

## MESSAGE ON ENERGISED TEXTBOOKS

This year, we are introducing an innovative education initiative - Energised Textbooks under the DIKSHA(Digital Infrastructure for Knowledge Sharing). This concept enables us to bridge the physical and digital worlds. With the help of QR codes that are embedded in the textbooks, one is able to access relevant digital content supporting the topic under study.

The initiative allows for content creation and sharing across all schools within the state. Access and usage is simplified with the content being available both offline and online.

We thank the providers of the solution and the content creators who have energized the EVS textbooks for classes 3, 4 and 5.

We sincerely hope that this initiative empowers both the teachers in their quest for imparting knowledge and the students in their quest in inculcating knowledge.

We look forward to your active usage and feedback on how we can make it better and more rewarding learning experience.

**Dr. M. Meenakumari Devi**  
**Director, SCERT**  
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# ENVIRONMENTAL STUDIES CLASS - IV

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**BOARD OF SECONDARY EDUCATION  
MANIPUR**

**Published by :**

*The Secretary,*

Board of Secondary Education, Manipur

Imphal – 795 001

© Board of Secondary Education, Manipur

*First Edition* : November, 2011

*Second Edition* : August, 2014

*Reprint* : October, 2016

*Reprint* : January, 2019

*Reprint* : September, 2019

*Reprint* : Decembber, 2019

**No. of copies :** 1,000


*Price :* Rs. 65/-

Printed at : CD Byte Computers, Imphal - 795001

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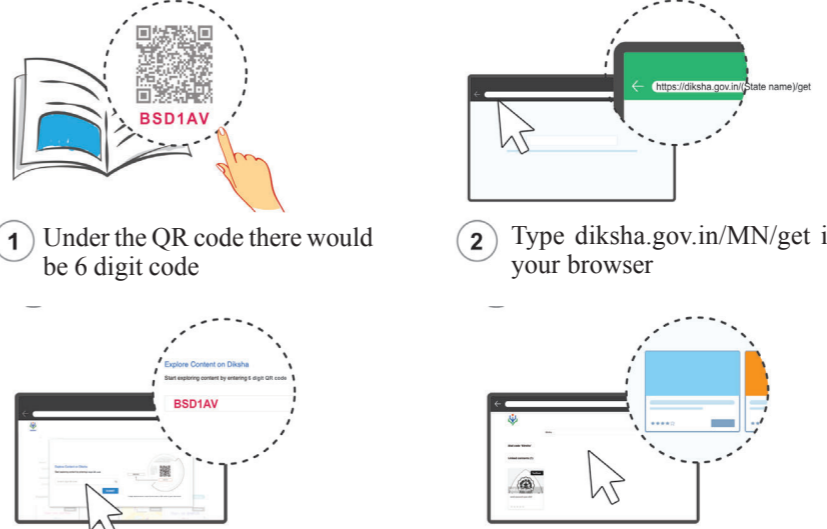
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### **GANDHIJI'S TALISMAN**

*"I will give you a talisman. Whenever you are in doubt or when the self becomes too much with you, apply the following test :*

*Recall the face of the poorest and the weakest man whom you may have seen and ask yourself if the step you contemplate is going to be of any use to him. Will he gain anything by it ? Will it restore him to a control over his own life and destiny ? In other words, will it lead to Swaraj for the hungry and spiritually starving millions?*

*Then you will find your doubts and your self melting away."*

*M.K. Gandhi*

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## **FOREWORD**

In keeping abreast with the change in the contents, writing and structure of the Text-books at national level and in line with the National Curriculum Framework 2005, the Board of Secondary Education, Manipur, has been developing text-books for the schools of Manipur. Since its inception, the Board has been trying to promote education for improving the quality of life in the state.

Under the DIKSHA (Digital Infrastructure for Knowledge Sharing) initiative, the Board has embedded QR Codes in the text-books of Environmental Studies of Classes III – V. These ‘Energised Text-books’ will empower both students as well as teachers to bridge the physical and digital world lead to exponential learning.

The Text-book in its present form is an outcome of a series of consultations & meetings held with the authors and reviewers. Utmost care has been taken to relate to local context and made suitable for use by students in Manipur. Every effort has been given to make the book holistic and engaging.

I thank the authors and reviewers and all those who have contributed in bringing out the book.

The Board welcomes valuable suggestions for improvement.

**Dr. Chithung Mary Thomas**  
Secretary

## Learning Outcomes

Class 5

Environmental Studies

### The learner:

- identifies simple features (shape, colour, areas, where they grow/ live/ other) of flowers, roots and fruits and of birds and animals (beaks /teeth, claws, ears, hair, nests / shelters, etc.) in the surroundings.
- identifies relationship with and among family members in extended family.
- explains the herd / group behaviour in animals (ants, bees, elephants), birds (building nests), changes in family (e.g. due to birth, marriage, divorce, etc).
- describes different skilled work (farming, construction, art / craft, etc.), their inheritance (own work) and training (role of institutions) in daily life.
- explains the process of producing and procuring of daily needs from source to home.
- differentiates between objects and activities of past and present (e.g. transport, currency, houses, materials, tools, arts, etc.)
- groups the animals, birds, plants, objects, waste material for observable features (appearance, habits, uses, facts, etc.)
- guesses (properties, conditions of phenomena), estimated spatial quantities (length, weight) in standard / local units (m, kg, etc.) and verifies using simple tools.
- records observations / experiences / information in different ways and predicts patterns to establish relation between cause and effect for different phenomena in surroundings. (e.g. evaporation, condensation, dissolution, etc.)
- identifies signs, location of objects / places and guides for the directions w.r.t landmark in school / neighbourhood using maps etc.
- uses the information on signboards, posters, currency (notes / coins), railway ticket / time table.
- creates collage, designs, models, rangolis, posters, albums, and simple maps (of school, neighbourhood etc.) using local / waste material.
- voices opinion on issues observed / experienced in family / school / neighbourhood. (e.g. on stereotypes, discrimination, child rights).
- suggests ways for hygiene, reduce, reuse, recycle and takes care different living beings, resources (food, water, and public property).



Ministry of Education  
Government of India

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are meanings for playing sports. There are funs, good discipline, entertainments, good health mentally and physically. Therefore, playing games and sports has been a prime importance for a country for its good governance. However, in a country like India where the number of population is more than a billion, to keep each and every citizen healthy is not an easy task. The government has given continuous effort for the development of games and sports.

There are many games which can be played at our home. Board games, like carrom, chinese checkers, snakes and ladders, chess, ludo, scrabble, etc. are indoor games whereas lawn tennis, hide and seek, football, volleyball, cricket, kabadi, hockey, basketball, etc. are outdoor games. Boxing, judo, karate, kung-fu, etc. are some form of fighting games.

The important components of games are goals, rules, challenge and interaction. Generally, goals involve mental or physical stimulation and often both. Many games help in developing practical skills, serve as a form of exercise or otherwise perform an educational, stimulatory or psychological roles.

**Write the names of the game that you play both at home and school.**

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The requirements that we need to play a game depends on game we play. Some of the games do not require much materials, for example, race, kabadi, hide and seek, etc. will require only the field or place where we should play. Some board or card games require cheap materials to play. The school provides most of the materials to play different indoor and some outdoor games. However, some of the games require big fields,

## LESSON No. 1



### MOTHER AND CHILD

What is the name of your mother?

The name of my mother is \_\_\_\_\_

When she was young like you, where was she living?

\_\_\_\_\_

What is the name of your mother's father? And what do you call your mother's father?

The name of my mother's father is \_\_\_\_\_

I call him \_\_\_\_\_

He is your maternal grandfather.

**Who are there in the family of your maternal grandfather's family?**

Mother of your mother is your maternal **grandmother**.

Brothers of your mother are your **maternal uncles**.

Sisters of your mother are your **maternal aunts**.

Your mother lived with them in a family before she married your father.

**Find out from your mother**

- † Where did she live before her marriage?
- † Did she change her name after marriage?
- † Who are the family members she live with when she was of your age?

After marriage your mother shifted to your family. The members of her former family are her relatives. They are your relatives also.

Your mother got new relatives after marriage. She becomes the member of your father's family. She got father-in-law, mother-in-law and some more relatives.



**Have you seen a newborn baby and where did she come from? Where does the puppy, kitten, calf and chick come from?**

young ones come from a mother's baby. The young ones, including you, were the parts of the mother's body. That is why your mother loves you the most.



To learn more, let us hear the story of family of Alena. Alena is 10 years old. She studies in class-IV. She lives with her parents an grandparents.

**LESSON No. 3**



**FUNS AT PLAY**

**Play is a way of socialisation and fostering team spirit**

Play is fun. Initially when we play with strangers, we tend to compete and fight. But gradually we start respecting them for their skills and courage. Over time, we become friends. By playing together we start looking after each other. A spirit of comradeship binds us. This is called the team spirit.

Children are the future pillars of the nation . Every child should have the right to learn, play and enjoy. This will lead to a successful development of mental and physical health in their future life. Child life is a beautiful and delicate period during which lots of changes are happened. If proper guidance is not given to the children it may affect the future of the child. To remain healthy, children are required to give proper and sufficient nutrition, good moral education, proper guidance, and many more advices. The future of a nation remains in the hands of today's children. When they become adults they would shape the fate of the nation. One of the most important activities that the children would require during their childhood is playing games and sports.

Keeping our body in sound health is a very important duty to be done by everybody in life. Without good health the charm of life is generally taken to be meaningless. A nation can be called developed only when sport is taken as one of its prior subjects of importance. Therefore, developed countries give more priority to the development of health and education . There

\* Do you have any family member who do not stay with you? Name them. Where do they live?

\_\_\_\_\_

\* Tell us when do you meet members of your family who do not live with you?

\_\_\_\_\_

\* Name any four festivals you celebrate together with them? Complete the table.

Name of the festival	Month	Anything you remember
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

They live in a beautiful house.

Alena's parents got married before 16 years. How young they were at that time!

Three years after their marriage Alena's mother was like this as shown in the picture.



At that time Alena was growing inside her mother's body. That is why her mother's body was changed.

Do you know that a child grows for nine months inside the mother's body before being born? Like Alena you too were a tiny speck inside your mother's body at first. Then you grew up and developed all your body parts inside her body. And finally, you were born.

- Write the name of the person who joined your family last.

\_\_\_\_\_

- How did he/she join your family?

\_\_\_\_\_

**ACTIVITY**

*Mother is the most beautiful woman on earth. She loves you the most. She expresses her love and affection for you by cooing and cuddling, by taking care of you, and by keeping you safe and healthy.*

*Now tell us how much do you love you mother? Write a poem to express how much you love her.*



**LESSON No. 2**



**MY EXTENDED FAMILY**

**Are there things you learn from your family members?**

Home is the first school of life. You can learn many things from the other members of your family.

Love, cooperation, discipline, commitment and sacrifice are important values for a society. Children are exposed to these values for the first time in their families. They learn these from family members.

Name five things you learn from your family members. Who are the family members?

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

**Do all your family members live with you all the time?**

All family members do not stay together. Your father’s brothers and sisters move away from your house after their marriage. Some have to stay in other places on account of the work they do. Then, there are also relatives who are not family members. You have learnt about your mothers relatives who continue to live in her maternal house. These are your extended family members.

Let us hear Alena’s story.

“Five years ago my father was transferred to Kamjong. That is a beautiful hilly place. My family had to shift to the new place. I did not want to leave the original place where we lived because I’ll be missing my school, my friends and other family members. However, after shifting to the new place, within a few months of staying there, I began to like the new school and made new friends. I was happy once again.

Many times during the holidays my uncles, aunts and cousins came to visit our new home. We also visited them during our vacations. All of us together performed family celebrations like birthdays and other festivals. I enjoyed going for *NingolChakouba* the most with my mother to her maternal family.”

After hearing Alena’s story we understand that most families keep in touch with each other although they live far away from one another. This is in order to maintain a strong bond of relationship, love and cooperation.



Migration

Some birds and animals move from one part of the world to another, according to the season. This is called migration. Usually birds from very cold countries migrate to warmer countries during winter. Animals also migrate from one place to another during certain time of the year, for greener pastures. Birds from Russia and other European countries flock in during the winter season at Loktak Lake of Manipur.



†With the help of your teachers, find out the names of some birds that come to Loktak Lake.

Group Living

Insects also live in groups. Bees, ants and termites live in groups. Termites live in their house called **termitary**. Life in an ant colony is very organized. Thousands of ant live together. Bees are also social and live in colonies. The queen bee, worker bees and drones live together in a hive. Worker bees collect food, guard and look after the young ones.



courses, good and costly infrastructure, etc. For school going children , most of the materials are supplied by the schools.

Whereas games are often characterized and defined by their rules. While rules are subject to variations and changes, enough changes in the rules usually results in a “new” game. For instance, baseball can be played with “real” baseballs or with waffleballs. However, if the players decide to play with only three bases, they are arguably playing a different game. There are exceptions to this that some games deliberately involve the changing of their own rules, but even then there are often unchangeable meta-rules.



Rules generally determine turn order, the rights and responsibilities of the players, and each player’s goals.

**ACTIVITY**

*Discuss any game. Make your own rules. Write them down and play the game.*

**LESSON No. 4**



**HOW THEY LEARN THEIR SKILLS**

There are different types of people in our society. They work at various working places. They work at different capacities. We are also related to their works directly or indirectly. They are doing their activities for earning their livelihood. Such a regular activity that one does spending most of the time to get livelihood is called occupation.

Write the occupation of your parent in the space provided:

\_\_\_\_\_

We go to school in uniform dress. Different people have different dresses of various colours and sizes. We require to wear clothes of suitable sizes. The person who sews, makes and repair our clothes is known as a **tailor**. His or her occupation is tailoring. A tailor cuts a larger cloth into suitable smaller pieces to make our dresses. Both man and woman do this occupation. Nowadays, varieties of sewing machines are available in the market.



Fill in the following blanks with suitable words:

- A person who sells flower \_\_\_\_\_
- A person who sells meat \_\_\_\_\_
- A person who sells fruits and vegetables \_\_\_\_\_
- A person who sells medicines \_\_\_\_\_

Female elephants move with their calves in herd of twenty to thirty. Other animals like Horses, Zebras and Giraffes also move in herds. While animals move in groups the young ones are kept in the middle. It is dangerous to go near any animal that is with its young one.

Lions live in groups called 'Prides'. Each pride may have four to twelve lionesses and their cubs. Lions and Hyenas hunt in group.

Give the group name of the following:

1. Fishes \_\_\_\_\_
2. Cows \_\_\_\_\_
3. Hyenas \_\_\_\_\_
4. Monkeys \_\_\_\_\_
5. Penguins \_\_\_\_\_ While animals move in groups the young ones are kept in the middle. It is dangerous to go near any animal that is with its young one.

**LESSON No. 5**



**FRIENDS OF ANIMALS AND UNUSUAL FEATURES OF SOME ANIMALS**

We all live with our family. We spend time in the company of friends and neighbours.

Do you think animals also live in families or groups ?

Animals are also social beings like us. They also live together in groups. Animals, mostly plant eaters like to move in groups. Cows, buffaloes, sheep, pigs, elephants etc. are some animals that move in groups. They move in groups in order to search for food and water and to stay safe from enemies.



- A person who makes cloth \_\_\_\_\_
- A person who makes sculpture \_\_\_\_\_
- A person who clean the dirty things \_\_\_\_\_
- A person who builds our house \_\_\_\_\_
- A person who makes aircraft \_\_\_\_\_
- A person who runs a hotel \_\_\_\_\_

A person who flies aeroplane is called a pilot. A man or a woman can be a pilot provided they are qualified, mentally and physically fit. There are many woman pilots also in our country. You too may become a pilot when you are grown up.



*Wilbur wright (April 16, 1867-May 30, 1912)*



*Orville wright (August 19, 1871-January 30, 1948)*

The inventors of aeroplane were Orville and Wilbur Wright. On December 17, 1903, the Wright brothers made the first successful experiment in which a machine (aka airplane) carrying a man rose by its own power, flew naturally and at even speed, and descended without damage.



What are these people doing? Write their occupation. What tools do they use for their works?

---

Write the occupations of five person of your neighbours or relatives.

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A person who repairs and makes shoes is called a **cobbler**. We use shoes of different designs and sizes, suitable for our footwear. Generally, man does the work of shoe making and repairing. However, there are many big industries and shops where women are working.



Have you seen the men who build the bridges? What do you call them?

A doctor sees the body of a patient and cures him or her from a certain disease. The work of the doctors for the human being is noble and many people like it. There are men and women doctors.



Embroidery is the art or handicraft of decorating fabric or other materials with needle and thread or yarn. Embroidery may also incorporate other materials such as metal strips, pearls, beads, quills and sequins. Mostly women are working in such type of occupation.

**ACTIVITY**

*Share information of a visit to a tailoring house or shoe factory or any other trade through drawing or narration.*

### Apiculture

Man rear honeybees economically.

What do you call the activity of rearing bees economically?

The activity of rearing bees for the production of honey is called beekeeping or **apiculture**. The place where bees are kept for this purpose is called an apiary.

An apiary should be located near a place where the bees can find large number of flowers and nectar. In an apiary bees are kept in beehive boxes. These are tightly closed boxes with a small entrance for bees.



To get honey from the beehive boxes, the bees are first driven out by a device called smoker. The frames are taken out and honey is extracted from it by a machine called **Honey Extractor**. Honey varies in taste and colour depending on the flower from which nectar is gathered.

### Activity

Visit to a nearby garden or school garden with your friends and observe the animals (insects) sitting on the flowers. Try to find out at least three different types. Draw their picture and name them.

### UNUSUAL FEATURES OF SOME ANIMALS

Hearing is one of the senses of animals. All animals depend upon the sound for information about the world around. Animals listen to hunt for food and also listen to hide from enemies. They make sounds to call each other or warn of danger.



How does hearing take place in animals? Most of the animals have ears. Ears are of different sizes and shapes in animals. Birds have a small hole like ear and an elephant have a big ear.



#### Observe the other uses of Ears:

An elephant uses his ears as a fan to keep the body cool. Sometimes big ears are used for other things than hearing.

Bats and foxes use their big ears to find prey and escape from enemies.

The ears of birds are small with two holes in their heads. Bird's ear may be tiny but they are very powerful.

A bird flying high in the air can hear a fish jump in the water.

Have you seen a dog prick up its ears and move them from front to back? These movable ears help them detect from where the sound is coming.



Bats use their ears to 'see'. Flying bats produce sound and this sound bounce off every object and echo back. The bat's ear catches the echo and helps the bat know the location of the object.



The ears of men, bears, foxes, dogs, cats, cows and elephants can be seen from outside. They are called external ears. Birds, frogs, lizards, snakes, cockroaches, etc. do not have external ears.

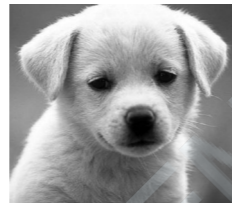
The sound of hearing is caught only by the external ears. The actual hearing occurs inside the ears.

### Body Coverings

#### What is your body covered with?

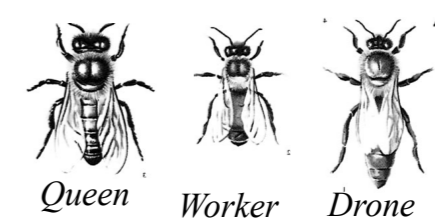
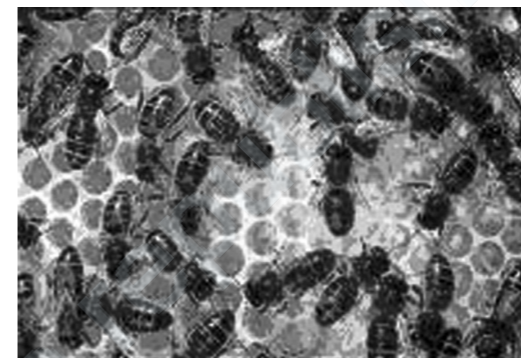
Animals have different types of body coverings.

Some animals have skin with hairs, feathers and scales. Scales are flat plates on the body of an animal.



### Life of bees in a Beehive

Bees are social by nature and live in colonies. Why do we say bees are social animals?



The domestic honeybees also live in colonies. They live in beehives. Nearly 50,000 to 80,000 bees live together in a hive. They are of three types- the queen bee, the worker bees and the drones. Each type of bees has a specific job. They exhibit division of labour like human beings. The workers keep the beehives clean, tend the young and old, they look for nectar and pollen. The queen bees lay eggs. The drones help in reproduction.

Bee produces a chemical known as pheromones which help them to communicate with each other. Division of labour is very essential for harmony when we live in groups.

Many animals eat honey. We human also get honey from beehives. For collection of honey from the beehive, the honeybees are first driven out from the beehives with the help of smoke from a fire.

LESSON No. 6



HONEY BANK



Have you seen butterflies and honeybees sitting on the flowers? What do you see when they sit on flowers?

Butterflies and honeybees are attracted to flowers.

The flowers are bright coloured and beautiful. Butterflies and honey bees collect something from flowers. In turn, they help the flower in pollination.

In the flowers a sweet liquid called nectar is produced. When bees and butterflies sit on a flower, they insert their long tube like tongue into the flower and drink the sweet nectar. When they move on to another flower, some of the pollens from the first flower is transferred on the second flower. This process of transfer of pollen from one flower to another is called pollination. As a result of pollination fruits and seeds are formed. New plants grow from these seeds. Honeybees and butterflies cannot live without nectar.

Scales help the animal from harm and prevents loss of water. Animals, like-snakes, tortoises, lizards, crocodiles, etc. do not have hair on their bodies, instead they have scales.



Hairy Animals

Make a list of animals that have hair on their body, Compare with the list of animals with external ears. What do you find?

Sl.No.	Name of the animal having hair	External ear (Yes/No)

Animals with external ears have body covered with hairs. Such animals do not lay eggs but give birth to young ones and mother feeds the baby with her own milk. Such animals are known as **Mammals**. We humans also belong to mammals.





Some animals have thick hairs while others have less hairs on their body.

Camels have little hairs. They live in hot deserts.



Bears have thick hairs on their body surfaces. They live in cold regions.

**Do you know why animals like cats, dogs, and lions lick the coat of their young ones?**

Yes, they do it to show their affection and love for them. They also do it to keep their skin clean and cool.



**ACTIVITY**

1. *Observe the birds flying together. In which month or season do they fly in groups? Imagine why they are flying. Comment upon the statement. Paste a picture of birds flying together.*
2. *Find out which of the these –Mouse, Dog, Hen, Cow, Cat, Sparrow, Parrot, Pigeon, Elephant, Pig have the characters given in the column.*

Animal	External ear	Internal ear	Hair on skin	Feather on skin
Mouse				
Dog				
Hen				
Cow				
Cat				
Sparrow				
Parrot				
Pigeon				
Elephant				
Pig				

## LESSON No. 9



### WHOM DO TREES BELONG TO

We see trees in the gardens and parks. Most of them are ornamental trees bearing beautiful flowers. Some examples are bottle - brush, Gulmuhor, Champaka, Magnolia, etc. The colours are also varied. The colours may be yellow, red, white, blue, purple, etc. Such trees are domestic trees and looked after by people. Domestic trees are also planted at the roadsides. We can see many wild plants in our neighbourhood. Many grasses, small plants or trees are grown on their own without being planted.

In cities, Municipal Corporations look after the plants in parks and on the roadsides. Some people develop their own gardens and parks and look after well to maintain and open to public. Nobody can do harm that are under the Municipal control and the private owners. There are also valuable fruit bearing trees like citrus, guava, papaya, amla, lemon, jamun, etc.



*Forest with trees*

Forests are full of trees. We can see many wild plants growing in the forest. Trees grow in nature without plantation. Hence they can be said as wild. Many wild trees that grow in our neighbourhood are mainly utilized by the local people.

## LESSON No. 7

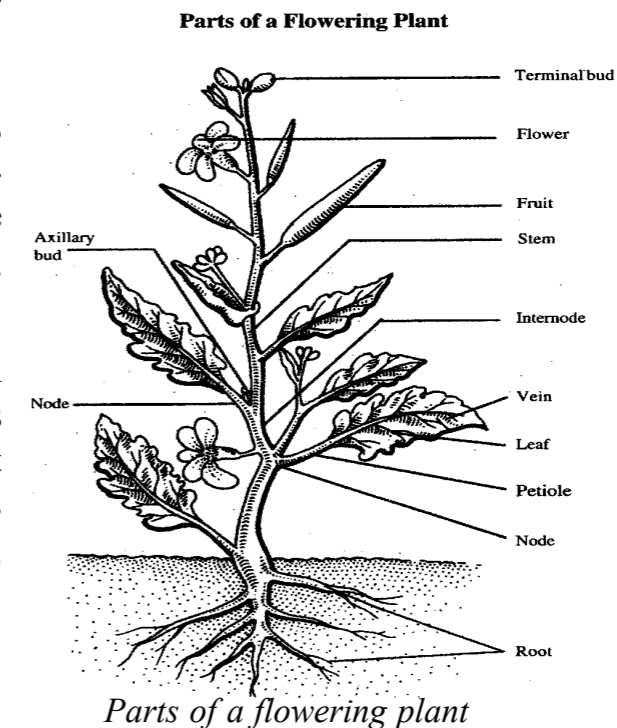


### ROOTS OF PLANTS

Plants have two parts. One part is above the ground and the other part under the ground. Stems remain above the ground and bears branches, leaves, buds, flowers and fruits. Roots remain underground. They fix the plant to the soil. Roots of most plants grow in the soil.

Roots are of two types - taproot and fibrous roots. Taproot is a long and thick root. It grows straight. Smaller roots grow from the sides of a taproot. Plants having taproots are carrot, radish, turnip, beans, mustards, etc.

Fibrous root is a bunch of long and thin roots. Plants having fibrous roots protect erosion. Plants having fibrous roots are grasses, rice, wheat, maize, etc.



*Parts of a flowering plant*



*Taproot*



*Fibrous root*

### Functions of Root

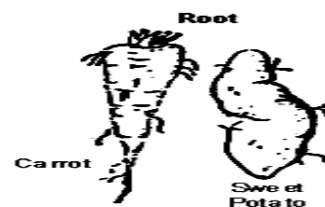
You see that roots hold plants upright against wind and weather condition. Roots spread out to support the plant and bind it firmly to the ground. That is why plants are not uprooted easily when there is a strong wind.

Try to uproot grass. You may not be able to uproot grass easily. Can you give the reason? It is because the fibrous roots of grass fix it firmly to the ground.

Plants need water to grow and survive. Water is taken in by the roots. Roots grow out and down in search of water and minerals which are drawn all the way up to the leaves. Every roots has a number of tiny hairs to help in absorption of water.

Roots of the plant perform two main functions - one is to fix itself to the ground and the other to absorb water and minerals from the soil. Without roots, plants cannot survive.

Many roots store food for future utilization. This helps the plants to survive. We also eat some of these roots. Examples are Carrot, Radish, Turnip, Sweet potato, etc. During the time of famine, people eat a root called **cassava**. In Manipur, yams, water chestnuts and sweet potatoes are normally eaten.



*Different roots that store food.*

Roots are not always under the ground. Some roots are found to grow above the ground. They are called **aerial roots**. These roots come out from the branches. e.g. Banyan trees. They keep on growing and go under the soil.



*Gardens*



*Bouquets*



*Ladies selling flowers*

4. Nowadays, people sell flowers in the markets. Those people who sell flowers are called **florists**. The branch of science which deals with plantation, processing and production of ornamental flowering plants is termed as **floriculture**.

Flowers are sold in different forms as garlands, as bouquets or as single flower. Rose and marigold are used in garlands. Lotus, lily, champaka, etc. are sold as single flowers. Potted flowering plants are also sold by nursery growers. Mostly ladies used to sell flowers in marketplaces of Manipur.

During the days of festival, garlands and single flowers of lotus, lily, etc. are costly. Flowers are useful in many purposes. Children should not pluck flowers. We should visit the gardens to see the beautiful and attractive flowers in holidays.

### Think and answer the following

- I am colourful and showy flower. Tell me, who am I? \_\_\_\_\_.
- My flower is used as vegetable. What do you call me? \_\_\_\_\_.
- I used to pollinate flowers. What is my name? \_\_\_\_\_.
- Flowers produce a sweet juice to make honey. Name it. \_\_\_\_\_.
- I am a flower grower. People called me with a particular name. What is it? \_\_\_\_\_.
- My flower is used in making garlands? Who am I? \_\_\_\_\_.

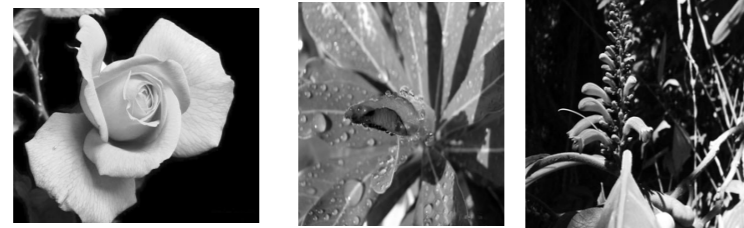
**Uses of Flowers**

1. Flowers can be used as food e.g. Cauliflower and Plantain. Many other flowers are cooked as vegetables. We use to fry the flowers of Nongmangkha mixed with other vegetables. Flowers of mustard is used in making chutney.



*Cauliflower Plantain flower*

2. Flowers are also used as **medicine**. Rose petals are used to make rose oil and rose water. Rose water is used as medicine. Flowers of Nongmangkha is used as medicine by local people.



3. Flowers are used for **decorative purposes**.

4. Flowers are also used as **dye**. Certain flowers like saffron is used as a dye, in cosmetics.



*Depictions*

Collect different varieties of flower and make a bouquet and keep it in your drawing room or present it to your class teacher.

They support the tree like a strong pillar. You might have heard about the famous Great Banyan tree of the Botanical Garden of Howrah. People could swing freely by holding the aerial roots of Banyan trees.



You can find such banyan tree in the campus of Konthoujam Lairembi.

**Prevention of Soil Erosion.**

Soil has three different layers— topsoil, subsoil and bed rock. Soil erosion is the washing away of topsoil by wind, water, etc. Roots bind the soil particles firmly. They can protect the top soil from washing away by wind and water. Top soil is the best for plant growth too. One of the main reasons of soil erosion is cutting down of plants and trees. Hence, to prevent it, we should not cut down trees. Instead we should plant trees.

We should not cut down trees. Give reason.

---



---

What are the functions of roots?

---



---

**Do you know?**

- Plants have different parts — above ground part and underground part.
- Roots of the underground part perform important functions.
- Roots fix the plant firmly in the soil and absorb water and mineral salts.
- Most of the roots spread out under the soil.
- Aerial roots give support to the tree and keep on growing. Banyan tree has aerial roots.

## LESSON No. 8

## FLOWER



Flower is the most beautiful and attractive part of a plant. It helps in the reproduction of plants. It contains either male or female or both the reproductive elements. All the seed bearing plants produce flowers.

Some of the plants which bear flowers are rose, jasmine, mango, guava, bougainvillea, lotus, lily, orchid, etc. These plants produce flowers only at sometimes of the year. Some flowers hardly produce seed e.g. orchids. They grow on the branches of trees.



Flowers have many different shapes, sizes and colours. Some flowers are highly coloured and showy e.g. sunflower. Others are dull - coloured and may be minute and could hardly be seen, e.g. flowers of grasses.

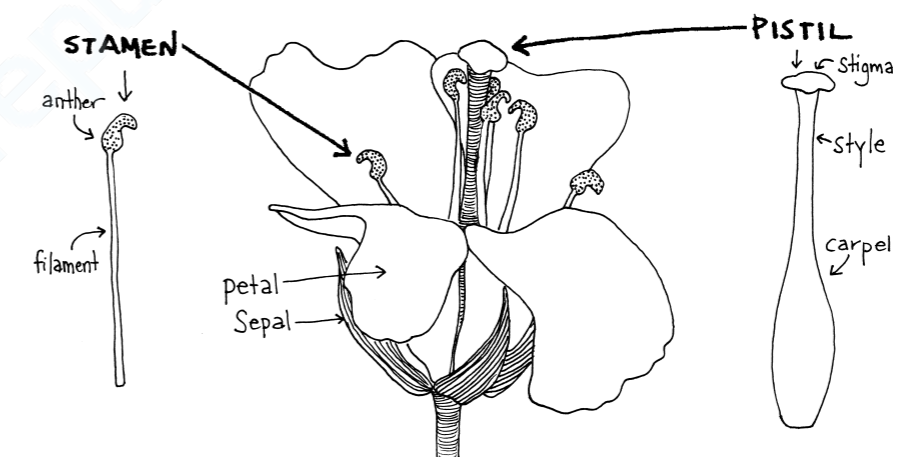
## PARTS OF A FLOWER

A flower has four main parts or whorls of floral members - **calyx**, **corolla**, **stamens** and **carpels**. A flower is said to be a complete flower when the four whorls are present together. The calyx is the outermost whorl composed of sepals. It protects the flower in its young bud stage. A bud is a flower or a leaf that is not completely open.

Inside the **sepals**, is the corolla which is composed of **petals**. Mostly petals are brightly coloured and mainly meant for attraction of insects for

pollination. Some flowers have many petals and some have a few.

Inside the corolla are the stamens. Stamens have parts of lower stalk portion and anthers containing pollens at the top. Mostly in the centre of the flowers, there are **carpels**. Each is made up of a **stigma**, **style** and **ovary**. **Ovules** or eggs are present inside the ovary. During pollination, pollen grains are transferred to the **stigma**.



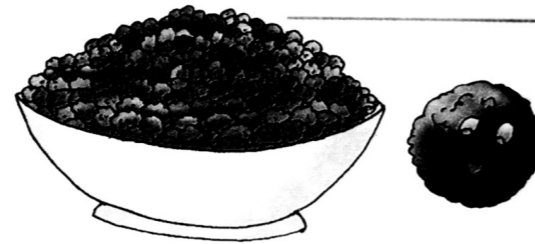
*Different parts of a flower*

Plants also produce a sugary liquid called nectar which attracts the bees. As they fly from flower to flower they transfer the pollen grains to the stigma. The transfer of pollen from the stamen to the stigma is **pollination**. The pollen may be transferred by wind, insects, birds and other animals.

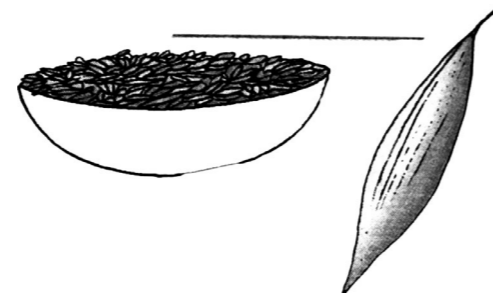
## Aroma of Flowers

A flower has a fragrance or aroma. This scent is due to the presence of essential oil in the petals. Flowers produce scent to attract pollinators. Insects use the scent of flower as a direction - finder.

Small and round,  
I am black when I am whole.  
I can be powdered coarse or fine.  
I give sharp and spicy taste.  
Whether it is salty or sweet  
I am added as a special treat  
Think and tell who am I?  
-----



I am a small and skinny chap.  
Sometimes I am brown and  
Sometimes black.  
Added to hot oil or ghee  
I spread my fragrance all around when I  
am roasted.  
Think and tell me who am I?  
-----



Though green I am,  
I look like Zeera.  
I always try to make your stomach  
healthy.  
Eat me always after your meal,  
I will refresh your mouth,  
You will surely feel.  
Think and tell me who am I?  
-----



Forests are the storehouse of natural resources. Some people live in the forest. They mostly depend on forest resources for their livelihood. They collect fruits, edibles vegetables to eat. They also cut the trees for house construction and fuel.

Wood cutters cut down the trees for timber and sell. Seasonally, they use to cut down a good number of trees and getting a great reduction of trees in the area. Cutting down of trees is known as **deforestation**.



Picture of cutting trees and loading on trucks

Large scale cutting down of trees is very harmful. It is a kind of exploitation. It leads to soil erosion, less rainfall, lost of habitat of many living organisms.

We should protect the trees growing wild and plant trees. We see many pine trees in the hills. They are big and have male and female cones. Fruits of pine trees are not edible.

Some of the edible fruits collected from the forests are gooseberry, tamarind, jamun, jackfruit, mango, banana, citrus, etc.



Trees with fruits.

**Think and answer the following :**

- \* I grow in the gardens and parks. My flowers are like the brushes. Give my correct name. \_\_\_\_\_
- \* My leaves are very broad. People use them as plates. I produce fruits and flowers. Who am I? \_\_\_\_\_
- \* I grow extensively on the ground and no one looks after me. Am I domestic or wild? \_\_\_\_\_

Conservation of forest is needed to save our environment. We should plant trees on a large scale for **afforestation**. We should not encourage forest firing to protect the trees. Remember to plant a tree by all of us on the day of **Vanamahotsava**.



*Observation day of Vanamahotsava.*

- \* **Make a list of fruits that can be collected from the forest.**

\_\_\_\_\_

Children love the trees. Do not uproot the baby plants. Every year, on the 5th June, **World environment Day** is celebrated all over the world. Planting trees is the common activity of this day. We should celebrate the day by planting a tree in the campus of the school or in the home garden.

Clove, cardamom or green cardamom and turmeric can be recognised by smelling.

Ginger, black pepper, nutmeg and cinnamon can be recognised by tasting.

- (i) Name three plants whose leaves we eat.

\_\_\_\_\_

- (ii) Name three plants whose roots we eat.

\_\_\_\_\_

- (iii) Name four plants whose stems we eat.

\_\_\_\_\_

- (iv) Name six plants whose fruits we eat.

\_\_\_\_\_

- (v) Name three plants whose seeds we eat.

\_\_\_\_\_

**Let us now answer the Riddles below.**

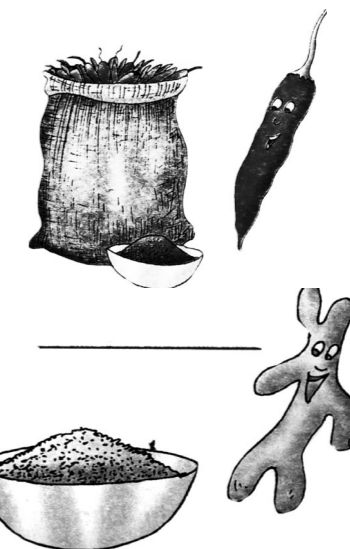
I can be powdered fine, to make food hot and spicy. If too much of me is added I make you gasp- shhee-- shhee. Your eyes and nose begin to water and even you cry!

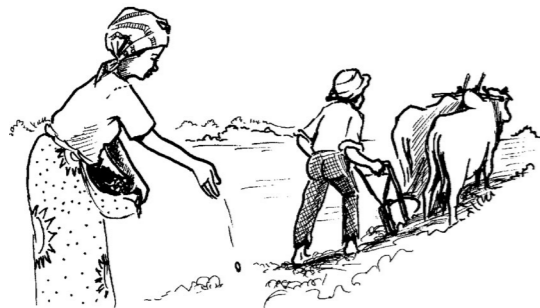
Think and tell everyone.

Who am I? \_\_\_\_\_

Make me dry. Grind and powder me. I make your curry yellow. I am mixed in oil and applied to wounds, quickly I heal all wounds.

Think and tell me who am I? \_\_\_\_\_





Plants are grown by farmers. The vegetable vendors reach the market very early in the morning. They bring the vegetables in baskets and sacks.



*Black pepper*



*Turmeric*



*Green Cardamom*



*Nutmeg*



*Clove*



*Cardamom*



*Cinnamon*



*Ginger*

Spices add flavour to our food. Name some spices which you can recognise by smelling or tasting.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

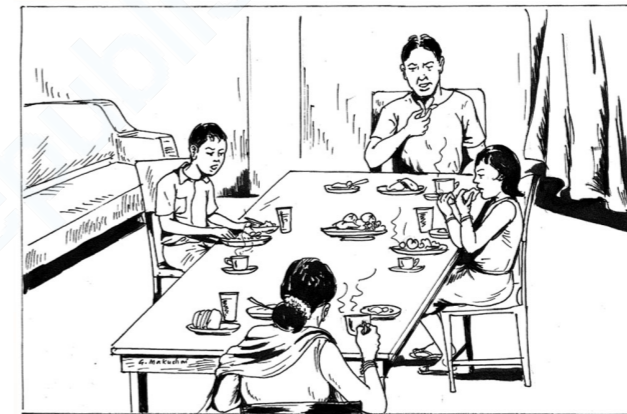


*Powdered spices*

## LESSON No. 10



### HOW WE GET OUR FOOD



Look at the picture. It shows Tomba and Bembem having breakfast with their parents. They are having bread and butter, bananas and fruits with a glass of milk. Do you know where the foods come from?



*Fishermen catch fish*



*Farmers produce crops*

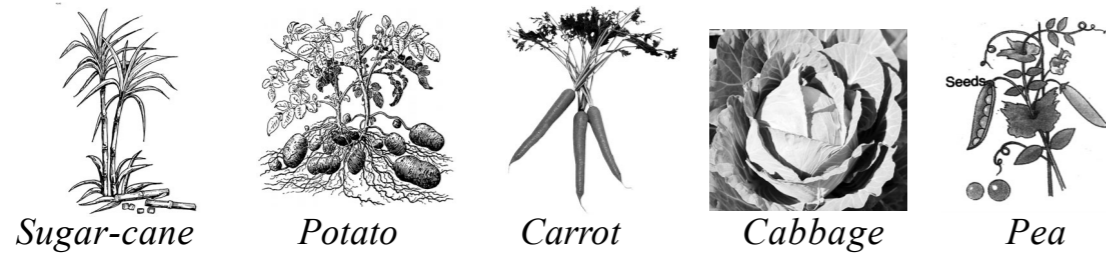


*Dairy workers collect milk and produce cheese, butter*

Food goes a long journey before it reaches our plate. It starts with farmers, fishermen and dairy workers.



Have you seen food plants such as cabbage, potatoes, beans, lentils, peas, pulses, etc. growing in the field or your kitchen garden?



Farmers grow food in their fields. Fishermen catch fishes. Dairy workers gather milk and produce cheese, etc.

The foodgrains, vegetables, fruits, etc. are transported to shops and markets by using vehicles like trucks.



Sometimes food is taken straight to factories, where it is processed. It is then put into packets, cartons, cans or bottles.

These packets, cartons or bottles are then transported to shops.

We buy food from shops and markets. Then we cook it if required and eat it.



From where do we get the grains, vegetables and other food items?

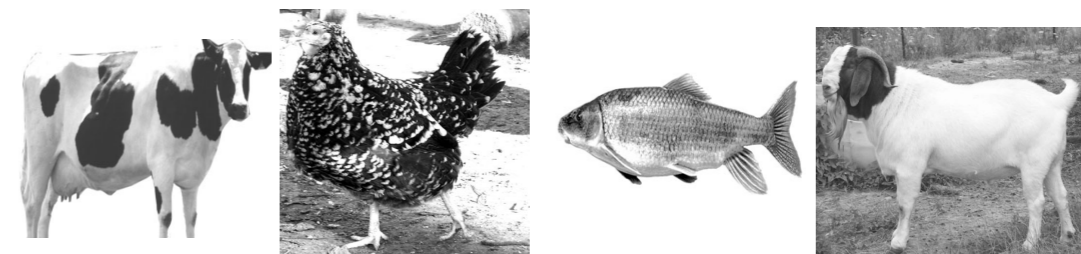
We get food items mainly from two sources— plants and animals.

What are the food items that we get from plants?



From plants we get \_\_\_\_\_

What food items do we get from animals?



From animals we get \_\_\_\_\_

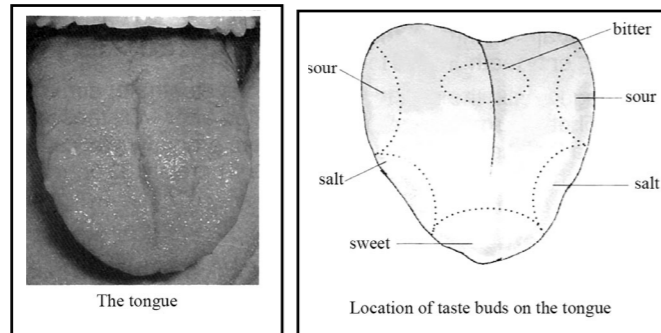
## LESSON No. 12

### TONGUE, TEETH AND BEAKS



#### Which part of your body helps you in taste?

It is your tongue. Your tongue is covered with thousands of tiny “taste buds”. The taste buds on the tongue help us to identify the taste of food. Different parts of the tongue are sensitive to different flavours. The back side of our tongue identifies the bitter taste, while the front side identifies the sweet taste. When you eat something, the taste buds send messages to the brain. Your brain tells you what flavours you are tasting.



Does your tongue perform any other function other than tasting food.

Your tongue also helps you to speak and pronounce different sounds. It also helps in swallowing food. Many animals such as dogs and cats, use their tongue to clean their body. A dog also uses its tongue to cool itself. When a dog hangs out its tongue, the saliva on the tongue evaporates and it cools its body.



I am a bud but looks like a nail.  
I have chocolate brown colour and a strong smell.  
When you get toothache and makes you shout,  
My oil soothe the pain in your mouth.  
Think and tell me who am I?



Draw pictures of other spices in your notebook. Try and make your own riddles. Ask those riddles in your class.

- \* Find out which spices are used in your house for cooking. Make a list and look at your friends' lists also.

\_\_\_\_\_

\_\_\_\_\_

- \* Name one spice which is put into both sweet and salty things.

\_\_\_\_\_

\_\_\_\_\_

- \* Ask your grandparents which spices were used most in their kitchen? Write here.

\_\_\_\_\_

\_\_\_\_\_

- \* Find out what is put into food to make it taste sour.

\_\_\_\_\_

\_\_\_\_\_

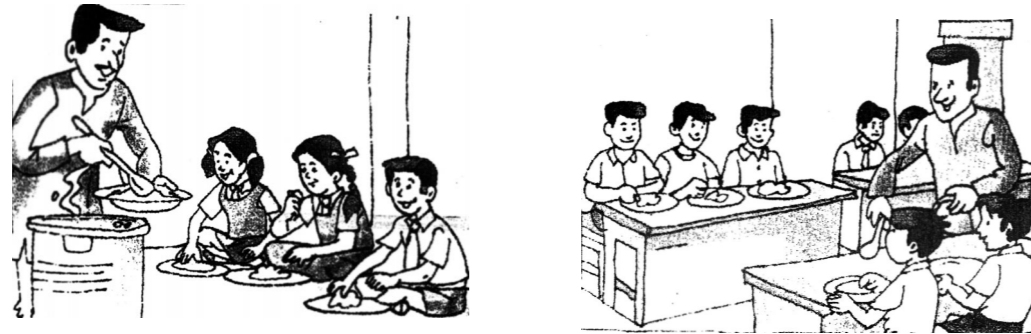
- \* Find out whether spices are grown in your area. Write their names.

\_\_\_\_\_

\_\_\_\_\_

## LESSON No. 11

### SPECIAL OCCASSIONS



People eat together at a community feast, a mid-day meal and at a hostel.

The school was reopened for the first day after the vacation. The children of class IV shared news about how they spent their holidays. Julia said that the wedding of her aunty took place recently. She had a lot of fun at the wedding. 'I enjoyed the wedding feast the most,' Julia said. The food is cooked and served by professional cooks. Utee, Ironba, Nga-ataoba (fried fish), Nga-thongba (fish-curry), Hei-thongba (fruit-curry) are some of the food items served. The cooks always remain active, in serving the people. They always manage to satisfy everyone attending and enjoying the feast. Similar stories of tasty food items were told, by the students.

One day the students of class-IV decided to eat together and also requested their class teacher to join them. The teacher agreed and the children were very happy.

As soon as the break for tiffin started, the children hurriedly took out their tiffin boxes from their bags.

\* Do your teachers eat with you?

\_\_\_\_\_

\* Is the week's menu put up on the school board?

\_\_\_\_\_

\* What would you like to change with the menu?

\_\_\_\_\_

\* What would you like to eat? Make your own menu.

\_\_\_\_\_

\* If you do not get food at the school, find out why?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

#### ACTIVITY

*Get suggestions from elders in your family or the locality on how to reduce/prevent food wastage on special gatherings.*

**MID-DAY MEAL (Every child's Right)**

Some years ago, the highest court of our country, the Supreme Court, stated the following in an order:

“We direct the State Government/Union Territories to implement the Mid-Day Meal Scheme by providing every child in every Government and Government assisted Primary Schools with a prepared mid-day meal with a minimum content of 300 calories and 8-12 grams of protein each day of school for a minimum of 200 days”.

All children in primary schools should be provided with hot cooked food. This is the right of every child.

**Now let us talk**

\* Do you have mid-day meal in your school?

\_\_\_\_\_

\* What time is the meal served?

\_\_\_\_\_

\* What do you have for the meal at school?

\_\_\_\_\_

\* Do you like the mid-day meal that you get?

\_\_\_\_\_



Before eating, all children formed a queue and went to wash their hands.

As soon as they opened their tiffin boxes, the teacher asked, “What have you all brought to eat today?”

‘I have brought rice and chicken’ said Noor Rehman.

‘ I have brought vegetable curry and Ironba,’ - said Ibemcha.



“My tiffin contains egg curry and fried potato”- said Aleng.



“ What have you brought Tomba?” - The teacher asked. “Utee, Kangshu and fish curry”, - replied Tomba.

The children also asked their teacher what food items she had brought.

“I have brought fruits, oranges, apples and bananas”, the teacher said them. After food the children cleaned the place. They put all the garbage in the dustbin.

The teacher told them that she had enjoyed eating with them. The children clapped to show that they shared the same feeling.

**Let us talk.**

\* Do you enjoy eating with others?

---

\* On what occasions do you eat together with your friends?

---

\* Have you ever joined a community feast?

---

\* What are the food items served in it?

---

\* What special utensils are used for cooking?

---



---

\* Draw diagrams of the large utensils used in cooking.

**MID -DAY MEAL**

Our school serves mid-day meal at one o'clock in the afternoon. Just before that the smell of cooking food was coming from the verandah. Our stomach were rumbling. We were so hungry, we were not able to pay attention to the lesson in class.

As the bell rang, all the children ran out and went to wash their hands. Miss Tombi sent all the children to the tap at the corner of the courtyard. Miss Jenny was observing to see that everyone washed their hands properly.

After washing our hands, we all stood in a queue to take our food. Some had their own boxes, and others had plates. Then we all sat down in a circle with our food. Before we started to eat, we sang together-

*We play together,  
We eat together,  
We relish together,  
For the good of everyone,  
We will always be together.*

Today we had rice, hawai-thongba(dish of pulses) and boiled vegetables. Yesterday we had chapati, pumpkin curry and oranges. A list of food items has been displayed in the school board. It tells us what we will get everyday of the week. On some days we get an extra treat with something sweet.

We eat fresh, hot and properly cooked food together.

Nowadays, many schools give food during the day. It was not always like this when my eldest sister was in the primary school, children did not get mid-day meal. Some children came to school without eating anything. How could they have studied with an empty stomach.

## LESSON No.14



### HOUSEHOLD WASTES

Do you need to clean your room daily? Yes, we need to clean our room daily. In the course of our daily activities we produce a lot of waste materials. The waste material, refuse or garbage makes the room untidy. Here is a list of commonly found waste materials.

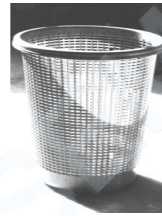
Vegetable waste	Wrappers	Plastic bottle	
Paper pieces	Broken glass	Old rags	Bandages
Used battery/cell	Broken electric bulbs		Fused tube bulbs
Used and exhausted stationery items.			

What are the waste materials produced from your house?

Make a list of those materials. \_\_\_\_\_  
 \_\_\_\_\_

Do you produce waste materials in your school? Find the waste materials found in your school dust bin.

Write them. \_\_\_\_\_  
 \_\_\_\_\_



How do you manage with the waste materials? Do you burn them? Do you put them in a garbage pit?

Some of the waste materials break down easily. They change to some other forms. These materials are known as degradable waste. Find out all the degradable wastes found in your house and school.

Make a list of them. \_\_\_\_\_  
 \_\_\_\_\_

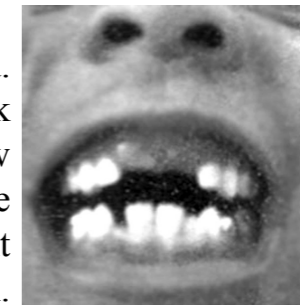
### Does your mother tell you to chew the food and eat?

If you do not chew the food before swallowing it, the food does not get broken and this leads to indigestion. Teeth helps us to chew our food properly. Food can be digested only when it is chewed well. Babies do not have teeth to break and chew the food. They have to be fed with food that is soft. Teeth give shape to our face. As people grow old and lose their teeth the shape of their face also changes.

#### Kinds of teeth:

#### How many teeth do you have? Observe it.

Children have 20 teeth when they were 3 years old. The first set of teeth is called the milk teeth. Milk teeth begin to fall when they are 6 years old and new teeth start appearing in its place. The new teeth are called permanent teeth. An adult has 32 permanent teeth. There are four types of teeth in our mouth. Each type of teeth has its own use.

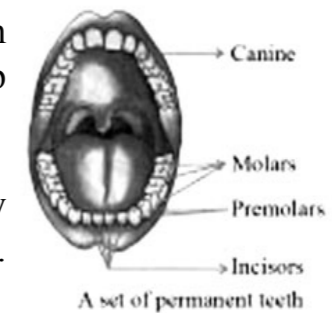


#### Types of teeth:

**Incisors:-** There are 8 incisors in the front, four on the upper jaw and four on the lower jaw. They help us to bite the food.

**Canines:-** Canines are teeth next to the incisors. They are sharp and pointed. They are used for tearing food. There are 4 canines together in our mouth.

**Premolars:-** Premolars are teeth at the back of the mouth. They are flat and wide. They crush and grind the food. There are 8 premolars.



**Molars:** There are 3 molars on either side of the mouth in both upper and lower jaws. They also are flat and wide. They do the same work as premolars. Altogether there are 12 molars.

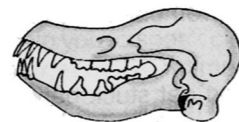
If you notice cavities in your teeth you must ask your parents to take you to a dentist. The dentist can stop the cavities from growing by filling them up. Brush your teeth at least twice a day, one in the morning and one at night.

**Teeth of Animals:**

Many animals have teeth and chew their food like us. Carnivorous animals such as tiger or dog have sharp, pointed canine teeth for piercing and tearing flesh. Animals that eat grass and leaves have flat grinding teeth which are sharp, but not pointed.



Teeth of plant eater



Teeth of meat eater

A snake does not chew its food at all. It swallows its food as a whole. It has small teeth. It can swallow even animal seems bigger than its mouth. Insects such as butterflies, honey bees and mosquitoes suck nectar and blood as their food. Instead of teeth they have a long hollow tube in their mouth. A chameleon has a long and sticky tongue. It shoots out its tongue to catch small insects. A frog also uses its tongue in the same way.



These are two photographs of a location at two different times. Find out the changes.



The changes found in the photographs are \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



When I started working there was an engagement for my marriage with your grandma. A new house was built. The new house had brick walls. It had enough ventilators and windows. There was C I sheet roofing on wooden frame. New kitchen and toilet were built separately’.

Do you see the house changes with time ? From kutcha it changes to semi-pucca, then from semi-pucca to pucca. Pucca houses have more longevity than kutcha houses.

Population will increase with time. But, space is not expanding. To accommodate the increasing population what shall we do? Multi-storey houses may be the solution.

The cost of making pucca houses and multi-storey building is larger. Some people cannot afford the large amount. Where do they live ?

Here is a photograph of a city. Find out the types of houses found in the city.



In a city we find multistoreyed buildings, single storeyed RCC buildings, tin roofed buildings, bungalows and huts.

**Beak:**

Birds do not have teeth, instead they have beaks. Different birds have different kinds of beak. Birds use their beaks to peck, fight and hold their food while eating.

A flesh eating bird such as eagle or vulture has a strong sharp beak shaped like a hook. It helps to tear flesh.



A seed eating bird such as sparrow has a short, pointed strong beak used to crack seeds.



A parrot eats seeds, nuts and fruits. It has a strong curved beak which it uses to crack nuts and seeds.



A woodpecker has a long sharp beak which helps to tap the bark of trees and pull out insects.



**Feet and Claws:**

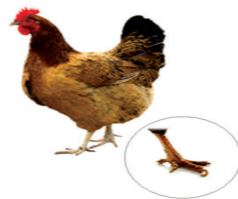
Birds have four toes on each of their feet. Toes are built to suit their food and other habits.

- o Flesh eating birds such as eagles and vultures have strong, sharp claws called **Talons**. They use their talons to catch rats, toads and other small insects.

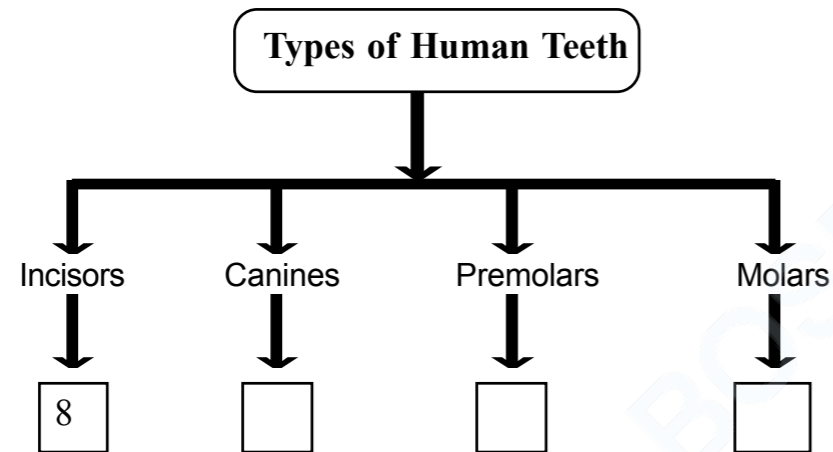




- Swimming birds such as duck have webbed feet that help to swim.
- Hens use their legs and claws for scratching the earth to bring out insects. All these birds have leg and claws shaped especially for their use.
- Birds like sparrow and crow perch on branches of trees. They have three toes in front and one at the back. The back toe helps the birds to hold on to the branch and thus prevent them from falling.



**Think and Learn:**



**Activity**

**Make a chart about different kinds of animal and their teeth.**

**LESSON No. 13**



**HOUSES - THEN AND NOW**

Alex lives at Moirang. He lives in a pucca house. His father is a businessman. The family is a big family. Alex lives with their grand-parents also. Their house was built recently.



It is a new house. He feels very comfortable in their new house. His grandpa has a separate room. Grandpa is an old man. At his free time, Alex goes to grandpa's room. He helps his grandpa and does anything he asked for.

Grandpa tells stories to Alex many times. Grandpa told their new house is the third house he lived. It is the third generation.

He said -- 'When I was young like you we lived in a big house.' He saw a photograph. It was a kutchra house. It had thatched roofs. Bamboos and woods were the important materials used in that house. Grandpa further said 'The roofs of the house did not last long. It needed to repair every year. The thatches were replaced every year or alternate year.



As time changes it becomes difficult to get the thatches. We were compelled to change the materials used for roofing. The roofing was replaced with new C I sheets.

The designs of the nests are so wonderfully different from one another.  
Some designs are given below

**Tailor birds:**

Two or more adjacent or nearby leaves in the bushes are stitched together to make like a sack or a leaf is folded and stitched. They use threads like silk, wool, or vegetable fibres to stitch the leaves together. Their beaks are like needles.



**Weaver birds :** They use dry grass and twigs to make their nests. It ties grasses into knots. The entrance is at the lower end pointing downwards. It is lined with soft materials.

**DO YOU KNOW**

Male weaver bird makes two or more beautifully woven nests when the female bird is about to lay eggs. The female bird looks at all the nests. She chooses one she likes and lays eggs there.

Some other waste materials do not degrade or hardly degrade. They are non-degradable waste.



Make a list of materials that can not be degraded easily.



Such materials might be solid or liquid.

Some waste materials can be reused. Some can be recycled. And some can be transformed into some useful forms.

Can you find the use of old cycle tubes, empty mineral water bottles, used up ball pen refill, etc.?

Why do the rag pickers collect old battery, plastic, metal can, iron, etc.?



Waste materials can be categorised in different ways. Keeping the idea of waste management in mind we can categorise the wastes in the following categories. Appropriate methods of their disposal are suggested.

Sl. No.	Categories of wastes	Appropriate method of disposal
1.	Degradable wastes: Vegetables, leaves, peels of fruits, garden litter.	Composting
2.	Recyclable wastes: paper, glass, the metals, plastic, old batteries.	Must be handed over or sold to Ragpickers.
3.	Toxic waste: chemicals, paints, broken CFL.	The wastes must be collected separately and left for the agencies to dispose off properly.

In rural areas, the waste materials are mainly biodegradable wastes. They decompose easily by natural processes. In urban areas the waste materials are mainly non-degradable. They do not decompose easily and take long time to decompose. They induce toxic and hazardous wastes.



Waste materials in Rural areas



Waste materials in Urban areas

Wastes should be disposed off properly without creating any harm in the environment.

If the waste materials are not disposed properly, it can lead to pollution in air, water and land.



Horses live in stables.

Birds live in the nests. Why do the birds make nests?

Birds build their nests to lay eggs, hatch eggs and keep the young ones safe from heat, cold and rain.

Birds protect and feed their young ones till they are ready to fly.

Birds have many enemies - human beings and other animals. Squirrels, cats and rats wait for a chance to steal away the eggs. Many times they destroy the nests.

Where do the birds build their nests? Birds build their nests in such a place where their enemies can not reach. They select the safest place.

We have a lot of things to learn from the birds. Seeing the height where the crows make their nest, our forefathers used to predict the rain or storm expected that year. If the nests are at the lower heights strong wind is predicted in that year.

Have you seen old nests in the bushes, old buildings, trees, ventilators or even in the cover ups of ceiling fans? What materials do they use to build the nests? Observe an old nest. The birds use grass, straw, feather, cotton, wool, mud, etc. to build the nests.

Some spiders make the web in a nice pattern.

Have you seen some creatures making their homes covering their own bodies?



These are called **cocoons**.

Cocoons are made out of the silk produced by the worm.

Observe how silk cocoons are made by the silk worms.

Domesticated animals live in the shelters made by us. Do you know the names of the shelters of different animals?



**Cows** live in sheds.

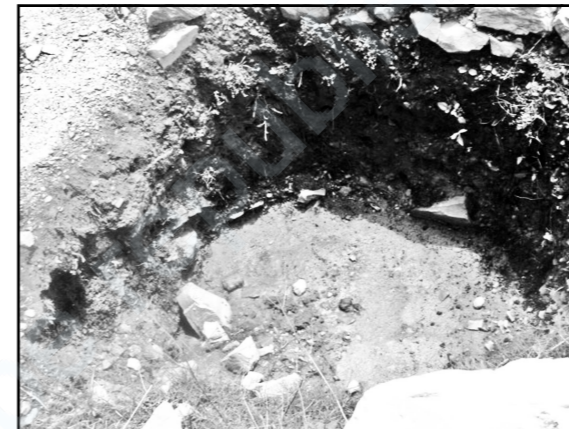
**Dogs** live in kennels.



Wastes should be managed in a scientific manner.

Composting is the process of natural decomposition of organic wastes. It is a useful solution to waste management.

How to make a compost pit?



- a. Select an airy place.
- b. Dig a pit.
- c. At the bottom of the pit make a layer of brick or concrete.
- d. Above the concrete layer put a layer of dry leaves or twigs.
- e. Put the organic waste including cow dung, garden soil layer after layer.
- f. Put water regularly to keep the matter moist.
- g. Turn the wastes for every fortnight to increase air movement.
- h. After a few days the colour of the matter changes into brownish black.

Now, it becomes good manure. It is ready to use.

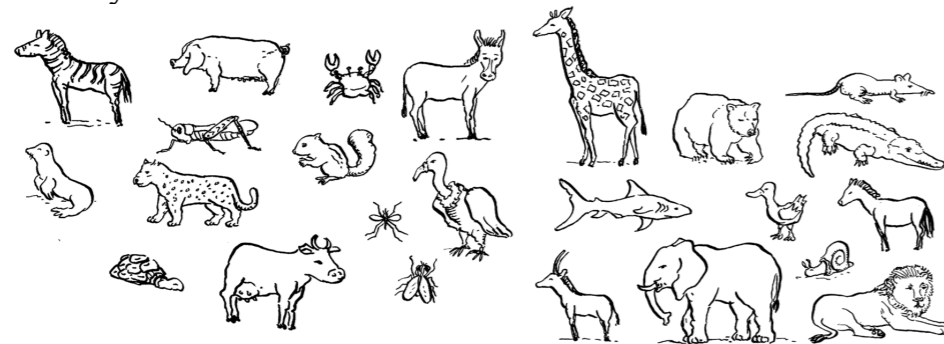
Paper, plastic, glass, metal wastes can be recycled. Hand over them for recycle.

## LESSON No. 15



### WHERE ANIMALS LIVE

We see a number of animals around us. Make a list of animals you see around you.



Do the animals need shelter? Animals also need shelters like us. A shelter protects them from heat, cold, rain and enemies. Many animals spend their time on the move. They do not have a true home. Some creatures build their homes. Have you seen creatures making their shelter? List them.

Animals like elephant and deer do not make homes. They just live under the shade of trees. Some animals are seen only at night. During day time they take shelter in a safe place.

**Lions** live in dens.



**Rats** dig burrows in the ground.

They live safely in the burrows.



**Snakes** live in the holes dug by others.



**A spider** makes a web. It serves as its shelter as well as a trap for insects. Look how it traps an insect.

The web is made out of a substance produced by the spider. See how the web is made.

- (v) Why do people not drink sea water?

-----

Rivers, lakes and ponds are the major natural sources of water. Since they are found within a country, they are known as inland water.

- (i) What are the major natural sources of water in your area?

-----

- (ii) Is the water fit for drinking ? If not, why?

-----

- (iii) Have you seen dirty water in a river or pond?

-----

- (iv) How would you know the water is dirty? If the water looks clean, can you be sure that it is alright to drink that water ?

*Discuss.*

**How does water become Dirty?**

We know that the river flows through many villages and towns. People in the villages and towns use the river water for washing clothes, bathing animals and cleaning utensils. They also throw dirty things into the river. Such activities make the water dirty. Water in ponds and lakes can also become dirty due to such activities.

- \* Why does the river become dirty when it passes through many villages and towns?

-----

From where do you get your drinking water ? A river or a pond or a lake? Do you know that your river, pond or lake can also be affected like the river in the picture?

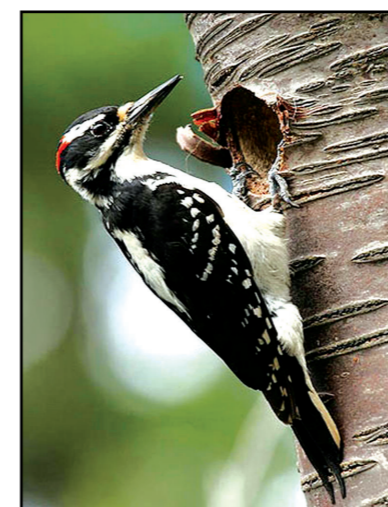
**Vulture :** Vultures make their nests high up on the trees. Their nests look like a shallow cup. They use sticks, even hard materials to make their nests. It seems to be carelessly made.



**Owl :** Owls take shelters in the hollow of tree or wall. They do not make their own nests.



**Crow :** A crow's nest is made of all kinds of materials even pieces of wire and wood.



**Woodpecker:** Woodpeckers make their nests on the wood trunks. They make a hole on the wood trunk with their chisel like beaks.

**Sun bird:**

Sun birds make nests that hang from the branches of tree or bushes. They use hairs, grasses, thin twigs, dry leaves, pieces of tree, rags, cotton, wool and even spider's cobwebs in making their nests.



**Cuckoo:**

Cuckoo is a very clever bird. It does not make nest of its own. It lays its eggs in a crow's nest. The crow hatches them along with its own eggs.

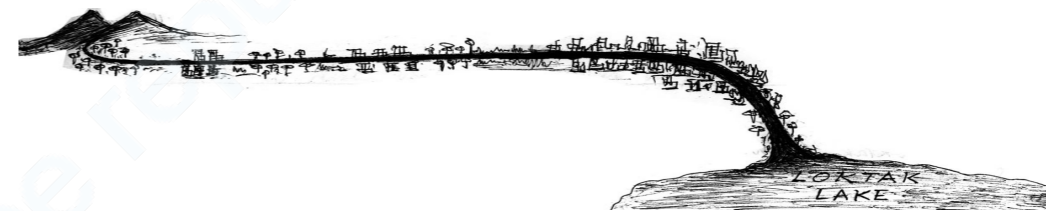
**Remember: Do not go too near bird's nest and do not touch it. If you do so the bird will not come to the nest again.**

**LESSON No. 17**



**WATER FIT FOR DRINKING**

I am a river. My name is Nambul. I rise from the Kangchup hills. At first, I flow eastward till I reach the Imphal city. From the city, I flow

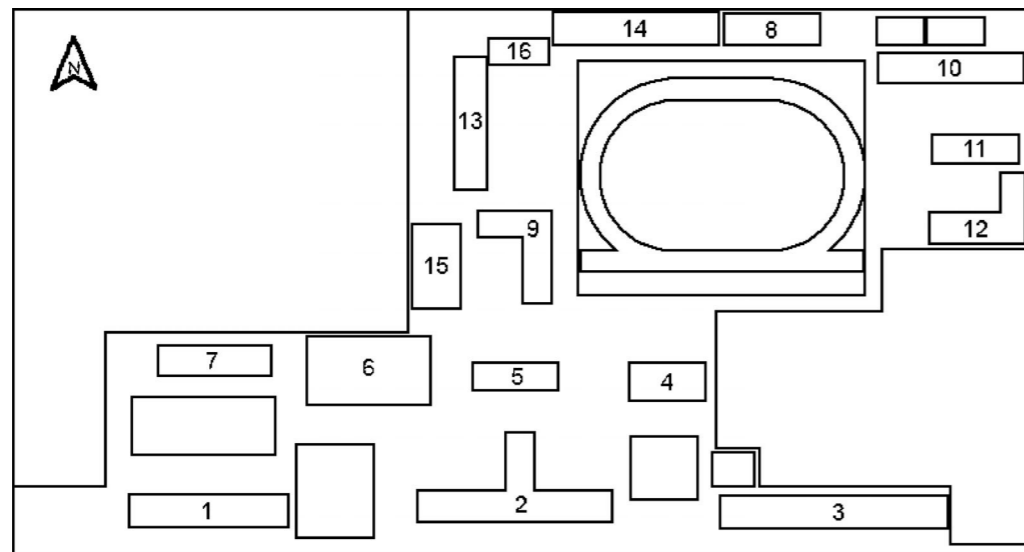


towards south. Near the source, I am clean. But when I pass through many villages and towns I become dirty. Finally, I fall into the Loktak lake.

Read the above story and answer the following questions.

- (i) Have you ever seen the Nambul river? Where?  
.....
- (ii) Why is the river clean near the source?  
.....
- (iii) Finally, the river falls into the Loktak lake. Have you ever seen the Loktak? When?  
.....
- (iv) Do you know that a river may also fall into the sea? Have you ever seen the sea? Where? In television or somewhere else?  
.....

A map of the campus of Model School is shown here for your reference.



## LESSON No. 16



### MAPPING OUR NEIGHBOURHOOD

Where do you live ? What do you call the persons living next to yours ?  
The persons living close to your house are your neighbours.

Do you have market, school, shop, pond, river, dispensary, post office, bus stand, park, playground, community hall or any important prominent buildings within fifteen minutes walking distance? Walk for fifteen minutes. It may be a distance of around one kilometre. Make a list of notable spots or structures in the area.

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With reference to your house, in which direction are the notable spots or structures? With the help of a map you can show it to your friend. Look at a satellite picture of an area. Here you can see the aerial picture of the area. You can find the relative position of the spots, structures, etc. in it. A map of this area is also shown next to it.





What is a map ? It is a representation of a given area on the Earth's surface with the details of it on a paper. How can you show the spots, structure, tree, building, pond, etc. in the map ? We can use certain symbols to represent them.

Some symbols are suggested below.



From the map can you ascertain the distance between two spots ? Yes, maps are usually prepared in a scale. A scale is an important part in preparing a map. It relates the actual distance between two places on the surface of the Earth and the distance between the two corresponding spots in the map. For example, the distance between Imphal and Delhi is 1600 km. But in the map the distance between Imphal and Delhi is made only 16 cm. It means 16 cm on the map represents 1600 km. That is, 1 cm in the map represents 100 km on the ground. This is the scale of the map.

**What is a scale ?**

A scale is the ratio of the distance between two spots on the map to the actual distance between the two corresponding places on the ground.

Do you know while preparing a map we usually take the upper side of the map as north? Hence, we usually put [N-S and W-E] symbol preferably at top right hand corner of the map.

Prepare a map of your school campus. You can use the number of steps to measure distance. In the map ten steps can be represented by 1 cm. How can you determine direction in your school campus ? To determine the direction fix a straight pole vertically/upright on a plane surface. Observe its shadow, cast by the Sun. When the length of the shadow is shortest it is in the south to north direction.

Mark it on the ground to show [ S-N ] direction.



(vi) Have you ever seen dead fish floating in rivers and lakes?  
 -----

(vii) Did you notice any change in the colour of the water?  
 -----

Do you know that in some places, people struggle for acquiring water ? They even try to get it by digging deeper and deeper wells. But pumping out too much water causes the wells to dry.

Water is a limited resource. We must use it with care.

**Activity**

- (i) Pay a visit to the natural sources of water in your area.
- (ii) Observe carefully the purpose for which the water is being used.
- (iii) Make posters highlighting the misuse of the water body like the one shown below.

**Don't throw wastes into lakes, rivers and ponds**

**Do it Yourself.**

Take 4 glasses and half a teaspoon each of salt, turmeric powder, mustard oil and sand. Fill about half of each glass with water. Put each of the things, one by one, in the water. For example, salt in the first glass, turmeric powder in the second glass, oil in the third glass and sand in the fourth glass. Mix each thing in the water and see what happens. Write your observations in the table. Put (✓) (tick mark) in the right places.

Things	Dissolved in water	Did not dissolve in water	Colour of water changes	Colour of water does not change
Salt				
Turmeric powder				
Mustard oil				
Sand				

Now answer the following questions.

(i) Do the things dissolve in water?  
 -----

(ii) Does the colour of the water always change ?  
 -----

(iii) Do oil and sand dissolve in water?  
 -----

Colour of the water may not change even after some things are dissolved in it. Many things dissolve in water without changing the colour of it. Some of these can be very harmful to our body. So we must clean water before drinking it. The easiest way to do this is to boil the water.

(i) How do you clean drinking water at home?

-----

(ii) What are the different ways of cleaning water at home ?

-----

(iii) Draw pictures showing any two ways of cleaning the water.



(iv) Do you know how dirty water can make you ill ?

Dirty water contains germs and bacteria. If you drink dirty water you will suffer from water-borne diseases like-diarrhoea, cholera, dysentery, etc.

**Do and Discuss.**

Look for news items related to water-borne diseases in newspapers. Cut them out and discuss in the class.

When you suffer from diarrhoea and vomiting, you lose a lot of water from your body. This can be dangerous, if you do not take care. You should

(iii) Cleaning utensils in a tank will make the water of the tank dirty.  Yes  No.

(iv) Bathing animals in a lake will make the water of the lake dirty.  Yes  No.

These activities will make the water of the tank or pond or lake dirty. How can we ensure that the water is not made dirty? Discuss and suggest measures for the protection of water bodies.

Read the following passage and answer the questions below.

Varanasi is situated on the banks of the Ganga. In this city, a large oil refinery dumps waste products into the Ganga. Again, several thousand litres of sewage are also poured into the river. The water of the Ganga was considered pure by our ancestors. But it is now polluted at places where industries are located. These industrial wastes contain dangerous chemicals which may kill animals, fishes and even human beings.

(i) Name two other industrial cities situated on the banks of the Ganga.

-----

(ii) Why is the water of the Ganga polluted at places where industries are located ?

-----

(iii) Do you find factories dumping garbage or harmful materials in a nearby river of your locality?

-----

(iv) Do you find people dumping garbage in rivers or lakes?





-----

(v) Are some animals also facing problems due to what we do to the rivers or lakes?

-----

- (vi) What do children do with the water there?  
-----
- (vii) What do animals do with the water there?  
-----
- (viii) Is the water used for bathing or washing?  
-----
- (ix) Who bathes there and who does not?  
-----
- (x) Who washes there and who does not?  
-----

**DIFFERENT PUBLIC ACTIVITIES AT WATER BODIES**

			
<i>Washing clothes</i>	<i>Bathing in a pond</i>	<i>Cleaning utensil</i>	<i>Bathing animals</i>

Look at the pictures shown above and put a (✓) mark in the correct box of the following statements.

- (i) Washing clothes in a tank will make the water of the tank dirty.  
 Yes  No.
- (ii) Bathing in a pond will make the water of the pond dirty.  
 Yes  No.

drink a lot of water when this happens. You can also take some salt and sugar mixed with water. For this, mix one teaspoon of sugar and a pinch of salt in one glass of boiled and cooled water. The water should not taste more salty than your tears. If the diarrhoea does not stop, you should go to a doctor.

- (i) Talk with your friends in the class and fill in the table given below. In the last few months, how many children in the class have suffered from any of these? Write the names of the children in the correct columns.

Sl. No.	Diarrhoea and Vomiting	Vomiting	Loose motion	Fever	Stomach ache
1					
2					
3					
4					

Sea water is not drinkable because it is saline. The water which is safe to drink is known as potable water.

**Can we drink this?**

It was a Sunday morning in May at Uripok, Imphal. Tomba was watching cartoon films in television. His mother Sanahanbi was in the kitchen. His father Ibohal was reading a newspaper. Suddenly Ibohal called out, ‘Sanahanbi, it says in the newspaper that the main pipe carrying tap water in this area is broken at Iroisemba. The water in the pipe has got mixed with the water in the ditches. It also says that many people of Naoremthong are suffering from diarrhoea and vomiting because of this water. Why don’t you throw away the water that was filled yesterday? Boil some clean water for drinking otherwise we may fall sick.’

Now write in your notebook.

- (i) Why was Ibohal worried when he read the newspaper?
- (ii) Ibohal asked Sanahanbi to throw away the water that was filled the previous day. Can this water be used for some other purposes? What kind of purpose?
- (iii) In what way did Ibohal plan to clean the water?
- (iv) Suppose, Ibohal had not read the news and everyone had drunk the water without boiling it, what could have happened?

Do you know that salt is obtained from sea water? How is salt separated from sea water?

**Discuss with elders/health personnels of the local area.**

- (i) How does pollution take place in rivers, ponds and lakes?
  - (ii) What are the effects of water pollution?
  - (iii) Ask an elderly person to demonstrate the simple methods of water purification and separation of salt from saline water.
- \_\_\_\_\_

## LESSON No. 18



### WATER SOURCES



SINGDA DAM

- (i) Have you ever seen the Singda Dam ? When?

-----

Do you know that a dam is a wall or barrier built across a river to store water? Thus an artificial lake is formed and we call it a reservoir. The water in the reservoir can be used for generating electricity, irrigation, drinking, etc.

- (ii) Where do you see large amounts of water in your neighbourhood?

-----

- (iii) Is it a tank, pond, river, canal or dam?

-----

- (iv) What do men do with the water there?

-----

- (v) What do women do with the water there?

-----

A horseshoe is a U- shaped item. It is made of iron or steel. Horse-shoes are also made of aluminium, rubber, plastic, copper, etc.



Aluminium horseshoes



Rubber Horseshoes



Plastics Horseshoes



Copper horseshoes

**The horseshoes protect the feet of the horses from wear and tear.**

**What is a horseshoe ?**

**Why do horses wear horseshoes ?**



We also ride on different animals on different occasions.

In different parts of India the bridegroom rides on horse back in the marriage procession.

In Manipur also there was a time rich brides used to ride on elephants when proceeding onto the homes of their bridegrooms.



Children who received bravery awards ride on elephants in the Republic Day Parade at the National capital every year. Don't you want to be one of them ?

When is Republic Day Celebrated in India?

**Draw pictures of 3 different animals carrying loads.**

## LESSON No. 19



### OUR RIVERS AND SEAS



*The Ganga*



*The Brahmaputra*



*The Barak*

You must have heard the names of Ganga, Brahmaputra, Barak, etc. They are the big rivers of our country. Do you know any other big rivers of the world ? Write the names of three big rivers you know.

(i) Is there any river in your village, town or city? If yes, write its name.

(ii) Which is the river nearest to your locality?

Do you think that there would be changes in the water level of the river at different times of the year? Discuss.

(i) Will there be the same amount of water in the river during the rainy season, summer and winter?

(ii) Is there any change in the water flow during the rainy season?

-----

(iii) Does the river overflow its banks and cause floods?

-----

(iv) What happens when there is a flood?

-----

(v) Are there any changes in the water during summer and winter?

-----

(vi) What are the different kinds of fish found there? Name three of them.

-----

(vii) What kinds of tree and plant grow along its banks?

-----

(viii) What are the kinds of bird that come there?

-----

Most of the big rivers of the world flow into the sea. The Ganga and the Brahmaputra also flow into the sea. Have you seen the sea? Where?

(i) Can you name the two seas that lie off the eastern and western coasts of our country? Write their names.

\_\_\_\_\_

We can also see bullock carts carrying passengers in some areas.



*A bullock cart carrying passengers*

Have you ever travelled on a bullock cart or a horse carriage? If not, ask your elders.

Write your experience or the story told by your elders.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Animals are our friends. We need to love them. We should also give them care.

We should not forget that they are doing a lot for us.

Horses are also used by man in many ways. They are used as a means of transport. They are also used in various sport events. They are used even in wars.

Do you know horses also wear shoes like us ? But their shoes are different from ours. Their shoes are nailed into their hooves. Their shoes are called horseshoes.



*Different kinds of sledge— pulled by rows of dogs, horse, men, etc.*

Sledges are used only on the snow or ice. They are pulled by horses or dogs. Human beings also used to pull sledge.

A sledge carries only a limited load or no more than one or two persons.



*Sledge carrying men*

Later, man invented wheel by cutting slices of tree trunks. You might have seen carts or carriages pulled by animals.

Human beings have been using animals as means of transport since the ancient days. Even today, we are using bullocks, horses, donkeys, elephants, camels, etc. as means of transport.



*Carts and carriages pulled by different animals*

The cart pulled normally by a pair of bullock is called a bullock cart. Bullock carts are still in use in many villages of Manipur. They are used for transportation of loads from one place to another.

Do you know that some animals also live in the sea? Look at the pictures and write their names in the given spaces.



Did you ever think about the harmful effects of pollution on animals? Let us read the following story.

Malappadu is a village in Guntur district of Andhra Pradesh. It is situated on the banks of the river, Chappadibagu. Nearly 1000 people live here with their cattle. The cattle drink water from this river. In 1977, this village became the victim of a strange disease. The cattle suffered paralytic strokes and died within a few days. Later on, scientists found that the river was polluted with lead-based chemicals and the cattle had died of lead poisoning. The Andhra Pradesh government immediately ordered a nearby factory to stop dumping of industrial wastes into the river.

Now answer the following questions.

- (i) Why did the cattle of Malappadu suffer from paralytic strokes?  
\_\_\_\_\_
- (ii) What was the reason for the death of the cattle of Malappadu?  
\_\_\_\_\_
- (iii) Why did the government order to a nearby factory to stop dumping of industrial wastes into the river?  
\_\_\_\_\_



Our seas are also polluted due to the leakage of petroleum. Do you know that oil is transported across oceans by ships and oil- tankers? Some of the oil is lost by spillage and leakage. Can you imagine that more than 1 million tonnes of oil is spilt annually into the seas encircling our country? Sometimes sea shores are covered with black slime that kills fishes and sea birds.

- (i) Have you seen sea shores covered with black slime in television?
- (ii) Did you notice any bird or fish covered with black slime along the shore?

**Activity**

- (i) Make a model of a water body located in your neighbourhood by using scrap materials.
- (ii) Draw pictures of two animals found in the sea.
- (iii) Draw pictures of water bodies and colour them.

**LESSON No. 20**



**ANIMALS AND TRANSPORT**



Can you imagine how man might have travelled or transported goods in the past? Have a conversation with your grandparents on the question. Then, write what you have learnt from them.



Long long ago there were no proper roads and vehicles as are today. Then, how did man travel in those days? How did he carry goods from one place to another?

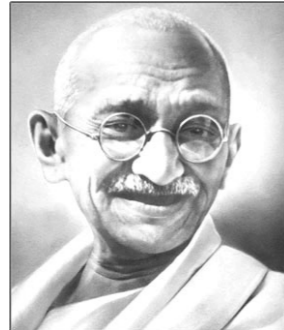
During those olden times, man used to travel on foot. He used to carry loads on his head or on the backs of animals.



Have you seen a sledge on a television or in a movie?

Anyway, do you know what is a sledge?

A **sledge** is the earliest known vehicle in human history. It has long narrow strips of wood or metal. They are fixed or tied together. They are called runners. A sledge has no wheel. It runs with the help of the runners.



Mahatama Gandhi

The Indian rupee have a symbol. The symbol is ₹. It has been devised by D. Udaya Kumar.

You know, there is an emblem on every Indian coin. What do you call it?

That is the National Emblem of India. The emblem has been taken from the Ashokan Pillar at Sarnath of Uttar Pradesh. We call it Ashoka Chakra also.



सत्यमेव जयते

In the original Ashokan pillar at Sarnath, there are four lions standing back to back. But on the National Emblem, we see only three lions. There is a wheel below the lions. There is a horse on the left side of the wheel and a bull on the right side. The words, “ Satyameva Jayate” (truth alone triumphs) in Devanagari script is written below the said two animals.

## LESSON No. 21



## TRAVEL TO ANOTHER PLACE

I am Tomba. I am very happy today because my uncle is coming back from Bangkok. He is a computer engineer. He went there three years ago to work in a company. My father told me that my uncle gets a good salary.

**What is Tomba's uncle?  
Where does he work?**

I accompanied my father to receive my uncle at the Imphal Airport. My father told me that my uncle is flying from Bangkok to Kolkata. Then he will fly from there to Imphal. I am also very eager to travel by an aeroplane.



At about 2 p.m. my uncle came out from the Exit Gate of the Airport. He was pushing a trolley with 3 suitcases. I was thrilled and excited on seeing him. I think he was also happy on seeing us. I was expecting some gifts from him. Those might be toys. Uncle lovingly said, “You are a big boy now, Tomba”. And I said, “I will go to Bangkok when I am bigger.”



**Why was Tomba thrilled and excited?**

My father put the luggages into our car. Then we came to our home in happy moods.

I was very eager to ask many questions to my uncle about Bangkok. I asked, “Are you very tired, uncle?” He replied, ‘No’.

He said, “It takes only about two hours to reach Kolkata from Bangkok by an aeroplane. And it takes only about an hour to reach Imphal from Kolkata by air. Aeroplanes fly very fast.”

**How long does an aeroplane take to reach Kolkata from Bangkok?**

Everybody at home was eagerly waiting for the arrival of uncle. Everybody was happy. I eagerly requested uncle to tell everything about Bangkok in the evening. He readily agreed and promised to do so.



Which currency notes and coins have you seen? Definitely, you have seen different Indian currency notes and coins.

**How many pictures of different animals are there on a ten rupee note? Name the animals.**

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Do you know that Indian constitution recognises twenty-two languages. They are Assamese, Bengali, Bodo, Dogri, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Maithili, Malayalam, Manipuri, Marathi, Nepali, Oriya, Punjabi, Sanskrit, Santhali, Sindhi, Tamil, Telegu and Urdu. Fifteen of these language are seen on every Indian rupee note.

**How many of them can you recognise?**



You will see the picture of a great man on every Indian rupee note. Who is he?

On the Reservation slip, we have to fill in the name, age, address, names of the departure and arrival stations, name and number of the train, etc. On the said form, we have to mention whether the passenger is a male or a female also.

The railway clerk or a person selling railway tickets will issue journey-cum- reservation ticket or an ordinary ticket only after receiving money from us as its cost.



Name and number of the train, date and time of departure, berth or seat number, age and sex of the passenger, names of the stations to board and to get down, number of kilometers to be travelled, price of the ticket, etc. are printed on the journey-cum-reservation ticket.



Like the travel by train, we have to pay money for any kind of travel.

In the evening, everyone of our family surrounded my uncle to hear something about Bangkok. He began to tell us about Bangkok.

He told us that Bangkok is the capital of Thailand. Thailand is a kingdom. Siam is the old name of Thailand. It is bordered on the west and south by Myanmar (Burma), on the north and east by Laos, on the southeast by Cambodia (Kampuchea) and on the south by Malaysia. The map of Thailand is like an elephant's head.

**What is the old name of Thailand?**



He continued that the Europeans called Bangkok “**the Venice of Asia**” because of its many canals. The Chao Phraya river and its canals carry the famous “**floating markets**” of Bangkok. Hundreds of small boats come Bangkok every early morning to sell vegetables, flowers, fruits, fishes, etc.

**What is the Venice of Asia?  
Why is it so called?**



On the bank of the Chao Phraya River there is the walled city of the grand palace. Formerly, it was the residence of the kings of Thailand.



The Thais are major population of Bangkok. Most of the residents of Bangkok are Buddhists. There are many Buddhist temples in Bangkok.

The people of Bangkok are polite. They have courtesy. A Tai (Thai) family is headed by its parents. Children are taught to honour their parents and elders. Further, my uncle told us, normally the people of Bangkok remove their shoes before entering someone's house.

After telling something about Bangkok, uncle gave each one of us a picture book of the city of Bangkok. I wondered, why the roads of Bangkok are so clean. I am very eager to visit Bangkok

### ACTIVITY

*List three travelogues written by Manipuris. Name the places the authors visited?*

## LESSON No. 22

### PAYING FOR TRAVEL



How do we pay for travel by train?

One has to buy a ticket for travelling by train.

Train tickets are sold at railway stations, railway ticket reservation centres, travel agencies, etc. Now, railway tickets can be bought from selected post offices also.



**Before buying a train ticket we need to fill in certain particulars of the passenger on a form. The form is called Reservation slip.**

**Where is Sarnath?**

**The full name of Mahatma Gandhi is Mohandas Karamchand Gandhi. He was born on second October, 1869 at Porbandar in Gujarat.**

**Gandhi studied law at London. In those days India was under British rule. He fought the British without using arms.**

**He preached non-violence. He stood for truth. Mahatma Gandhi is known as the Father of the Nation.**

**Where was Mahatma Gandhi born?**

**Coins which are not in use are called old coins. Do you have any old coins in your home?**

**Make a visit to the Manipur State Museum at Imphal with your elders or teachers. You will find a number of old coins in that Museum.**

**Trace the picture of a coin by using a piece of paper and a pencil.**

**LESSON No. 23**



**BUILDING MATERIALS AND TOOLS**

Today we shall learn about the various types of houses and the materials that we need to construct different houses. In ancient days people used to live in caves and other shelters to protect themselves from heat, wind, rain, enemies, wild animals, etc. There are various types of house throughout the world, some of which are made of light materials like bamboo, leaves, branches of trees, straws, mud, wood, tin, etc. while some are of heavy materials like steel, bricks, cement, sand and concrete, boulders, etc. The houses range from the multi-storey buildings to the ordinary types of houses.

Nowadays, brick is an important material for the construction of certain structures.

The following are the steps of making brick:

The first step is **WINNING** or mining the clay.



Observe some old type of bridges.



\* **Is there any bridge around your locality? If so, mention what type of bridge is that.**

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\* **Draw the picture of a bridge you have seen?**

**DO YOU KNOW**

There are six main types of bridges: beam bridges, cantilever bridges, arch bridges, suspension bridges, cable-stayed bridges and truss bridges.

Fly-over bridges are generally constructed on land where the traffic congestion is very high due to thick population and heavy traffic.

Some of the world famous bridges are so long that it takes some time to cross even in a motor car.

*RCC Bridge*



\* Name four bridges that human being have constructed.

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*The Great Belt bridge*



*The Chapel Bridge*

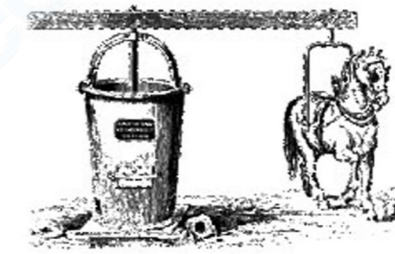


*Tower Bridge of London*

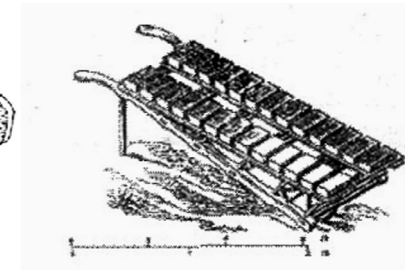
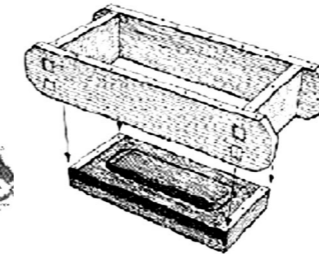
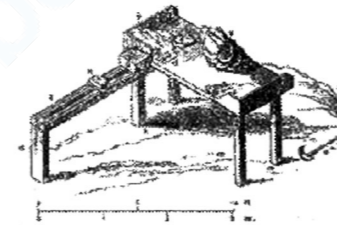


*The Golden Gate Bridge*

The second step is **PREPARATION** of the clay.



The third step is **MOULDING**.



*Mould and stock*

The fourth step is **DRYING**

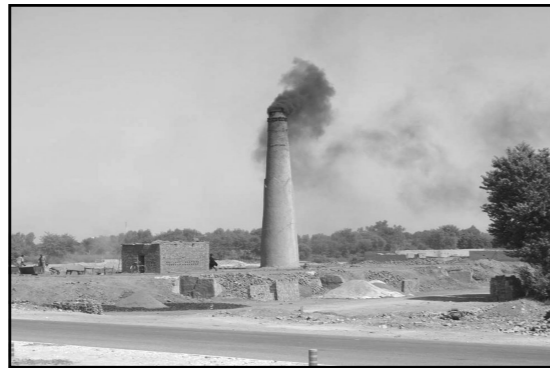


*Brick drying shed*



The fifth step is **BURNING**.

We require some tools for the construction of buildings. The tools are namely shovel, trowel, hammer, plumb-bob, brushes, measuring-tapes, edgers, jointers, hoe, hand-saw, cutter, blades, pliers, drill, planers, buckets, welding tools, painting and lubricating tools, trolley, hand-pullers, etc.



*Claw hammer*



*Pliers*



*Trowel*



*Square shovel*



*Hand drill*



*Grub hoe*

These are the important masonry as well as wooden construction tools. We know that the construction of structures or houses are impossible without these tools. Therefore, machines and tools are some important items for the modern civilization.

### ACTIVITY

*Visit a brick kiln/factory. Describe the activities you observed there.*

## LESSON No. 24



### A BRIDGE TO CROSS

Bridges are some of the man-made structures that help the civilization possible. There are various types of bridges around the world. In our state we see some types of bridges starting from our local bamboo-made bridges upto R.C.C. masonry bridges. However, we cannot see very big bridges.

**Do you know why we need bridges?**

**Are bridges always over water?**

Bridges make it possible to cross from one bank of a river to another. In olden days early men often placed stepping stones in the narrow sections of small streams as a way to cross to the other side. It is easy to see how a bridge might have developed using stepping stones as a base or from logs or planks. The earliest bridge was possibly a toppled tree that had fallen across a nearby stream.

Bridges can be over the roads, over railways, over deep gulleys and they are not only for cars and people. Bridges over rivers allow the water to pass easily through the holes in the bridges and they allow traffic over obstacles (rivers, roads, ravines) without changing the obstacles.

*Over bridge*

