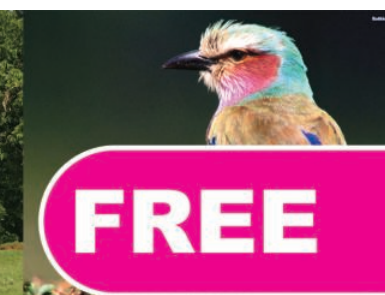


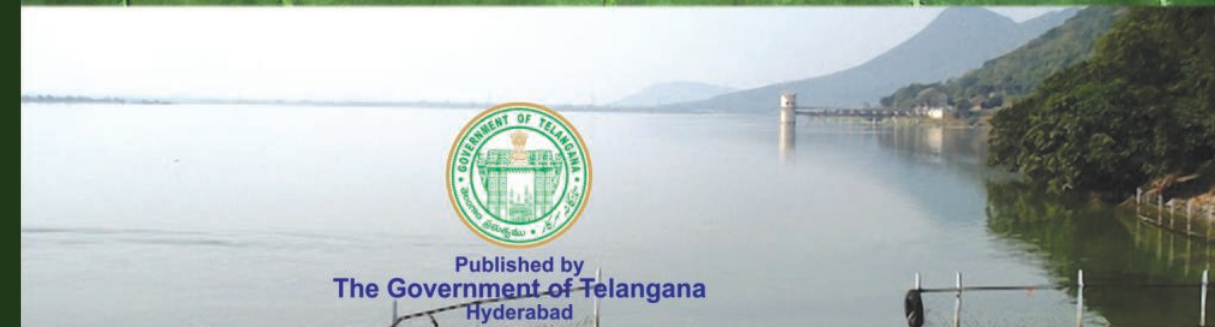
State Council of Educational Research and Training  
Telangana, Hyderabad



**FREE**

**WE - OUR ENVIRONMENT**

**CLASS - IV**



Published by  
The Government of Telangana  
Hyderabad

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## Children! use this book in the following way

- ◆ This Book is written for you. Read all the lessons on your own.
- ◆ Follow your teacher's instructions.
- ◆ You have to work together with your friends to understand the concepts. For this, you have to discuss and work in groups.
- ◆ The lessons contain pictures. Observe them carefully. Read the questions given below the pictures. Discuss with your friends / teachers and think about the answers.
- ◆ **'Discuss in Groups'** is present in all the lessons. Wherever you find this, form groups of four or five students, discuss and find out the answers.
- ◆ When you find **'Collect'**, visit the persons and places and collect the required information. Take your teacher's help if required.
- ◆ You will find **'Do This'** in some lessons. They are experiments. You should do these. And note down the results. Discuss in the class. Ask your teacher and clarify your doubts.
- ◆ You require the maps of Telangana and its Districts and Mandals. Collect these from your teacher.
- ◆ Answer the questions given under the title **'What have we learnt'** on your own. Do not refer guides. Show the answers to your teachers. Do not purchase or use guides. You can never think on your own if you use guides.
- ◆ Read all the sentences under the title **'I can do this'** If you can do, it put a '✓' mark. If you cannot do, ask your teacher and get it taught again.
- ◆ During the class, while you are working in groups or participating in any activity, whenever you feel you have not understood, clarify your doubts with your teachers.

## We - Our Environment - Our Health

- ◆ *Let us all plant a tree on the day we like the most and grow it.*
- ◆ *Let us protect it and provide fence around it.*
- ◆ *Water it every day. Let us remove all the dust and trash once a week. Observe the height of the tree, how grows and tabulate the information.*
- ◆ *After one year, let us celebrate its birthday.*
- ◆ *Let us reduce the usage of plastics in our house, street village/city.*
- ◆ *Instead of plastic, let us use plates, glasses, bowls made from metals.*
- ◆ *Let us not throw garbage on the roads. Separate wet and dry garbage and dump it in the dustbins provided by the Municipality.*
- ◆ *Let us not waste water. Let us wash our hands and legs near the plants.*
- ◆ *Store water in the buckets and use it.*
- ◆ *Let us save the Electricity. Saving Electricity is generating Electricity.*
- ◆ *Let us not keep the doors of Refrigerators open for a long time. Do not use fans unnecessarily, climb the stairs, avoid using the lift, switch off lights when going out, switch off T.V. when it is not being watched etc., These activities help save Electricity.*
- ◆ *Let us, inform the Gram Panchayat or Municipality, when the street lights are switched on during the day.*
- ◆ *Let us wash our hands and legs always after playing and before & after meals.*
- ◆ *Let us avoid eating Junk food.*
- ◆ *Let us eat fruits, eggs, leafy vegetables, Vegetables, pulses and drink milk.*
- ◆ *Let us have Mid-day-meals together. If it is found less in quality, talk to the Headmaster.*
- ◆ *Let us play everyday from 4 O'Clock to 6 O'Clock in the evening, or after school hours.*



Government of Telangana

Department of Women Development & Child Welfare - Childline Foundation

When abused in or out of school.

To save the children from dangers and problems.

When the children are denied school and compelled to work.

When the family members or relatives misbehave.



1098 (Ten...Nine...Eight) dial to free service facility.

# ENVIRONMENTAL STUDIES

## CLASS - IV

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***ALL FOR ONE  
AND ONE FOR ALL***

***LESS POLLUTION  
IS THE BEST SOLUTION***



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## FOREWORD

All children should have an understanding of their society and environment. For this, they have to critically examine the surroundings. They should be able to understand and question the incidents that happen in their society. They should be able to mould themselves by understanding their near and distant surroundings. This is possible only by learning from the environment for the environment. The most important thing to do is to develop an attitude to protect and give equal importance to plants, birds, animals etc. The aim of Environmental Studies is to achieve these required skills, abilities and attitudes. The State Council for Educational Research and Training is developing Text Books on Environmental Studies by the title **"We-Our Environment"** at Primary level. The Class-III text book has been implemented from the academic year 2012-13. As an extension to this, the class 4 and 5 text books will come into practice from the Academic year 2013-14.

According to the needs of our state, the syllabus and text books are prepared by considering the syllabus and textual themes of National Council for Educational Research and Training (N.C.E.R.T.). The new textbooks are prepared according to the academic standards that have to be achieved as prescribed by the Right to Compulsory and Free Education Act, 2009. (R.T.E.-2009). The lessons are written on the themes - Family, Games, Animals, Plants, Society, Shelters, Food, Travel and History. Each lesson is written with interesting situations, incidents from daily life, thought provoking and reflecting activities and explorations. Without giving direct information in the lessons, more importance is given to make children collect information, do the things by themselves, observe pictures and understand different issues. To extend the knowledge of certain things, additional information is given under the caption, **'Do you know?'** For children's better learning, individual, group and whole class activities Projects and Experiments are incorporated. For the children, to estimate their learning, Exercises are included at the end of each lesson under the heading **'What have we learnt?'** These are given according to the academic standards. The exercise **'I can do this'** is given at the end of each lesson for the self-evaluation by children. All lessons contain photos and pictures which make children feel the real experiences of the concepts.

Instead of providing direct knowledge to children, the text book lays emphasis on construction of knowledge. Keeping this in view teachers have to construct knowledge by conducting activities. The exercises in the text book make children interact with the peer group. So, carrying out the exercises is a must. To meet this, teachers have to prepare the required Teaching - Learning material and strategies. The text book has to be considered a helping guide. Teachers have to make the teaching meaningful by adding modern technology to the experiences of the children and use the local environment as an important resource. Great effort has to be done to develop processing skills and positive attitude towards the nature among the children.

Congratulations to the teachers, lecturers, subject experts, artists, D.T.P. designers and members of text book development committee on preparing this text book. Special thanks to the subject experts and editorial board for their guidance in bringing out a beautiful and attractive book. We hope that this text book will definitely inculcate values, scientific temper, required attitudes, awareness towards Biodiversity and interest among the children.

Date : 30-11-2012  
Place : Hyderabad

**Director,**  
S.C.E.R.T,  
Hyderabad



## OUR NATIONAL ANTHEM

- *Rabindranath Tagore*

Jana gana mana adhinayaka Jaya he  
Bharatha bhagya-vidhata  
Punjab Sindh Gujaratha Maratha  
Dravida Utkala Banga.  
Vindhya Himachala Jamuna Ganga  
Uchchala Jaladhi taranga,  
Tava shubha name jage  
Tava shubha asisha mage  
Gahe tava jaya gatha  
Jana gana mangala-dayaka jaya he,  
Bharatha bhagya –vidhatha,  
Jaya he, jaya he, jaya he,  
Jaya jaya jaya jaya he

## PLEDGE

- *Pydimarri Venkata Subba Rao*

“India is my country; all Indians are my brothers and sisters.  
I love my country, and I am proud of its rich and varied heritage.

I shall always strive to be worthy of it.

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

To my country and my people, I pledge my devotion.

In their well-being and prosperity alone lies my happiness.”



## Suggestions to the Teachers

- ◆ Read the expected academic standards, foreword and index compulsorily before using the text book.
- ◆ 6 periods a week and 220 periods a year are to be allotted for Environmental Studies.
- ◆ There are 12 lessons on the Whole. Lessons are framed in such a way that, they can be taught in 165 periods conveniently.
- ◆ Each lesson requires 14 periods on an average. Divide the periods into 10 to 18 periods per lesson.
- ◆ As activities, project works, collections are part of the lessons, allot more time to these activities when compared to the explanation of concepts. Giving suggestions to children, involving them in the group activities, making them exhibit their preparations, correcting mistakes should be done during the class hours. Suggest children to take up the project works, collection, explorations after the school hours.
- ◆ Children should be clearly explained exercises. They should be encouraged to write the answers on their own. Do not allow the students to copy the answers from guides.
- ◆ Ask thought provoking questions on situations, real life experiences and pictures. Additional questions related to the concepts also should be asked. This activity should be conducted as whole class activity.
- ◆ The activity '**Discuss in Groups**' is given in the middle of the lessons. Suggestions should be given to children before the commencement of activity. Teachers should see that children discuss the questions among themselves and write the answers. The required reference books should be supplied to the children. Make children exhibit their answers in groups. Mistakes should be corrected.
- ◆ The activity '**Do This**' is included in the lessons. These are experiments. Inform them, how to carry out the experiment and what material is required. Supervise them and ask them to note down the results and explain their experiment.
- ◆ The activity '**Collect**' is given in the lessons. Children have to visit the persons and places in their surroundings and collect information. Teacher has to guide them in what questions to be asked and how to collect information. Make them prepare the required information tables in the class itself. Ask them to exhibit the information collected in the class.
- ◆ '**Key words**' are given after every lesson. Allot a separate period and test the understanding of each word by asking them individually.
- ◆ At the end of each lesson Exercises are given under the title '**What have we learnt?**' See that the children do all the competency based activities and questions on their own. Allot separate periods for each academic standard as per the need.
- ◆ The exercise '**I can do this**' at the end of each lesson is meant for self evaluation. Try to know whether all the children are able to do each and every item. Go to the next lesson after 80% of the children are able to do these items.
- ◆ Teaching learning strategies and the expected learning outcomes, have been developed class wise and subject-wise based on the syllabus and compiled in the form of a Hand book to guide the teachers and were supplied to all the schools. With the help of this Hand book the teachers are expected to conduct effective teaching learning processes and ensure that all the students attain the expected learning outcomes.



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## **Academic Standards that have to be achieved by the children through this text book**

### **1. Conceptual Understanding**

- Children understand the reasons for the changes in the Family system, pros and cons of Domestic Appliances, Rules of their usage and their Necessity, Sportsman Spirit, Life styles of Animals - Their Classification, Food, Healthy Habits, construction of Houses, Need for Sanitation, Construction Material, Different Public Institutions and their Uses, Right to Information, History of the Nation, Culture etc., Children give reasons, examples, Identify the similarities and differences and do the classification.

### **2. Questioning - Hypothesis**

- Children will be able to ask questions about the collection of information, imagine the process of conducting experiments. For Eg: questioning sportsmen, guessing the reasons of the changes in the games, food wastage, information on animals. They will be able to question, make hypotheses, give reasons and identify the facts for different problems.

### **3. Experiments - Field Observations**

- Children will be able to do the experiments on plants and food material. Collect the required materials for the experiment. After doing the experiments, children compare their hypothesis and analyses the reasons.
- Children will be able to explain the process of experiments. They can understand through field observations, sports and games, agricultural fields, facilities of the houses, food habits of birds etc. They tabulate and explain the observed information.

### **4. Information Skills, Projects**

- Children collect information about Domestic Appliances, Sportpersons, Details of Animals, Garbage and Trash Collected from houses, Government Officers and their Duties etc.,
- Tabulate the collected information. Analyse and explain the collected information. Draw conclusions.

### **5. Communication through Mapping Skills, Drawing Pictures, Making Models**

- Children will be able to draw maps of their village, mandal, district and state. Point out the mandals on the districts map and districts on the State map.
- Point out the asked region on the maps and tell about the boundaries. Mark out the Routes on the basis of Maps.
- Children will be able to explain their understanding of different concepts by drawing pictures and making models. Ex: Models of house, train, bus etc.,

### **6. Appreciation - Values, Creating Awareness towards Bio-diversity**

- Children show kindness towards birds and animals. Develop awareness towards environment and bio-diversity. Understand measures to protect water, plants and trees. Develop good habits related to bio-diversity.
- Understand and implement measure to control the pollution and implement the Rules and Regulations.
- Practise sportman spirit. Develop appreciable attitudes like working together, honouring other's views, questioning freely and helping the needy.
- Identify the good in others and appreciate them.





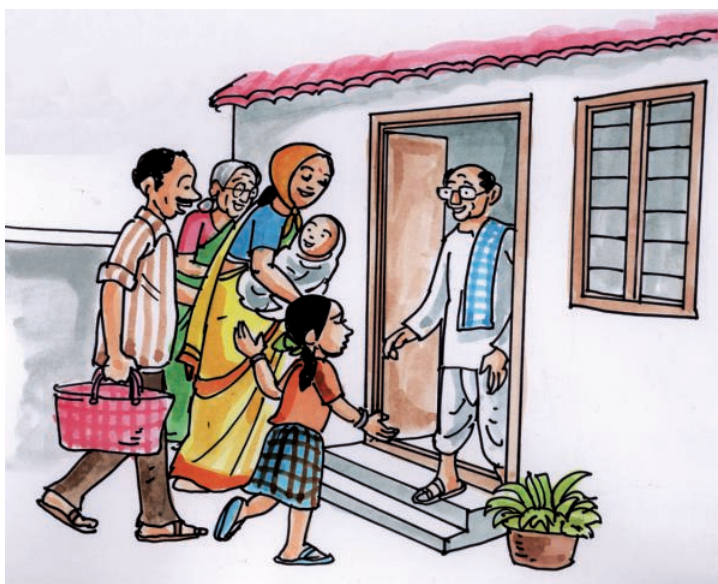
# CHANGING FAMILY STRUCTURE

Generally Indian families comprise of parents, grandparents and children. Some families called joint families comprise of uncles, aunts and their children besides parents, grandparents and children. But, now-a-days, the structure of such families is changing. Imagine the families of your grandparents during their childhood. How are the present day families? Do all the members in a family always stay together? Do new members join the family? Think... when and why do such changes take place in a family?

## 1.1. A new arrival into family

Vandana's mother gave birth to a baby girl. Vandana is very happy.





**Observe the picture and say:**

- ◆ Who were the members of Vandana's family before the arrival of her baby sister?
- ◆ Well! A new born baby has come to Vandana's home; what changes might have occurred in their home after baby's birth? Many changes occur when new members join the family. Discuss with your friends and write in your note book the changes that might have taken place.

### Discuss in groups



- ◆ How will Vandana spend her free time now?
- ◆ What kind of works her mother was doing earlier?
- ◆ What new works will her mother do now?
- ◆ How do the works of the family members change with the arrival of a new born?

Some changes do occur in the family with the birth of babies. New duties such as giving bath to the baby, cooking special food, feeding the baby, taking care of baby, carrying the baby often, comforting a crying baby etc., have to be done. All the members have to help the mother in doing these things. These activities would not be there before baby's birth.

## 1.2. Marriage - changes in the family

Have you ever attended a marriage? Say, what have you seen there?

Rani's brother Srinivas is getting married. The house is decorated beautifully. Relatives have arrived. Every one is happy and busy in the house.



After the marriage, the bride came to Rani's house. A new member has joined Rani's family. Where did Rani's sister-in-law live before marriage? Where will she reside after marriage? Discuss the following questions with your friends in groups. Write the answers in your note book.

### Discuss in groups :



- ◆ What changes might have occurred in the bride's family because of the marriage?
- ◆ What changes might have occurred in Rani's family after the marriage?
- ◆ What changes might occur in Rani's family in future?
- ◆ If grandparents live with the family, it makes everyone happy - Why?

In a family, when some one gets married or a baby is born, members will increase. Similarly when some one has to leave the family for a job, or for any other reason like death, members will decrease.

This means, changes occur in a family, when a member either joins or leaves.



### Think...

What other reasons bring changes in families?

## 1.3. Moving to new place

Aditya's family lives in Medak. Aditya's father received a letter from his office. The letter said that he was transferred to Nizamabad on promotion.

Aditya lives in a joint family, where his sister, parents, grandparents, uncle (chinnanna), aunt (chinnamma) and cousins live together.





### Think...

When Aditya's father showed the letter to his family, how do you think the family members would have felt?

Aditya's family vacated the house and left for the new town. Similarly, Aditya's friend Ramesh's father also got promoted, and transferred to Siddipet. He didn't take his family to the new town, but, he shuttled. Discuss with your friends and write down, what changes might come in the families of employees.

Aditya's family	Ramesh's family
<ul style="list-style-type: none"> <li>Where did they reside before promotion?</li> <li>Where is the family after promotion?</li> <li>What changes might have occurred in Aditya's family after shifting?</li> <li>Will there be any changes in the work (duties) done by Aditya?</li> </ul>	<ul style="list-style-type: none"> <li>Where did they reside before promotion?</li> <li>Where is the family after promotion?</li> <li>What changes might have occurred in Ramesh's family after his father started shuttling.</li> <li>Will there be changes in the work (duties) of Ramesh also?</li> </ul>

- Have any new students joined your class or school? Talk to them to know whether any changes have taken place in their families and the kind of work they did? Share the information with your friends.
- Where did he / she come from?
- How was his / her old school?
- What new things did he / she observe here?
- Did he / she like the present atmosphere? Why?





Families do not remain the same always. Changes occur in the families due to various reasons. You have seen that changes occur in the families due to marriages, births, employment at new places, transfer to other towns and so on. Changes occur not only because of these reasons but also due to business, studies, migration for employment, occurrence of earthquakes, floods, death of member etc; Besides these, when we compare the present time with the past, we find that many changes have taken place in the families. How do we know about these details?

### Do this ...

Form groups of three. Each group should visit any three old persons nearby or your grand parents, and talk to them. Collect and note down the following details in the table.

Information to be collected	Details
• How many years has your family been staying here?	
• Where did your family live before?	
• Why did you come here?	
• What changes have occurred in your family after coming here?	
• How many members were there in your family 10 years ago?	
• How many members are there in your family now?	
• What were the reasons for the change in the number of members?	
• How do you feel about the changes in the family?	

## 1.4. Families - yesterday, today, tomorrow

Compared to the past, there are many changes in the families. Is there any change in your family too ?

Most of the families in the past were joint families. In joint families, different members like grandparents, aunts, uncles, their children..... every one lived together as a single family. All the members helped each other and did various kinds of works together. They used to share all joys and sorrows. Now-a-days the number of members in a family is decreasing.

At present, only parents and their children live in most of the families. These are called nuclear families. One of the reasons for nuclear families is, newly married couple start living separately after their marriage. They are not taking proper care of grandparents and other old members. Some people are sending their old parents to old age homes and children to hostels in the name of education. Discuss these changes with the friends in your group and write down the conclusions.

### Discuss in groups



- ◆ How were the families in the past?
- ◆ What are the benefits of joint families?
- ◆ What are the reasons for the decrease in the number of family members and formation of nuclear families?
- ◆ Old age homes are increasing day by day - why?
- ◆ Do you think it is a good change? Discuss.
- ◆ What other changes might come in the families in future?
- ◆ Living together is happy. Living apart is sad. Why?

You know that all the family members lived together in joint families. Now, let us know, what other advantages joint families had.

The old people used to be with the children and helped them in many ways. Children were told stories and new things by the old people. Meals were taken together. Every one helped each other and lived together.

Families have changed as time passed. Joint families have separated into nuclear families due to members leaving villages for employment, division of properties, insufficient housing etc.

How was your family in the past? How is it now? What type of family is yours- a joint family or a nuclear family? Which one do you feel is better? Why?



### 1.5. Family Life - Use of Home Appliances:

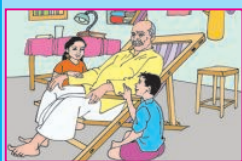
With changes in the families, the method of work also changed. Earlier people did all the work by themselves. But now, some families employ people for household work. Similarly, the use of electrical appliances in the house-hold work has increased to reduce the labour.

Observe the pictures given below. Do you know what these are?



- Why are these appliances used?
- How did the people do different kinds of work when these appliances were not there?
- Is the use of these appliances advantageous? Why? Why not?
- Why is the usage of electricity increasing day by day?

### Collect :



Go and talk to your grand parents. Ask them whether they saw these appliances in their childhood? Did they use them? How did they work, when these appliances were not there? What do they feel about the appliances that are used today? Ask and find out.

Home appliances have changed the method of working. People depend on the appliances for household works. They use appliances for washing clothes, grinding flour, cleaning the house, cooking etc., We are depending on others for few more works. Rather, every one must do their own works. We should work manually as far as possible. Usage of home appliances should be reduced. It consumes more electricity when we use washing machines, mixie, grinders etc., If we work manually, we not only reduce the consumption of electricity but also remain active and healthy. In addition to this, one also realizes the value of work.

### Key words :

- |                          |                   |                     |
|--------------------------|-------------------|---------------------|
| 1. members of family     | 3. promotion      | 5. nuclear families |
| 2. changes in the family | 4. joint families | 6. home appliances  |

### What have we learnt?

#### 1. Conceptual Understanding

- Are all families similar? Why?
- Write reasons for the changes in families.
- Name the appliances used in your home. What are they used for?
- "Changes occur in families due to marriages", Explain why?

#### 2. Questioning - Hypothesis

- A new family has come to your village. What questions would you ask to know about the changes that occurred in their family after shifting?



### 3. Experiments - Field Observations

- ◆ Do we have separate works for boys and girls?

No, everyone must do all sorts of works.

Observe the families in your surroundings. Write down if there is any difference in the type of work done by boys and girls?

### 4. Information Skills, Projects

- a) Visit homes of any five of your friends. Collect information on the different home appliances used in their houses and write in the table below.

Sl.No	Name of the friend	Home appliances used
1		
2		
3		
4		
5		

- b) Paste the photo of your family before your birth and a present photo. Write down what changes you notice.

### 5. Communication through Mapping Skills, Drawing Pictures and Making Models

- ◆ Draw or paste the pictures of your family members on a chart. Say and write the work they do.

### 6. Appreciation, Values and Awareness towards Bio-diversity

- ◆ How will you help a new family in your neighbourhood?
- ◆ Describe your feelings when you meet the members of a joint family who help each other.
- ◆ We can reduce the difficulties of others by working on our own. Explain.

#### I can do this

1. I can explain the changes in a family and reasons for those changes.	Yes/No
2. I can ask questions to know about the changes in a family	Yes/No
3. I can collect, tabulate and explain the information on the usage of home appliances.	Yes/No
4. I can draw the pictures of members of family, and explain the kinds of work they do.	Yes/No
5. I can help new families that have come into our neighbourhood.	Yes/No





## DIFFERENT GAMES AND RULES

We all love to play. We play inside and outside our houses or wherever we like. People have been playing different games for centuries. But, changes have occurred in the way games are played. There are many new games these days. We also play games which are played in foreign countries. Observe the picture given below:



### Discuss in groups



- ◆ What are the games children playing in the above picture?
- ◆ What games do you play?
- ◆ Who do you play the games with and when?
- ◆ Why do you play games?
- ◆ Who can play games?
- ◆ How do you feel when you play games?

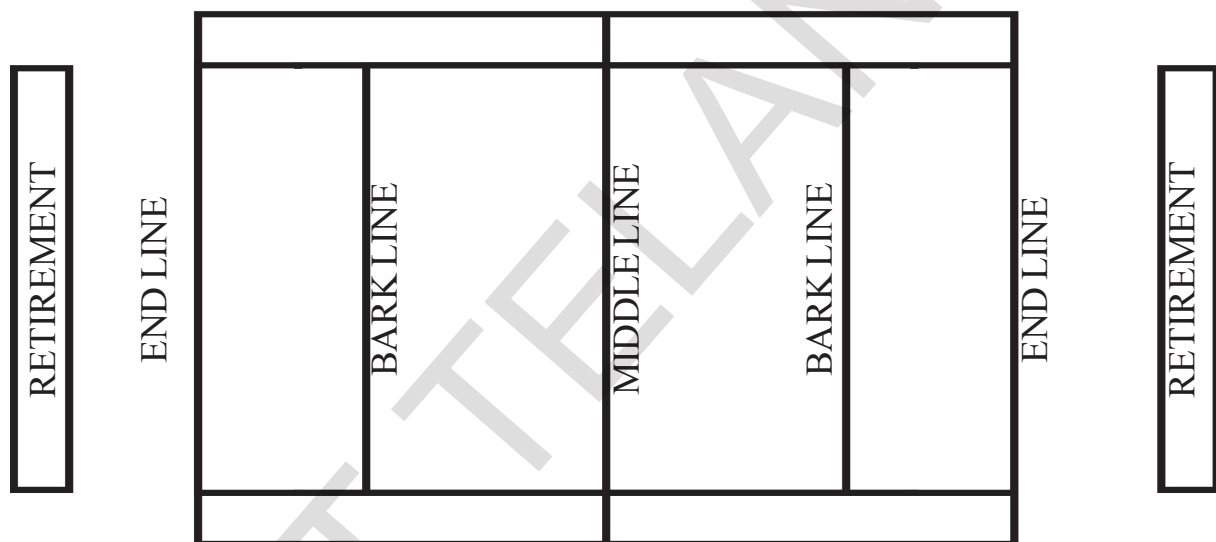


## 2.1. Rules of the Games:

You play different games. Don't you? Before the game begins, the players divide themselves into groups and discuss the method of playing. They also bring the required material and make all necessary preparations.

Do you know Kabaddi? Let us see, how children play it.

Rahim, the Physical Training teacher took all the children to the playground to make them play Kabaddi. He divided them into two groups of seven players each. He explained them the 'Rules of Kabaddi' and how to play the game. The player who cants - 'Kabaddi' should touch the barkline, otherwise he/she may be declared out. Rahim sir drew the Kabaddi court with the help of children. The figure below shows the lines drawn on the court. Observe the picture.



The teams of Supraja and Pinky are playing Kabaddi. Supraja started the game with the 'cant' - 'Kabaddi'. Four players of the opposite team surrounded and caught her. But, Supraja escaped from them and touched the middle line. On seeing this Supraja's team members screamed, and clapped happily and shouted "four points..... we scored four points". Then one girl from Pinky's team started an argument saying Supraja stopped the cant in between. Both teams argued with each other. At last Parveen from Pinky's team has come forward and persuaded others saying Supraja did not stop the cant. Rahim sir gave four points to Supraja's team. The game continued.



You have seen, how Pinky's and Supraja's teams played Kabaddi. Discuss with the members of your group about the game.

### Discuss in groups



- ◆ Why do disputes arise in games?
- ◆ How disputes can be avoided during games?
- ◆ What are the rules of playing Kabaddi?
- ◆ Who should be appreciated in games? Why?

### Rules of the game 'Kabaddi' :

- ◆ The player who shouts the cants (kootha) - Kabaddi Kabaddi, should touch the 'bark line' before he/she comes back, otherwise he/she would be considered 'out'.
- ◆ The cant should start and stop at the middle line. The cant must continue in a single breath. If the cant is stopped in between, the player is considered to be 'out'.
- ◆ The players who cross the end lines or side lines are considered as 'out'.
- ◆ Those players who are 'out' should sit in the 'retirement box' outside the court.
- ◆ The players who are 'out' can join the team whenever their team scores a touch point. They have to join in the same order as they were out.
- ◆ The players should not have long nails.
- ◆ One should not apply oil to the body while playing.
- ◆ While playing, especially girls should not drag each other by their hair / plaits.

### 2.2. Rules of other games:

You have read how to play Kabaddi. Every game has certain rules. We play the games by following these rules. Do you play games by following rules? Write down the names of the games you play. Write the rules of each game and discuss in groups.



### Discuss in groups



- ◆ Write the name of your favourite game.
- ◆ How do you play it?
- ◆ What are the rules of the game?

Name of the game	Method of playing	Rules of the game

### 2.3. Why rules?

You have understood the rules of the games.

#### Think...

- Are rules meant for games only? Can you tell where else do we follow rules?
- What rules do you follow in school?

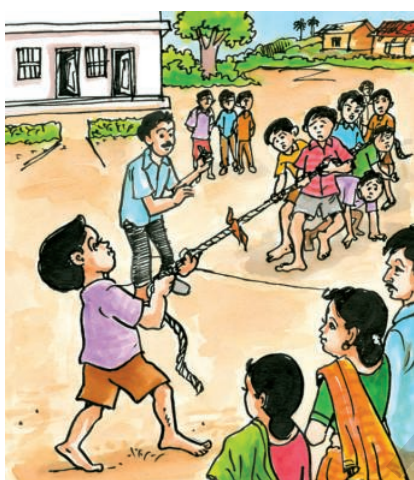
Rules help us to play games properly. Rules help to control the games. Just like in games, certain rules and regulations are to be followed at home, school and all other places also.

For example, traffic rules are to be followed to avoid accidents. We stop when red light glows, we get ready when orange light glows, move forward when green light glows. This is called "Signalling System". We find traffic signals on cross roads in order to regulate the traffic and to avoid traffic jams and accidents. Walking to the left side of the road is the rule of the road.





Look at the above picture. People are crossing the road at the zebra crossing where white stripes are drawn. It helps to avoid accidents. Vehicles move at a low speed near the Zebra crossing.



Like roads, schools also have certain rules and regulations. For example, as per rules, students, teachers and the headmaster should attend the school assembly everyday. Classes should be conducted according to time-table, children should play during games period, mid-day-meals should be provided properly and parents meetings must be conducted once in a month etc. Such rules if followed properly help the schools to develop well.

We should follow personal body safety rules while interacting with others.

Following the personal body safety rules help us to be safe. We should wear dresses which cover our body parts. Never question or speak to a stranger about your body parts. Never be quiet when others try to touch you. We should speak only to faithful persons.

Similarly, to govern ourselves, we have framed certain rules in our constitution. You will learn more about our constitution in your class-V.

- We often touch each other when we talk or play games or sports. But we should be careful about who touch us deliberately. Discuss.
- I am a safe person if I follow personal body safety rules for myself and others. I do not touch or talk or behave in an unsafe way with others. Discuss.

## 2.4. Can everybody play games?

Everybody likes games. But, do all people play games? In Rangapuram, girls play games like ashta chemma, thokkudu billa, tennikoit, vamana gunta etc. Boys play games like cricket, volley ball, football etc.



### Think...

- Do you think it is right for boys and girls to play different games?
- Can every one play all the games? How do you feel about it? Give some examples.



**Saina Nehwal**



**Vishwanathan Anand**



**Mithali Raj**



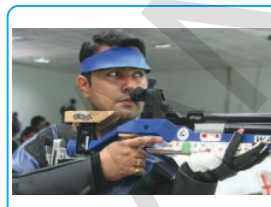
**Mary Kom**



**Koneru Hampi**



**Karanam  
Malleswari**



**Gagan Narang**



**Sania Mirza**

Observe the people in the pictures given above. Do you know who they are? What games do they play? What is special about them?

These sportspersons made our country proud with their achievements. How did they achieve them? Had they not played games every day, would they have succeeded as great sports persons?

Anyone can play games. There are many sports women in our country. Many women players won medals not only at the national level but also at the international level like Asian Games, Common Wealth Games, Olympics etc. on par with men. Women are excelling in all the fields including games.

## 2.5. Games - Victory and Defeat in games :

Winning and losing is quite natural in games. In any game only one team or one person can win. The person/team that wins is called 'winner'. Some people are worried when they lose the game. Winning and losing are not important. Importance should be given to exhibiting good skills. One must learn good sporting skills, patience, hardwork, following rules etc., from others. Players congratulate each other after the competition. Considering victory and defeat to be equal is called 'sportsman spirit'. All children should play games after school and also during holidays. Where do you play? Do girls go to the ground and play? Boys and girls are equal. Girls should also go to the playground, so that they become healthy and remain active.



### Think...

- Have you ever won any games? How did you win?
- How do you appreciate the winners?
- How should we behave with those who lose a game?

### Playing games is children's right :

All children, boys and girls should play every day. This is children's right. Evening 4 - 6 p.m is children's play time. One should not go to tuitions or do the home work during this time. When we play games we become active and our blood circulates better. All impurities in our body come out in the form of sweat. During play time, we talk, laugh, solve simple disputes, discuss and follow rules. It relieves us from stress and strain and keeps our body healthy and active. It also help us in maintaining good relations with others. If you play games daily you will become strong and healthy. You will not have obesity.

You must play during games period. You should play with your teachers also. We should use the play material available in the school. You must participate in your school sports competition held once in three months. You must acquire the skills of playing different games. We should take bath after playing games in the evening. After playing, we must study and do household work. By doing this, we become active and it also enhances our grasping power and we can learn lessons easily.

### Think...

- Some schools and some families keep children away from games because they think children who play games cannot study well. Is this correct? What is your opinion on this?

## 2.6. Games - Results



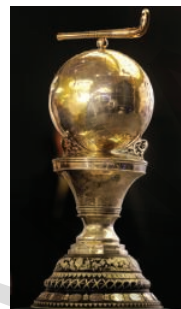
Have you ever seen people who play regularly? They are healthy and active. When we play games, we become healthy and active. People co-operate with each other while playing. It inculcates the value of team spirit. We are recognised by all when we play games. We can bring name and fame to our family, school, village, district, state and nation. Our Indian Kabaddi team won the gold medal in Kabaddi. Similarly our Indian Cricket team won the World







Cup in the year 2011. Our players and athletes like P.T. Usha, Karanam Malleswari, Saina Nehwal, Mary Kom, Leander Paes, Gagan Narang and Vijendra Singh, P.V. Sindhu, Sakshi Malik participated in the Olympics and won medals. Everyone respects the sportsmen and sportswomen. By playing different games we learn how to face challenges in our life and solve the problems. We



develop the habit of helping others in various occasions. Thereby, the children develop habits of working together, adjusting with others, sportsman spirit, learning to appreciate winners and encourage losers. We learn to treat both victory and defeat equally. You have read about the advantages of playing games. Hope, you all play games everyday!

### Key words :

- |                       |                 |                   |
|-----------------------|-----------------|-------------------|
| 1. rules              | 4. road rules   | 7. national level |
| 2. victory and defeat | 5. constitution | 8. Olympics       |
| 3. sportsman spirit   | 6. sportsmen    | 9. Republic Day   |

### What have we learnt?

#### 1. Conceptual Understanding

- Why should we play games? What happens if we play games without rules?
- For what do we have rules? Why should we follow rules?
- Playing is children's right. Give reasons.
- Write 5 important rules of Kabaddi. Who explains them?

#### 2. Questioning - Hypothesis

- Latha saw a photo of Mary Kom in the newspaper. She wanted to know how Mary Kom won the medal. What questions she might have asked elders / teachers?
- What changes do you think would come in the modern games, when compared to those in the past? Why?

#### 3. Experiments - Field Observations

- Observe any game played in your street or at school which you do not know. Write the procedure of the game in correct order.



#### 4. Information Skills, Projects

- ◆ Collect information on any five famous sportspersons of our state or the country.

Sl.No.	Name of the player	Game played	Events participated	Competitions won

- Which game has more number of players? Does it include women?

#### 5. Communication through Mapping Skills, Drawing Pictures and Making Models

- a) Draw the court of any outdoor game that you play. Mark out the measurements. Label the court. Explain.

#### 6. Appreciation, Values and Awareness towards Bio-diversity

- a) What should we learn from the winners of a game? How should we behave with those who lose the game?
- b) Playing is children's right. Play every day. After playing for a week, write your feelings.

#### I can do this

- |  |          |
|--|----------|
| 1. I can explain the rules of various games and need for the rules.  | Yes / No |
| 2. I can ask questions on how sportspersons won the medals.  | Yes / No |
| 3. I can observe a game and write down the sequential order of playing it.                                   | Yes / No |
| 4. I can collect and tabulate the information about sportspersons who brought fame to our country and state. | Yes / No |
| 5. I can appreciate winners and encourage losers.  | Yes / No |
| 6. I play everyday in the evening.   | Yes / No |





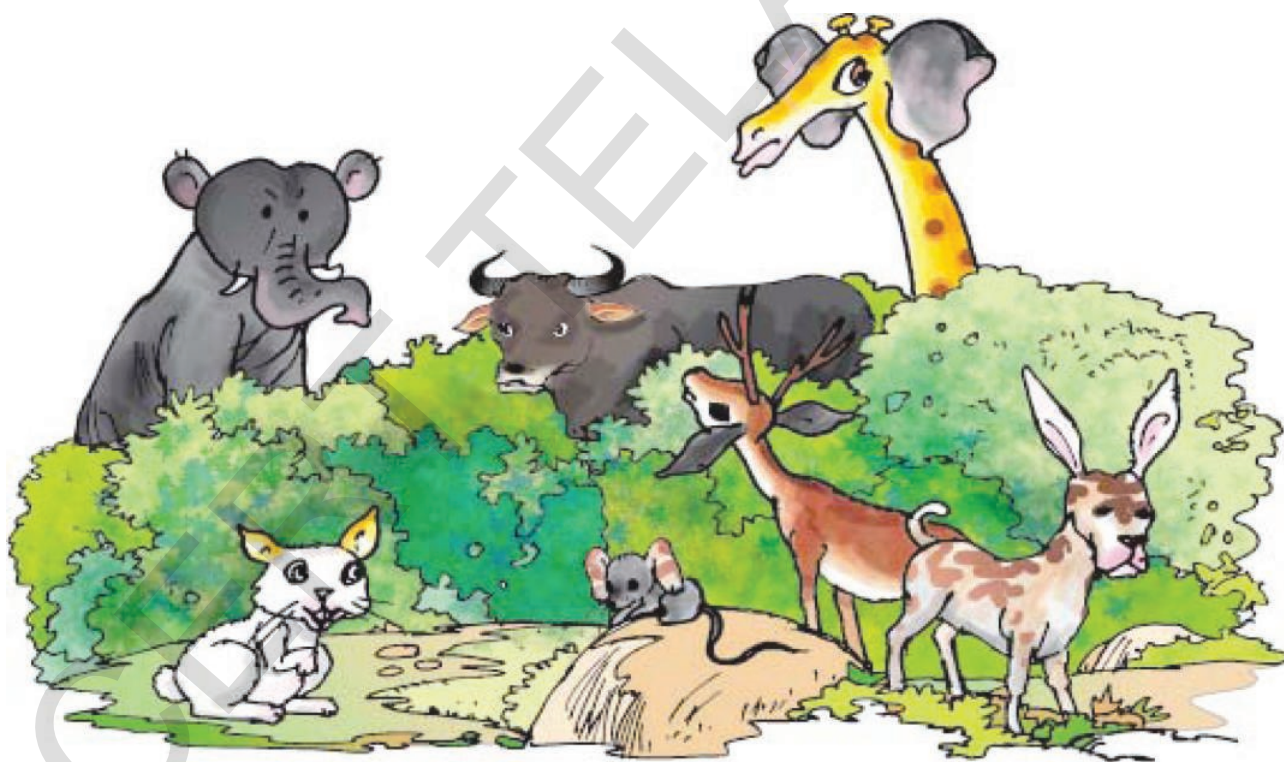
## VARIOUS TYPES OF ANIMALS

Many kinds of animals live around us. Some live in forests and others live in and around our houses. Are all animals alike?

Some animals are bigger than us and some others are smaller. Many differences are seen in the structure of their eyes, ears, nose, tails, legs etc. We can describe the animals based on the structure of their organs. For example, 1) How can you differentiate an elephant from other animals? 2) What is its speciality? 3) Describe each part.

### 3.1. Who has got my ears?

We can identify the animals by looking at the parts of their body. Observe the picture given below:



Aren't the animals in the above picture funny? The animals have exchanged their ears with other animals in the picture. Look carefully and identify the ears of the original animal. Complete the table.

	Animal	Ears
1.	Elephant	Mouse
2.	Rabbit	_____
3.	Mouse	_____
4.	Giraffe	_____
5.	Dog	_____
6.	Buffalo	_____
7.	Deer	_____

### 3.2. Animals with external ears

Ears of some animals can be seen (visible). But, ears of some animals cannot be seen. Observe the pictures given below. Discuss with your friends and write down the details.

#### Discuss in groups



- ◆ Do all animals have ears? Can we see the ears of all animals? Name animals with external ears and also those without external ears.



Animals with external ears	Animals without external ears

What did you understand from the above table?

### 3.3. Animals without external ears

Some animals have ears, but are not visible. Do you think that animals whose ears we cannot see, really do not have ears? Think..... Observe the pictures given below. Discuss with your friends in groups



#### Discuss in groups



- ◆ Name the animals in the picture
- ◆ Can you see their ears?
- ◆ Write names of some other animals without external ears.

Like us, all animals have ears. But in some animals ears are not visible.



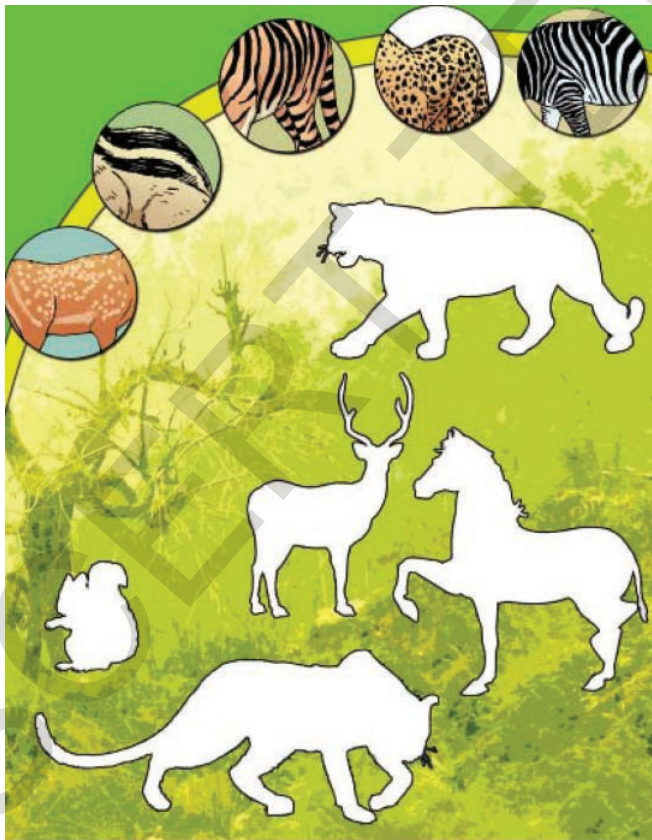




You know very well that ears help us to hear. Bird's ears are not visible externally. A bird has tiny holes on both sides of its head. Generally, the holes are covered with feathers. They help the bird in hearing. If you look carefully, you will see tiny holes on a lizard's head. These are its ears. A crocodile also has ears, but we cannot see them easily. Snake's skin recognises sounds through vibrations.

### 3.4. Whose skin is this?

You have learnt that different animals have different kinds of ears. We can recognise animals by looking at their ears. Similarly, can you recognise animals by their skin? Observe the picture. Here are different kinds of animals and their skins.



#### Think...

**Match the animals shown here with the pictures of their skin.**

Skin protects all the organs of the body. We can recognise animals by the colour and pattern of hair present on their skin.

Have you ever seen animals without hair on their skin? Have you ever seen an animal with its hair removed? Imagine how animals would look if they did not have any hair on their skin. What are the uses of this hair?



### 3.5. Classification of animals on the basis of ears and skin:

Observe the animals in the picture given below. Name them.



The ears and skin of all animals are not the same. Some animals have hair on their skin, some have feathers and some others have scales on their body. The ears of some animals can be seen and the ears of some other animals cannot be seen. You have observed the pictures on the previous page. Discuss in groups about the kinds of ears and skin of animals. Fill in the table.

No external ears	Feathers on skin
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
External ears	Hair on skin
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

### Discuss in groups



- ◆ Which animals have feathers and invisible ears?
- ◆ Which animals have hair on their skin and visible ears?
- ◆ Which animals possess scales on their body?

The animals whose ears are seen and have hair on their skin, give birth to 'babies'. The animals whose ears are not seen and have no hair on the skin, lay 'eggs'. In this way, we can say whether the animals give birth to babies or lay eggs on the basis of their skin and the structure of their ears. The animals which lay eggs, incubate and bring up the young ones are called oviparous. The animals which give birth to young ones and suckle them are called 'viviparous' (or mammals).



### Collect the information



Observe your pet animals and that of your friend. Go near the animal and observe whether it has hair on its body. Visit a zoo, observe the animals from a distance to find out whether they have hair on their body. Also observe the ears of the animals which give birth to young ones.

### 3.6. Uses of animals:

The hair and skin of animals protect them from cold and heat. We also use the hair and skin of animals. Look at the picture given. How do you feel looking at it? Why?



The skin of animals is also useful to us. Animal skin is used to make foot-wear, musical instruments like drums etc. Woollen cloths are made of animals hair. Animals give us food also. They are also used in agricultural work and in transportation of goods.

### Do you know?

#### Discuss in groups



- ◆ Which animals give us food?
- ◆ Which animals are used in farming?
- ◆ What are the other uses of animals?

Discuss with your friends and write down the names of some animals and their uses.

Animals that give food	Animals that are used in farming	Animals used for other purposes



### Collect the information



Do you have a pet? Does any one you know have a pet? Visit their houses and collect the following details.



Things observed	Details
• What pet do they have?	
• Did they name it?	
• What is the name of the pet?	
• Does it lay eggs?	
• Does it give birth to young ones?	
• Does it have young ones?	
• What does it eat? Who feeds it?	
• Does it have hair or feathers?	
• Can we see its ears?	
• Why are they keeping that animal?	
• How do they take care of it?	
• Why and when does it get angry?	
• What does it do when it gets angry?	
• Who likes it the most in their home?	
• Why do they like it?	

### Do you know ?

Our Telangana State government declared deer as the state animal.

Deers are found in plenty in the Nallamala forests of our state. Deer is an innocent, active, attractive animal with big eyes and beautiful horns. They make children and elders happy.

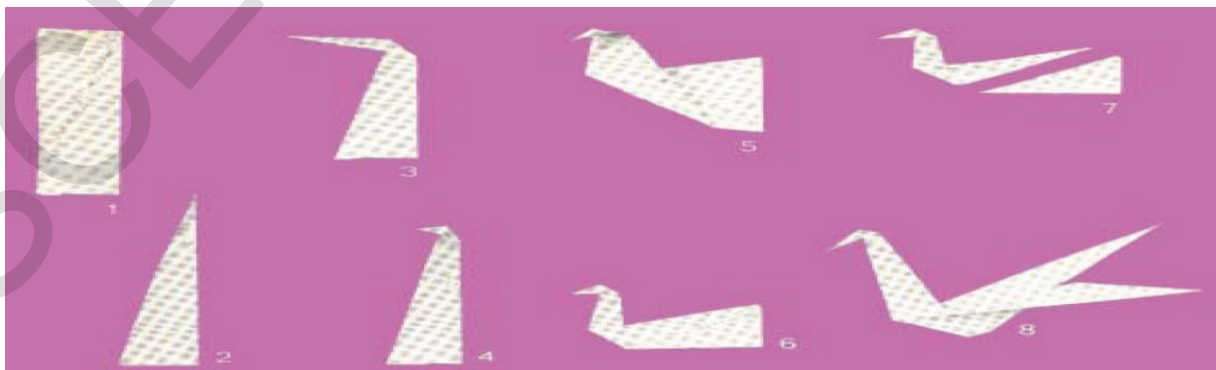


Look at the animal in the picture.

Do you know its name? This is a tiger. It is our national animal. Tigers are under the threat of extinction. Discuss why are they facing extinction.

### 3.7. Shall we make our own bird?

We all like birds and animals. Shall we make their models? Take some papers or pieces of card-board. Make different shapes as shown in the picture. We can make different birds with them. Make them in groups with your friends and exhibit in the class.





## Key words :

- |                  |               |
|------------------|---------------|
| 1. skin          | 4. oviparous  |
| 2. external ears | 5. viviparous |
| 3. internal ears | 6. zoo        |

## What have we learnt?

### 1. Conceptual Understanding

- Give ten examples of animals with external ears.
- Write two similarities and differences between oviparous and viviparous animals.
- Some animals lay eggs. But do not possess feathers. Write their names.
- Write the uses of animals and birds.

### 2. Questioning - Hypothesis

- Rajani, Rahim, Manogna, Samhitha and their friends went to the zoo on a Sunday. They saw the animals given below. They asked the care-takers many questions to know about them. Write, what questions they might have asked.



### 3. Experiments - Field Observations

- Observe and write, which animals are found more in your region-oviparous or viviparous.
- How do the animals that lay eggs and those which give birth to young ones, feed their young ones. Observe and write what do they do for this purpose?

#### 4. Information Skills, Projects

- ◆ Prepare the information table by observing any two animals.

Name of animal	Does it have hair?	Does it lay eggs/ give birth to babies	What does it eat?	Where does it live?

- ◆ What did you learn by observing the above table?
- ◆ Write two lines about egg laying animal.

#### 5. Communication through Mapping Skills, Drawing Pictures and Making Models

- ◆ Draw and colour an animal which gives birth to young ones.

#### 6. Appreciation, Values and Awareness towards Bio-diversity

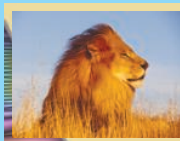
- a) We need food, water and shelter to live. How do you help birds and animals that live in your surroundings?
- b) Animals and birds also have a right to live like us. Write a few slogans on how we can protect them.
- c) Write how do you feel when you see birds, animals and their young ones?

#### I can do this

1. I can write the similarities and differences between animals.	Yes / No
2. I can ask questions about animals.	Yes / No
3. I can collect and tabulate the information about animals.	Yes / No
4. I can draw and colour the pictures of animals and explain about them.	Yes / No
5. I can explain the uses of animals.	Yes / No



# 4



## THE LIFE STYLES OF ANIMALS - BIO DIVERSITY

Human beings live in families. Therefore, they are called social animals. For our various needs, we are dependent on each other. We gather food to eat, clothes to wear, houses to live in and vehicles to travel. What about the animals? How do they live? What do they do for their living? Do you know the life styles of animals.

See the picture below:



### Discuss in groups



- ◆ Have you ever seen the animals in the picture above?
- ◆ How many elephants are there in the herd? Where are they going?
- ◆ Why do they move in herds? What could be the benefits of moving in herds?

### 4.1. How do animals live

Elephants in the forest live in herds. There may be 10-12 elephants in each herd along with their babies. Female elephants are more in number. Male elephants leave



the herd at the age of 15. Usually, an old female elephant leads the herd. She starts her journey in the morning, with a trumpet. Others follow her. The journey halts where rich vegetation is seen. All feed on the leaves and the tender branches. By afternoon, they enter a nearby water source and swim in the water. The babies are taught to swim. They play splashing with their trunks. This way of living in groups ensure the protection of their baby elephants, food search and the defence from the enemies.

### Discuss in groups



- ◆ Which other animals live in herds?
- ◆ Did you see a herd of monkeys, anytime? Why do they live in herds?
- ◆ Describe the life styles of different animals you know?
- ◆ What might be the reasons for the animals to live together?

That's about elephants. We all know how our pets live. Do we know how wild animals or stray animals live? What do they eat? Where do they live? What do they do? Discuss about these with your friends or ask your elders or read from the books on animals in your school library. Watch the National Geographic Channel, the Discovery Channel on T.V. Then discuss with the friends in your group and write a small note about the discussion. Some animals live alone. Ask your teacher to know more about them.

### Do you know?



Tigers are perfect in hunting. The cubs do not know how to hunt. They learn hunting by observing the adult tigers. The cubs play in the group and learn many things.

You have learnt about the lives of some animals. But, where do birds live? What do they do? Do you know about them? Do birds also live in groups? Did you ever see a flock of birds flying in the sky? Which season do they fly in? Look at the picture on the next page.





### Discuss in groups



- ◆ When do birds fly in groups?
- ◆ Did you notice any particular pattern in their flight?
- ◆ What do you feel when you see a flock of birds in the sky?
- ◆ You know that the crows live in flocks. Think why?
- ◆ If a crow dies, what do the other crows do?

### Do This



Make a bird with a rough paper and fly it.

Birds and animals live in groups. In a group they remain protected from enemies. Young ones observe the adults and learn hunting, escaping from the enemies, searching for food and locating water sources etc.

Birds also fly in flocks in search of food. Even from great heights, they can spot crops and stop to feed. They have the capacity to travel thousands of kilometers in search of food and shelter. Agricultural fields and gardens are the main source of food. Some birds eat insects, fish and other small living organisms in water. For this, they go to nearby lakes, ponds, canals, rivers, reservoirs etc. They do so, in groups.

### Do you know?



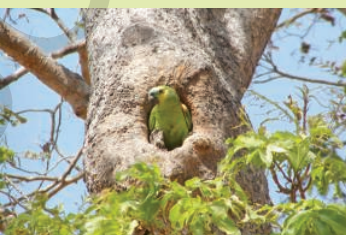
**Dr. A.P.J. Abdul Kalam**

The former President of India - Dr. A.P.J. Abdul Kalam used to observe the flying birds at the seacoast everyday. He used to wonder, how they could fly? This observation helped him a lot in his future researches and experiments on rockets. Observing, acquiring knowledge, setting goals and working hard towards the goal, made him a great man.

We can know many new things by observing the birds and animals around us.

## 4.2. Birds - their nests

All creatures require shelter to live in. In class 3, you might have learnt that they need shelters to protect themselves from hot sun, cold and rain. We see various birds around us. Where do these birds live? Look at the pictures below and try to match the birds with their correct homes.





Aren't the nests just as beautiful as the bird! Have you ever seen any of these nests, before? Where did you see? We build houses, so do birds. How do they build nests? What do they use for it? Discuss with your friends.

### Discuss in groups



- ◆ Do you like the nests? Why?
- ◆ What do birds use to build the nest?
- ◆ Did you see a tailor bird? How can a tiny bird weave such a big nest, so perfectly?
- ◆ Some birds make holes in tree trunks and live. Name them.

Look at the nest in the picture. The tailor bird is busy weaving its nest. How beautifully has it made its nest by piercing the edges of large leaves and sew together with plant fibers.

### Do this

1. Observe the nest of any bird in your surrounding. See that there are no bees in it. Don't disturb it. Write about the materials it used to make the nest.
2. Collect leaves, small twigs, dry hay, yarn, pieces of cloth, thread etc. Weave a bird's nest and display.



Oh! Its not easy to weave a nest! Its very difficult. Birds build their nest with great skill.

Birds use straws, twigs, threads, thin wires, paper, jute, cloth, leaves etc. to build their nests.

Birds are different, so are their nests. A male tailor bird, weaves the nest and the female lays eggs in it. Birds build nests during egg laying season. Once the young ones develop wings, they leave the nest and fly off. They build the new nest and lay eggs in it. They weave nests continuously.

### Discuss in groups



- ◆ What do birds feed their young ones? How?
- ◆ Have you ever seen birds feeding their young ones? How did you feel?

Some children try to disturb birds and spoil their nests and eggs. We feel bad if someone damage our house. Don't birds feel the same? Never hurt eggs or damage nests.

### Think...

- Do all birds lay eggs in their nest?
- Where does a hen lay eggs?

### Do you know?

Dr. Salim Ali, a famous Ornithologist of India, has researched and written a lot on birds. His work is recognised and renowned globally. He received many awards.



### Indian Roller / Blue Jay (Palapitta)

Indian Roller / Blue Jay (Palapitta) is the state bird of Telangana. Seeing Indian Roller on Dasara day is a part of Telangana culture. Our elders believe that seeing it is auspicious and it brings them goodluck. It is a rare bird.



It is our responsibility to protect birds. The number of birds is reducing with the cutting down of trees, spraying fertilizers on the crops etc. The recent studies say that radiation from cell phone towers affects the population of sparrows. What could be the consequences of bird extinction?

### 4.3. Insects and their colonies

Vijaya has observed a mound of mud on her verandah. Just then, she heard, a "buz.....z.....z.....z...." It was an insect and it flew into that mound. After a few minutes it came out of it and flew away. Vijaya was curious to look at what was inside the mud. She went close and observed some insects in it.



Vijaya's father removed the mound of mud with a stick. Then she noticed that it had partitions. What was it? Have you ever seen something like that? It was a wasp nest. Wasps are of many types. Wasps build nests depending on the area they live in. Female wasps build the nests. Wasps live in groups.

There is a huge tree in Ramu's backyard. There is a beehive on its branch. Did you observe a beehive? How does the beehive with many rooms look like? How do they make honey? Each bee lives in one compartment. Thousands of bees live together in the hive. That is why they are called social insects. Honey is produced by bees from the sugary secretions. They collect it from flowers (nectar).



### Think...

- **Ramu, a naughty boy, threw a stone on a bee hive. What might have happened then? Think. Is it correct to do so? Why?**

When we disturb beehives, bees attack us. They sting and inject a poisonous fluid into our body. Sometimes this may lead to death. So, we should not go close to beehives.

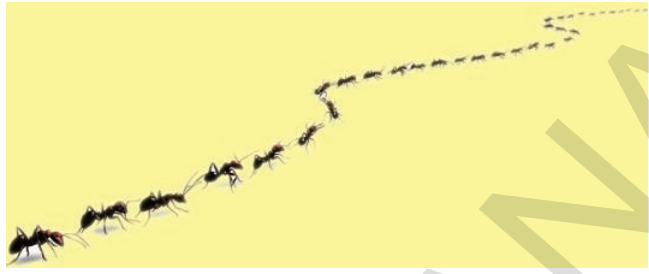
Ants also live in groups of thousands. Though they are very small, we can learn a lot from them. Observe the ants by doing the following:

### Do this

- ◆ Keep a cube of jaggery or sugar at one place either in your school or at home. Observe after sometime.
- ◆ You will notice a line of ants. Now, without disturbing them, try to observe the ants under a magnifying glass.
- ◆ Notice their body parts and movements. Where are the ants carrying the food particles?



Ants are ideal social beings. There is discipline and division of labour in their colonies. The colony consists of queen ants, male ants and the worker ants. Queen ants lay eggs. Protection of eggs, procuring food, building and repairing the ant hill are the duties of the worker ants. They build the ant hill with mud. They divide the hill into different compartments for different works. They cut the food into pieces with their jaws.



While going away from the ant hill, a few ants release a secretion which gives a specific smell. This helps the ants to follow their way to their colony. When two ants come from opposite direction, they touch each other with their heads. Hope, you all have observed this. Why, they do so?

They pass information on food source and the route through this touch.

### Do you know?

An ant can lift a weight 50 times more than its weight. All insects including ants have six legs. Ants have two antenna-like feelers on the head. These are useful in finding the sources of food and passing the information to one another.



Like ants, honey bees also live in a colony. There is a division of labour too.

You have seen that wild animals like elephants, tigers, monkeys and birds live in groups. Similarly, human beings also need to live together by sharing their work and discussing with each other and in times of trouble. This increases bonding and affection in relationships.



#### 4.4. Compassion towards birds and animals



##### Think...

- What do you observe in the above pictures?
- Have you ever fed birds and animals?
- How do you feel when you do so?

Did you ever get any animal medically treated? (cat, dog, ox, cow etc) How did you feel?

Animals are also living things like us. We should not hurt them. We should provide food and water to them. We should identify their needs and help them every day.

How do you feel when you find dogs, cats, cattle and other animals hungry? We should not tie them. We should feed birds and animals. We should take care of the animals and their young ones.





## 4.5. Biodiversity

Various types of animals, birds, insects, plants and trees existing in one place is called biodiversity. Nothing is useless or harmful in nature. Biodiversity is more in forests. Every organism is related to other organisms. Every organism has the right to live. All organisms living on the earth depend on each other directly or indirectly. So, it is our duty to protect each and every organism. How are we living by depending on animals and plants? Discuss in your class.



### Think...

- Name the various birds and animals seen in the picture.
- Name the animals in the pond.
- Have you ever seen, these many animals? Where?
- Write an instance when you saw such animals in your place?
- Do we see all these species of animals now? If not what has happened to them?

Due to lack of wisdom, man is cutting down the forests, hunting animals which is leading to imbalance and destruction of biodiversity.

Various types of plants and animals on the earth live depending on each other. Don't we feel happy when we see water flowing in canals, fish in lakes, snails and even pebbles. Everything around us, including the huge mountains and deep oceans are a part of biosphere.



Humans are a part of biodiversity along with all the living things on the earth. Every organism has a unique body structure, food habits and life style. This speciality indicates diversity.

### Do this

- Select any place in your village/city. Observe the natural resources like water bodies, hills, plants, birds and animals. Write your observations.
- Write, what you understand by "biodiversity."
- Find out from your elders about plants or animals in your village or city which were present in the past but are not there now? Share the information.



As a part of biodiversity we all are interdependent on one another for water, air, food and shelter and influence each other. Gases like carbon monoxide, carbon dioxide are responsible for the changes in atmosphere. This is harmful to biodiversity. This is affecting air, water, temperatures, sea levels and marine life badly. Due to the drastic changes in the atmosphere, some organisms are becoming extinct and some are endangered.

This biodiversity on earth evolved some million years ago. It is providing us with the required food, medicines, wood, fruits, crops, aquatic life, microbes and many other resources.

### Discuss in groups



- ◆ What are the problems caused by destroying various types of plants? How are aquatic organisms getting destroyed?
- ◆ What steps would you take to protect biodiversity?
- ◆ How is deforestation harmful to biodiversity? What would you do to grow forests?

Many trees, plants, animals and wild organisms are disappearing due to civilisation, urbanisation, industrial revolution, human selfishness, etc. Due to this, some species of plants and animals are becoming extinct, leading to an imbalance in biodiversity.

Planet earth belongs to all the living organisms on it. Living things are dependent on the non-living things like hills, lakes, rivers and the oceans around it. But humans are disturbing the natural balance resulting in the extinction of some species.

All organisms have a right to live. We must protect that right. We should grow plants, be compassionate towards animals, not pollute water and not destroy natural wealth. Humans can exist only when biodiversity is protected. Otherwise, humans will also be on the verge of extinction.

#### 4.5.1. Endangered Species

Do you know about dinosaurs? They are not there on the earth now. Similarly, many other plants, birds, animals and insects are not seen now. Long back, the Indian forests had thousands of tigers and lions. Cutting down of forests has endangered their existence. Due to this, certain kinds of tigers have completely disappeared. It is the responsibility of all to protect them. What happens if we cut down the forests? What will be its affects?



#### Do this

Ask the elders in your village about the animals, birds and insects which lived in the past but are not seen in the present.

Endangered animals	Birds	Insects

The animals shown in this picture are white tigers. They are on the verge of becoming extinct. Human greed is the main cause of the extinction of many plants and animals. The government is maintaining forest reserves and wild life sanctuaries to save the endangered animals and birds. We should realise that these animals and birds are our wealth and strive to protect them.



## Key Words :

- |                          |                            |                     |
|--------------------------|----------------------------|---------------------|
| 1. life style            | 5. protection from enemies | 9. insects          |
| 2. biodiversity          | 6. birds and nests         | 10. micro organisms |
| 3. herd / flock / colony | 7. bird homes              | 11. research        |
| 4. being protected       | 8. social living           | 12. extinction      |

## What have we learnt?

### 1. Conceptual Understanding

- Write about the life style of any two animals.
- Differentiate between a spider's web and a bird's nest.
- List the materials used by birds for building nest.
- Why do birds build nests?
- Write the similarities and the differences in the lifestyles of birds and animals.
- What is bio-diversity? How do you support the right of birds and animals to live?



### 2. Questioning - Hypothesis

- One day, Ramu saw a honey beehive on a tree in his field. He wants to know more about it. What questions might have Ramu asked his father?

### 3. Experiments - Field Observations

- Observe a bird nest. Write about its construction.
- Observe birds while eating. Write your observations.



### 4. Information Skills, Projects

- Collect pictures of different birds and nests and make a scrap book.
- Write in the table about the shelters of animals / birds around you and the materials used to build their shelters.



Sl.No.	Name of the bird/animal	Shelter	Materials used to build the shelter

### 5. Communication through Mapping Skills, Drawing Pictures and Making Models

- Prepare a model of your favourite bird's nest and speak about it.
- Draw and colour the picture of any bird. Speak about it.

### 6. Appreciation, Values and Awareness Towards Bio-diversity

- Haritha caged a parrot. She feeds it with fruits. Is it proper to cage a bird? Why? What would you do, if you were in her place?
- "Right to Live" is meant for all living beings. It's our duty to respect and protect this right. Write slogans conveying the same. Say, what could we do to protect them?



#### I can do this

- |  |          |
|--|----------|
| 1. I can explain about lifestyle of birds and animals.                                     | Yes / No |
| 2. I can explain about biodiversity.   | Yes / No |
| 3. I can draw the shelters of animals and prepare models of birds' nests and exhibit them. | Yes / No |
| 4. I can prepare a scrap book of photos of birds' nests and display it.                    | Yes / No |
| 5. I will be compassionate towards birds and animals. I will feed them.                    | Yes / No |

5



## PLANTS AROUND US

We see many plants and trees around us. They are a pleasant sight. Just like animals and human beings exist on earth, so do plants and trees. Some plants are small and some are big. Few others are very big. There are different types of plants and trees.

**See the pictures given below. Name the plants/ trees.**





Have you seen the pictures in the previous page? In those pictures, some plants are very tall and some others are bushes. Some are creepers with very tender stems. Write the names of the plants found in your surroundings.

## 5.1. Climbers / Creepers, Shrubs and Trees

### Discuss in groups



- ◆ Which plants / trees are there in the pictures? Are they all alike? What are the differences?
- ◆ Which plants creep? Which plants grow as bushes? Which plants grow tall? Do you know what are they called?

The plants like ridge gourd, bitter gourd, jasmine etc. have weak stems and usually grow on trellis, trees, ground or with any other support. They are known as climbers / creepers.



In plants like Nerium, Rose etc. multiple stems arise from the base (ground). These are called shrubs.

The plants like tamarind, peepal, mango etc. spread over a vast area. They are big in size. These are called trees. We get wood from the long and thick trunk of these trees.



We have learnt about climbers/ creepers, shrubs and trees. Write two examples each in the below table.

Climbers/ Creepers	Shrubs	Trees

## 5.2. Parts of a plant

We have climbers / creepers, shrubs and trees around us. Some of them give us flowers, some give wood and some others give us fruits etc. Do you know the parts of a plant?





Observe the plant given below:



Generally plants have roots, stem, leaves, flowers and fruits. Among these, roots are below the soil. Stem, leaves, flowers are above the soil.

Now that you have identified the parts of a plant, let's learn how each part is useful to the plant.

#### 5.2.1. Roots

You have already learnt that plants have roots. Each one of you collect paddy, jowar, chilly and cotton plants with roots. Observe them and draw diagrams. Have you noticed the differences in the roots of these plants? What are the differences?

<i>roots of paddy</i>	<i>roots of jowar</i>	<i>roots of chilly</i>	<i>roots of cotton</i>

See the plant given in the picture? What are its parts? As per your observation, which parts of the plant are above the soil and which are below the soil?

#### Do this

Collect a flowering plant from your school premises and observe.

Compare this plant with the plant given in the figure. Does your plant have the same parts as the one given in the figure? Does every plant has same parts? Your friends too might have observed the parts of a plant. Discuss and tell the different parts of the plant.

Hemanth wondered how the roots of the neem tree in his backyard reached the wall of his house. He got some doubts. Do you have any doubts? Discuss your doubts with your friends.

### Discuss in groups



- ◆ How did the roots reach so far?
- ◆ Where does the tree get water from?
- ◆ Where do the trees in the forest and on the road side get water from?



Root is the part of the plant that grows beneath the soil. Do you know, how the roots are useful? Just like the foundation gives support to the house, the roots in the soil give support to the plant to stand erect. Plants absorb water and nutrients through the roots.

### 5.2.2. Stem

Stem is the part of the plant that grows above the soil. The stem gives rise to the branches and other parts, like leaves, fruits and flowers. Is the stem similar in all the plants?

#### Do like this

Observe the plants in your surroundings. How are their stems? Record your observations in the given table. Put a '✓' in the appropriate column.

S. No.	Plant Name	Nature of the stem		Appearance of the stem					Type of Plant		
		Soft	Hard	Thin	Thick	With bark	With thorns	Stem color	Creeper / Climber	Bush	Tree
1.											
2.											
3.											
4.											

You might have observed four or five plants in your surroundings. What did you learn from these details? Your friends might have collected information. Discuss in groups with your friends.



### Discuss in groups



- ◆ Which plants have bark? What is the colour of the bark?
- ◆ Which plants have soft stems and climb/ creep?
- ◆ Which plants have strong stems with thorns?
- ◆ Which plants have soft and tender stems with thorns?
- ◆ Which plants have thin and creeping stems?
- ◆ How is the stem useful to plants?

Stems of all plants are not similar. Stems of some plants have thorns and some plants have bark. Stems of some plants are soft and some are rough. In some plants stem gives strength to the plant to stand straight. The stem transports (conducts) water and nutrients absorbed by the roots to all the parts of the plant.

### 5.2.3. Leaves, flowers and fruits.

You know that apart from roots and stems, a plant has leaves, flowers and fruits also. Do all leaves have same shape, colour and size? Think how are they useful to the plant?

### Collect

- Visit your surroundings. Collect leaves from four or five types of plants. Draw their pictures and observe whether all the leaves are similar. Tell the differences.

Leaves are green in colour due to the presence of a substance called 'chlorophyll'. Food is prepared in the leaves of the plant. The plants which have more leaves prepare more food. Hence, we should not pluck the leaves. A plant does not grow well, if we pluck its leaves.

Sun gives us light energy. This energy is absorbed by the leaves to prepare food. This is stored in seeds, fruits, tubers etc., The animals and human beings get energy by taking the food produced by the plants.

### Think...

- What is the primary source of energy for human beings and other animals?
- Sun is a source of energy. What should we do to use this energy?



You have learnt about the leaves of a plant. Plants also have ripe fruits, unripe fruits and flowers. Look at the picture given below. Discuss with your friends in groups and write.



### Discuss in groups



- ◆ What vegetables and fruits are seen in the above picture?
- ◆ Where do we get fruits and vegetables from?
- ◆ Where do plants come from?
- ◆ Do all the plants grow from seeds?
- ◆ Where do seeds come from?

We get all the required fruits and vegetables from plants. The plants grow from seeds. Flower is the source of seed. Let's know how are flowers useful to us.



You have seen flowers in the previous page. How did these flowers look before they blossom? What is the relationship between a flower and a bud? How many days does a bud take to change into a flower?

### Do this

- Look at the flowers at your home, school and surroundings. Observe their buds.
- Observe how many days do the buds take to blossom ?
- Name the flowering plants you have observed and also the colour of the flowers.
- Some flowers grow as one and some others in clusters (groups). Have you noticed such flowers?
- Which flowers have a long stalk?
- Do all flowers blossom only in the morning? Observe and tell.
- Which flowering plants are climbers?
- Which flowers are seasonal? Which seasons do they grow in?
- Name some flowering plants which have thorns.

We have learnt many aspects about flowers. Which season do the flowers blossom abundantly? Flowers are of different colours and scent (smell). We have seen that some flowers are small while some are big. A few flowers change into fruits. Flowers bestow us with beauty and joy. We are happy to see flowers in the premises of our homes, school and along the road. We feel very happy on seeing these colourful flowering plants. Flowers are used for decoration and for worship. Perfumes are also made from certain flowers. Grow some flowering plants at your house. Write down your feelings in the diary.

### Do you know?

The largest flower in the world is Rafflesia. Its diameter is about 1 metre and it weighs about 7-10 kgs. It emits smell of rotten meat that spreads upto 2 kms around it.



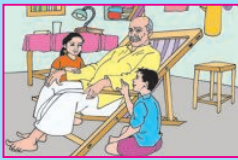


### 5.3. Flowers - livelihood

Some people depend on flowers to earn their livelihood and some do business. Flowering plants are not found in all the houses. Such people buy flowers. You too might have bought them. Where are the flowers sold? Where do they get flowers from? Ask a florist to know the details. Collect the following details.



#### Collect



- ◆ Uncle, may I know your name?
- ◆ How long have you been in this business?
- ◆ What are the different types of flowers you sell ?
- ◆ Who buy flowers and when? Why do they buy them?
- ◆ How much do you earn?
- ◆ When do you earn more?
- ◆ Are all the flowers sold by you available locally or do you bring them from outside ?
- ◆ How do you preserve such flowers?
- ◆ Who in your family support you in the business?

Ask more questions.

### Do you know? These are also flowers!





## 5.4. From Flowers to Fruits

Flowers change (transform) into fruits. Have you ever noticed this transformation? See the transformation of a flower into a fruit in the pictures given below. Tell them in a sequential order. (serial order).



You have noticed the transformation of pomegranate flower into a fruit. Observe similar transformation of flowers into fruits in guava, ridge gourd, bitter melon, beans etc. Draw their figures and show them to your class.

Have you seen the flowers in the garden? Are flowers useful only to us? Have you seen butterflies, honeybees, beetles and other insects rest on the flowers. Why do they rest on flowers?

Look at the picture given below. What are they? What is happening?



You have observed the pictures. Honeybees, butterflies and beetles rest on flowers and suck their nectar. They take their food from the flowers. Plants also benefit from insects. The insects like butterfly and beetles help in the transformation of flower into a fruit. You would know more about this in higher classes.

### 5.5. Fruits - Seeds

Seeds germinate into new plants. Do you know where do these seeds come from? Do you know, how do seeds germinate? Look at the pictures given below. Discuss with your friends in groups.



#### Discuss in groups



- ◆ Which fruits that we eat have seeds in them?
- ◆ Are the seeds of all fruits alike ?
- ◆ Do you know how many seeds do different fruits have?
- ◆ Do all fruits have the same number of seeds?
- ◆ Write the name of the fruits and vegetables which have only one seed.
- ◆ Write the names of the fruits and vegetables which have many seeds.
- ◆ Write the names of the seedless fruits and vegetables.



## 5.6. Do all the seeds look alike?

Are all the seeds alike? Is there any relation between the size of the seed and the plant? Are the seeds of big trees big in size? Do all plants grow only from seeds? Do some plants grow without seeds? Do you know? Think.



**Banyan Tree**



**Coconut Tree**

Irrespective of the size of the tree, the size of seed can be small or big. Some seeds are small (banyan) and some are big in size (coconut). Some seeds like castor have hard shells, some other seeds like sesame are soft. Fruits of guava, pomegranate have many seeds but the fruits of mango and coconut have single seed.

## 5.7. Germination of the seed

We have learnt about seeds. How do seeds germinate? Do you know about this? Have you ever sown a seed in the soil? What happens to it? How many days does it take to germinate? Do all the sown seeds germinate? In order to know more about these do the following.

### Do this

Form into groups and put ten green gram seeds in a tin box filled with water, ten green gram seeds in a tinbox containing a wet cloth (wet the cloth with water regularly) and ten green gram seeds in an empty tin box. Observe for two days. Write your observation in the table. Similarly, other groups can do this with bengal gram seeds and peas.



	Box - 1	Box - 2	Box - 3
Was air available to the seeds?			
Were these seeds watered?			
Did the seeds germinate?			
Change observed			

- Which of these boxes have germinated seeds? What differences did you observe between the boxes that have germinated seeds and the boxes that have ungerminated seeds?

**Air, water and temperature are essential for the germination of a seed.**

You have learnt about germination of seeds. Rice is our staple food. We get rice from paddy. We cook rice and eat. Do you know how paddy seeds germinate? Ask your elders / farmers about it.

### Collect



- ◆ What do we do to make paddy seeds germinate?
- ◆ How many days do they take to germinate?
- ◆ What is done after the seeds have germinated?

## 5.8. Do all the seeds germinate?

One day Raheem sowed some tamarind seeds and some coriander seeds in the backyard. The seed coat of tamarind is very hard, whereas coriander's seed-coat is soft. He watered them every day. He was carefully observing the seeds every day to know when do they germinate and recorded the changes in his note book. After some days, new plants sprouted. But all the seeds have not germinated. Some seeds germinated and leaves appeared. What could be the reason for seeds not germinating? Think over it. What are required for seed germination? Talk about it in your class. Which seed germinates faster? Bitter gourd or soap nut? Why? Think.



### Germination of Seed



Seeds germinate when they are sown in a fertile soil. Do you know how soil becomes fertile? The micro organisms (decomposers) decompose the dead bodies of animals, leaves shred by trees and excreta of animals and make the soil fertile. Some animals dig burrows in the soil and live in them. They make the soil porous and fertile. Earthworm is known as the ‘farmer's friend’. Do you know, why?

### Do you know?

When the wheat grains were imported to our country from America, the seeds of the weed Parthenium (vayyari bhama) came along with it. This weed grows in plenty along road sides, in open places and in farms. Lung and skin diseases are caused by the pollen grains of this weed.



## 5.9. Dispersal of seeds



Once a plant is planted it remains stationary. But its seeds reach far off places. Do you know how this happens? Have you observed any seed flying in the air? Does any of the seeds collected by you fly in air. Some times new plants arise in our surroundings. Seeds are carried by wind to distant places and germinate there into a new plant. Example : Calotropis (Zilledu).

Have you ever seen seeds and fruits stuck to the hair of the animals? When the cattle, goats and sheep graze, the seeds get stuck to their hair, get carried and fall in different places and grow into new plants. Ex: Caltrops (Palleru), Tiger's claw (Telukondikaya). When we sit on the grass, seeds stick to our clothes. When we flick our the clothes, they fall on the ground and germinate. When the fruits of some plants get dried, they break open and the seeds get dispersed. Fruits and seeds of some plants are carried away by water and reach the shore. The seeds covered by soil germinate and grow as plants. Seeds get dispersed from one place to another by air, water, animals and human beings. Hence, we see a variety of plants in different regions.

What happens if the seeds do not get dispersed and remain in one place? Think.

### 5.10. Nurseries

If you want to grow flowering plants or fruit-bearing plants in your house, where do you get them from? Look at the picture given.

The plants we grow in our houses, school and gardens come from nurseries. A nursery is a place where a wide variety of plants are grown. Plants are grown in a nursery and supplied. The officials of the Forest Department also grow plants like neem, teak, daris (Kanuga) in the nurseries and supply to develop social forestry .



We can see thousands of varieties of plants in the nurseries. In nurseries, plants vary from desert plants like cactus to bonsai plants grown in a tinypot. Plants are produced by various methods like grafting, tissue culture and by sprinkling seeds. Plants are grown in controlled climatic conditions in shade nets and polyhouses. Growing diverse varieties of plants found in deserts, plains and moist regions together in one place is a type of biodiversity. It is essential to grow plants to prevent increasing pollution. Nurseries play a vital role in protecting the environment.



## 5.11. Plantation of saplings in the school, houses and surroundings

Children! In “clean and green” programme you have grown plants in your school.

In this context discuss the following points in groups.

Have you heard the slogan “Pachani Chetlu - Pragathiki Metlu”? What do you mean by this?

Did you ever grow plants in the premises of your house. What type of plants were they?

Discuss with your friends and list out the benefits of the trees.

To human being	To animals	To birds

When there are so many benefits from plants, why don't you visit a nursery in your area, bring some saplings and plant them in your school and in your house premises?

### Key words:

- |                     |                |                              |
|---------------------|----------------|------------------------------|
| 1. climbers         | 2. shrubs      | 3. trees                     |
| 4. parts of a plant | 5. roots       | 6. stem                      |
| 7. chlorophyll      | 8. seeds       | 9. germination               |
| 10. nursery         | 11. livelihood | 12. environmental protection |

### What have we learnt?

#### 1. Conceptual Understanding

- Write the similarities and differences between climbers / creepers, shrubs and trees. Give examples.
- Which parts of a plant are useful to us? Give two examples for each.
- How can you say that flowers are a means of livelihood?
- What are nurseries? How are they useful?
- What are the conditions required for germination of seeds?

## 2. Questioning - Hypotheses

- ♦ Raju planted a rose plant. It did not grow well. It dried up, imagine what could be the reasons? Is your guess correct? Enquire and tell.
- ♦ Find out the names of the plants in your school from your teachers.

## 3. Experiments - Field Observations

- a) Write the different stages of seed germination.
- b) Sow some seeds in the soil. Sow some of them in a box containing sand. Water them every day. Find out what had happened after five days.

## 4. Information Skills, Projects

- ♦ Meet a farmer you know who grows vegetables and fruits. Ask him how he grows them. Write in a sequence.

## 5. Expression of Ideas through Mapping Skills, Drawing Pictures and Making Models

- a) Draw the diagrams showing how the flower changes into a fruit.
- b) Draw the diagram of your favourite flower. Colour it and write about it.
- c) Prepare a bouquet using flowers and leaves available in your surroundings. Explain in your classroom how you have prepared it.

## 6. Appreciation, Values and Awareness towards Bio-diversity

- a) Your friend is growing some plants carefully in the school premises. After a year she celebrated the birthday of the plants too. How do you feel when you see her taking care of these plants so well?
- b) Why should we plant trees? Why should we protect them? Write a few slogans to support this.

### I can do this

1. I can give examples of climbers / creepers, shrubs and trees. Yes / No  
I can say similarities and differences.
2. I can explain about the different parts of a plant and their uses. Yes / No
3. I can explain the germination of seeds with experiment.
4. I can collect information about what farmers do for growing vegetables. Yes / No
5. I can write slogans on planting and protecting plants. Yes / No

06



## FIND THE WAY / DIRECTIONS

You have already learnt about your village in the previous class. When father, mother and other adults live together in one place, it is called a family. Many families, living together in one place form a village. Look at the picture below. This is Ramya's village. Tell what are there in her village.



### Discuss in groups



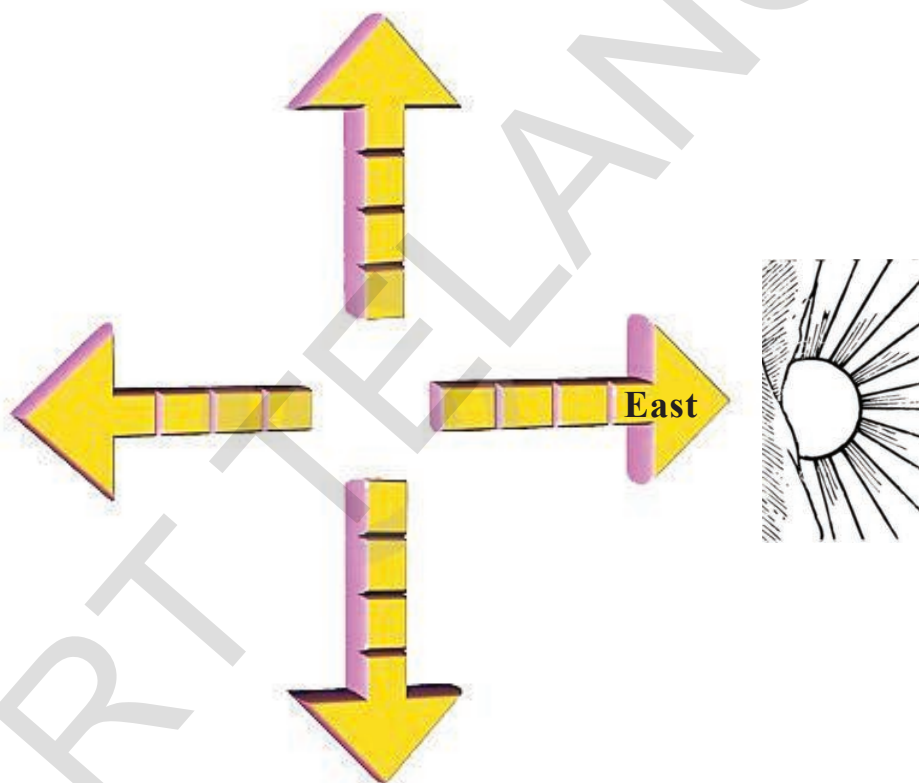
- ◆ Differentiate between your village/city and Ramya's village.
- ◆ Which side of the village are the mountains?
- ◆ Which side of the village is the lake?
- ◆ Which side of the village might be the fields?
- ◆ Where do we enter the village from?



## 6.1. Can we find the directions?

Kasturi wants to go to her friend Kamala's house. She asked Ramya to guide her. Ramya said it is to the south of the post office. "The south! What's that?" asked Kasturi. Ramya stood facing the sun, stretched her hands on either sides and said, "The direction the sun rises is the east, to the back is west, right hand side is south and the left hand side is north. These are the four directions".

*See the picture given below. Identify the four directions and name them.*



### Do this

- Stand in your place in the class room. Face the rising sun and stretch your hands. Identify the four directions.



Observe the picture given below. Kasturi is standing in the middle facing north.



*Write which direction are the following to Kasturi.*

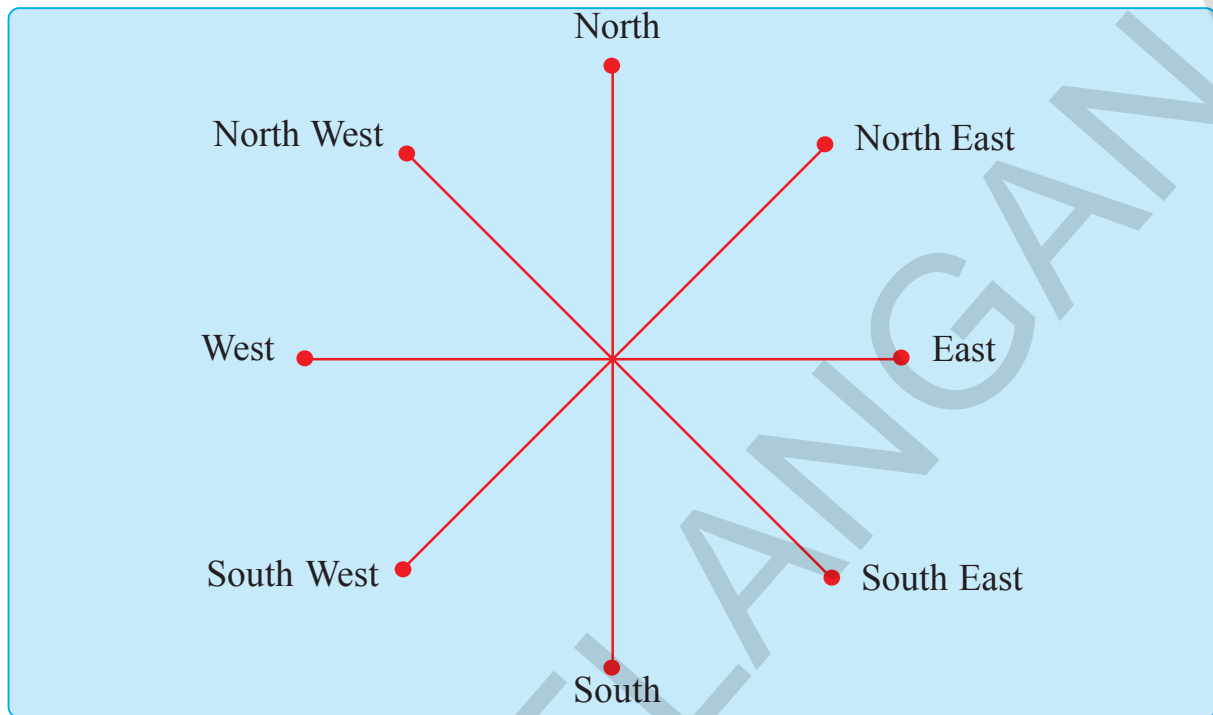
- ◆ The well is in the \_\_\_\_\_ direction.
- ◆ The bus-stop is in the \_\_\_\_\_ direction.
- ◆ The school is in the \_\_\_\_\_ direction.
- ◆ The mango tree is in the \_\_\_\_\_ direction.
- ◆ Like Kasturi, you too stand in front of your house. Write what are there in different directions to your house.



You have read about north, south, east and west. We can know where our house, street and village are located with the help of directions. A line which marks the limits of an area, building or village is called a boundary. We can identify any area or a place or a piece of architecture with the help of boundaries. Do you know what aspects, other than directions are useful in locating a place?

## 6.2. Directions, corners

You have learnt about directions. Observe the following picture.



### Discuss in groups



Notice the corners.

- ◆ What else do you see other than the four directions?
- ◆ The place between two directions is called a corner. Observe the corners in your house and classroom. What are there in the corners?

- ◆ How many corners are there? Fill in the table below.

In between	Corner
The east & the south	
The south & the west	
The west & the north	
The north & the east	

- ◆ Draw the directions and corners on a chart and display it in your class room. Draw your village/city and name the things/places present in all the directions.





### 6.3. How to draw a map?

One day teacher showed some maps in the class. On seeing them Kasturi asked, "How are the maps drawn madam? How is it possible to show vast places on a small paper?" "To know that, let's draw the map of our class room. Bring metre scale and some match sticks," said teacher.

#### 6.3.1. Measurements of the classroom

Teacher asked them to measure the length and the breadth of the room. Kasturi and her friends measured the wall on the north. Its length was six meters.

**Scale: 1 meter = 1 match stick**

To show the northern wall, the teacher asked them to take one match stick for 1 meter length. Then Kasturi arranged six match sticks on the floor, to the north. Similarly, they measured the wall on the east to be nine meters. Now they arranged the nine match sticks on the floor, starting from where the last match stick ended, towards the east.



**Usually when we draw maps on a paper, the north should face upward (N↑)**

The rest is measured as six meters on the south and nine meters on the west. The pupils placed the match sticks similarly. Then, they drew a line, along the match sticks, with a chalk. Now, they removed the match sticks. The classroom map is ready!

Map is a drawing of large areas on a paper showing directions and scale. You have seen, how the pupils have drawn the map of their classroom with match sticks. Instead of a metre you take it as a centimetre and draw the lines directly without using match sticks on a chart. Now, you discuss with your friends and draw the map of your classroom. Display it in your classroom.

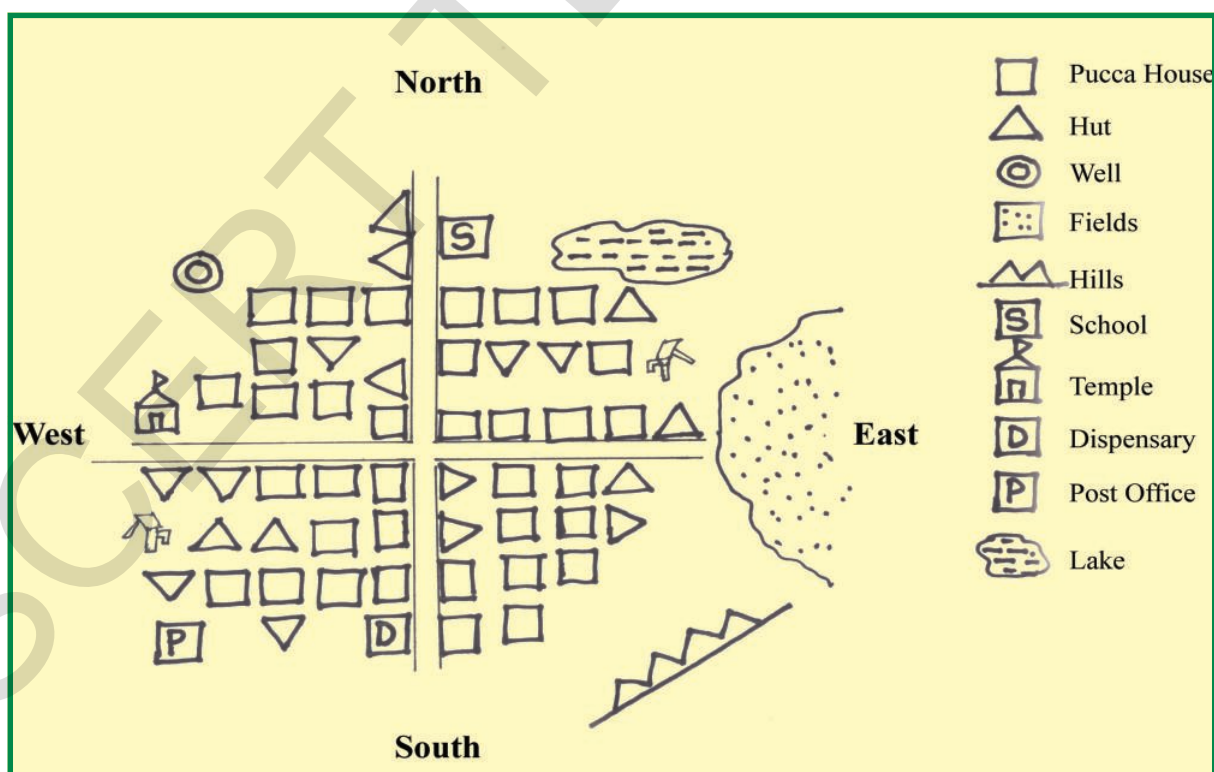
### Discuss in groups



- ♦ The students considered 1 match stick as equivalent to 1 meter while mapping the classroom. How was it useful?
- ♦ Map your classroom and also show the corners.
- ♦ Write down the things in different directions of your classroom.

## 6.4. Village

Now you know about directions and corners. Similarly, we can identify what are there in different directions/ corners of a village/ an area. Thus, its location can be identified. Places that limit the village in different directions are called boundaries of the village. Directions and corners help in identifying where the roads, buildings, school, post office, bus stand, fields and lakes are in the village. Similarly, if you know the directions and corners, you can identify any place or reach anybody's house. Look at the map given below. Tell what are there in the village and where they are.



You have seen the village map. Discuss the map in groups and fill in the blanks given below:

### Discuss in groups



- ◆ To the north is \_\_\_\_\_.
- ◆ To the south is \_\_\_\_\_.
- ◆ To the east is \_\_\_\_\_.
- ◆ To the west is \_\_\_\_\_.
- ◆ To the northeast is \_\_\_\_\_.
- ◆ To the southeast is \_\_\_\_\_.
- ◆ To the southwest is \_\_\_\_\_.
- ◆ To the northwest is \_\_\_\_\_.

### Do this

Take your teacher's help and draw the map of your village/city on the floor. List the following:

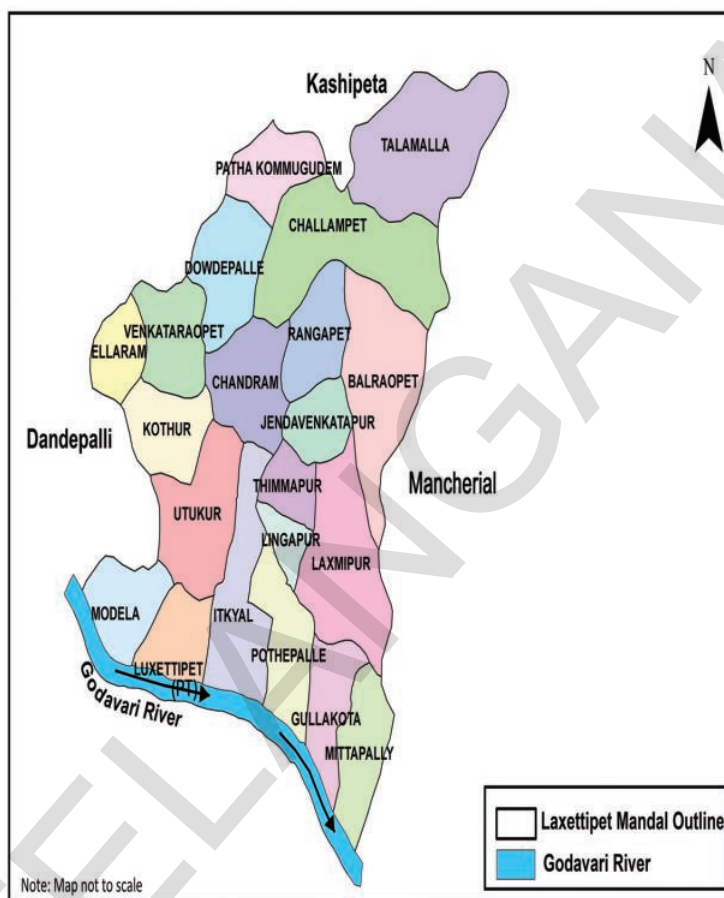
- Tabulate the places in your village.
- Write down what are there in different directions of your village.
- Draw the main road of the village/city, with a chalk on the floor.
- With respect to the road, mark the things present in different directions.
- In this way draw a complete map of your village.
- Observe the maps of other groups and say whether they could draw well or not.

## 6.5. Mandal

A group of villages constitute a mandal. Population of a mandal is around a few thousands. In every mandal there are offices of Mandal Praja Parishad, Tahasildar office, Department of Agriculture & Electricity, and also a Primary Health Centre and a Police Station. People of all villages visit the mandal headquarters regularly for various works. What is the name of your mandal? How many villages are there in it? Find out. You have learnt how to make maps of your classroom and your village/city. Similarly, maps of mandals can be made.



Let us observe the map of a mandal. Mancherial district has 18 mandals. Look at the map given here. This is the map of Luxettipet mandal of Mancherial district. Observe the villages in the map.



### Discuss in groups



- ◆ Name the villages situated on four sides of Rangapeta.
- ◆ Which side of Utukuru village is Luxettipet mandal situated?
- ◆ Which village is situated to the south of Thimmapur?
- ◆ Name the villages situated on the banks of river the Godavari.
- ◆ Which direction of the Godavari are they?
- ◆ Mention the direction of flow of the river Godavari.
- ◆ Which side of Thimmapur is the village Jenda Venkatapur situated?
- ◆ Which side of Luxettipet mandal is the river Godavari situated?

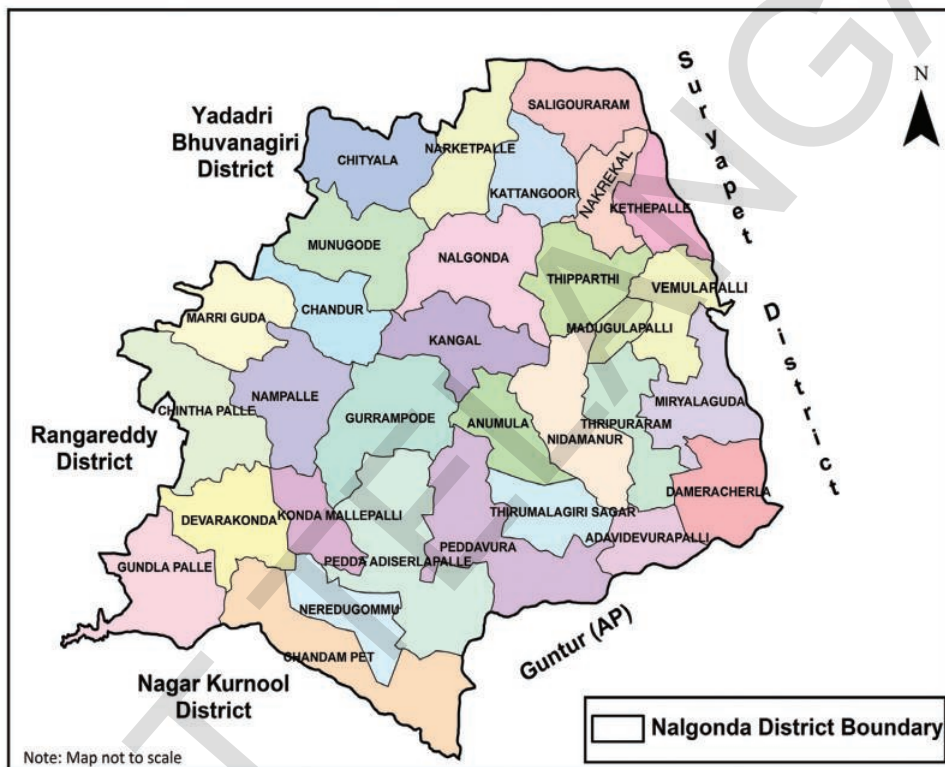
### Do this

- Collect the map of your mandal. Point your village and write the borders.



## 6.6. District

Many villages make a mandal, many mandals make a district. In every district headquarter, there is a Collectorate Office, Zilla Parishad Office, district hospital and many such public institutions. People from the villages of all the mandals in the district visit the district head quarters for various works. There are 31 districts in our state. Every district has its map. All the important places, offices and the institutions of the district are indicated in the map. Given below is the map of a district. Observe!



Nalgonda District Map

### Discuss in groups



- ◆ Write the boundaries of Nalgonda district.
- ◆ Which direction is Thirumalagiri Sagar in Nalgonda?
- ◆ Write the names of some mandals in Nalgonda district.
- ◆ Write the boundaries of Chityala mandal.
- ◆ Where is Nagar Kurnool with respect to Nalgonda?

### Do this

- Locate your mandal on a map of your district and mention the boundaries.

## 6.7. Our state

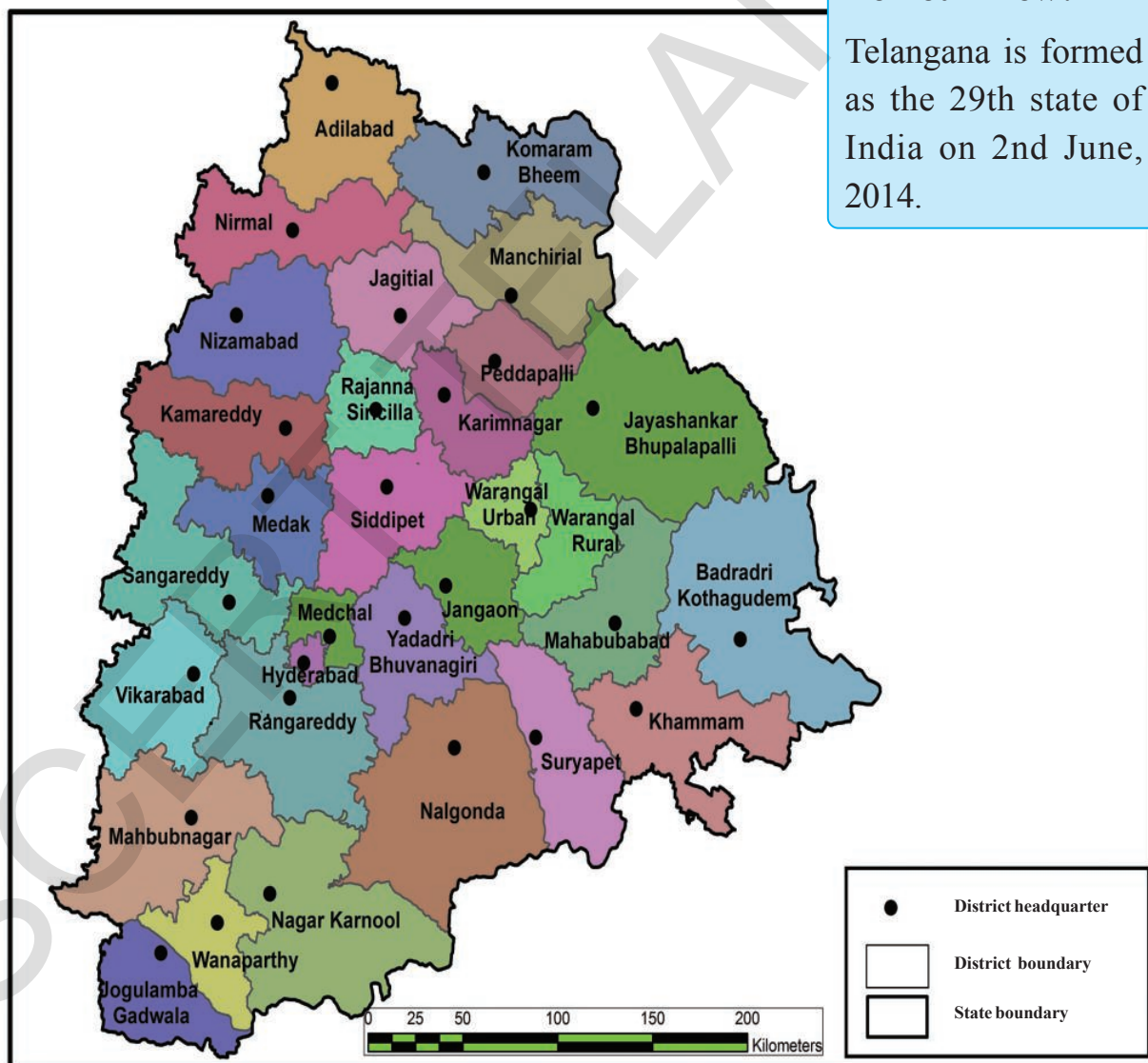
Telangana is our state. Some villages together form a mandal, mandals together form a district and some districts together form a state. There are 31 districts in Telangana. Hyderabad is the capital city. People here celebrate various festivals and practice different cultures and traditions. Rivers Godavari, Krishna, Tungabhadra and Musi flow through the state. The forests spread through the districts of Adilabad, Nirmal, Komaram Bheem, Mancherial, Peddapalli, Jayashankar, Mahabubabad, Bhadradi, Nagar Kurnool. We grow crops like paddy, jowar, maize, sugarcane etc. Now let's look at the map of our state.



India Map

### Do You Know?

Telangana is formed as the 29th state of India on 2nd June, 2014.



Telangana Map





You have seen our state map. Locate our state on a map of India. Find the states that surround our state. We can find the boundaries of our state by identifying what are there in different directions. Discuss with your friends and write.

### Discuss in groups



- ◆ What are the borders of our state?
- ◆ Trace your district on the map of our state.
- ◆ What are the boundaries of your district?
- ◆ Name the districts adjacent to Chhattisgarh.
- ◆ Name the districts that surround Hyderabad.
- ◆ Take an atlas. It is a book showing different maps and roadways, important places, rivers, mountains, crops, wild life sanctuaries etc. Observe map of our state in atlas and find the districts through which the river Godavari flows.
- ◆ Also find in an atlas the important places in our state and the crops grown.

### Do this

- Trace the boundaries of our state in the map of India.
- Point out some important places of India and the direction in which they are.

In this unit, you have learnt about the maps of a village, a mandal, a district and a state. Use these maps when needed. When we visit a new place, we can locate it on the map. Foreigners who visit India take the help of these maps in locating the places to be visited and their routes. Usually maps are displayed in railway station and other places of tourist interest. We can identify the important places based on these maps.

Maps also tell us about the climate, temperature, rainfall etc. You will learn this in detail in higher classes. Whenever possible you do observe the maps of Telangana & India in your classroom and learn new things.

### Key words :

- |            |             |                        |
|------------|-------------|------------------------|
| 1. map     | 4. district | 7. boundaries (limits) |
| 2. village | 5. state    | 8. directions (sides)  |
| 3. mandal  | 6. country  | 9. corners             |

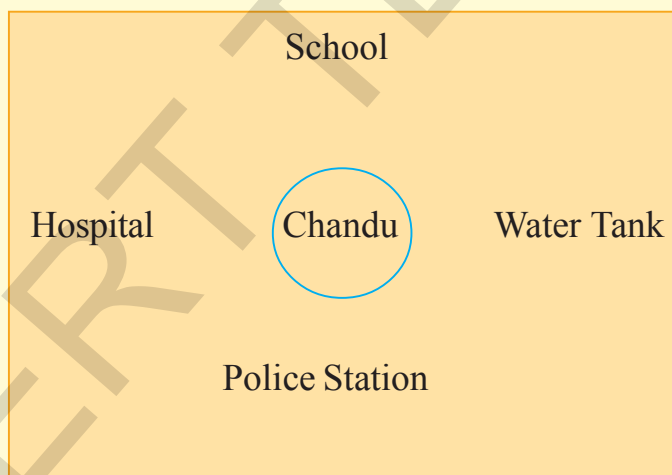
### What have we learnt?

#### 1. Conceptual Understanding

- a) What do you see to the four directions of your house?
- b) What do you have around your school?

- |               |                   |
|---------------|-------------------|
| • east _____  | • northwest _____ |
| • west _____  | • southeast _____ |
| • north _____ | • northeast _____ |
| • south _____ | • southwest _____ |

c)



What are the places around Chandu in different directions?

- a) What are boundaries? Name the boundaries of your village.
- b) Write the differences between a mandal and a district.
- c) What is the relationship between the villages and mandals?

## 2. Questioning - Hypothesis

- ♦ Look at the map of Telangana and list the questions you would like to ask to know the information you need.

## 3. Experiments - Field Observations

- Draw a map of your classroom with the help of match sticks and display it in the class.
- On the map of your village/city, mark an important place to be visited. Show it to your friend. Check whether she/he is able to locate the place or not. In the same way, you try with your friend's map.

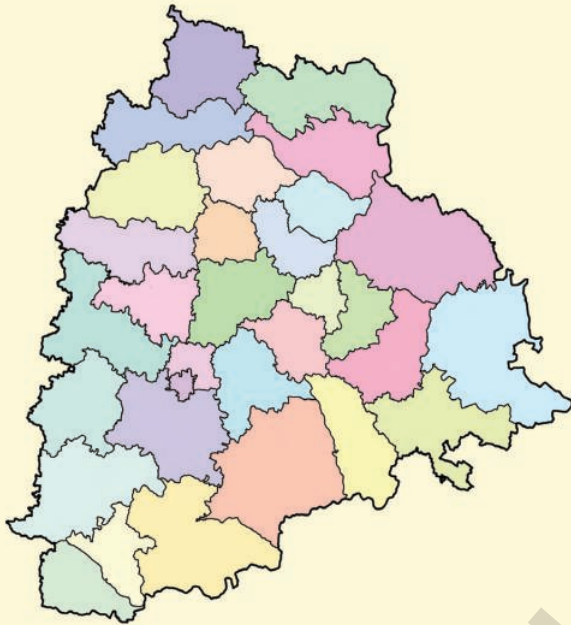
## 4. Information Skills, Projects

- ♦ Visit the houses nearby. Then fill the table given below with the observations made.

Observations	Items to be tabulated		
	House-1	House-2	House-3
• Which side is the main door?			
• Which side / corner is the tap / well / bore-well / hand pump / water tank?			
• Which corner is the kitchen?			
• Which direction do you have open space in the house?			
• Which direction are the windows and the doors of the house?			
• Which side is the road?			
<ul style="list-style-type: none"><li>♦ Are the arrangements same in all the houses?</li><li>♦ Which side / corner are the water storage tanks and kitchen in most of the houses.</li><li>♦ Did you notice any relation between these arrangements and the directions in which they are?</li></ul>			



## 5. Communication through Mapping Skills, Drawing Pictures and Making Models



- Prepare a model of your school with cardboard along with your friends. Show the things and their directions in the model.
- Draw the map of your house. Show the rooms in it.
- Draw the map of your village/city.
- Draw the map of your mandal and identify your village/city.
- Write the name of your district on the Telangana map given here. Also write the names of the district adjacent to yours.
- Which Telangana districts does the river Godavari flow through?
- Draw Telangana map in your note book. Write the boundaries of Telangana State and name the districts in the above map.
- Draw a map of your district and identify your mandal.

## 6. Appreciation, Values and Awareness towards Bio-diversity

- When do we use maps?
- What information do you get from maps?
- What are the uses of maps? Why?

### I can do this

- |   |          |
|---|----------|
| 1. I can speak about the directions and the things and their directions with respect to my house, school and village. | Yes / No |
| 2. After seeing the state map, I can ask questions to know about the things I do not know.                            | Yes / No |
| 3. I can prepare a model of the school with card board.   | Yes / No |
| 4. I can use maps to get the required information.  | Yes / No |



## PUBLIC INSTITUTIONS

Rangapur is a small village surrounded by hills. A river flows nearby the village. Due to heavy rains, there was a flood in the river. Water entered Rangapuram village, the streets were flooded with water. After the flood decreased, the streets were filled with mud. The electric wires were dislocated and the water pipes were damaged. There was no water supply. Many problems arose in the village due to the floods. Who will solve these problems? Who should take care? What other problems might have arose due to floods? Discuss these issues with your friends and note down the points.

### Discuss in groups



- ◆ Who should clear the mud on the streets of Rangapur?
- ◆ Who should repair the electric lines?
- ◆ Who should repair the water pipelines?
- ◆ Who should we complain to in case of a public inconvenience?

In every village, they have a Gram Panchayat which provides the required facilities to the public and solves the problems if any. In every village, there are public institutions like schools, veterinary hospital, Anganwadi centres etc. The institutions established by the government for public welfare are called Public Institutions.



### 7.1. Public Institutions - Gram Panchayat

Mohan wanted to apply for a ration card so that he can get household items from the ration shop (Fair price shop). He went to meet the Village Revenue Secretary along with his daughter Aruna.

“I am Mohan. I have a wife, a son and a daughter. I don’t have Food Security Card. I came to apply for it.” said Mohan. The Village Secretary asked him to give an application on a white paper.

Meanwhile, the Village Secretary called upon all the people who came to record the details of their crops. The Village Secretary looked into the records with the help of the Revenue Assistant and gave receipts to all. Similar to Village Secretary, there are other officers at the village level.

Different kinds of works done by different officers at village level are given in the table below. Discuss with your teacher and know about the officers who are responsible for different works and fill the table.

Sl.No.	Details of the functions	Public servant/officer responsible
1.	Recording crop details	Village Revenue Officer(VRO)
2.	Collecting house tax	
3.	Providing street lights	
4.	Maintenance of land records	
5.	Registration of births and deaths	
6.	Responsible for work related to revenue office	
7.	Responsible for the works related to Mandal Praja Parishad	
8.	Collection of water bills	
9.	Distribution of letters	
10.	School maintenance	
11.	Cleaning the drains	
12.	Vaccination and medication	

### Collect



- ◆ If you live in a city, collect the details of the person who is incharge for the above duties in the table with help of your parents / teachers. Write them in your note book.
- ◆ Was a review meeting held by village panchayat on village development in your village? What were the issues discussed? Collect information from your Village Sarpanch and Village Secretary.







Aruna wrote an application. Officials of Tahsildar Office recorded the details online.

They compared the details given by Mohan with the information available with them. They sent the details to District Civil Supplies Officer. A few days later, they issued a Food Security Card and sent it to Tahsildar. Mohan received his card from Tahsildar. Now Mohan is taking provisions through ration card.



### Do you know?

While issuing Aadhar cards, the government uses Iris camera to take the photographs. The centre part of the eye is called the Iris. The Iris camera captures the Iris of your eye and saves a photo without fading. Nandan Reddy invented the Iris camera. This Iris image detects the individual if he/she comes the next time.

### Taking photograph through Iris camera



### Do this

- Observe the Food Security Card at your home. Note down the details given on the card in your note book.

Now Mohan is getting provisions through Food Security Card.

The government provides the required provisions to the poor through Fair Price Shops. They sell these provisions as per the price fixed by the government.

### Collect



Visit a Fair Price Shop in your village/town/city along with your friends and collect the following information.

Sl.No.	Details	Available/ not available
1.	Notice Board	
2.	Board with working hours mentioned	
3.	Availability of the commodities	
4.	Price list	
5.	If we don't take provisions in a month, do we get them in the next month?	




The government supplies provisions for poor people through Fair Price Shops. These must be supplied to poor people. Do you know what to do if the distribution of provisions is improper in the ration shops? If they do not provide provisions regularly, people should complain to the Tahsildar.



## 7.2. Public Institutions - Mandal Headquarters

You have learnt that there is a Tahsildar office in every mandal, headed by Tahsildar. This is also called Mandal Revenue Office. It discharges various functions like distribution of Ration Cards to the families under its perview and collection of Land Revenue (tax on the cultivated lands). Do you know who do such duties on behalf of Tahsildar? Find out. Do you know how the government functions in every village? In addition to Mandal Revenue Office, some other offices also extend their services to the people of a mandal.

Mandal level institutions	Activities
<p><b>Mandal Parishad Office</b></p> 	<ul style="list-style-type: none"> <li>◆ Provides primary education.</li> <li>◆ Agriculture, cattle rearing, fish farming, poultry breeding and development.</li> <li>◆ Construction and repairs of roads.</li> <li>◆ Irrigation.</li> <li>◆ Provides health care facilities, child welfare, sanitation etc.</li> </ul>
<p><b>Police Station</b></p> 	<ul style="list-style-type: none"> <li>◆ Maintains law and order.</li> <li>◆ Reduces crime rate.</li> <li>◆ Maintains good relations with public.</li> <li>◆ Receives complaints from people, and responds immediately.</li> <li>◆ Conducts enquiries on the complaints and records them.</li> <li>◆ Helps people to live safely and follow the rules.</li> <li>◆ Safeguards child related issues and child protection agencies etc.</li> </ul>



Mandal level institutions	Activities
<p><b>Mandal Revenue Office</b></p> 	<ul style="list-style-type: none"> <li>◆ Headed by the Tahsildar, supervises the activities of the Village Revenue Officers and the employees of Mandal Revenue Office.</li> <li>◆ Receives complaints from public and enquires about them.</li> <li>◆ Ensures that all the government programmes reach the people.</li> <li>◆ Issues Caste and Income Certificates.</li> <li>◆ Relieves the people from bonded labour.</li> <li>◆ Sanctions Land Holder Pass books to farmers.</li> <li>◆ Resolves cases related to land issues/disputes.</li> </ul>
<p><b>Primary Health Centre</b></p> 	<ul style="list-style-type: none"> <li>◆ Treats patients with common diseases everyday.</li> <li>◆ Supervises Health Sub-Centres, maintenance of their activities.</li> <li>◆ Implements National Health Programmes in the mandal.</li> <li>◆ Ensures safe deliveries in PHC under Mother-Child Welfare Scheme.</li> <li>◆ Refers the needy cases to the district hospital for further treatment etc.</li> </ul>
<p><b>Bank</b></p> 	<ul style="list-style-type: none"> <li>◆ Accepts deposits from people.</li> <li>◆ Distribution of loans to farmers.</li> <li>◆ Collects daily deposits.</li> <li>◆ Distribution of loans to Women Self Help Groups etc.</li> </ul>

Mandal level institutions	Activities
<p><b>Mandal Resource Centre</b></p> 	<ul style="list-style-type: none"> <li>◆ Enrolment of all school age children in schools.</li> <li>◆ Monitors schools to provide quality education to all the enrolled children.</li> <li>◆ Supervises the schools.</li> <li>◆ Takes action on irregular teachers.</li> <li>◆ Effective implementation of mid-day-meal programme in all schools.</li> </ul>
<p><b>Veterinary Hospital</b></p> 	<ul style="list-style-type: none"> <li>◆ Looks after the health of all animals.</li> <li>◆ Provides diagnosis and treatment to animals.</li> <li>◆ Identifies the diseases which transmit from animals to human beings and take preventive measures.</li> <li>◆ Provides suggestions to owners in regard with animal rearing.</li> <li>◆ To educate the farmers on how to take care and give nutritious food to animals.</li> </ul>

Do you know the different Public Institutions that work in every mandal? Read them in the table given below.

You have learnt about the different government institutions working at mandal level to serve the people in the mandal. Once in three months a meeting is organised to review all the developmental activities. All mandal level officers participate in it. Do you know who conducts the meeting? Just like every village has a Sarpanch, a mandal too has Mandal President. This meeting is conducted under the chairmanship of Mandal President. Development of a village or a mandal depends upon the leadership qualities and dedication of village Sarpanch, Mandal President and also the officers in the village and the mandal.

### Do this

- What is the name of your mandal?
- Who is the president of your Mandal Parishad?
- Which village does he / she belong to?
- When are the Mandal Parishad Meetings held in your mandal?
- Who represents your village at Mandal Parishad meetings?
- What would be the agenda of the meeting?
- Discuss the activities taken up by village Panchayat and other Public Institutions.

Mandal Parishad President sends invitations in advance to all the members to attend the meetings. Look at an invitation sent by the President of the Kothur mandal of Rangareddy.

#### **Mandal Parishad Development Officer, Kothur Mandal, Rangareddy District.**

Letter No : 2/B/2017.

Date : 10-11-2017

**Sir/Madam,**

**Sub :** Invitation to attend General Body Meeting to be held on 28-11-2017.

- - -

The Mandal Parishad Development Officer, Kothur hereby informs all members of Mandal Parishad Territorial Constituency (MPTC), Zilla Parishad Territorial Constituency (ZPTC) members, Co-opted members and all Sarpanches, that a meeting is to be convened on 28-11-2017 at 11.30 am at the Mandal Parishad Development Office, Kothur. Hence, all the members are requested to attend the meeting.

Mandal Parishad Development Officer  
Mandal Parishad, Kothuru Mandal,  
Rangareddy District.





You have seen the invitation for the general body meeting. Do you know what would they discuss during the meeting? The points they discuss are called 'agenda'. Read the 'agenda' identified for general body meeting of Kothur mandal.

### Agenda

- Agriculture
- Working of Animal Husbandry
- Panchayat Raj and Rural Development
- Pensions
- Drinking water scheme
- Horticulture
- Primary Education
- Women and Child Welfare
- Water harvesting
- Activities of Primary Health Centre
- Electrification
- Construction of houses
- Roads and buildings
- Industries and prevention of pollution
- Child safety aspects
- Other points with the permission of Chairperson

Discuss with your friends in groups about who would attend the meeting and how the members would discuss the points covered in the agenda.

### Discuss in Groups



- ◆ Who attend the mandal development meeting?
- ◆ What could be the points of discussion?
- ◆ Suppose you were a Sarpanch of your village and attending Mandal Parishad meeting, what points of your village would you like to focus on?
- ◆ Who help the children in danger? What are the different ways to help the children?

Sarpanches and MPTC members of different villages, discuss the problems of their villages in the meeting. The mandal level officials answer the questions asked by the elected representatives. The Mandal Development Officer conducts the proceedings of the meetings. The Tahsildar, the Agricultural Officer, Veterinary Officer, the Mandal Educational Officer and the Health Officer attend the meeting and reply to the questions asked by the members.

### Discuss in groups



- ◆ Some of the questions asked by the members during a meeting are given in the next page. Read, think and discuss in groups about which official would have answered those questions.

Sl.No.	Questions	Responsible officer	Expected answer
1.	When do they supply seeds to the farmers?		
2.	The roads are damaged and it is becoming a problem for transport. When will the roads be repaired?		
3.	When will the Mid-Day-Meal agency be paid?		
4.	There are no sufficient toilets for girls in our school. When will you construct toilets?		
5.	Our school children require library books. When will you supply them?		
6.	The farmers need loans to purchase fertilisers. When and how much money will be sanctioned for them?		
7.	Some of the villagers have no houses. When will be the houses for such people sanctioned?		

### 7.3. Public Institutions - District Level - Collectorate

Mohan and Kiran are neighbours. Mohan is frequently falling ill. One day, Kiran fell down and his wife Jyothi started crying. Mohan called '108' immediately. 108 vehicle came and Kiran was admitted in a government hospital.

Doctors examined Kiran and diagnosed him with a heart attack. They treated him temporarily and advised him to undergo a heart surgery within a month.



The doctors advised to bring Arogyasree Card for free medical treatment. Jyothi decided to apply for Arogyasree Card as they had a White Ration Card. An application was written to the District Collector for the Arogyasree Card.

### Application

Date: 05.01.2017

To,  
The District Collector,  
Vikarabad District,  
Telangana.

Respected Sir,

**Sub :** Allotment of Arogyasree card under Medical Insurance Act - Reg.

- - -

I would like to bring the following to your kind notice. I have been suffering from ill-health for a long time. I had a heart stroke recently and doctors advised me to under go a surgery. I don't have enough money to meet the medical bills. I have a white ration card.

Hence, I request you to grant me Arogyasree card so that I can get free medical aid.

Thanking you.

Yours faithfully

**KIRAN**

Patloor,

Marpally Mandal

Vikarabad District.

Enclosures:

- 1) White Ration Card
- 2) Copy of medical reports

Kiran's family went to the Collector's office and submitted the application to the Collector and explained their problem. The Collector sent the application to the Health Insurance Officer. Kiran received the Arogyasree Card within a week. With the help of the Arogyasree Card, Kiran under went the surgery. He returned home cheerfully.

In addition to Mandal Office, there are many government departments at district level to serve the people in the villages. They release the funds to mandals and panchayats to take up different welfare activities. There are other organisations and government offices at district level to help the people of the district.

### Collect



- ◆ Apart from collectorate, what other offices function at the district level? Collect the information with the help of your teacher and prepare a table.



Sl.No	Name of the district level office	Name of the officer	Important duties

Different types of public institutions function from the village level to the district level to meet the needs of the people of the district. All the officers perform the duties allotted to them.

### Discuss in groups



- ◆ During strikes, bandhs, dharnas and rasta rokos, people damage public property, government offices and RTC buses. They feel that they are damaging government property and that they don't lose anything. Whose properties are these? Who are at loss?
- ◆ Where do the government institutions get money from? Who pays them?
- ◆ What should we do to prevent the damage caused to public property?

## 7.4. Public Institutions - Public Property

All the government institutions fulfill the primary needs of the people. Money is needed to run these institutions. Money is required to maintain the offices, to pay the salaries to the employees etc.

Public institutions are run by our money. We pay money to the government in the form of different taxes and fee. The same money is used to meet the needs of the people. It's our property and we are responsible to protect public properties for our future generations. Otherwise, there will be no progress. Being citizens, we should be responsible. This is our country and our property.

Aren't street lights, water pumps, panchayat offices and hospitals for us? We are at loss, if street lights glow during day, water is wasted through damaged taps and doors and windows of government offices are damaged. All these are ours. We should protect them. We should stop people who try to cause loss. This is what responsible citizens should do.



## 7.5. Right to information

- Mother : Well! Ravi, Why are you playing in front of the house without going to the play ground?
- Ravi : Oh! There is foul smell due to the overflow of drainage in the ground. That is why we couldn't go to play ground.
- Mother : Then, let's complain about it in the Panchayat Office. Without bothering to know who cleans the drainage and what they do daily, how can you keep playing in front of the houses?
- Raju : Aunt, my brother has filed an application in the Panchayat Office five days ago seeking the details.
- Aruna : Aunt, do they care, if we ask for information?
- Mother : The Right to Information Act has been implemented from 12<sup>th</sup> October, 2005. Since then, everybody started attending to the enquiries of the people promptly.
- Aruna : What is 'Right to Information Act'?
- Mother : The right to get information from public institutions is called 'Right to Information Act.' As part of this, we can know the information about the activities taken up by the government, different documents, reports etc., we can also get a xerox copy of the documents.

### Right to Information Act - 2005

The Right to Information Act is the right to get the required information from Public Institutions (Govt. Offices). We have a right to know the details of the records, documents, memos, orders, reports of government offices etc. For this, we have to submit the required application to the officer concerned. We can collect the details in written form from the offices concerned.

We can write the application on a white paper also. We have to pay a nominal application fee. There is no fee at the village level. The people who are below poverty line need not pay any fee. The officer concerned should give the information within 30 days. If the application is about Right to Live and Freedom of Individual, then the information should be given within 48 hours.

Commission for information functions as an autonomous body at the state and the centre level. Public Information Officer is present in every government office.

Time taken to provide the information is displayed in the notice boards of the offices. People are a part of the government. Everyone has a right to get the information about the working of an office and other required information.

The main aim of the Act is to give the information to the people voluntarily by the government.

- Ravi : Mummy, do all the offices of our village keep the required information.  
Mother : Yes, they have to! It is the duty of the officers to make the information available. Our right is to ask and know.  
Aruna : Aunty, you said to find out, whom should we ask?  
Mother : Good question. We should ask the Public Relations Officer and know the information in document form too.

### Application for Information

Dt : \_\_\_\_\_

Public Relations Officer (Village Secretary),  
Bijwaram Village,  
Maldakal Mandal.,  
Jogulamba District.  
Sir,

### Request for Information

With reference to the Right to Information Act-2005, section 6(1), I request you to kindly give every page of the following information in Telugu / Hindi / English under section 4(4). Please give a certified information under section 2J(ii).

Particulars of funds sanctioned to the Gram Panchayat in the year 2012-13

Total funds received in the year 2012-13 Rs. \_\_\_\_\_ .

Money spent on different kinds of work Rs. \_\_\_\_\_

Was any amount left after the expenditure? \_\_\_\_\_

If yes, how much money is left? Rs. \_\_\_\_\_

I hereby pay Rs.10/- through challan towards the application fee. Kindly give the receipt.

Signature of the applicant

Name : Venkat

**Name :** Venkat

**Village :** Bijwaram

**Mandal :** Maldakal

**Distirct :** Jogulamba





- Raju : Aunty, my brother complained regarding the over flow of drainage five days ago in the panchayat office. Can we know the position of the complaint now?
- Mother : Yes, you can. They should give information within 30 days.
- Aruna : What if they don't give information within 30 days?
- Mother : Then we have to apply to the higher official. Bring a white paper. I will tell you how to write application. (The children write the application and meet the Village Secretary along with their mother).
- Raju,Ravi,Aruna,Mummy: Namaste Sir! We came to meet you.
- Village Secretary : Namaste Children! What do you want?
- Mother : Sir, the play ground where these children play every day smells bad due to the over flow of drainage. Raju's brother gave a complaint regarding this 5 days ago.
- Village Secretary : Don't the workers clean the drainage every day?
- Raju : No sir, no one has cleaned the drainage for many days.
- Aruna : Sir, let us know, who cleans the drainage? How often is the drainage cleaned?
- Village Secretary : Why do you ask all these particulars?
- Mother : Sir, don't say that! Every one has a right to get information according to R.T.I. Act. Children, submit the application.
- Village Secretary : (Receiving application) OK! You can go now!
- Children : Sir, what about receipt?
- Village Secretary : Good god! Ok, (After writing receipt) take this. Children you have asked for information. Panchayat sanitation workers should clean the drainage everyday. I will send this information to you as a response to your application.

### Discuss in groups



- ◆ When can we use the Right to Information Act?
- ◆ What information would you like to get in context of the problems of your village/city? Write an application.

### Key words :

- |                       |                                    |                           |
|-----------------------|------------------------------------|---------------------------|
| 1. public institution | 6. Gram Panchayat                  | 11. ration card           |
| 2. goods/provisions   | 7. Mandal Parishad                 | 12. Arogyasree Card       |
| 3. complaint          | 8. Collector's Office/Collectorate | 13. public property       |
| 4. reports            | 9. general body meeting            | 14. Primary Health Centre |
| 5. loan               | 10. Mandal Parishad President      | 15. veterinary hospital   |

### What have we learnt?

#### 1. Conceptual Understanding

- What are public institutions? Give some examples.
- What are the functions of Gram Panchayat?
- What are the problems of your village? Does the Gram Panchayat solve them?
- Which mandal do you belong to? What are the offices located there?
- What is the name of your district? Where is your district headquarter? What are the different offices located there?
- Differentiate between the functions of Mandal Development Offices (MDO) and Revenue Offices?
- Why is only one ration card issued per family?
- What are the advantages of Right to Information Act? What information would you like to know?
- Which problems of your village, would you like to utilise the Right to Information for?

#### 2. Questioning - Hypothesis

- Write the name of any office in district headquarter. Frame questions to know what benefits are provided to the people by that office.

#### 3. Experiments - Field Observations





- Visit a public institution in your village/city. Write down its functions.

#### 4. Information skills, projects

- ♦ Visit a Gram Panchayat or a Mandal level office. Find out who work there and what are their duties. How are the people benefitting through that office? Collect the details and present in your class.

#### 5. Communication through Mapping Skills, Drawing Pictures and Making Models

- Draw the map of your mandal. Mark the different institutions in your mandal.
- Identify your mandal on the map of your district. Identify the surrounding mandals.
- Draw your village map indicating the following with the given symbols.

School		Hospital	
Post Office		Bank	

#### 6. Appreciation, Values and Awareness towards Bio-diversity

- What measures can be taken to prevent the damage caused to public institutions, government offices and public property.
- Your school is a public institution. Write the do's and don'ts in your school.
- Parents must attend Parent-Teacher Meetings in schools. Similarly people should attend Gramasabha. Only then, they will know what is happening in the village. How can you encourage your parents to attend such meetings?
- Imagine your sister/ brother has not come back from school. Write a letter of complaint to the police.

#### I can do this

- |   |          |
|---|----------|
| 1. I can speak about the different institutions functioning from village to district level.                         | Yes / No |
| 2. I can explain how they are beneficial to us.   | Yes / No |
| 3. I can locate / identify the offices on map of a mandal or a district.  | Yes / No |
| 4. I can ask questions to get information from any office.  | Yes / No |
| 5. I can mark the different institutions on the map of a mandal   | Yes / No |
| 6. As government institutions are public property, I can explain what should be done to protect these institutions. | Yes / No |



# 8

## HOUSES - CONSTRUCTION - SANITATION

We need houses to live in. Villages and towns have different kinds of houses. Observe the houses in the picture given below.



### Discuss in groups



- ◆ What are the different kinds of houses in the picture?
- ◆ What are the different kinds of houses in your village/city?
- ◆ What are the reasons for having different kinds of houses?

### 8.1. Houses - Past and Present

Present day houses have been subjected to many changes when compared to the houses in the past. Do you know where did the people live in the past and what kind of houses they lived in?

Yadagiri is a mason. He has been constructing houses for the last 20 years. He has constructed different kinds of houses in villages and towns. Yadagiri has been constructing hundreds of houses for the last 20 years. Let us see what he has to say about the changes in style of construction of houses.

"My parents constructed our house during my childhood. Our house is

constructed with mud. My sister and I also helped in its construction. We brought mud, mixed it with water and made lumps. My parents arranged these lumps one on the other in rows and constructed the wall. After raising four walls to 6 feet height, we made a frame of bamboo sticks on black wooden logs. We covered the frame with palm leaves. We cut a neem log and carpenter Satyam made doors and windows. They were fixed to the walls. My mother coated the walls and floor with cow dung and drew rangoli. We would white-wash the walls during festivals. My mother used to cook on fire wood. Those days, the materials used for construction of our house were available locally. Our house used to be very cool".



### Discuss in groups



- ◆ Which materials were used to construct Yadagiri's house? Of these, which materials they might have purchased? Which might have been free?
- ◆ What are the differences between the mud houses in the past and of those in the present?
- ◆ Do people construct houses with mud now-a-days? Why?

## 8.2. Mud roofs:

"I became a mason at the age of 18. I used to construct mud houses in the beginning. I constructed walls with mud. Do you know, we constructed the roofs also with mud. We used to mix sand and lime in mortar and then used this mixture to build the walls. The walls of the ancient forts were also built with stones and lime."

"Those days, I built houses with baked bricks and lime. Such buildings have a kitchen and a store-room. We plaster walls with a mixture of sand and lime. The roof is built with Teak, Maddikarra & Vegisa logs and covered with Bangalore tiles. For flooring, stones of Tandur, Shabad were used. We left empty space around the house. Every house used to have a neem tree. All the houses had sit outs in front. Many people used to sleep on cots out side the houses."



What is the use of sit outs in front of the houses?

The rich used to construct buildings with slabs and brick walls. Plastering was done by cement. The roof was laid with cement and concrete which is a mix of cement, gravel and sand.



### Discuss in groups



- ◆ How are bricks laid while constructing walls?
- ◆ What material is used to build slabs? Where were these materials available?
- ◆ What type of workers were needed for slab construction?

“I constructed a duplex house recently. Its owner is Chakrapani. The area of the site is 36 feet length 30 feet breadth. The plan was drawn by an engineer.”



### Think..

Observe the plan of Chakrapani's house. Say what are there on the first floor?





“We made building with cement and concrete. The pillars were constructed using steel and concrete. Walls were built using cement bricks. We used lifts and vibrators to construct the slab. We plastered the walls and smoothened them with Wall-care Putty. The ceilings were done using sheets of Plaster of Paris to keep the rooms cool. Flooring was laid using marble stones brought from Rajasthan. Ceramic tiles were laid in the kitchen and the bathrooms.”

“My skill wasn't sufficient to build this house. Workers with different skills are called for various works like laying of tiles and stones, painting, fitting pipes etc. Electricity is generated using solar panels arranged on the roof of the house. Water is heated using solar panels. The whole plot was used to construct the building. The roof was covered with plastic sheets and filled with mud to grow vegetables and flowers. This is called 'Roof Garden'.”

### Think...

- What are the differences between a duplex house and a building?
- What is a roof garden? Why is it grown?

### 8.3. Let us know 'how a house is constructed!'

Visit any house that is being constructed in your area. Collect the following information and write.

#### Collect the information



- ◆ What type of house is being constructed?
- ◆ How many people are working there? What are the various types of works and who are involved in doing them?
- ◆ What are their daily wages? (Ask any three)
- ◆ What are the different types of materials and tools used for construction?
- ◆ How did they bring the materials? (tractor / lorry / auto / bullock-cart/ rikshaw etc.,)
- ◆ How many bricks and bags of cement are required to construct a room?
- ◆ How much money is spent on the construction of one room?

## 8.4. Method of making bricks

Bricks made of mud are used widely in construction. Bricks which are light, strong and red in colour have more demand. Do you know how the bricks are made? Let us know the different stages in making bricks.



### Bricks are made in the following stages



- ◆ Collecting clay
- ◆ Mixing clay with ash
- ◆ Adding water to the mixture and making into a smooth paste by making cattle walk / tramp on it.
- ◆ Filling the moulds with mud lumps.
- ◆ Drying the bricks for two days under the sun.
- ◆ Arranging the dried bricks in a kiln in layers and blocking them with firewood and husk (A kiln burns for for 30 days).
- ◆ When the bricks are burnt to red, they are cooled for a week and then sold to the builders.





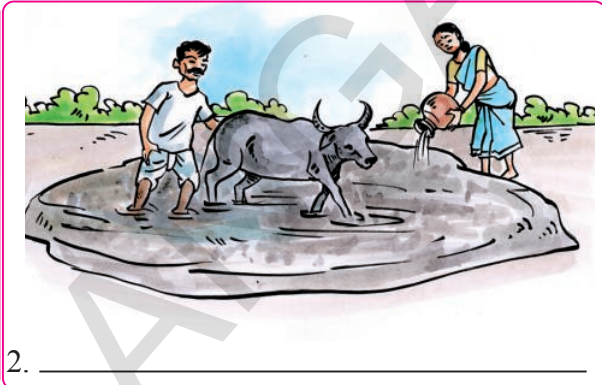
### Discuss in groups



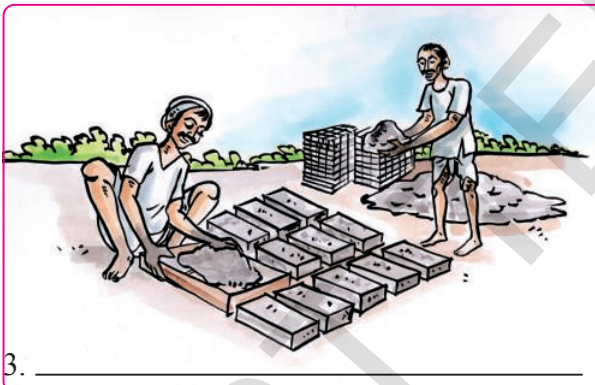
You have learnt how bricks are made. Observe the pictures given below. Write the different stages in making bricks in the pictures given below.



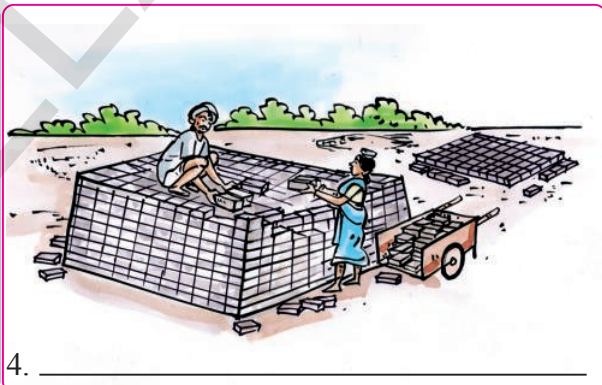
1. \_\_\_\_\_



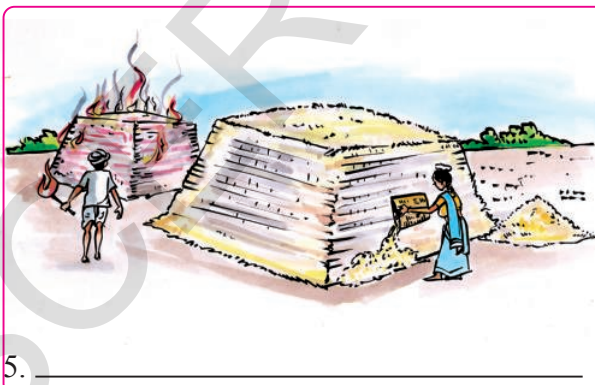
2. \_\_\_\_\_



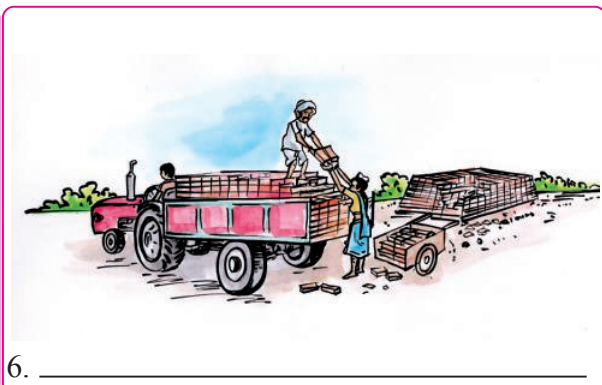
3. \_\_\_\_\_



4. \_\_\_\_\_



5. \_\_\_\_\_



6. \_\_\_\_\_

In addition to bricks we need stones, wood, cement, gravel, steel, tiles etc. to construct a house. Let us know about them.



## 8.5. Construction of House - Other materials

Besides bricks, materials used in construction of house like foundation stones are available in different colours in our state in Tandur and Khammam.



**Tandur stones**



**Rajasthan Marble**



**Shabad (Granite) stones**



**Khammam granite**

Gravel stones are required to prepare concrete. For this, crushers are used. Huge rocks are put in these machines and cut into smaller pieces. Workers who do this, live at the place of work if needed. Their children also live with them.



### Think...

- Do the children of workers go to school? What happens if they don't study?
- What facilities are needed by the workers of kilns and construction labourers? How should the facilities be provided?

## 8.6. Construction of Apartments.

The price of land in towns and cities is very high. So, apartments with many houses are constructed on smaller sites. Apartments are constructed to accommodate 25 to 30 families. The residence of each family is called a flat. Now-a-days, apartments are being constructed to accommodate more than 50 families. Do you know what tools and machines are used to construct apartments? Observe the pictures given below.



**Mixer used for the concrete preparation**



**Crane**



**Lift to take materials**

### Discuss in groups



- ◆ Why are apartments needed? What are their uses?
- ◆ How are the apartments constructed so high?
- ◆ How is the material taken to such height?



**Think...**

**Differentiate between apartments and independent houses.**

Generally marbles or tiles are laid on the floors of apartments. Are they available in your area? Find out how that material has reached your place and where from?

The important parts of a house are doors, windows and frames. Usually, people use wood. Now-a-days, some are using doors made of iron. In apartments, they make doors with plywood. Glass is used for windows and doors.

**Think...**

**Why have people started using other materials instead of wood for doors and windows?**

### **8.7. Houses - Different Regions:**

Houses are constructed keeping in mind, the temperature, the rainfall and the materials available locally. Let us learn about the different types of houses in the various regions of our country.

Rainfall is more in the north-eastern regions such as Assam, Meghalaya, Nagaland etc. where damp climate prevails. The Britishers started constructing houses here around the year 1826. We find more wooden houses here. Bamboo is used to make walls. They are coated with a mix of clay and cow dung. The roofs of the houses are slanting, made with sheets. The lower part is constructed on stilts. A passage that allows the rain water to drain off is called a stilt.



**Think...**

**Why are the sheets covering the roof laid slanting?**





Kashmir has a cooler climate. Sometimes the temperatures fall to below 0° centigrade. Here, houses are constructed on mountains. In Srinagar, tourists get to stay on house-boats called 'Donga' on Dal Lake.



### Do you know?

Coloured stones are available at Tandur in our state. Stones are very cheap here. So, people construct the walls, slab, flooring every thing with these stones. Stone roof! Is it not amazing? Similarly, coconut leaves in coastal regions, bamboo in Nallamala Manyam forests are widely used for the construction of houses.



## 8.8. Houses - Problems

We all need houses to live in. But most of the people do not have their own houses. These people live in rented or temporary houses. Many poor people in our state do not own houses. Government constructs houses for those.

### Discuss in groups



- ◆ Do you all have own houses? What type of house is yours?
- ◆ Why does not everybody own a house?
- ◆ What problems do people face when they don't own a house?
- ◆ What type of house do you like the most? What facilities would you prefer in your house?
- ◆ What are the reasons for the differences in housing facilities?

Poor people live in huts, beside streams, river banks and in open places in towns/cities. Observe a slum area in Hyderabad. Why do people live in slums?



**Think...**

**Why are slums so dirty?**

### 8.9. Excretion in open places



Many rural villages don't have toilet facilities. Some people, though have toilets, go to open places for excretion. This is an unhealthy habit. Many problems arise due to this. House flies that sit on the stools, spread harmful bacteria. When the faeces (stools) is excreted near lakes and streams it mixes with water when it rains. When we drink this water, we are affected by diseases like cholera and typhoid. Worms spread due to open excretion. Anaemia is caused due to worms in the stomach. The food taken is absorbed by the worms and the person remains weak. De-worming tablets should be taken twice a year.





## 8.10. Complete sanitation to be provided

The government is trying to provide toilet facilities to all. It is providing an economic help to all weaker sections to build toilets.

How many families are using this facility in your village / slum in your city?



### **Anitabai demanded toilet to stay at her husband's house :'**

The woman in the photo is Anitabai. She belongs to Chichowli village in Betul district of Madhya Pradesh. She was married to Sivaram of Ratanpur village in the year 2011. She was embarrassed to enter the house of her husband, because, there was no toilet in it. She returned to her village. When questioned, she told, she would enter the house only if a toilet is constructed. Discussion started on this matter in the family and in the village. Every one accepted Anitabai's opinion. Then, a toilet was constructed in her mother-in-law's house. On seeing this, all the families in the village constructed toilets in their houses. In this way, Anitabai became the reason for the sanitation movement. The whole country took interest in it. Then the rural development minister Mr. Jai Ram Ramesh honoured Anitabai with 'Sulabh Sanitation Award' and presented a cheque of Rs.5,00,000. The then president Mrs. Pratibha Patil and Prime Minister Dr. Manmohan Singh also appreciated her.



**Anitabai receiving cash award from the then Central Minister Sri Jai Ram Ramesh**

### **Do you know?**

The villages that have 100 percent sanitation facilities and toilets in all the houses get the Nirmal Puraskar. The President of India presents this award. Find out how many villages in your mandal / district have been awarded Nirmal Puraskar?



**Receiving Nirmal Puraskar from the President of India**



## 8.11. Sanitation - a Compulsory Requirement



Health is wealth. Most diseases spread because of unhygienic conditions. Dirty surroundings is the main enemy of health. Observe the picture given. What is happening in the picture. What could be the result of this?

### Discuss in groups



- ◆ Is it right to throw / dispose garbage like the picture above? Think...
- ◆ How are dirty surroundings harmful?
- ◆ What do you do with the trash at your home and at the school?
- ◆ Can we re-use garbage?
- ◆ What should we do to reduce garbage in our houses?

## 8.12. How is garbage collected at our houses?

Observe garbage collected at your house. What does it comprise of? There is left over food, leaves, peel of fruits, wet garbage, covers, papers etc., Wet trash decays quickly and mixes with mud. We should throw this into compost pit. We can recycle dry trash. The municipality in the towns/cities collect wet and dry garbage separately. You should collect the wet and dry trash separately and give it to municipal workers when they bring the collecting van.

We should not burn the garbage in heaps. Air gets polluted due to this. This is harmful to the environment.

### Do you know?

#### Think...

**What types of trash would be there in your house? What is wet trash and what is dry trash?**

**What do you do with the garbage?**



### Do you know?

Lekh Chand of Chandigarh collected garbage and used it to construct a beautiful 'ROCK Garden'.



Not just keeping the surroundings clean, but also removing garbage is equally important in our houses. Think how can we reduce garbage. We should practise the following three principles to protect the environment.

1. **Reducing garbage :** We should purchase goods according to requirement and reduce wastage. We should not use plastic glasses, plates, bags and spoons. When we use them once/ for a day and throw away, they get strewn every where. They pollute the atmosphere, and when thrown into water, pollute it too. Due to this the fish and aquatic plants die. Instead of plastic, we should use cutlery made with steel and metals. We can use them for a long time. There is no need to throw them away.
2. **Re-use :** Repaired and re-filled goods must be used. Bags and covers can be reused. Thus, usage of plastic is reduced.
3. **Re-cycling :** New things are made by re-processing iron, plastic, glasses paper and electronic goods. We can reduce garbage by re-cycling.

### Think...

**Prepare a compost pit in your school. Throw the garbage and leaves into it. Cover it with mud. After one month take out the compost and use it as a fertilizer for the plants.**

### 8.13. How a clean house should be?

How is the house in the picture. A house with sufficient light, free air, plants and trees in its surroundings is pleasant. What are the characteristics of a good house?



### Key words:

- |                          |                     |                          |
|--------------------------|---------------------|--------------------------|
| 1. mason                 | 6. apartment        | 11. roof garden          |
| 2. construction of house | 7. mud slab         | 12. brick kiln           |
| 3. tiled house           | 8. house roof       | 13. stone crusher, crane |
| 4. building              | 9. house plan       | 14. slums                |
| 5. wet garbage           | 10. cement concrete | 15. sanitation           |

### What have we learnt?

#### 1. Conceptual Understanding

- What type of houses are there in your region.
- List the materials used for construction that are available locally and those brought from outside in a tabular form.
- Who all participate in constructing a house? What are they called?
- Why do many people not have houses of their own yet?
- Why do people construct apartments? What are the uses of apartments?
- What do you do to keep your house clean?
- Some houses are comfortable with all facilities. Why?

#### 2. Questioning - Hypothesis

- Sridhar toured India recently on his motor bike. What questions would you ask to know about the different types of houses in our country?
- Bilal wants to construct a house. What questions he might ask the mason?

#### 3. Experiments - Field Observations

Observe any house, built with the help of government and fill the table with the particulars.

- Height of basement \_\_\_\_\_ feet.
- No. of Rooms \_\_\_\_\_
- Water facility Available / Not available
- Toilet Available / Not available
- Compound wall Available / Not available  
If available, length \_\_\_\_\_ feet



#### 4. Information skills, projects

- ♦ Visit any five houses in your surroundings. Collect the information and fill the table with the particulars.

Sl.No.	Name of the head of the family	Where is the garbage dumped?			
		Garbage heap	Dustbin	Near the wall	On the street

#### 5. Communication through Mapping Skills, Drawing Pictures and Making Models

- Draw the plan of your house. Mark the different rooms.
- Imagine a beautiful house. Draw and colour a picture of it. Write five or six sentences about it. Exhibit it in your class.

#### 6. Appreciation, Values and Awareness towards Bio-diversity

- Many workers put in their efforts to construct a house. How do you appreciate the work of the construction workers?
- Whose house is beautiful in your village/city? Why? Write the reasons.
- What will you do to make your house beautiful with plants, birds and animals?

#### I can do this

- |   |          |
|---|----------|
| 1. I can explain about the construction of a house, materials required and types of houses.   | Yes / No |
| 2. I can ask a mason questions about the construction of houses.                              | Yes / No |
| 3. I can collect, tabulate and explain the information on houses.                             | Yes / No |
| 4. I can draw and explain the plan of our house. I can draw the picture of a beautiful house. | Yes / No |
| 5. I can appreciate the efforts of workers. I can work for the protection of biodiversity.    | Yes / No |



## OUR VILLAGE - OUR TANKS

"My name is Varalakshmi. Ours is an agricultural family. We have been practicing agriculture since the time of our ancestors. Nagulacheruvu, a tank is the main source of water for our agriculture. Nagulacheruvu was not full for the past two years. Hence, we had to go for rainfed crops."

**Discuss with your friends and write.**

Crops grown when the tank has plenty of water	Crops grown when the tank with insufficient water

"This year rainfall has been very low. Since two years the growth of paddy has been low. So, instead of paddy we grew jowar, ground nut, horse gram and raagi. But these crops also failed because of insufficient water."

**Think...**

**What happens when there is scanty (less) rainfall?**

"This year too, there was no rainfall in the beginning but during the last three days, there has been heavy downpour which is favourable for sowing."

"I want to go to Nagulacheruvu when the rain stops. But on the way to Nagulacheruvu there is a small pond called Laddhamadugu which is overflowing, making it difficult to cross. So I couldn't go."

"Children! In rainy season the flow of water in small canals is very rapid. You should never get into such canals, otherwise you will be carried away by the rushing water."

"In the afternoon the rain decreased. It was only drizzling and we were able to see the sun. We also saw a rainbow in the sky."



"I reached Nagula cheruvu. As soon as I reached there, I saw Hanmaiah, Satyappa, Ramgopal Nayak, Pullappa, and Mannepu Reddy. Gouri and Annapurna also reached there. Flood water was flowing into the tank. The tank got filled and was overflowing."



What is meant by sluice?

"We all spoke about the tanks being filled, flood water, overflowing, the crops to be sown, strength of the embankments etc. We were all happy because we could harvest two crops this year. Some of us went to fields and some of us to houses."

"While I was getting down the embankment, I saw Narahari. Narahari knows not only about our village but also about other villages nearby. He has information about all the families, tanks, crops, temples etc. in our surrounding villages. He always talks about the history of the tank."

### Collect :



Name some tanks near your area. What are the advantages of having Tanks?

Name of the village where a tank is located	Name of the tank	Uses



## 9.1. History of Nagulacheruvu

"My name is Narahari. We have some land near Nagulacheruvu. We practice agriculture, but our main occupation is to narrate the history of our village. This is being practiced since the time of our ancestors. I know very well about Nagulacheruvu. My father and grand father also told many things about this tank. I remember a lot of things about the tank when it gets filled up.

Prior to Nagulacheruvu, there used to be a big pond in that place. That pond used to fill up with a moderate rain through a small barrier of this pond water was supplied to low level fields. Water was sufficient for only a few fields. So, a farmer named Mallikarjun met the tahsildar to take necessary action so that water could be used by all farmers. An engineer named Abdulbari surveyed the region near the pond and planned to convert the pond into tank.

**Think...**

**What is the difference between a pond and a tank?**

## 9.2. Construction of a tank

Construction of the tank had started. Everybody in the village was involved. People of the village put collective efforts in the construction of the tank.

First, they identified the source of the flood water.

**What is flood water?**

They dug canals from the regions where water was flooding. Then they started constructing bunds. They carried mud in bullock-carts from near by villages and also brought stones from nearby hills. Then they built the bund with stones from inside. They built two outlets from the embankment, on both the sides.

**Think...**

**What is an outlet?**

**Why do tanks have outlets?**



The outlet was constructed by engineer Abdulbari himself. A scale was drawn to know how much water is there in the tank and when to release water to the fields. It is still there in white paint. In the beginning people used to get surprised when the gate was operated. When a gate is opened, water flows out into the canals. When it is closed, water stops flowing.

### Do you know?

"Some tanks are connected with each other through canals. During rainy season when one of these tanks is filled with rain water, the water flows into other tanks.

The kings of Kakatiya and Nizam dynasty constructed these chains of tanks all over Telangana."

After completion of the building the outlets, the work of sluice was taken up. A sluice was built completely with stones to let the extra water flow. As this might cause soil erosion, stones were laid in the path of the water to prevent it. The masons in our village worked hard for building sluice. Food was cooked in one place and everybody had lunch together. They discussed the remaining works. They began to dig canals to get water from two outlets. They dug four canals so that all the fields would be watered. Later, the canals were built with stones and cement.

### Discuss in groups



- ◆ Why are outlets, canals and sluices needed in the construction of a tank?

"Next year, after the construction of the tank, there was sufficient rainfall. Farmers sowed paddy. The harvest was very good. There was a drastic change in the lives of the farmers. Our family also came out of economic problems."

### Collect :



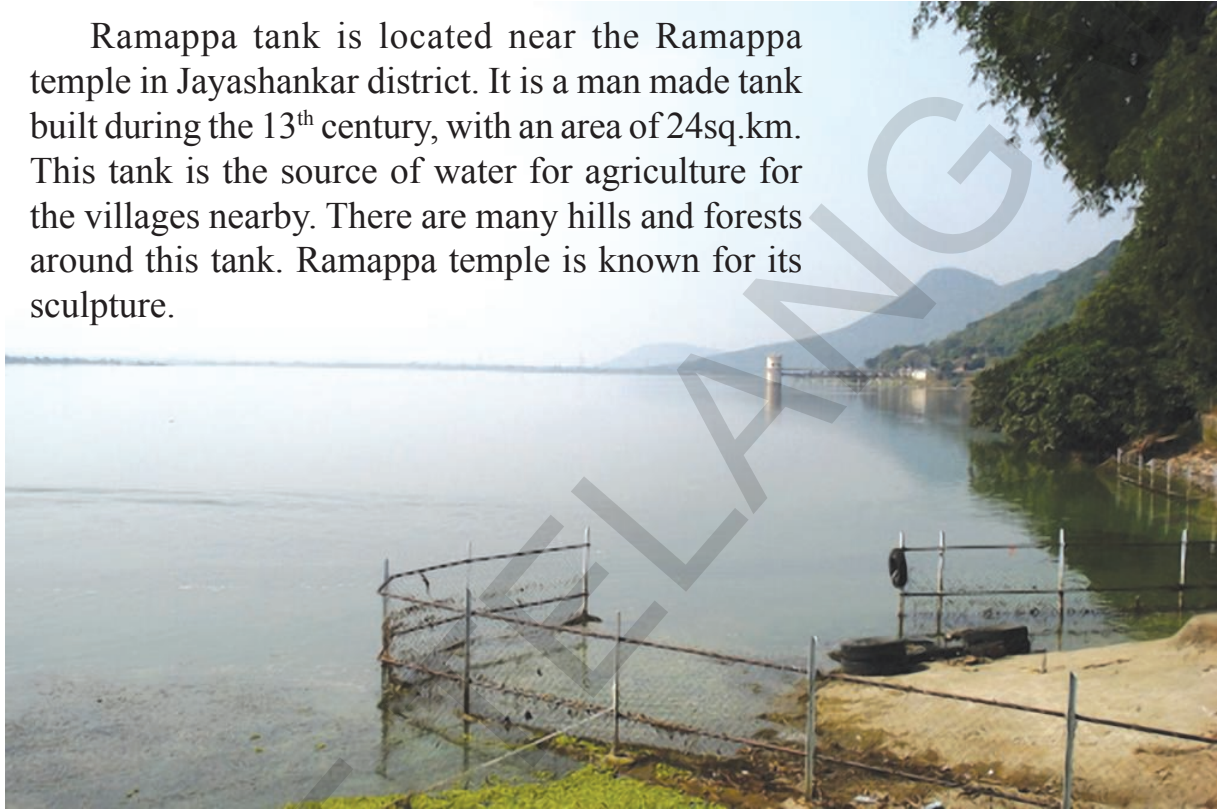
- ◆ Collect information about a tank nearby. How was that tank constructed?
- ◆ Visit the tanks in your surroundings. What is the area of those tanks.

### 9.3. Big tanks of our state

Like Nagulacheruvu, we have many tanks in the state. Let us know about the big tanks in our state.

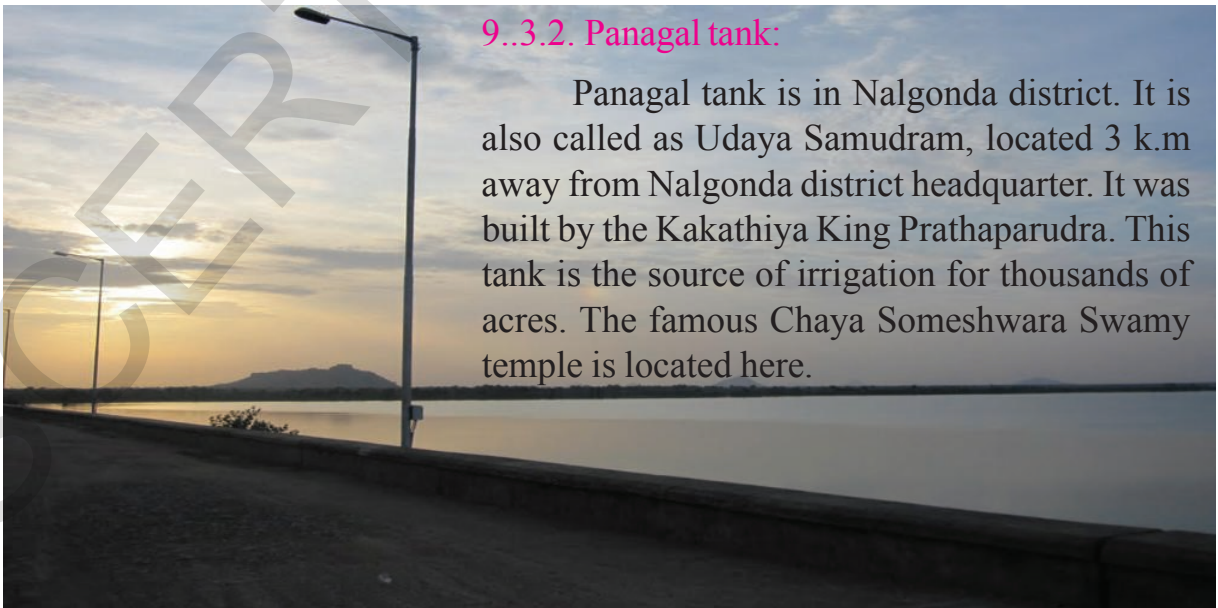
#### 9.3.1. Ramappa tank:

Ramappa tank is located near the Ramappa temple in Jayashankar district. It is a man made tank built during the 13<sup>th</sup> century, with an area of 24sq.km. This tank is the source of water for agriculture for the villages nearby. There are many hills and forests around this tank. Ramappa temple is known for its sculpture.



#### 9.3.2. Panagal tank:

Panagal tank is in Nalgonda district. It is also called as Udaya Samudram, located 3 k.m away from Nalgonda district headquarter. It was built by the Kakathiya King Prathaparudra. This tank is the source of irrigation for thousands of acres. The famous Chaya Someshwara Swamy temple is located here.





### 9.3.3. Hussain Sagar



Hussain Sagar is located in Hyderabad. It is one of the biggest tanks in the state. This was built by Qutub Shahi rulers in 1562. The bund of this tank was made into road in 1946. This bund joins the twin cities of Hyderabad and Secunderabad. The area of this tank was 5.7sq.km but now this has decreased a lot. It is filled with eichhornia plants. Waste thrown by visitors, inflow of drainage water, industrial effluents the immersion of 'Ganesha idols' etc., are the causes of its pollution. The depth of the tank was 32 feet but it got silted to a large extent. The government is now trying to make it a pollution free tank.

Another tank in Hyderabad is 'Osman Sagar'. It was built on the subriver Musi. It is also known as 'Gandipet tank'. It is a fresh water tank. The water of this tank is still being used for drinking by the people of Hyderabad.



Osman Sagar

### Discuss in groups



- ◆ Why do we need tanks?
- ◆ Do you have such tanks in your districts? Where are they located?
- ◆ Talk about big tanks located in our state and locate them on a map of Telangana.

## 9.4. Relation between the farmers and the tanks

We know that tanks are useful to us in many ways. Chennaiah had a close attachment with Nagulacheruvu. Let us see what he says!

"My name is Chennaiah. I had a great attachment with Nagulacheruvu. My father taught me how to swim in this tank. Every Sunday I used to wash clothes near the tank along with my friends.

I used to catch fish, crabs etc. with my friends. I was scared to see big frogs. There were snakes also. Sometimes we found tortoises. We used to bring them home and leave them in small tubs and took care of them. We enjoyed seeing the birds hovering over the water. My son prepared Ganesh idols with clay brought from the tank. He did this on his teacher's advice. I also prepared some idols using clay.

### Think...

**What needs of people can be met by a tank?**

## 9.5. Advantages of Tanks

Our field is near the tank - every day I go to Nagulacheruvu and open the outlet to release water to the fields. This was an important task of my daily routine. Every person in our village has a special attachment with Nagulacheruvu. Everyone is dependent on that tank in one or the other way. Many people have farms near Nagulacheruvu. It is the only source of water for agriculture. It is a feast to farmers and agricultural labourers when the tank is full. Children of our village learn swimming in this tank. People who wash clothes depend on tank. Now-a-days small fishes are let into the tank for breeding. Fibre plants like amaranthus, jute, flax etc., are soaked in tank water to make ropes.



Borewells were drilled and water tanks were constructed to supply water to every house. To this day, Nagulacheruvu is the only source of drinking water for birds and animals.

When the tank is full, the level of water in the wells, tubewells and check dams rise.

When the level of water in the tank decreases, people take up fishing. Some farmers grow water melon, musk melon and cucumbers. Farmers take up desiltation during summer. This mud is used in their fields because it is very fertile. Desilting helps in increasing the capacity of the tank.

### Discuss in groups



- ◆ What does a farmer do with ropes?
- ◆ Why are borewells drilled in tanks?
- ◆ What are the other uses of silt taken out from the tanks?
- ◆ Why do you feel happy when tank is full?

## 9.6. Tanks-Pollution

You have learnt about the advantages of tanks. Observe the following picture.





### Think...

- **How are tanks being polluted?**
- **What are the disadvantages of polluted tanks?**

The tanks are being polluted in different ways. The people of the village wash their clothes in the tanks. Many people don't have toilets and use tanks for this purpose. They also wash cattle. Children swim. Now-a-days people wash lorries, tractors, jeeps and autos in tanks. People immerse Ganesha idols in the tank every year. People from nearby villages are immersing Vinayaka idols in our tank for the past two years. The colours are dissolved and the water is polluted. The sewage water from the houses is let into the tank. The people who visit tank in the evenings for relaxation, throw eatables and empty covers into the tank. Such activities pollute the water and even the fish die. Once the water of this tank was used for drinking, but now it is fully polluted. Now-a-days some programmes are being taken up to control water pollution.

Last year, some people planned to establish an industry near the tank but the people of the village stood against the decision and won. Chemical effluents from industries and factories pollute underground and also tank water. Have you observed any activities harmful to tanks? What are they? Have you all done anything collectively to oppose it?

There used to be a tank in our uncle's village. I used to swim in it during my childhood. But today, we don't see that tank anymore. It is occupied by new houses. Nobody can imagine that there used to be a tank in that place earlier.

### Discuss in groups



- ◆ What will you do to prevent pollution of water in tanks?
- ◆ Why were the people against the establishment of an industry?
- ◆ Why did people build houses on tanks? What would be the consequences?
- ◆ In olden days, kings used to construct tanks. Discuss this in your classroom.



## 9.7. We and Our Tanks

I sleep on tank bund at nights during harvest season. Having lunch under the shade of trees on the bund, has become a habit. When the tank is full, people celebrate the 'Maisamma' festival and let the water out to fields. For this celebration all the people of our village donate rice, money etc. After the feast on the bund, we release the water to the fields.

During the 'Bathukamma' festival, they leave the Bathukamma's into the tank. It is a very beautiful sight. I like to watch the sunrise and sunset standing on the bund. The weather is cool any time during summer. Farmers rest under the shade of trees. Birds flying on the bunds in the sky, cattle moving in herds in the evening, cool breezes from the fields at night and fragrance from the gardens make the village life very beautiful. Plenty of lotuses and water lilies bloom in the tank. Insects and worms moving on water, fish eating insects, cranes hunting for fish are the scenes worth watching. We don't even know how the time flies by. Look at the present condition of such a tank...

### Drying of tanks - Drought

Observe the following picture:-





### Discuss in groups



- ◆ What are affected when tanks dry up due to shortage of rains? How?
- ◆ What problems do the people dependent on tanks face when the tanks dry up?

Due to environmental pollution, cutting of trees, there is a reduction in greenery. Sunrays fall directly on the earth and its atmosphere is heated up. Rains are decreasing every year. There is drought in some areas. As there are no rains and tanks are not filled, farmers are drilling borewells and drawing underground water from very deep layers. This act is causing great damage to the environment leading to drought. Already people in some villages are travelling long distances to fetch drinking water. People are depending on the water tankers supplied by the government. Why did this situation arise? Isn't this a big problem? What who has to take action and what actions can be taken?

### Think...

**If the same situation continues in future, what consequences are we likely to face? What should we do to stop this?**

## 9.8. Maintenance of tanks



Observe the picture given. This is the picture of a tank. You can see eichhornia plants, and algae in this tank. Why are the useful tanks getting polluted turning to wastes? Who should take care of tanks? What happens if care is not taken? Our future is in protecting tanks. Let us listen to what Yakub has to say about the maintenance of tanks?

"My name is Yakub. Our village fields are near Nagulacheruvu. Government has formed 'Agricultural Water Management Societies' for the development of tanks. In our village, our farmers elected me as the President. Every year our society takes up repairs of canals, sluice ways, outlets, etc. De-siltation is taken up in summer and that mud is spread in fields. We also check for the breaches. This tank is the only source of our livelihood. This is our tank.

The government of Telangana under the name of "Mission Kakatiya" has taken up desiltation programme all over the state to increase water storage capacity of tanks.



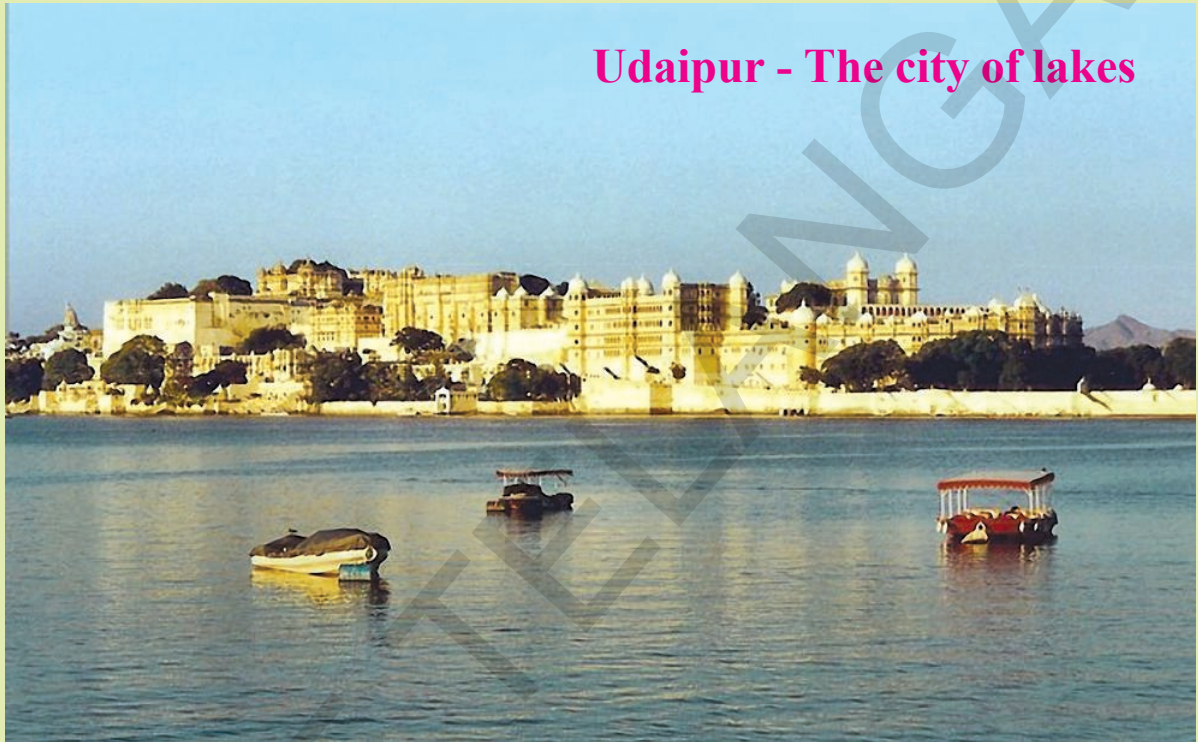


### Collect :



- ◆ Collect the details of Agricultural Water Management Societies and their activities.

### Do you know?



Udaipur - in Rajasthan is called the City of Lakes. Udaipur has many lakes, hence the name. In the ancient period, these lakes were constructed to use the water for drinking and agricultural purposes. Among all the lakes in Udaipur, the 'Pichola' lake is an important one. It was built in 1362 by the Banjaras. Later on, it was developed by King Udai Singh. All the places in Udaipur were built on the banks of these lakes. Among them, 'Jagnivas' and 'City Palace' are important.

### Key words:

- |                |                            |                              |
|----------------|----------------------------|------------------------------|
| 1. agriculture | 6. flood water             | 11. eichhornia plants        |
| 2. canal       | 7. outlets                 | 12. pollution of tanks       |
| 3. tanks       | 8. tank construction       | 13. uses of tanks            |
| 4. pond        | 9. embankment of the tanks | 14. breach in the embankment |
| 5. sluice      | 10. agricultural lands     | 15. tank management          |

## What have we learnt?

### 1. Conceptual Understanding

- Why do we need tanks?
- What purposes do we use tank water for?
- Why do we need Agricultural Water Societies?
- What crops are grown with less water in your village?
- What are the uses of having outlets for tanks?
- Who depend on tanks? How are farmers in particular depend on tanks?
- How should we conserve our tanks?

### 2. Questioning - Hypothesis

- Kavitha and her grand father, went to a tank. She asked many questions regarding the tank. What would you ask?

### 3. Experiments - Field Observations

- Visit a nearby tank with your elders and write your observations (on the bund, the tank, uses of tank etc.,)
- With the help of your teachers visit a nearby field. Observe how water is supplied to the fields. Write about it.

### 4. Information Skills, Projects

- ♦ Write about a famous tank you know in your district or state. Know about its history. Draw a diagram of the tank. For this information refer books, magazines, newspapers, internet etc.,

### 5. Communication through Mapping skills, Drawing Pictures and Making Models

- Collect the names of tanks like Ramappa, Pakala, Panagal, Hussain Sagar etc. Identify the districts and places of their location in a Telangana map.

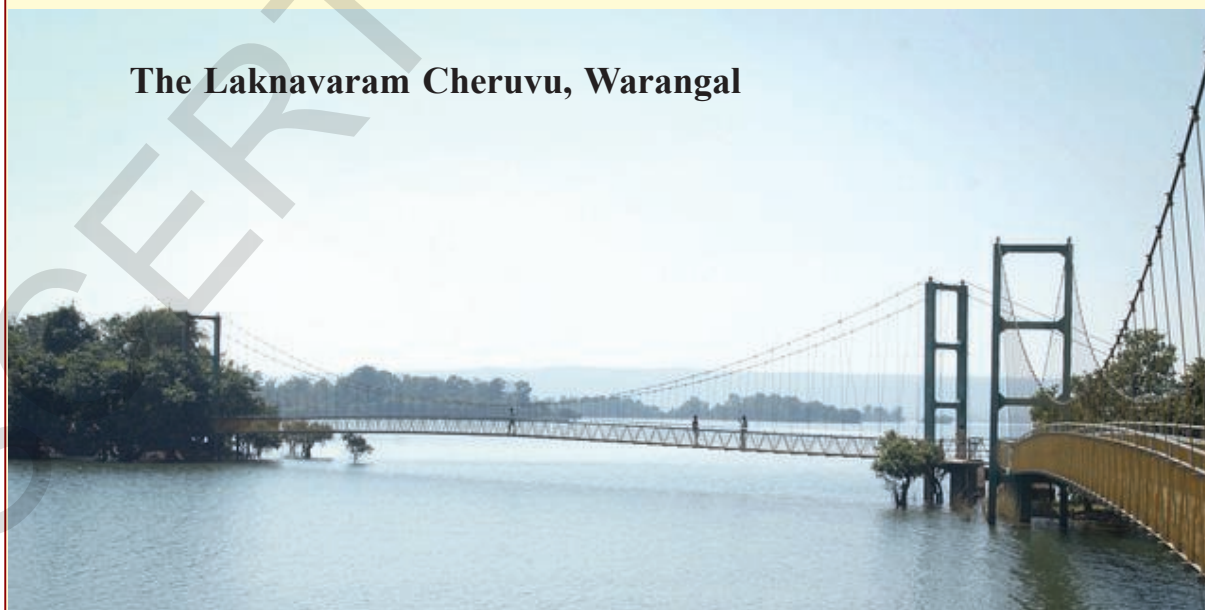
## 6. Appreciation, Values and Awareness towards Bio-diversity

- a) There was a breach in the embankment, this was repaired by the whole village collectively. How do you appreciate each person's effort? Convey it to your friend.
- b) A tank is an elixir of life for not only human beings but also birds, animals and other insects. You want to participate in a procession to protect tanks. Write some slogans on prevention of pollution and also suggest some other measures to protect them from pollution.
- c) People are building houses on tanks now a days. How is it going to affect us and animals? What should we do to stop this?

### I can do this

- |  |          |
|--|----------|
| 1. I can explain the stages of constructing a tank and its advantages. | Yes / No |
| 2. I can ask questions to know details about tanks.                    | Yes / No |
| 3. I can identify important tanks in our state map.                    | Yes / No |
| 4. I can exhibit the history of tanks.                                 | Yes / No |
| 5. I can write slogans for protection of tanks.                        | Yes / No |

**The Laknavaram Cheruvu, Warangal**







## OUR FOOD - OUR HEALTH

We need food to live. Do all of us eat the same kind of food? Do all of us eat food at the same time? How are food habits different? Think. We get food from plants and animals. Let us know more about our food in this lesson. Look at the picture given below. Say, what is going on?



### Think...

- What are different people doing?
- Why might they have gathered there?

### 10.1. Picnic (Vana Bhojanam)

Naveed, Vipin, Neeli and Deepthi are studying in fifth class. One day their families went out for picnic. They opted for an open space with trees on the banks of their village tank, as the picnic spot. The children and the elders enjoyed the picnic. They spoke to each other and played different games. They fetched dry grass and fire wood for cooking. They arranged stoves. All elders and children together cooked food with the materials they brought.

During lunch time they all sat in a circle. Children arranged the leaf plates. Some people used freshly picked leaves as plates. Hot and cooked food was served along with the different items brought from their houses. Naveed brought jowar rotis, Neeli brought chikki and sweets, Vipin got boiled horse gram, red gram and bengal grams, Deepthi shared the porridge she brought. All of them shared the food items and ate heartily. They spent the day happily. There is really no need of an occasion to go on a picnic. People can just decide and go on a picnic for fun.

### Discuss in groups



- ◆ Do you like to share your food with others? Why?
- ◆ Why do you like to go out for picnics?
- ◆ Differentiate between the food cooked at home and those cooked on a picnic?
- ◆ What occasions do we eat food together?

## 10.2. Mid Day Meals





The lunch bell rang. All the children washed their hands and plates under the tap with soap. They stood in a queue for taking mid-day meal. That day they were served rice, dal and sambar in mid-day meal. There is a different menu every day for the mid-day meal. Eating together helps children to develop friendship with other students. Children who get food from their homes, share it with others. Thus, they get to know the different food habits of others. Some children eat only rice and pickle. Some children eat with vegetables. Some others do not eat properly. They throw away rice and vegetable pieces. This is not a good practice. Some children do not get enough food at their homes and they come to school without eating. Serving mid-day meal is very essential for such children.

Many children in our country do not get enough food to eat. The children who do not get sufficient food do not grow healthy. Those who are not healthy do not show interest in studies. The Supreme Court of India has ordered that nutritional food should be served to all children in every school. From then, the Govt. of India has been serving mid-day meal to all children in government schools.

### Think...

- Who serves mid day meal/lunch to you in school?
- Do all children in your school eat mid-day meal served at school or do they bring food from home? Why?
- What is today's menu in mid-day meal in your school?
- Is sufficient food served in your school?
- Do your teachers eat along with you? Why?
- Do all children like to eat pieces of vegetables in food or do they throw them? Why?
- What food do you like to have for mid-day meals?

### Collect



List out the food items served for mid-day meal in your school in the last week. Which items do you think would be better if served as a part of the mid-day meals? Tabulate them.



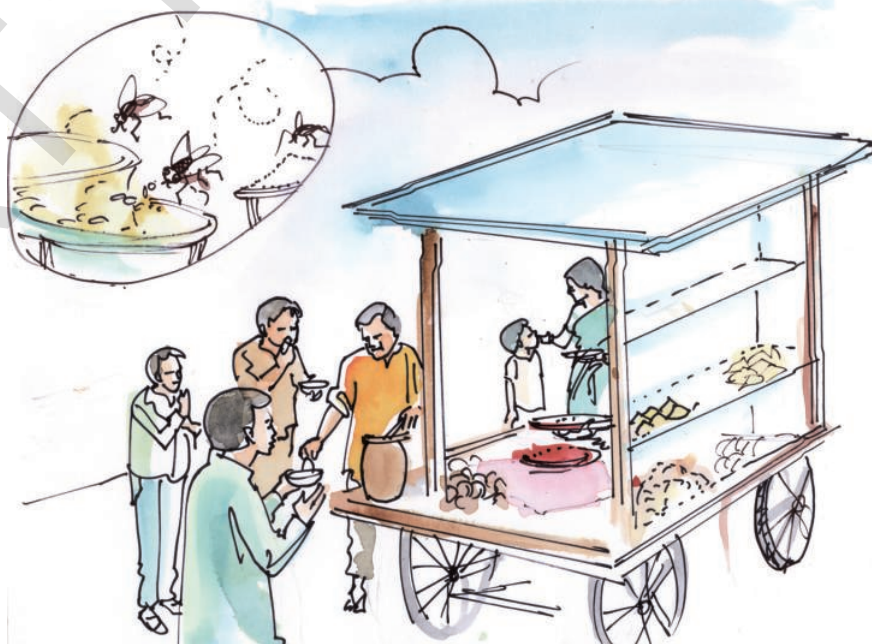


Day	Food served in mid-day meals	Did you like it or not?	What food would you like to have in mid-day meals
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			

- Which days, did you like the food? Why?
- Which days, you didn't like the food? Why?
- Do all children like mid-day meals?
- What do you do with the left overs of mid-day meals at school?

### 10.3. What kind food should we eat

How is wasting food disadvantageous? What happens if we eat stale food? Why does the food go stale? How does the food get contaminated / spoiled? Food gives us energy and helps us stay healthy. Hence, we should take proper care and measures to keep food safe. Do you know what happens if we neglect eating good food? Observe the picture given and discuss in class



### Think...

- Have you ever seen houseflies sitting on the food we eat? What are the other harmful insects seen on food?
- What are the different food items sold on the road side? What happens if the food items are not covered properly?

If the food items are not covered properly, dust, germs, flies and other harmful insects sit on the food and contaminate it. Harmful germs and micro organisms stick to the body of the flies as they live in dirty places. They contaminate the food we eat and cause harm to our health. Some hotels and road side food vendors use the same oil again and again. Oil that is heated many times is not good for health. So, we should not eat such food. We should always eat fresh and hot food. We should always prefer eating food prepared at home.

We should eat clean food. Even though the food is clean, we may fall sick if we eat with dirty hands. Hence, good food habits are a must for every one. Let us find out what good food habits you have? Read the following and tick (✓) against the one if you follow it.

### Do you follow these?

- Do you always eat fresh food?
- Do you wash your hands with soap before you eat?
- Do you wash your plates clean after eating?
- Do you cover food items with a lid?
- Do you prefer eating food made at home to road side food?
- Do you eat fresh and cheap fruits, vegetables and leafy vegetables as available seasonally?
- Do you always use dustbins to throw away garbage and not litter every where?
- Do you wash your hands thoroughly with soap and water after using toilets?
- Do you brush your teeth every morning and before going to bed? Do you massage your gums with your fingers?
- Do you rinse your mouth before and after every meal?



Every one should follow good food habits as listed above. If you are not following them everyday, then follow them compulsorily from today, without fail. When food items are stored, many kinds of micro organisms grow and spoil them.

### Do this

- Take a piece of bread and sprinkle some water on it. Keep it aside in a dark place for three to four days. Observe the changes.



### Discuss in groups



- ◆ Did you observe any spots on the piece of bread? What is the colour of the spots?
- ◆ Did you notice any change in the odour of the bread? Is it good to eat this?
- ◆ It is not good to eat such bread. Why?
- ◆ Have you noticed moulds and fungus on pickles, rotten vegetables and fresh coconut? Why do they form? Think and answer.

### Do this

- Keep the cooked food and raw food in separate vessels and observe for two days. What changes do you notice in its colour, odour etc.?

### Discuss in groups



- ◆ What are the changes seen in rice?
- ◆ What are the changes seen in dal, sambar and curries?
- ◆ What cause the changes in preserved food items?
- ◆ What changes are observed in milk and curd?
- ◆ What changes do you observe in raw fruits and vegetables?
- ◆ Which food gets spoiled quickly? Is it cooked or uncooked? Why?



Harmful micro organisms make food items poisonous. If we eat this kind of poisonous food, we fall sick. Care must be taken to keep food clean and safe from dust and harmful germs. We should always eat fresh food. We should not buy or cook food in excess. We must cook or buy only the required quantity of food and not waste and spoil it.

#### 10.4. Preservation of Food

Are all food items available to us throughout the year? Name them. How can they be preserved for a long period without spoiling?

Pickles, chutneys, jams, vadiyalu, etc., are preserved for many days. Using extra salt and drying them before storing helps in preserving them. Vegetables, meat, fish are mixed with salt and then dried in hot sun. These are used as food whenever we want to eat. They are called as "orugulu". However pickles are not good for health.

##### Information skills - project work



- ♦ Papads and vadiyalu are preserved year long. How are they prepared? Write the process of their preparation.
- ♦ How are pickles made at home? Write the steps involved in making pickles.
- ♦ List out the food items used in your home, preserved for a long time.
- ♦ Learn from your parents how fruits and vegetables can be kept fresh for two to three days..

##### Do this

- Wrap fruits, vegetables and leafy vegetables in a wet cotton cloth. Sprinkle water 4 to 5 times a day. Observe and say for how many days do they remain fresh.

#### 10.5. Let us prepare the Janata Fridge

Take two earthen or cement pots. See that one pot fits into the another. Care must be taken to have space of three to four centimeters between them. Fill the large earthen pot with a thick layer of sand for about two to three centimeters. Fix the small earthen pot into it. Now fill the empty space between the pots with sand, sprinkle water on the sand in order to wet it. Keep the fruits and vegetables in the inner pot.



Cover it with wet gunny bag or a thick cotton cloth. Sprinkle water for 3-4 times per day. Fruits and vegetables remain fresh and unspoil. This is called "Janata Fridge" or "Poor man's fridge" as it is eco-friendly.



Observe the above pictures.

### Discuss in groups



- ◆ Why do vegetables remain fresh in Janata Fridge?
- ◆ What other items can be preserved in Janata Fridge?
- ◆ Which is a natural fridge, Janata fridge or an electronic fridge?
- ◆ What are the difficulties faced in our house due to the usage of electronic fridge?
- ◆ Which is cheaper, Janata fridge or refrigerator?
- ◆ Which is available to many people, a Janata fridge or refrigerator?

Food materials are stored in different ways. Generally, we preserve food items in cool places or refrigerators (fridge). Storing in a fridge is expensive. It consumes electricity. Care should be taken to save electricity while using refrigerators. We should not open the fridge often as shown in the figure. we should close the door immediately after use.

While buying a fridge, see that a 5 star power saving symbol is marked on it. This 5 star fridge will consume less electricity and thus save power.

## 10.6. Wastage of Food



As shown in the picture a lot of food is wasted on occasions like weddings, parties and functions. Read the questions given below and discuss with your friends.

### Discuss in groups



- ◆ What are the various special dishes prepared and served during weddings and functions?
- ◆ Is food wasted in parties? Why is food wasted? How is it disadvantageous?
- ◆ What plastic items are used in parties?
- ◆ What can be done to avoid the wastage of food?
- ◆ In olden days, people used to eat food in banana or lotus leaves. Now-a-days this use has reduced. Why?
- ◆ What are the disadvantages throwing away food, using plastic plates and tumblers?



On occasions like weddings, festivals and fairs eating food together is common. We get to meet new friends on such occasions. People who rarely meet others get a chance to do so that day. They talk about a lot many things. People share their joys and sorrows with each other. The bonding gets stronger.

On occasions like marriages and parties many special dishes are cooked and served. At parties, some people serve themselves more than the required quantity and some more people serve all varieties at a time and waste it. One can observe a lot of wastage of food at such times. Drinking water is wasted for washing hands. Plastic plates and tumblers are being used during picnics and functions. Though in minute quantity, some plastic enters our body, which is very harmful for us. The plastic takes lakhs of years to decompose and thus adds to soil pollution. It even block the micro organisms which make soil fertile. Plastic glasses and plates when burnt release harmful gases into the atmosphere and thus cause air pollution.

### Think...

- What other thing can be used instead of plastic tumblers and plates?
- What can be done to avoid wastage of food and water during marriages and parties?



Leaves of Butea(moduga) and banyan tree are used as plates. Since ancient times, we have been using leaf plates for eating. They decompose in less time. Thus, they protect our environment. Plastic plates are harmful to health and also lead to soil pollution.

### Think...

- Have you ever seen leaf plates? Where did you see them?
- What they made of?

## 10.7. Wastage of Food at Home:

You have seen how food is wasted in functions. Is food wasted at home too? Let us see.

If food is cooked in excess then it goes waste. Left-over food is thrown as waste. Some people spill food while eating and some waste food without eating completely.

Food grains like rice, wheat, pulses like grams and oilseeds like ground nuts are attacked by insects and fungi, causing decay and damage to them. Hence to avoid this, neem leaves are placed in the storage bags and huge bins. Rats also spoil the stored food grains. Ants make the sugar and jaggery unusable.

Have you ever felt bad while throwing away food and spoilt food grains? If yes. why did you feel so?

Do you know how do we get the food we eat?

### Discuss in groups



- ◆ Where do we buy groceries like rice, dal and other items?
- ◆ Where do we buy vegetables? Who cultivates them?
- ◆ Where do fruits, vegetables and food grains to the market come from?
- ◆ Name the different people who help us in growing the different food grains.



Observe the pictures given below. We get rice from paddy. Observe the people who work for us in obtaining rice from paddy.



**Making agricultural tools and implements**



**Watering crops**



**Harvesting the crop and storing in bags**



**Selling the crop at the market**



**Buying food grains at a grocery shop**



**Eating food obtained with the efforts and labour of different people**



The food we eat is the result of effort and labour of different people like farmers, agriculturalists, agricultural labourers etc. With the combined effort of different people, we get many types of grains, fruits, vegetables and other food materials. Farmers and agricultural labourers till the soil, sow the seeds, harvest the crops and put lots efforts to make food items available to us at our doorstep. After learning about the hard work and labour behind the production of food, one should not waste it. Use food wisely and eat completely. Care must be taken in storing the grains as insects and ants may spoil them. We must follow safe and protective practices to protect food from rats. Cooking food in excess, throwing away left-over food, should be avoided.

**Key words :**

- |                      |                            |                 |
|----------------------|----------------------------|-----------------|
| 1. eating together   | 5. labourers               | 9. farmers      |
| 2. wastage           | 6. agriculturalists        | 10. food grains |
| 3. worms and insects | 7. agricultural labourers  | 11. efforts     |
| 4. micro organisms   | 8. agricultural implements | 12. environment |

**What have we learnt?**

**1. Conceptual Understanding**

- Name some occasions where people eat food together.
- Why should we not use plastic plates and glasses?
- What are good eating habits? Write them.
- Write about your healthy habits.
- What occasions do food gets wasted?
- Why should we not waste food?
- Name the people who are involved in the production of the food we eat.
- Write how different food items are stored.

**2. Questioning - Hypothesis**

- Kavitha questioned the Principal of the school on how to improve the quality of mid-day meals served at school. If you were Kavitha what questions would you like to ask the Principal?
- What are the reasons for the spoiling of food? What measures are to be taken for keeping food safe and clean?

### 3. Experiments - Field Observations

- a) What are the steps involved in making leaf plates. List them in an order.
- b) Wrap some vegetables in a wet cloth, keep some in open and store some in Janata fridge. Observe them after three days. What happened? List your observations. Which vegetables remain fresh?

### 4. Information Skills, Projects

- a) Visit a place where a function or party is being organised? Write how the food is wasted and what type of garbage is produced from there. Tabulate the rules to be followed to avoid the wastage of food and reduction of garbage.

### 5. Communication through Mapping Skills, Drawing Pictures and Making Models

- a) Prepare a Janata fridge using earthen pots. Display it in your class room.
- b) Collect the different types of leaves used in preparation of leaf plates. Prepare leaf plates and display in the class room.
- c) Draw the Janata fridge

### 6. Appreciation, Values and Awareness towards Bio-diversity

- a) There is a lot of effort by different people in producing the food we eat. Write few lines appreciating their labour and efforts.
- b) Write how did you feel while eating together?
- c) What measures are to be taken for prevention of rotting of food and wastage of food at your home?
- d) List the healthy habits you follow daily.

#### I can do this

- |   |          |
|---|----------|
| 1. I can explain about the wastage of food, measures to be taken for preventing wastage of food and good food habits. | Yes / No |
| 2. I can ask my Principal about mid-day meal served.  | Yes / No |
| 3. I can explain the process of preservation of fruits and vegetables through an experiment.                          | Yes / No |
| 4. I can explain the efforts of different people behind the food we eat.  | Yes / No |



## FROM VILLAGE TO DELHI

Ravi Prakash was very happy. His drawing titled "Villagers travelling on a Bullock Cart" won a prize. He was going to Delhi with his uncle Venugopal to receive the prize in a programme to be held on Children's Day. He has to leave his village Tandoor for Delhi on the 10<sup>th</sup> of November.

### 11.1. Travelling by Bus:

It was Ravi Prakash's first visit to Hyderabad. A bus leaving for Hyderabad was at the bus stand. "Shall we go in that bus uncle"? asked Ravi Prakash. Venugopal said, "this is an ordinary bus." It is also called Palle Velugu.' We will go in an Express. "Why not in this bus"?, asked Ravi Prakash. Why did Venugopal say that they would go only in an Express bus?



### Discuss in groups



- ◆ Write the differences between an ordinary and an Express bus.
- ◆ Find out and write about the other types of buses.
- ◆ What are the details seen on a bus ticket?

### Do you know?

Now-a-days tickets are being issued by machines. This is called 'TIMS' (Ticket Issuing Machine System). The problem of tearing and punching of tickets is not there.





### 11.1.1. Problem of change

The bus stopped at a station. Many people alighted (got down) and some people boarded the bus one of the passengers gave Rs.500 to the conductor for the ticket. The conductor asked for change, he said that he didn't have any change. Ravi Prakash read the notice written in the bus about change. You too read that notice.

**Tender exact change for the ticket and cooperate with the conductor.**

#### Think...

- Why should we carry exact change with us?
- What are the other instructions written in the bus? See and write them in your note book

#### Do you know?

TSRTC run buses in our state. Different types of buses like "Palle Velugu", Express, Deluxe, Luxury, Semi Luxury, Super Luxury, Garuda and Indra are run by TSRTC. Reservation facility is available to book the tickets in advance. To travel in the bus, online booking facility is also available. 10% concession is given to the people having Vanitha and Navya CAT Cards. Challenged persons can also avail the concession.

It was amusing to look out of the window, when the bus was moving. Even the trees seemed to move. At the next stop, two officials checked the tickets of all the people in the bus.

#### Think...

- Were you ever checked while you were travelling?
- What happens if you travel without a ticket?
- What other things should not be done while travelling by bus?

#### Do you know?

Travelling without a ticket is a crime. A fine of Rs.500 or six months imprisonment or both may be levied.

The officials got down after checking for tickets, the bus started again. Ravi Prakash kept his hands out of the window. The conductor saw this and asked Ravi not to keep his hands out.

### 11.1.2. Traffic signals



The bus stopped at the Hyderabad bus station. Ravi Prakash and Venu Gopal took an auto to Secunderabad railway station. Ravi Prakash observed that the auto stopped at red light, started at yellow light and moved forward at green light. He also observed that the people crossed the road only on the white lines drawn on the

road. Venu Gopal said that these lines are called zebra crossing and people cross the road at zebra crossing. He noticed that a police man in white uniform helped the people. Auto slowed down at certain places due to speed breakers.



### Discuss in groups



- ◆ What happens if there are no traffic signals?
- ◆ Why are there no traffic signals in villages?
- ◆ Why do traffic jams occur?
- ◆ What rules should be followed while going on the road ?



### Think

Observe the pictures. What could happen if you travel like this. What rules should be followed?



### Rules to be followed while riding/driving vehicles.

- Do not use mobile / cell phone while driving.
- Wear helmet while riding a two wheeler.
- While travelling in a car, the driver and the persons sitting in the car should wear seat belt.
- While driving we should not listen to music through ear phones.
- The number of passengers should not exceed the vehicle's capacity.
- Do not overtake the vehicle in front without indicating the signal.
- Do not turn left or right without indicating to the vehicles behind.
- Follow road rules. Travel in accordance with the signals.
- We should drive the vehicle within the speed limits to avoid accidents.

### Think...

**Imagine and write the situation at city junctions if there are no traffic signals.**

People who use vehicles and the pedestrians should necessarily follow road rules. This way we can avoid accidents. School-going children or small children should hold hands of the elders while crossing the road. When vehicles are on the move, we should not cross the road. We should cross the road only at a zebra crossing. If necessary, we should take the help of the traffic police.

## 11.2. Train Journey



They reached Secunderabad railway station to go to Delhi. For the first time Ravi Prakash was travelling by train so, he observed the surroundings of the railway station curiously. They heard an announcement after half an hour of reaching the railway station that the train to Delhi was arriving on the platform.





When the train arrived at the platform, they checked their coach number and went to their seat. Two boys and a girl older to him were sitting in the opposite berth.

The train started a little later. A person wearing a black coat came to them. Ravi Prakash understood that he was the ticket collector, because the people began showing him their tickets.

Venu Gopal also showed him the tickets. Ravi Prakash saw his uncle taking the tickets in bus but he did not see his uncle taking train tickets. So, asked his uncle the same. Venu Gopal explained how he had booked the tickets in advance. He showed the tickets to Ravi Prakash.

शुभ यात्रा				HAPPY JOURNEY			
पी एन आर नं. PNR NO.	गाड़ी नं. TRAIN NO.	तिथि DATE	कि.मी. K.M.	वयस्क ADULT	बच्चे CHILD	टिकट नं. TICKET NO.	
213-7918620	12650	24-11-2012	1666	4	2	A 18275476	
बेगी CLASS	JOURNEY CUM RESERVATION TICKET (BB) PRS-SC						से.आर.कॉल
श्रेणी H. निजामुद्दीन कावेगुडा	कर्नाटक संप्रकाश						
श्रेणी H NIZAMUDDIN KACHEGUDA	तक आरक्षण / RESV. UP TO 167						
कोच COACH	सीट/बर्थ SEAT/BERTH	लिंग SEX	आयु AGE	यात्रा प्राधिकार T.AUTHORITY	रिवाज CONC	आ.शु. R.FEE	रा.प्र. S.CH.
58	37 MB	M	40			180	120
58	38 UB	M	5			Rs. TWO TWO SIX SIX ONLY	
58	40 SU	M	60		SRCTZN		
58	41 LB	M	40				
58	42 MB	F	36				
58	43 UB	M	6				
KTK SHFRK K EXP BRD H NIZAMUDDIN				SCH DEP 24-11 06:45 AFR 25-11 07:05			
167 09-08-2012 17:48 HYB 209 VIA TKD -AGC -BPL -HOP							

### Discuss in groups

- ◆ Differentiate a bus ticket from a train ticket.

There are rail routes connecting all the states in our country. The trains in our state are run by the South Central Railways. Like we have names, the trains also have names just like Telangana Express, Kakatiya Express, Singareni Express, Bangalore Express, Inter City Express, Rajadhani, Sampark Kranthi Express, Tungabhadra Express. We can book tickets in advance, through online. We can book tickets also through 'tatkal'. Senior citizens and differently abled persons are given concession.

### 11.2.1. Types of Clothes - Languages

Ravi Prakash observed his co-passengers. They wore different types of dresses. He had never seen some of those dresses before. They were speaking various languages. People in the train were more different in terms of their dressing and language than the people in the bus.

Ravi Prakash heard the announcement in different languages in each station. In every station the train stopped and he noticed that the name of the railway station was written in different languages. He saw the instructions in the train were also written in different languages.

#### Think...

**In which languages are the announcements made in a railway station? Why?**  
**Why are the instructions written in different languages?**

### 11.2.2. Food in the train

The food came when the train had crossed Nagpur in Maharashtra. Raviprakash couldn't understand where the food had come into the train from. When he asked his uncle, he said that the food was prepared in one of the bogies of the train. He also said that the food is supplied to the people who pay in advance. Ravi Prakash did not like the food.



Raviprakash observed the toilets when he moved to wash basin for washing his hands after he had the food. He thought that there are many facilities in the train. The train stopped in Bhopal for a long time.

Ravi observed that a variety of foods were sold on the platform. They bought fruits and groundnuts and ate. He put the garbage in a cover and dropped it in the dustbin on the platform.

#### Discuss in groups



- ◆ Why didn't Ravi Prakash like the food?
- ◆ What food items do you like to have while travelling?
- ◆ What do you eat when you travel?
- ◆ Do you take your own food while travelling? Why?

Venu Gopal told Ravi Prakash that trains reflect national integration as they run through different states, introduces people of different cultures and languages.

### 11.2.3. Cleanliness in Trains

The train was moving, some people in the train were eating groundnuts and some others were eating bananas and sweet limes. They were throwing the peels of the fruits in the train. Ravi did not like it. He thought why don't they put the peels in the dust bin in the bogie?

#### Discuss in groups



- ◆ What should we do with peels of the fruit and garbage in the train? Where should we throw them?
- ◆ What happens if we wash our hands through the window while travelling in the train?
- ◆ What happens if you don't flush the toilet properly after use?
- ◆ It is said that we should not use toilets when the train is not moving? Why?

### 11.2.4. Railway signals



"When a train passes through a level crossing the gates are closed on both sides" said Anita. Anita also told that the gates would be opened and the vehicles would be allowed after the train had left. Green light was on and the train moved.

Next morning, Venu Gopal introduced Ravi to the girl sitting next to them. Her name was Anita. She said that she too was going to the same programme in Delhi. The train stopped at a place for a long time. "Why has train stopped?" asked Ravi Prakash. "The red light is on" said Anita. "Do the trains have signals?" asked Ravi Prakash.

#### Think..

- Why do trains have signals?
- Why do they close the railway gate?



### Discuss in Groups



- ◆ Why should we not cross the track when the railway gate is closed? What precautions should be taken?
- ◆ Why shouldn't we stand at the door of the train?
- ◆ What other precautions should be taken while on a train journey?
- ◆ Why should we carry less luggage while travelling?
- ◆ What facility is there to stop the train in case of an emergency?

Standing near the door causes inconvenience to the passengers boarding and alighting. One may fall on the railway track if slipped. The train travelled through different places throughout the day. Hills, forests, rivers, fields, bridges, tunnels, barren lands and sandy soils were seen through the window.

Another day was passed in the journey. "We reached Delhi," said Venu Gopal. Ravi received the prize in the Children's Day celebrations. They were permitted to travel by a plane while returning. They were happy to travel by plane.

*What did Ravi Prakash say about the plane journey?*



### Key words :

- |                     |                        |                          |
|---------------------|------------------------|--------------------------|
| 1. bus journey      | 4. train journey       | 7. cleanliness in trains |
| 2. tickets checking | 5. railway platform    | 8. railway signals       |
| 3. traffic signals  | 6. train coach, berths | 9. railway gate          |

## What have we learnt?

### 1. Conceptual Understanding

- What precautions should we take while on a journey?
- What are the instructions written in a bus?
- We should not cross the track when the railway gate is closed. Why?
- What are the rules to be followed while driving vehicles?
- Differentiate journey by a bus from that of a train.
- Why do people prefer to travel by trains to go to far off places?
- What happens if there is no signal system?

### 2. Questioning - Hypotheses

- There are enquiry counters in railway stations and bus stations. We can know details of a journey from them. What questions would you ask to know about a train journey to Delhi.

### 3. Experiments - Field Observations

- Visit a nearby bus stand / railway stations and observe. Write down your observations-whether the -name of the station, toilets and urinals are available? Whether facilities are available to the passengers are adequate? Whether there are boards with details of arrivals and departures?

### 4. Information Skills, Projects

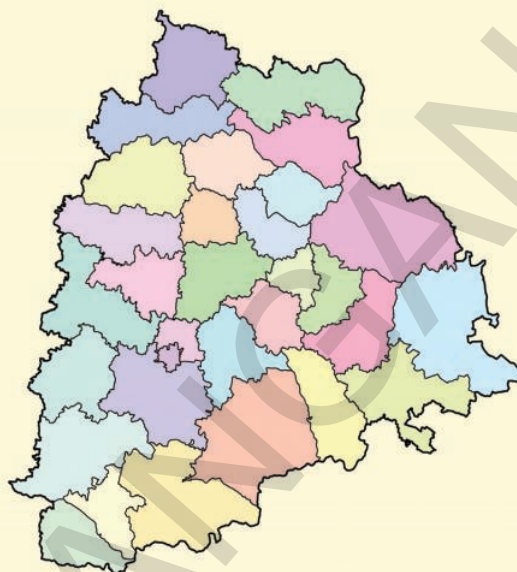
- Look at the newspaper. Collect the details like the names of trains, destination, time of arrival and departure and also the place to which you can travel from the nearest railway station.

Names of the train	Place of departure	Destination station	Time of arrival	Time of departure

- Take a Railway Reservation form, fill it up and show it to your teacher.

## 5. Expression of ideas through Mapping Skills, Drawing Pictures and Making Models

- Point out the important railway junctions of our state on a map of Telangana.
- Prepare models of trains / bus with paper and card board and display in your class.
- Look at the map of India and talk about the cities you would have to cross if you travel in a bus or a train from your village/city to Delhi.



## 6. Appreciation, Values and Awareness towards Bio-diversity

- What precautions do you take while travelling?
- You have travelled in a train, what precautions would you suggest to your friends based on your experience?
- We should behave as a responsible passenger in a train and maintain cleanliness. What would you do for this?
- How should we behave with our co-passengers while travelling? How do you help senior citizens, women and children younger to you?

### I can do this

- |   |          |
|---|----------|
| 1. I can explain the details of train and bus journey and precautions to be taken while on a journey. | Yes / No |
| 2. I can ask questions to know the details of a journey.  | Yes / No |
| 3. I can observe and write down the details of the facilities in a bus / railway station.             | Yes / No |
| 4. I can make a table with the details of trains, their arrivals and departures.                      | Yes / No |
| 5. I can identify the railway stations on a map of the state map.                                     | Yes / No |
| 6. I can behave with responsibly and help co-passengers.  | Yes / No |



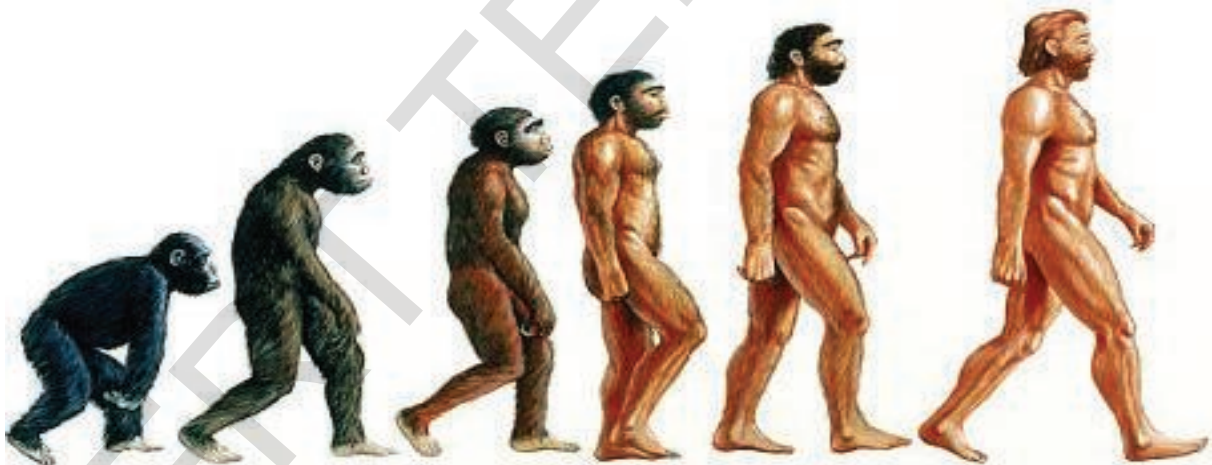


We have learnt about family history in class III. How do we know about the grandfather and the great grandfather in a family? We can know about our family history from elders of our family. Family history includes the members of the family, reputation of the family, their place of living, types of houses they lived in, types of clothes they wore, types of food they ate and many other things.

In a similar way, every village has history. How did the village get its name? What are the special features of that village? How was the village in the past? We come to know about such things from our elders. History tells us about the things that happened in the past.

## 12.1. Ancient History

Ancient history tells how modern man evolved from primitive man (changed gradually). Observe the picture showing human evolution.



### Think...

- How do you feel looking at the picture?
- What are the differences between the primitive man and the modern man?

The Primitive man led a life of a wanderer. They lived in caves and the burrows of trees. They hunted animals and ate raw flesh. After the discovery of fire, they gradually learnt to cook meat and eat it. They reared animals. Later they started agriculture. Thus, they have transformed from the state of collecting food to producing food.

They prepared earthen vessels and cooked food in them. They used them to store things, and also decorated them beautifully. After that they invented the wheel which led to many changes in human life.

## 12.2. Indian History

Just like a family and a village, India too has its own history. History lets us know many events that happened in the past and the changes that occurred in the lifestyle of people. Then, how to know about history?

The Department of Archaeology carries out many excavations to know about our past. Sir John Marshall of Britain carried out excavations near river Indus in 1921-22. Due to these excavations, the Indus (Harappan) Civilization came to light. The Indus Valley Civilization was an urban civilization. Cities were built in a planned manner. Big buildings and streets were constructed in an organised manner. Agriculture was the main occupation of the Harappan people. Wheat, paddy and barley were their chief crops. They used metals like copper, bronze, lead and aluminium to make different articles. They traded with West Asia and Egypt. "Lothal" was their important port city. They worshipped 'Lord Pashupathi' and 'Mother Goddess.' They had a pictorial script.

### Think...

- **Why did the civilizations flourish only on the banks of the rivers? Discuss and write.**
- **Compare Indus valley civilization with the present day civilization.**

Excavations, monuments, inscriptions, museums and books help us to know more about the Indian history. Places where the remains of ancient period are preserved are called Historical Museums. The Salarjung Museum in Hyderabad is one among them. The tribal museum in Srisailem helps us to know about tribal traditions and culture. Thus, museums help us to know about our tradition, culture and also heritage. We can also know about our past from old manuscripts.



**The Salarjung Museum in Hyderabad**

### Discuss in groups



- ◆ What are the things we find in the museum?
- ◆ If museum is established in your village, what would you like to store ?
- ◆ What are the sources of knowing our history ?
- ◆ What is history? How can we know the life styles of our ancestors?

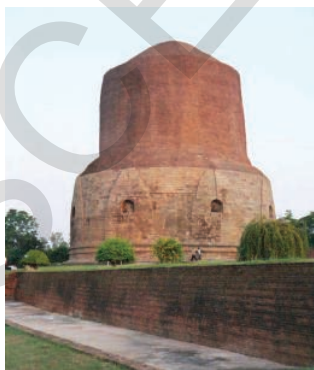
## 12.3. Culture

The clothes we wear, the language we speak, the festivals we celebrate, the crops we grow, the food we eat, the games we play, the songs we sing reveals our culture. They are the symbols of culture. When visit a new place, we observe that the language, food habits etc. are not similar to ours. It is their culture.

Our culture reflects in our lifestyles, thoughts, daily works, art, literature, entertainment etc. Respecting elders, helping others, showing gratitude to people who help, praying and worshipping the god etc. are also a part of culture. We respect nature by worshipping trees, birds, animals, land, air, water and fire. Having a culture that gives importance to biodiversity showing that all living creatures are equal is a matter of pride for our country. The Indian culture has a special place, recognition and respect in the world. The temples and monuments with wonderful sculpture, music, dance, paintings, puranas, ithihasas are a part of our cultural heritage. We should protect our culture for our future generations.

## 12.4. Monuments that reflect Indian History.

There are many ancient inscriptions, temples, monuments, stupas, forts which reflect our country's history and culture. We can understand history better by visiting and collecting the details about them. Let us have a look at some such monuments of our country.



### The Saranath Stupa

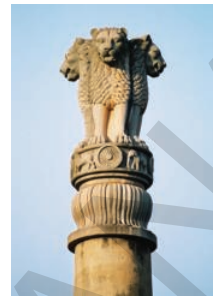
The Saranath Stupa was built by Emperor Ashoka. The dome shaped construction made of bricks and stones is called a Stupa. This Stupa in Saranath is near Varanasi in Uttarpradesh. This is a very ancient monument.





### The Askoka's Pillar at Saranath

It is a standing stone pillar made up of sand stone obtained from 'Chunar' near Varanasi. Four lions are engraved on four sides of the pillar. You might have observed this on our coins. Rajasthani style of sculpture is seen in this smooth pillar.



### The Telangana Martyr Stupa

The Stupa is in front of the State Assembly in Hyderabad. It was built in memory of the people who laid down their lives during 1969 Telangana movement. This stupa always reminds the spirit of Telangana movement.

### The Qutub Minar

The Qutub Minar is situated in our country's capital city, Delhi. Its construction was started by Qutubuddin Aibak and was completed by Iltutmish. Its height is about 72.5 meters.



### The Red Fort

The Red fort is in our country's capital, Delhi. National flag is hoisted here on the Independence day. It is built with red stone. A mix of Persian and Indian style is clearly observed in its architecture.



### The Charminar

The Charminar is in the city of Hyderabad in Telangana. It is about 58 meters high, there are four minarets on its four corners. It was constructed in the year 1591.

### The Thousand Pillars Temple

The thousand pillars temple is in Warangal city of our state. This temple of Lord Shiva belongs to the Kakatiya period. It is a place of beautiful sculptures.



### Discuss in group



- ◆ What can we learn from the important monuments?
- ◆ Read and collect more details about them from books and discuss.

## 12.5. Some Important Personalities in Indian History

### The Emperor Ashoka

Ashoka was the grandson of Chandragupta Maurya, the founder of the Mauryan Empire. He was one of the greatest rulers. Distressed with the Kalinga war, he adopted Buddhism. He worked for the spread of Buddhism by preaching non-violence. 'Dharmachakra' which is in the centre of our National Flag, is taken from the Saranath Stupa, built by Ashoka.



*Ashoka*



**Chandragupta Vikramaditya**

### Chandragupta Vikramaditya

Srigupta established the Gupta empire in 320 A.D. Chandragupta Vikramaditya was the most popular king in the Gupta dynasty. There were nine poets called 'Navaratnas' in his court. Kalidasa was the greatest among them. The world famous Ellora caves belong to Gupta period. Sculptures and paintings were developed to a great extent during the Gupta period.

### Ganapatideva and Rudramadevi

Ganapatideva and his daughter Rudrama Devi were famous among the Kakatiyas. They united the Telugu speaking people. The Warangal Fort, the Thousand Pillars Temple, the Ramappa Temple and tanks like Pakala and Ramappa were built during Kakatiya period.



*Rudrama Devi*







*Sri Krishna Devaraya*

### Sri Krishna Devaraya

Sri Krishna Devaraya was the most famous among the Vijayanagara kings. He ruled the Vijayanagara Kingdom from 1509 to 1529. There were eight poets called "Ashtadiggajas" in his court. He was a poet himself. He wrote 'Amuktamalyada'. He was the one who said that Telugu was the best among all the languages of our country. Find out the names of Ashtadiggajas and their writings.

### Akbar

Akbar was the most famous Mughal Emperor who ruled India. Though he was a Mohammedan, he was tolerant towards other religions also. He was a great administrator.



*Akbar*



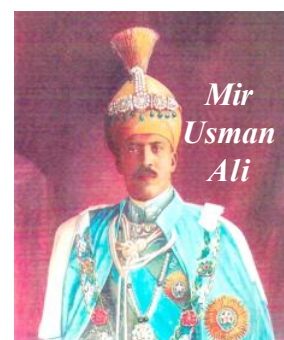
*Chatrapati Shivaji*

### Shivaji

Shivaji was a brave man who revolted against the Mughals and established the Maratha Kingdom. Even though, he was a follower of Hinduism, he was tolerant towards other religions and earned a good name. Samarth Ramadas was Shivaji's guru. Saint Tukaram was a great saint of his period.

### Mir Usman Ali Khan

Hyderabad was ruled by the Nizam dynasty. They were Mohammedans and spoke Deccani Urdu. But most of the people of Hyderabad State were Hindus. They spoke Telugu, Kannada and Marathi.



*Mir  
Usman  
Ali*

Mir Usman Ali Khan, the last ruler of Nizams developed agriculture and industries under the influence of the British and also established educational institutions. During his rule major projects such as the Nizam Sagar and the Ali Sagar were constructed. The Osman Sagar project was constructed in 1920 on the river Musi to provide drinking water for the people of Hyderabad.



### Discuss in groups



- ◆ You have learnt about some of the important people of our country. What is their greatness?
- ◆ What should we learn from them?

### Key words :

- |                  |                      |                        |
|------------------|----------------------|------------------------|
| 1. history       | 4. life style        | 7. empire              |
| 2. culture       | 5. civilization      | 8. rulers              |
| 3. primitive man | 6. country's culture | 9. religious tolerance |

### What have we learnt?

#### 1. Conceptual Understanding

- a) What are the similarities and differences between the lifestyles of primitive man and modern man?
- b) What are the sources to know more about the Indian History?
- c) We should protect our country's monuments. Why?
- d) Tell about some of the important people of our country and state. Why are they great?

#### 2. Questioning - Hypotheses

- ◆ You can know historical details when you visit a monument or a fort. What questions do you ask the relevant persons in this regard?

#### 3. Experiments - Field Observations

- ◆ What are the elements that reveal your village history? Visit, observe and explain the details.

#### 4. Information Skills, Projects

- a) Based on the lesson, prepare a table showing the details of important monuments and persons of our country.
- b) Collect more details about the Kakatiyas and exhibit them in the class room.

## 5. Expression of ideas through Mapping Skills, Drawing Pictures and Making Models

- You have learnt about some of the important monuments in the lesson. Identify them in the Indian map.
- The Kakatiyas and the Satavahanas of our region are some of the important personalities of our country. Identify the places belonging to them in the map of Telangana State.

## 6. Appreciation, Values and Awareness towards Bio-diversity

- What can we do to protect the monuments?
- How can you say that our country's culture is great?
- What elements of our culture do you like? What do you do to protect them?
- Perform mono-action to depict any one of the famous personalities of our country.

### Can I do this

- |  |        |
|--|--------|
| 1. I can explain about our country's history and culture.                    | Yes/No |
| 2. I can ask necessary questions to know more about our country's history.   | Yes/No |
| 3. I can collect the details about the history of a village.                 | Yes/No |
| 4. I can write the details of important persons in the form of a table.      | Yes/No |
| 5. I can identify / point out the monuments and important places in the map. | Yes/No |
| 6. I can strive to protect the monuments of our country.                     | Yes/No |

