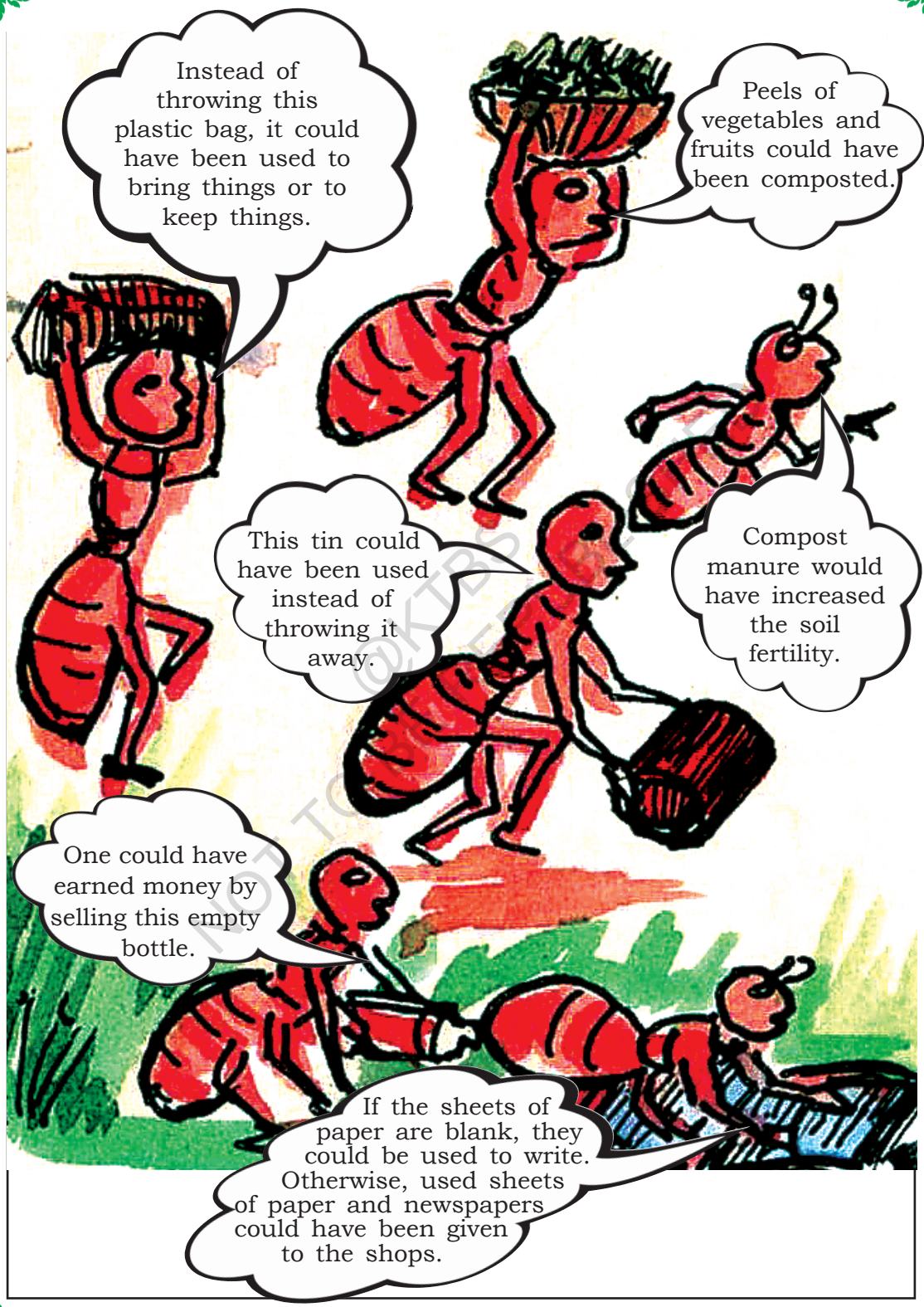
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The cricket came flying forward.



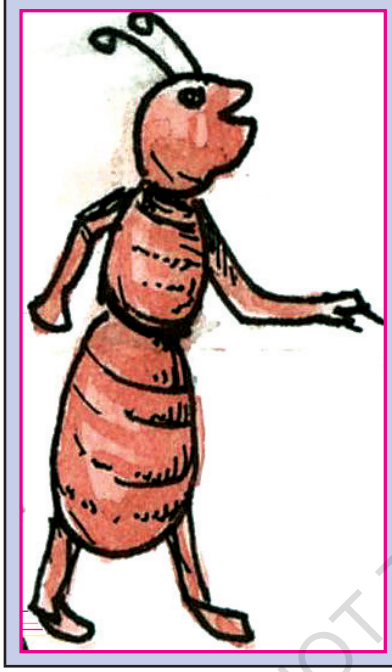


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Instead of throwing this plastic bag, it could have been used to bring things or to keep things.
Peels of vegetables and fruits could have been composted.
This tin could have been used instead of throwing it away.
Compost manure would have increased the soil fertility.
One could have earned money by selling this empty bottle.
If the sheets of paper are blank, they could be used to write. Otherwise, used sheets of paper and newspapers could have been given to the shops.



Hey! Brother, are you happy now?

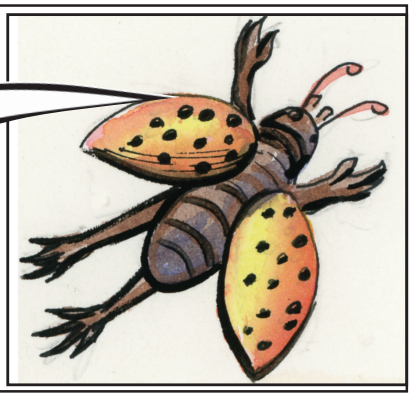


Know this

- *One should minimize one's requirements. It reduces waste.*
- *Many used things can be reused. This is* **reusing**.
- *Decaying wastes can be converted into compost that can be used to grow plants.*
- *New things can be prepared from used plastic sheets, glass and paper. This is called* **recycling**.
- *Used water can be used to water plants or drained into the soakpit.*

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I got the answers to my questions. What should people do with the waste generated in their houses? How to make them aware of it? I am going to the garden.



Answer these questions.

1. What is waste?

_____

_____

2. Write any five things that you throw as waste.

_____

_____

3. What do you do with the waste generated at your house?

_____

_____

4. What would happen if there is stagnant water in front of your house?

_____

_____

5. How do you dispose of your old books?

_____

_____

6. Collect the address of the department that is responsible for proper disposal of waste in your locality and write it here.

_____

_____

7. Make a list of the uses of waste.

_____

_____

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Identify and write which statement is 'right' and which statement is 'wrong'. Correct the statements which are wrong.

1. I throw waste here and there. _____ .
2. I will give the dress that does not fit me, to others. _____ .
3. I collect plastic covers and use them whenever needed. _____ .
4. I collect damaged plastic materials and give them to the people who buy old things. _____ .
5. I throw hazardous waste into the compost pit. _____ .

Write five things which you throw as waste at home. Write the type they belong to. How would you dispose them? Write them in the table given.

Sl.No.	Types of waste	Type	What do you do?
Example	Vegetable peelings	Wet waste	Compost them
1.			
2.			
3.			
4.			
5.			

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Do it yourself

Which objects decay?

Take a big bottle. Fill half the bottle with soil. Put leaves, vegetable and fruit peelings, small pieces of paper, plastic, rubber, cotton and small bottles. Put some more soil and sprinkle water on it. Every week observe the bottle and shake things in the bottle. Observe for three to four weeks. After four weeks, take out the things from the bottle, spread them an old news paper and observe the things. Which materials decayed? Which materials decayed fast? Which materials decayed slowly? Make a list of them.

1. What did you learn form this activity ?

_____

_____

Do it yourself

Keep the waste collected in your house for three days. Now classify them as decaying and non-decaying. Observe their size.

2. Write two observations.

_____

_____

3. Prepare compost using separated decaying waste in school and near home.

Do it yourself

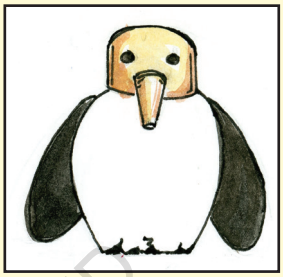
Dig a pit of ½ metre breadth and 1 metre depth in a corner of your school garden with the help of your friends. Collect and put the leaves, grass and pieces of paper in this pit. Sprinkle some water. Then spread some soil on it. Put the waste generated daily in your school in the pit, sprinkle some water and spread some soil. Stir the waste. Compost will be ready in three weeks. Put it to plants in your school garden. Prepare compost near your house also.

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4. Encourage your neighbours to dispose of waste in a proper way. Prepare and exhibit posters regarding the proper disposal of waste.

Do it yourself

Penguin from egg shell



Take an egg and empty it by making a small hole at the top. Now fix the cap of an eye or ear drop bottle. Turn the hole of the egg upside down and fix this cap on the opposite side. Take a card board, cut in the shape of wings and colour them black. Fix them on either side of the egg shell. Put two black dots on either side of the cap with a black pen as eyes of penguin. Your penguin is ready. Use it to decorate your house.

Do it yourself

Rain cap from plastic

- *Cut a plastic sheet which is two times the area of your head.*
- *Fold the sheet into pleats of two inches each.*
- *Join both the ends by pleats keeping a cloth strip and stitch them together. Your rain cap is ready to protect your head from rain or heat.*

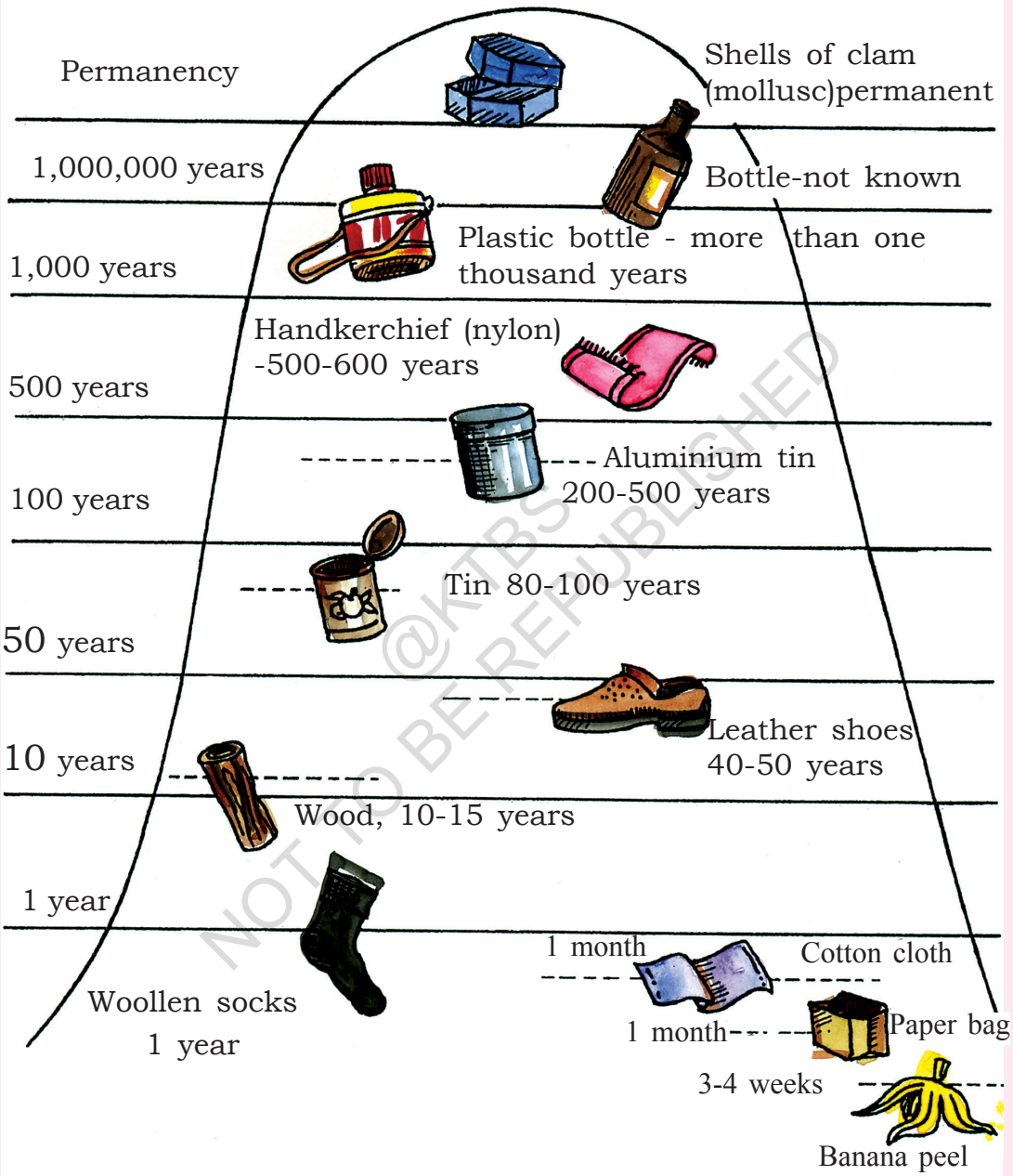
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Similarly decorate old plastic or tin boxes and use them as pen stands and flower vases to decorate the house.

Did you know ?

- *We can convert and use about 75-80 percent of the total solid wastes generated in our country into manure.*
- *New materials are made by recycling glass, metal and plastic materials.*
- *Packing of some products costs more than the products themselves.*
- *Every year innumerable number of sea animals die due to plastic wastes.*
- *If cotton cloth takes one month to decay, nylon cloth takes 500-600 years to decay.*

When do these things decay?



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LESSON – 12

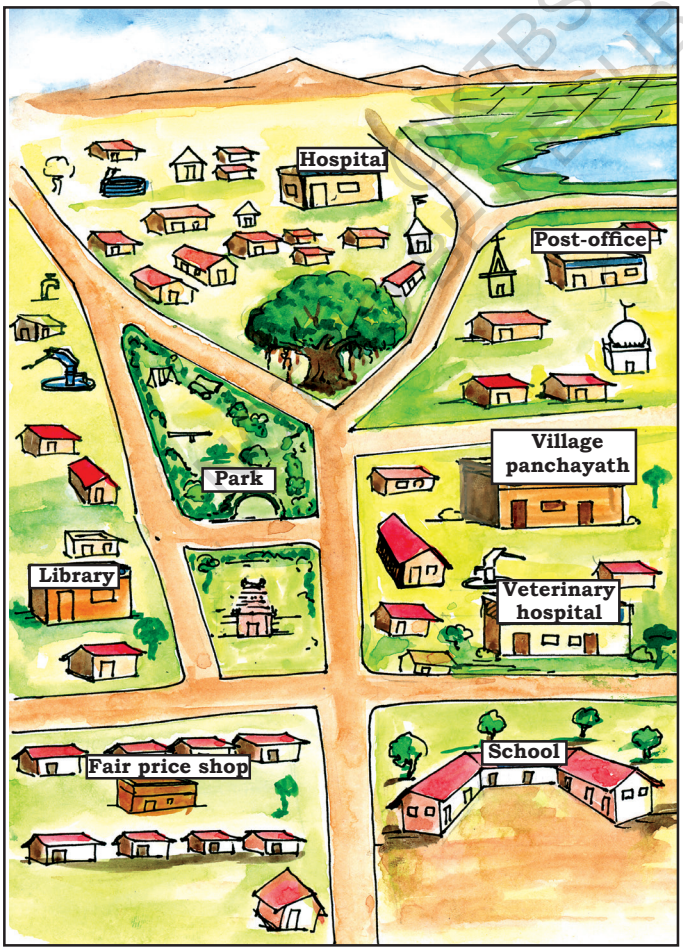
LEARN MAPPING - KNOW DIRECTIONS

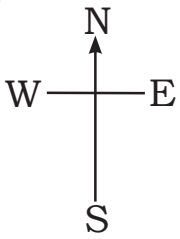
K4S3Z9

After studying this lesson you will be able to,

- *locate direction by using local symbols.*
- *learn the basic skills of drawing maps and draw map using different symbols to locate the places.*

You know something about mapping. Look at the map given below. There is a big banyan tree in the middle of the village. Identify it.





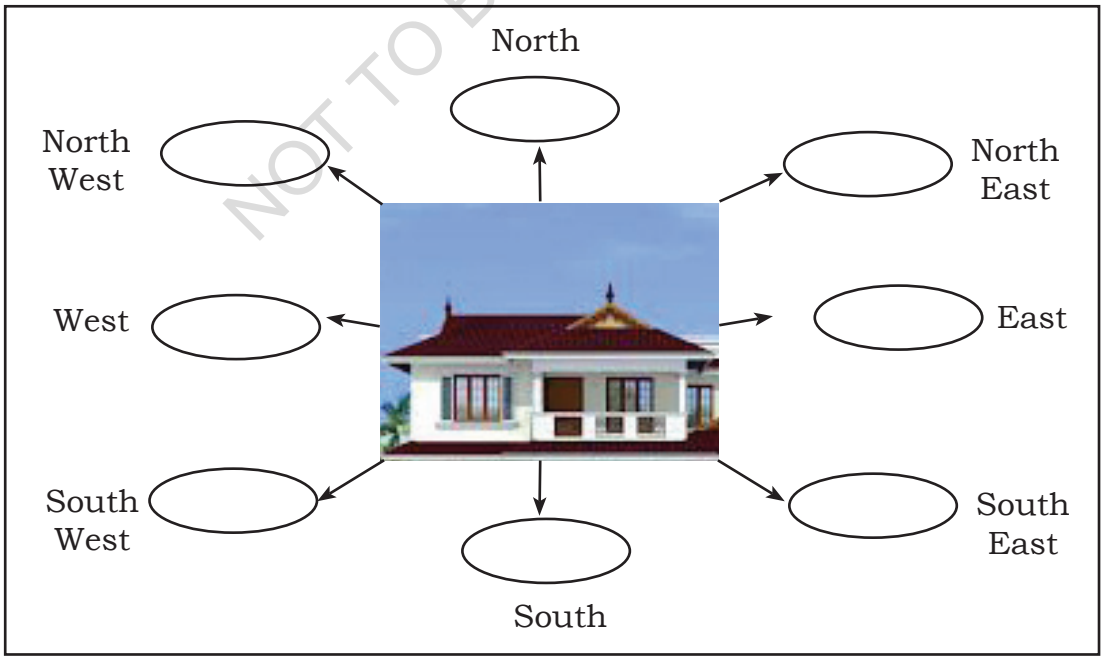
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Write the directions of the given places with reference to the banyan tree.

1. *pond* _____
2. *library* _____
3. *school* _____
4. *post-office* _____
5. *park* _____
6. *temple* _____
7. *fair-price shop* _____
8. *veterinary hospital* _____
9. *mosque* _____
10. *church* _____
11. *hospital* _____
12. *well* _____

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Your house is shown in the picture given below. Write the things around your house according to the direction.



Write the things around your school according to the direction.

East _____ West _____

North _____ South _____

North East _____ North West _____

South West _____ South East _____

Observe the map of Karnataka in your school. Write the direction of the places given with reference to the state.

Arabian sea _____ Andhra Pradesh _____

Maharasthra _____ Kerala _____

Yasmin of 4th standard has learnt to draw a simple map of her classroom. Listen to her.

Yasmin : My teacher asked me to measure the length and breadth of my class room with my footsteps. When I did so, I found that the length of the room is twelve footsteps and breadth of the room is ten footsteps. My teacher told me that my two footsteps are equal to one meter. The footsteps differs from person to person. Someone's one footstep may be $\frac{3}{4}$th of a meter. Know the length of your footstep. Measure your room by placing your footsteps and record it. I'll tell you how to draw the same on a sheet of paper. Let us imagine that the length of the room, you measured is 12 footsteps and breadth is 10 foot steps.

So, if your two footsteps are equal to 1 metre

12 feet : 6 metre

10 feet : 5 metre

That means the length of the room = 6 metres

The breadth of the room = 5 metres

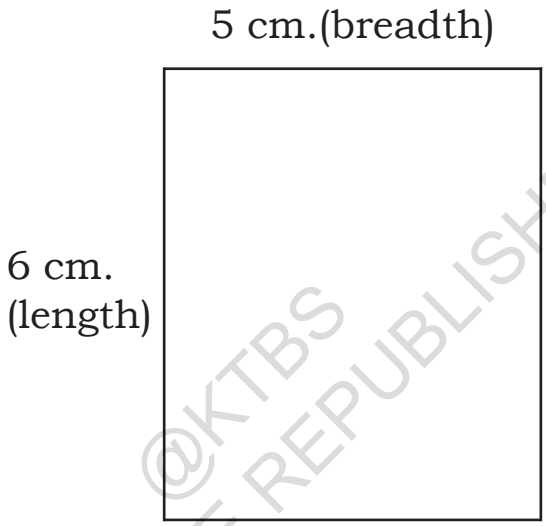
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If we convert one metre into one centimeter on a scale,

6 metre = 6 cm.

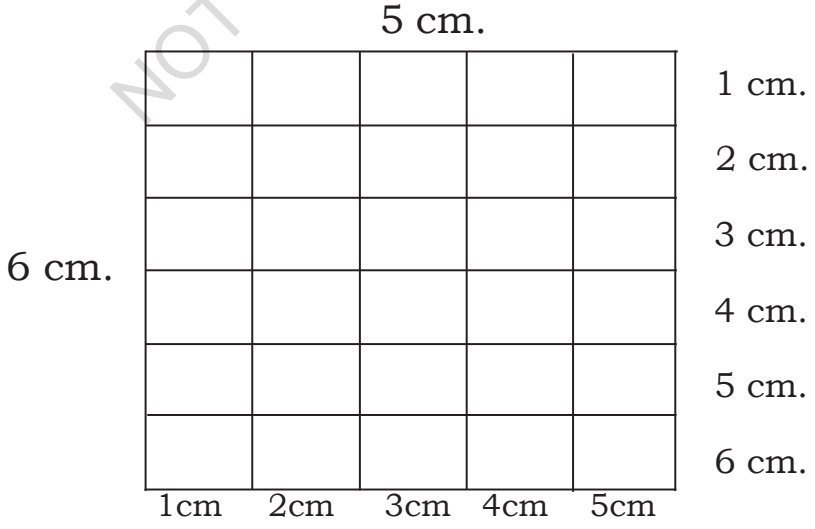
5 metre = 5 cm.

Sketch this measurement in cm on a sheet of paper. This is the outline map of your class room.

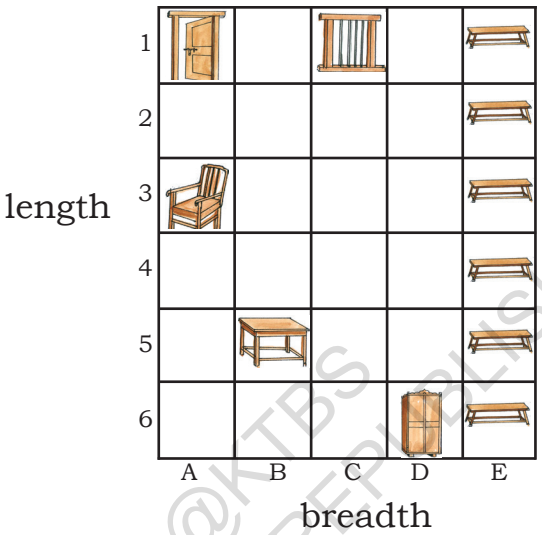


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Now you have to identify the things. To locate the exact position of these things, draw lines of 1cm distance as shown on the map given below.



Now, give a number to each of the following squares. Give numbers for length, and letters for breadth. It helps to identify the things easily. Then identify the things inside the classroom in these squares according to their position. One example is given here.



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Identify the squares on the map in which the things are situated.

Things	Breadth	Length
door	A	1
window		
chair		
wardrobe		
bench 1.		
2.		
3.		
4.		
5.		
6.		

Sketch the map of the classroom of your school or house measured by you as you learnt from Yasmin. Identify the things of that room in the map.

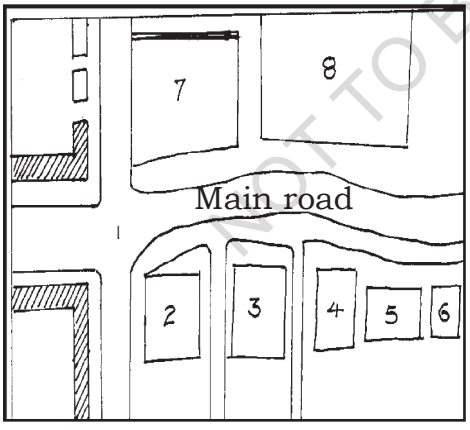
Know this

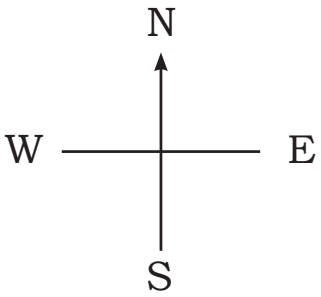
Large area can be represented on a map. The squares in the maps are helpful to find out the exact location of the things.

Let us see how Anwar directed a person to go to taluk office.

In the centre of the main road there is the Gandhi Circle. If you go towards its east, on the right side you will see a hotel. Next to this, there is a hostel, then a post office and a school. Next to the school is the taluk office. It is situated about twenty meters away from the school. I have measured the distance by my foot steps.

Anwar has drawn a simple map of the area from Gandhi Circle to the Taluk office with the help of directions and landmarks.





Landmarks :

1. circle
2. hotel
3. hostel
4. post office
5. primary school
6. taluk office
7. high school
8. playground

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Answer the following in a sentence each.

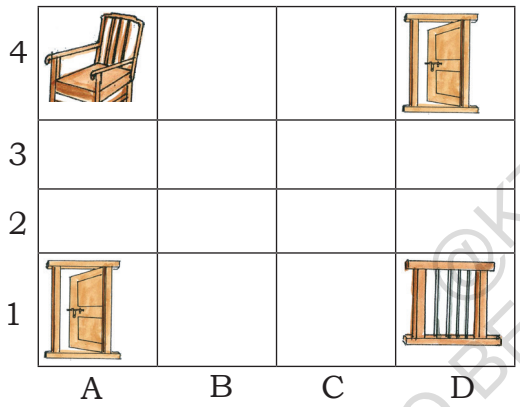
1. Which measurement is used on a map to sketch a vast area?

_____

2. How can the exact location of the things be represented on a map?

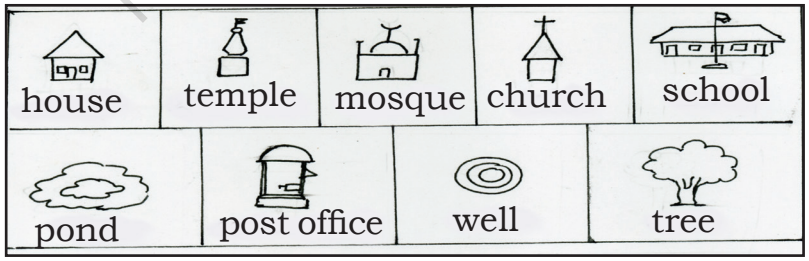
_____

In a square-shaped room, a table and four chairs have to be arranged. How do you arrange them in the map of the room.



Things	Square	Things	Square
	A 4		_____
	D 1		_____
	D 4		_____
	A 1		_____
			_____

Draw a simple route map from your house to your school. You can use the following symbols to draw the route map.



After drawing the maps, exchange your maps with your friends'. Know the route, directions and land marks to your friend's house from the maps. Route map can be drawn with the help of land marks and directions.

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In this simple map, a bus route has been shown with arrow marks. Make a list of the landmarks you see while travelling by bus.



Do you know this?

- *All the maps have centimeters or inches as the units of measurement.*
- *World map is the map of the earth.*
- *One can easily understand the physical features, land routes and populated areas with the help of the map.*
- *Longitudes and latitudes, the imaginary lines help to form the grid on the map.*
- *There are different types of maps. For example, physical map, soil map, weather map, train route map etc.*
- *It is believed that the Egyptian kings used to draw maps to know the regions of their rule and the Greeks drew the map of the earth in 540 B.C.*

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Constitution of India

Part IV A (Article 51 A)

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, wildlife 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.

Note: The Article 51A containing Fundamental Duties was inserted by the Constitution (42nd Amendment) Act, 1976 (with effect from 3 January 1977).

*(k) was inserted by the Constitution (86th Amendment) Act, 2002 (with effect from 1 April 2010).

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Hello Children!

If you feel uneasy about someone touching you inappropriately, you should not keep quiet. You must

1. Not blame yourself
2. Tell someone whom you trust
3. You can also inform National Commission for Protection of Child Rights through the **POCSO e-box**.

When you get an unsafe touch, you may feel bad, confused and helpless
You need not feel "bad" because it's not your fault



POCSO e-box available at NCPCR@gov.in

नए समाज की ओर
Towards a new dawn

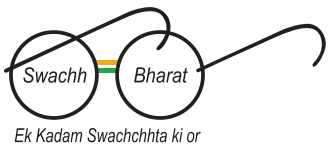
If you are below 18 years of age, and are troubled or confused or abused or in distress or know some other child who is...

*Call **1098**...because some numbers are good!*
They change lives!!!



CHILDLINE 1098 - a national 24 hours toll free emergency phone service for children in distress is an initiative of CHILDLINE India Foundation supported by Ministry of Women & Child Development

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Towards a new dawn



Ek Kadam Swachchhta ki or

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