Kasturba Gandhi Balika Vidyalaya

Bridge Course

for Girls Entering Upper Primary Stage

SCIENCE

Department of Women's Studies

विद्यया ऽमृतमश्नुते

एन सी ई आर टी
NCERT

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

First Edition
December 2013 Agrahayana 1935

Reprinted
January 2021 Pausha 1942

PD 7T RPS

₹ 85.00

Printed on 80 GSM paper

Published at the Publication Division by the Secretary, National Council of Educational Research and Training, Sri Aurobindo Marg, New Delhi 110 016 and printed at Vijayalakshmi Printing Works Pvt. Ltd., B-117, Sector-5, Noida 201 301 (U.P.)

ISBN 978-93-5007-273-8

OFFICES OF THE PUBLICATION DIVISION, NCERT

NCERT Campus
Sri Aurobindo Marg
New Delhi 110 016 **Phone : 011-26562708**

108, 100 Feet Road
Hosdakere Halli Extension
Banashankari III Stage
Bengaluru 560 085 **Phone : 080-26725740**

Navjivan Trust Building
P.O.Navjivan
Ahmedabad 380 014 **Phone : 079-27541446**

CWC Campus
Opp. Dhankal Bus Stop
Panihati
Kolkata 700 114 **Phone : 033-25530454**

CWC Complex
Maligaon
Guwahati 781 021 **Phone : 0361-2674869**

Publication Team

Head, Publication Division : *Anup Kumar Rajput*

Chief Editor : *Shveta Uppal*

Chief Production Officer : *Arun Chitkara*

Chief Business Manager (In charge) : *Vipin Dewan*

Assistant Editor : *Hemant Kumar*

Production Assistant : *Sunil Kumar*

Cover, Layout Design and Illustrations

Blue Fish

Foreword

National Curriculum Framework 2005 states that a critical function of education for equality is to enable all learners to claim their rights as well as to contribute to society and the polity. We need to recognise that rights and choices in themselves cannot be exercised until central human capabilities are fulfilled. Thus, in order to make it possible for all learners from different socio-economic backgrounds, especially girls, to claim their rights as well as play an active role in shaping collective life, education must empower them to overcome the disadvantages of unequal socialisation and enable them to develop their capabilities of becoming equal citizens.

Reaching out to the girl child has been central to the efforts of Universalising Elementary Education (UEE). The *Sarva Shiksha Abhiyan*, a national flagship programme for UEE recognises the need for special efforts to bring girls, especially from disadvantaged groups, to schools, and to bridge gender disparities in education at the elementary level. This programme specially focuses on bridging gender disparities in education at the elementary level. In this regard the Ministry of Human Resource Development instituted the Kasturba Gandhi Balika Vidyalaya (KGBV) scheme, an innovative and promising initiative that attempts at the addressing baggage of social, cultural and economic deprivation faced by girls from deprived and disadvantaged sections of rural society. Introduced as a scheme in 2004 it became a part of SSA in 2007. Currently it is operational in twenty-four states and one union territory.

A National Consultation on KGBV was organised by NCERT from 11-12 August 2008 to share experience generated by the KGBV scheme over the last few years. This consultation brought together scholars in the field. The consultation strongly recommended development of Bridge Course for girls entering in KGBV and Customised Teacher Training Package for upgrading the skills of KGBV teachers. Under this backdrop Department of Women's Studies took initiative for developing Bridge Course and Teacher Training package based on NCF-2005, in collaboration with other Curricular Departments of NIE, RIEs, University Departments, DIETs of Delhi, NGOs and practicing school teachers including teachers of KGBV. This material has been developed in the content areas of Science, Maths, History, Geography and Languages — English and Hindi and is based on NCERT textbooks at elementary level.

The Bridge Course is pioneering initiative made by NCERT in addressing the academic needs of drop out girls who have revisited formal schools after a gap of two or more years. This course has been prepared keeping the learners contexts in mind. The pedagogical approaches woven in Bridge Courses of Science, Maths, History, Geography and Languages—English and Hindi use simple language with multiple participatory activities which can be contextualised as per the requirements of different KGBV. The Bridge Course should not be treated as yet another book but can be used for contextualising activities, preparation of worksheets, projects work etc., which would enrich their pedagogical approaches. This material can be adopted and adapted according to the needs of KGBV girl's. Additionality to this material will be a growing approach and an evolving process.

The Department of Women's Studies (DWS) could not have gone ahead with this endeavour without the direction and guidance of Professor Krishna Kumar, *former Director* NCERT. He had rightly envisioned the importance of the present Bridge Course in addressing the academic challenges of girl's of KGBV scheme.

We also gratefully acknowledge contributions of the Review Committee chaired by Dr. Sharda Jain, *Director*, **Sandhan**, Jaipur; and other members Sister Sabina, *former State Project Director*, **Mahila Samakhya Society**, Patna, Bihar; Ms. Seema Bhaskaran, *State Project Director*, **Mahila Samakhya Society**, Kerala; Ms. Amukta Mahapatra, *Director* School Scape, Chennai for their expert review and suggestions.

We are thankful to the members of Evaluation Team constituted by MHRD Ms. Sarita Mittal, *Director* EE8; Ms. Kiran Dogra, *Consultant* Gender, Ed. CIL; and Ms. Dipta Bhog, *Director*, **Nirantar** for their inputs and suggestions.

As an organisation committed to systemic reform and continuous improvement in the quality of its products, NCERT welcomes comments and suggestions which will enable us to undertake further revision and refinement.

Director
National Council of Educational
Research and Training

New Delhi
11 June 2010

Preface

The Bridge Course for Kasturba Gandhi Balika Vidyalaya (KGBV) girls has been developed keeping in view the guidance principles of National Curriculum Framework (NCF) 2005 that marks a departure from the legacy of bookish learning which continues to shape our system and cause a gap between the school, home and community. These materials developed in different subject areas viz. English, Hindi, History, Geography, Science, and Mathematics are based on the NCERT primary and upper primary textbooks. All these subjects' areas in the Bridge Course will contribute to the learning skills of KGBV girls and will prepare them for entering into the upper primary stage. There is a scope to explore and creativity in the classroom. Use of bilingual technique in English and History will take girls quite ahead in their learning and thinking skills. The flexibility in the approach and suggested activities taking the help of work sheets, teacher demonstration, anecdotes, reciting poems, crossword puzzles, experimenting, hands on skills, oral traditions and reading material across various subjects are the highlights of the Bridge Course.

Each subject area has picked up key concepts across the primary and upper primary textbooks of NCERT based on NCF-2005. Each concept has been dealt through a different kind of activity without bringing any definition and the content for rote learning. The concept or the idea has been floated through activities for the learners to understand analyse and apply in their even context. It is hoped that this material to be used as the bridge between primary and upper primary stage, will fulfill the objective. The activities are suggestive. Any alternate activity can also be carried out based on the local specific contexts. Each activity has the scope of creating similar other local-specific activities not making it necessary to stick to the materials given in this course book. Its scope will get enhanced if this creates a space for more such activities.

The Bridge Course developed in different subjects is gender inclusive. It highlights the contribution of women in different walks of life.

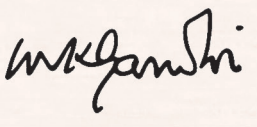
This suggestive material is an humble effort in keeping the plurality and different contexts of KGBV girls in mind, the pedagogical approaches woven in Bridge Course attempts to address the multilevel and diverse needs of KGBVs located in different socio-cultural contexts.

Gandhiji's Talisman

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

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

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



Development Committee for Bridge Course

Development Committee Members

Anjni Koul, *Assistant Professor*, Department of Education in Science and Mathematics, NCERT, New Delhi

K.K. Sharma, *Former Principal*, College Education, Ajmer (Rajasthan)

Shashi Prabha, *Assistant Professor,* Department of Education in Science and Mathematics, NCERT, New Delhi

C.V. Shimray, *Assistant Professor,* Department of Education in Science and Mathematics, NCERT, New Delhi

Member-Coordinator

Sushma Jaireth, *Former Professor,* Department of Women's Studies, NCERT, New Delhi

Acknowledgement

The National Council of Educational Research and Training (NCERT) acknowledges the valuable contribution of the individuals and organisations involved in the development of this Bridge Course.

Department of Women's Studies (DWS) could not have gone ahead with this endeavour without the direction and guidance of Professor Krishna Kumar, former Director, NCERT. Department of Women's Studies is grateful to Professor G. Ravindra, former Director, NCERT, for his constant support. We thankfully acknowledge the support of our former Head, DWS, Professor Neerja Shukla for this project.

Thanks are due to the Head, DWS, Professor Gouri Srivastava who is also the overall coordinator of the KGBV project, for her initiatives and constant support.

Special thanks are due to Suresh Chand Bhatt, TGT (EVS), Kendriya Vidyalaya, JNU, New Delhi; Puneeta Sharma, TGT (Science); L.D. Jain Senior Secondary School for Girls; Renuka Madan, TGT (Science), Air Force Golden Jubilee Institute, Subrato Park, Delhi Cantt; Alka Agrawal, Assistant Professor, DIET, Mandsaur, Madhya Pradesh; Vandana Saxena, former TGT (Science), Kendriya Vidyalaya Sangathan, New Delhi; V.B. Bhatia, former Professor, Delhi University, Delhi and Ranjana Arora, Professor, RMSA Cell, NCERT, New Delhi, Ruchi Verma, Assistant Professor, Department of Education in Science and Mathematics, NCERT, New Delhi; for their inputs during the review of this bridge course material.

Thanks are due to the KGBV teachers, the contributions of the artist Arvinder Chawla and layout designer Nidhi Wadhwa; DTP Operators Shumaila and Kamlesh Rao; Computer Operator Amit are duly acknowledged.

Department of Women's Studies acknowledges the efforts of Publication Division in publication this bridge course.

Department of Women's Studies in particular is grateful to all the members of administrative staff and the faculty for their cooperation.

Contents


Together
make it a
better world

1 Introduction

The bridge course in Science for the girl students of Kasturba Gandhi Balika Vidyalayas (KGBVs) has been developed on the basis of NCERT textbooks of Environmental Studies (EVS).

The course is woven around three themes—food, water and shelter. The content in this course is child centred, providing a lot of space to explore. There is a conscious effort to discourage rote learning and to provide opportunities to realise,visualise, learn by doing, ask questions, all built upon curiousity and based on experiences. The language used in this course is not formal but the "commonly spoken".

Active participation of child is very important for constructing knowledge. Activities in the course demand that child to be taken to the parks, fields, water bodies, into the community etc., for observations. It reiterates that EVS learning primarily occurs outside the walls of the classrooms. An effort has been made to relate the child's local knowledge to the knowledge gained in the school. The Primary Science education is a phase of joyful learning for the child with ample opportunities for exploration of the environment and to interact with it. It is expected that after going through this course within stipulated time, KGBV girls will be ready for entering the upper primary stage. The course engages them in learning simple principles of science through familiar experiences of working with hands and surveys.

Science education ought to empower students to question the social beliefs, notions and practices that perpetuate social inequality. The issues of gender sensitivity and social justice have been kept in mind while developing this course. The natural processes happening around us will be understood with the help of bridge course.

The bridge course takes care of different life skills through various activities and anecdotes which are integrated in the content in a way that it will prepare the girls to face challenges of life.

Food We Eat

Last night, I ate a *chapaati* made of *bajra* with jaggery (*gur*).

I cooked *daal* and rice.

Yesterday no food was cooked in my house.

Ravi

Geeta

Gurmeet

Radha

I went to the *gurudwara* with my grandmother for the *langar*. We ate *daal* and *chapaati*.

Marya

Ammi had cooked *kheer* and *poori* which I don't like. So I ate an omelette instead.

My mother cooked fish. I ate a lots of it. It was really tasty.

Asfa

Aman

My mother brought noodles for us from the house where she works. We enjoyed eating it.

Teachers' Note

- *Encourage children to discuss about different types of food so that they know what other people eat. This will make them aware of different food habits and remove some of their reservations to develop better understanding.*
- *Teacher should discuss in the class— who cooks food at their (students') home? It should be emphasised that both men and women/boys and girls should share all kinds of household activities.*
- *Teacher should also encourage children to know about cultural diversity while discussing different types of food and also suggest that we must respect each other's culture and food habit.*

Activity 1

Look at the picture in which children are talking about the food they had eaten. Fill up those food items in Table1.1. Eighth row is provided for you to write what you had eaten the previous day.

Table 1.1

S. No.	Name of the Child	Name of the Food
1.	Asfa	Omelette
2.		
3.		
4.		
5.		
6.		
7.		
8.		

You can observe that different children have taken different types of food.

Discussion

1. Tell about the food items of your region. Describe the preparation of a few of these.
2. List your favourite dishes. Tell about the recipe of one of these.

Activity 2

Put a (✓) against the things given below that are eaten in your family.

Banana flowers ☐	Hen's egg ☐	Cauliflower ☐
Drumstick flowers ☐	Leaves of Colocacia ☐	Meat ☐
Mushroom ☐	Rat ☐	Seeds of onion *(Kalonji)* ☐
Lotus stem ☐	Fish ☐	Crab ☐
Red ant ☐	Frog ☐	Grass ☐
Leftover *chapaati* ☐	*Amla* ☐	Coconut oil ☐
Camel's milk ☐	*Chapaati* made of *bajra* ☐	*Chapaati* made of gram ☐

Write the names of some food items from the above list that you have never eaten before but would like to have.

_____ _____ _____

> **Teachers' Note**
>
> - *Teacher can add many more names to this list. Some local food items must be added. Regional names of the food items can also be used.*

Sources of Food

Activity 3

Draw a circle with green colour ● against the materials that we get from plants.
Draw a circle with red colour ● against the materials that we get from animals.

Honey	Turmeric	Mushroom
Corn	Milk	Lemon
Spinach	Potato	*Ajwain*
Egg	Meat	Banana
Tomato	Onion	Papaya

What are the major sources of food in your opinion? Think about some food items that we get from some other sources.

Home Remedies in your Kitchen

> **Teachers' Note**
>
> - *Help children to identify plants which are available in their immediate surroundings and are used as medicines. This will enhance their traditional knowledge of medicinal plants.*

Activity 4

Suggest some home remedies which you use when you

- get a cut or an injury.
- have a stomach ache.
- have a tooth ache.
- have cough or cold.

In Activity 3, you have observed that lemon, banana, *ajwain*, tomato, corn, etc., are plant products.

Think about

- Where do these plants grow?
- How are these plants grown?

Let us read this story.

Story of an Onion

I am an onion. You use me in many dishes while cooking. You eat me raw also. My juice is used in many medicines. But do you know that I pass through many stages before reaching your kitchen? First

Teachers' Note

- *In the story we have talked about the process of cultivating an onion crop. You can use this as an example to encourage children to find out and describe the process for growing some crops that are common in their area.*

of all my seeds are sown in the fields, that too in right quantity and at regular distance. It takes me about 20 days to appear as a sprout. As I grow, other plants also come up along my sides in fields without being planted. These are called weeds. But, farmers remove them so that I can take in all the water and fertilisers. Otherwise, I will not be so healthy. As I grow up, my leaves start to turn yellow and dry up. This means I am ready to be pulled out of the soil. I will not be of any use, if not taken out from the soil in time. Then, I am packed in sacks and taken to the market and from there you bring me to your kitchen.

- What is grown in your area?
- Find about various steps taken to grow any one of these.
- What do you think whether onions grow above or under the soil?
- What may happen if onions are not taken out from the soil in time?

Activity 5

Look at these pictures showing various steps for growing a crop. Arrange them in the correct order by numbering them.






Food from Field to Home

Now you know about the journey of vegetables from the field to the *mandi*/market and from the market to home. Visit the kitchen of your hostel and complete Table 1.2.

Activity 6

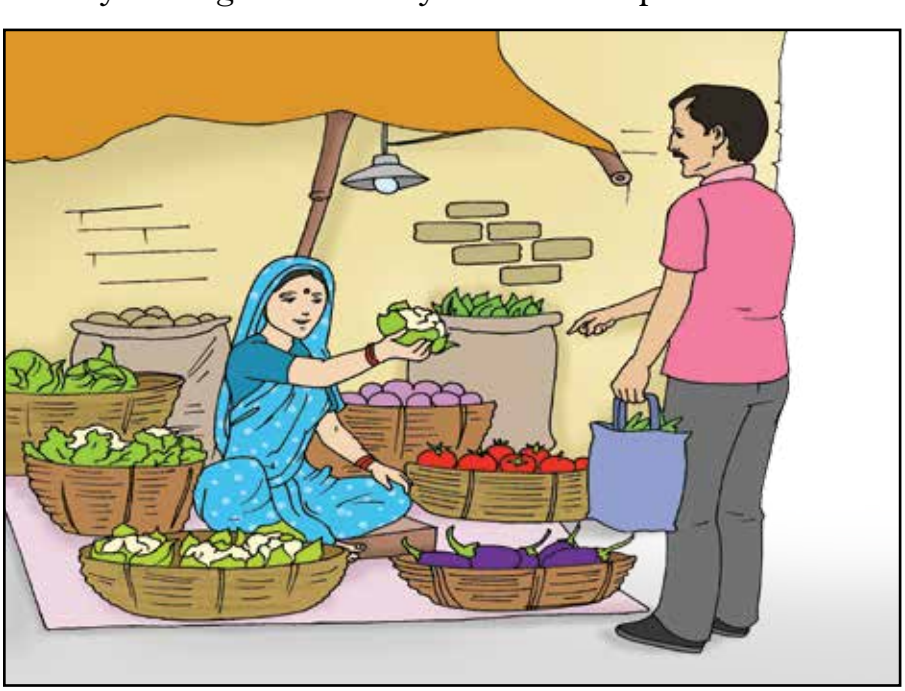
	Vegetable 1	Vegetable 2	Vegetable 3
Name of the vegetable			
How much of the vegetable is bought at one time?			
In which months is this vegetable readily available in the market?			

Find out from the mess incharge of your hostel.

- If vegetables are washed properly before cooking?
- Whether they are cut before/after washing them?
- When are they brought to your hostel?
- Where are they bought from?
- How are they brought to the hostel?

Activity 7

Identify the vegetables that you see in the picture.



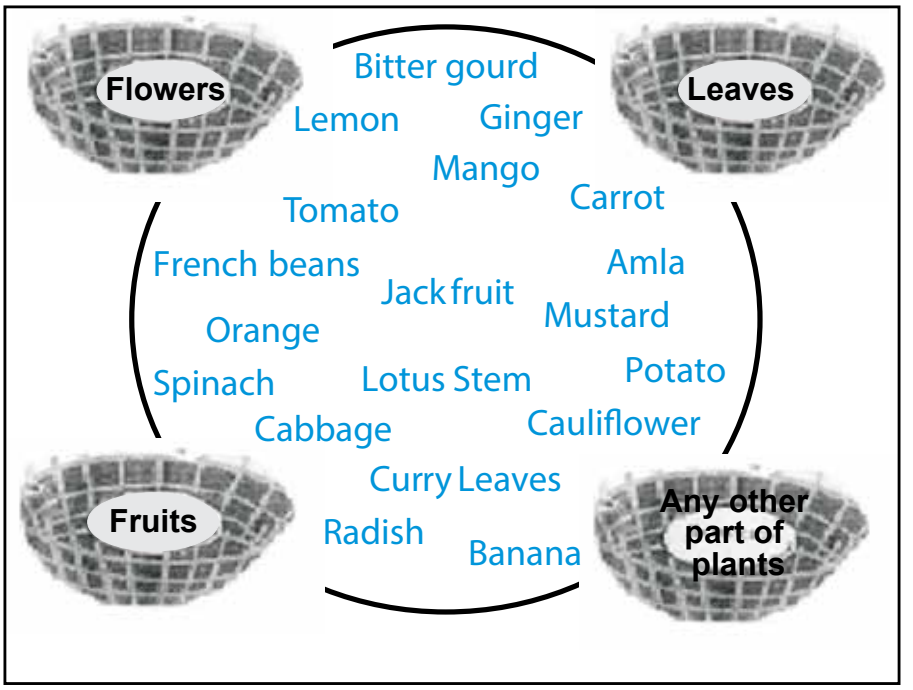
Teachers' Note

- *Teacher should encourage the children to visit the nearby fields and interact with farmers.*
- *Discuss the role of vegetable mandi with the students.*
- *Make the discussion interesting by asking students:*
  (i) about the songs which are usually sung while harvesting the crops and
  (ii) the festivals associated with them.
- *Teacher should discuss which members of their family are working in the fields. Find out what are the roles of men and women in growing crops in the fields.*

Parts of The Plants we Eat

Activity 8

You know that we eat a variety of fruits and vegetables. These are parts of different plants. Names of these parts are written on the baskets. Match the fruits and vegetables with correct basket.



Teachers' Note

Encourage children to be creative and to explore their vocabulary to describe different kinds of flavours. Discuss how the combination of different flavours brings so much variety in our food. Different combinations of taste (such as sweet-sour, hot-spicy) may be discussed in the class to develop this understanding.

Teachers' Note

Children will need help because it is sometimes difficult to identify exactly which part of the tongue can sense a particular taste.

Things to Do

- Categorise the fruits/vegetables from the basket according to their taste like sweet, sour and bitter.
- Name the part of the mouth which helps us to identify the taste of the food.
- Put different things such as jaggery, sugar, *amla*, *saunf* (aniseed) one at a time in various places of your mouth, such as, under the tongue, on the lips, on the palate. Did you feel any taste of these things?

Activity 9

- Stand in front of a mirror and look closely at your tongue. How does the surface look? Can you see any tiny bumps on the surface?
- If you are not able to see these bumps clearly, then a hand lens can be used. These tiny bumps are called taste buds. They help to identify various tastes. Certain things can be identified by their smell, without seeing or tasting them. Try to tell the names of some of these things.

Activity 10

- Take a piece of bread or roti or some cooked rice or a corn cob.
- Put it in your mouth, chew it for some time and swallow it.
- Did the taste change as you chewed it?

You must have observed that your mouth gets watered when you hear the name of your favourite food stuff.

This water in the mouth is called saliva. It helps us in swallowing the food. Why do people say that we should chew the food many times?

Teachers' Note

Children are not expected to draw the 'digestive system.' Encourage children to imagine and express their own ideas about what happens to the food in their body. Encourage sharing of pictures and free discussion, without any judgement of right or wrong.

From Tasting to Digesting

Activity 11

Where do you think the food must be going after you swallow it? In the space given here, draw the path of the food that you think it takes in your body. Share your picture with your friends. Do all of you have made similar paths?

Let Us Discuss

Look at the pictures given above and tell:

Teachers' Note

Recall Activity 1, where Radha said — "No food was cooked yesterday in her home", so she was hungry.

- How do you feel when you are very hungry?
- Think what would happen if you do not eat anything for two days?

Some of us get a headache or feel weaker. We also feel weaker when we suffer from vomiting and diarrhoea. Due to this our body does not retain any food and water. In such a situation, glucose is given to provide energy and strength to our body.

Activity 12

Look at the picture.

- What is happening here?
- Have you ever tasted glucose?

Tell your friends its taste.

Sometimes the person is admitted to the hospital and glucose drip is given, as shown in the picture here. Have you or anyone in your family been given a glucose drip? When and why? Tell the class about it.

Teachers' Note

- *Discuss with children how glucose is used. It is too difficult for children to understand how glucose gives energy. It is not expected that children will understand all the details at this stage.*

Good Food, Good Health

We fall sick, when we do not eat or get proper food or we eat spoilt food. Observe the pictures and related matter given below.

Who is having proper food—Kailash, Amina or Rashmi?

Kailash, 7 years

He looks older than his age. His body is fat and flabby. He has very little physical activity and spends many hours watching TV.

Food: He does not eat much of the home-cooked food such as *daal-rice*, vegetable and *roti*. He takes much of the food items like chips, chocolates, breadpakoras and soft drinks.

Teachers' Note

- *Explain to the children that even low-cost and locally available foods can promote good health.*

Amina, 11 years

She looks alert and active. She goes to school regularly. She takes interest in sports. She also gives a helping hand at home to her parents.

Food: She eats home-cooked food like *daal, roti, rice,* seasonal vegetables and fruits, milk, curd and butter milk. She chews the food properly and relishes it.

Rashmi, 5 years

She looks about 3 years old. She has very thin arms and legs and a pot belly (stomach like a balloon). She often falls sick. She always feels tired and cannot go to school regularly. She does not have strength to play even.

Food: She is lucky if she can get a little rice or one *roti* to eat in the whole day.

Proper Food—Every Child's Right

You have read about three children. One is Kailash who does not eat much of the home-made food. The second child, Amina, eats proper food like *roti, rice, daal*, vegetables, fruits, milk, etc. The third is Rashmi who does not even get one proper meal a day. About half the children in our country are like Rashmi. They do not get enough food that they need to grow and develop properly. These children are weak and are often ill (in poor health). Should every child not get proper food? Many of them do not even go to school. Those who go to school without eating properly cannot study well. Some years ago, the highest court of our country gave an important decision. All children in primary school should be provided with hot, cooked food. This is the right of every child. Presently, children of primary schools are getting meal during their school time under a scheme called Midday-Meal Scheme. Efforts are made to provide each child nutritious food under this scheme.

Find Out

Why do you think Rashmi gets only one roti in the whole day?

- What do you understand by proper food?
- Whose food is proper according to you?
- Why do you think that the food of Rashmi and Kailash was not proper?

Find out and write the answers

- What do you get in the meal at school?
- At what time is the meal served?

- Do you always wash your hands before you sit to eat?
- Why is it necessary to do so?
- Do you like the midday meal that you get?
- Is the food that you get enough for you?
- Do you bring your own plate, or you get it in the school?
- Who serves the food?
- Do your teachers eat with you?
- Is the week's menu put up on the school board?
- What do you get on Wednesday and Friday?

Day	Food Items
Wednesday	
Friday	

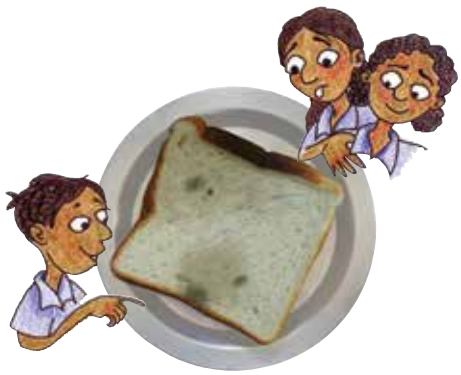
- Suppose you do not like the food on any day then what do you do with it? Should we not eat whatever is given to us?
- If you get a chance to change the menu for the meal in your school, what would you like to change? What would you like to eat? Make your own menu.
  Do you agree with the slogan–

  "A Healthy Nation With Healthy People"?

How does food get spoilt?

Group Activity 13

- Take two slices of bread or *roti*.
- Sprinkle a few drops of water over one piece and put it in a box. Put dry piece in another box. Cover the boxes with the lid.
- Observe the slices of bread or *roti* every day until you notice some change on them.
- Make the table on a chart paper and put it up in the classroom.
- Fill up the chart everyday after discussing the changes seen.



Teachers' Note

- *Let children give examples of food spoilage based on their own experiences. It is important to explain the difference between food spoilage and wastage of food. The experiment with bread can be started when you begin the lesson, because it will need to continue over a few days.*

Table 1.3 Changes in the bread or *roti*

Day	By touch		By smell		By looking through hand lens		By colour	
	Dry	Moist piece	Dry	Moist piece	Dry	Moist piece	Dry	Moist piece
1.								
2.								
3.								
4.								
5.								
6.								

The bluish green thing which you have seen on the bread/ *roti* is called fungus. Unknowingly, if we eat this spoilt bread, we fall sick.

FIND OUT

Various types of food items get spoiled due to different reasons. Some foods spoil fast, some stay good for long. In your opinion what may be the causes of getting the food spoiled quickly?

Activity 14

Look in your kitchen and write names of food items that —

- can get spoiled in 2-3 days.
- can be kept for a week.
- would not get spoiled for one month.
- would not get sploiled for one month in a cool and airy place.
- should be dried in the sun before storing (take the help of an elder person to find answers to this question).

TEACHERS' NOTE

- *Make before - hand preparation for Activity 13.*
- *Take children to the kitchen, and help them to read and note the information on the packets regarding weight, date of packing, etc.*

Look at the lists of your classmates also and discuss.
Will your list be the same in all seasons? What may be the change?

When food gets spoiled in your house, what do you do with it? When you buy anything from the market, you must read carefully the information on the packets regarding weight, date of packing, date of expiry, mark like AGMARK/FPO, so that you can buy fresh things and be healthy always.

We can be healthy if we eat proper food including *roti*, rice, *daal*, vegetables, fruits, milk, sprouts, etc.

Have you ever observed sprouting of *chana* or *moong*?
Let us sprout some seeds.

Activity 15

Let us prepare a tasty snack with sprouted seeds.

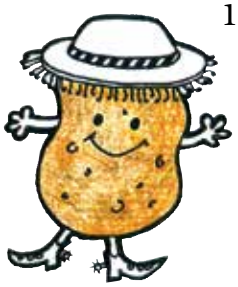
- Take a few *chana*/*moong* seeds. Wash them and wrap them in soaked cotton or a piece of thin cotton cloth. Place them in a container. Don't disturb it.
- Observe them daily for 2-3 days.
- Did you find any change in these seeds?
- How much time did it take to sprout?
- Identify the parts of a sprouted seed with the help of your teacher.

Let Us Discuss

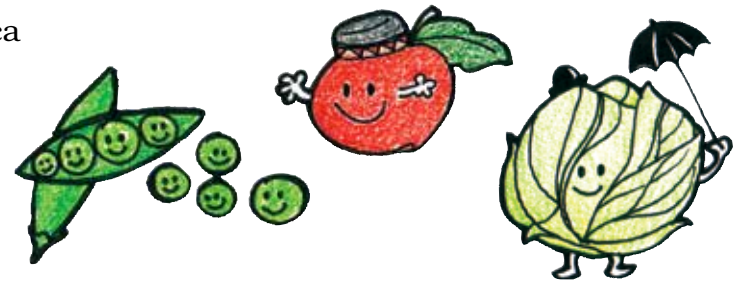
- Which food materials are soaked before cooking in your house? Why?
- Which seeds do you eat after sprouting?
- Have you ever been told by someone or by a doctor to eat sprouts? Why?

LET'S HAVE SOME FUN

1. Sing the poem given below in a tune of your choice:



From South America
long ago,
came a tomato,
a potato,
and a green chilli.



Do you know this?

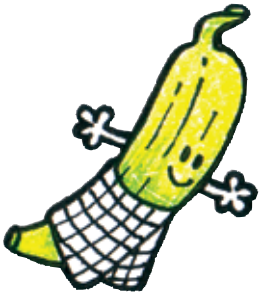
A cabbage came
from Europe,
and also a pea.
From Africa
came a coffee bean,
and a green *bhindi*.

A mango sang,
'Come in! Come in!'
An orange smiled
inside its skin.
'Welcome to India,'
a banana said.
The *methi* and spinach,
brinjal and radish,
nodded their heads.

Did you know this?...

They crossed the land.
They crossed the sea.

Did you know this?



Rajesh Utsahi
Chakmak, May-June
2002
(Translated by Anupa Lal)

(Bhindi is also called okra, and methi is called fenugreek).

2. You can write a new song on vegetables, fruits and other food items that make your proper diet.

3. Seema's other has brought some fruits and vegetables from the market. Can you spot them in this picture?

4. Crossword puzzle

		[1] C		[2] R		[3] O	[4] T
	[5] L						
[6] B							
			[7] M				

HINTS:

Across

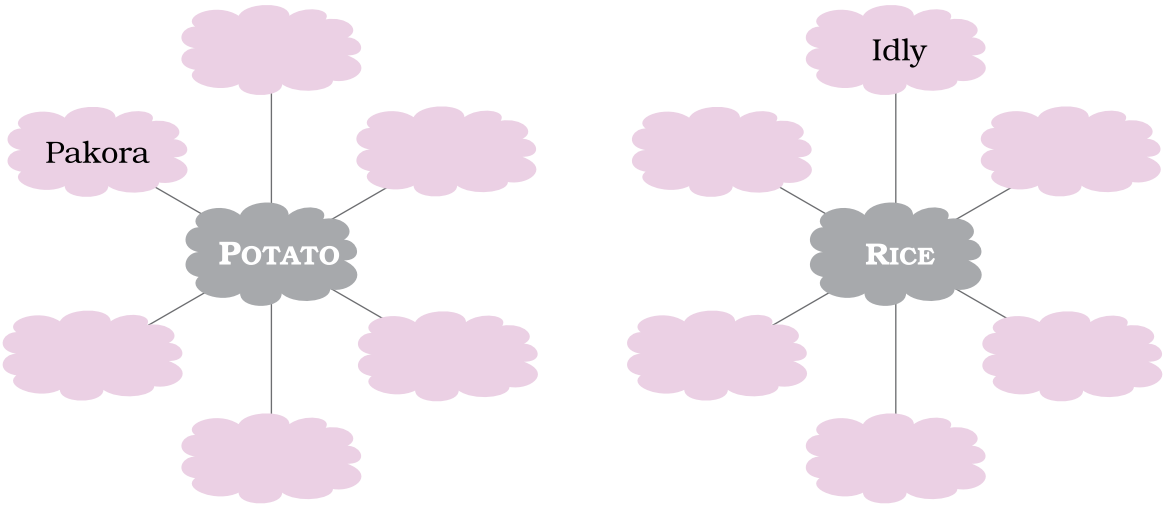
1. A red-coloured root used as a vegetable.
6. A green-coloured fruit used as vegetable.
7. Known as king of fruits.

Down

1. A ball-shaped bunch of leaves used as a vegetable.
2. A white-coloured root used as a vegetable.

3. Used in many vegetable dishes.
4. A vegetable which is actually a fruit.
5. A fruit sour in taste.

5. Potato and rice can be used in a variety of ways. Fill in the names of dishes in addition to the example given.



PROJECT WORK

- **Find out and write the recipe of the dish which you like the most.**
- **Is it possible to sprout *masoor daal/chana daal/urad daal*? Try and find out.**
- **Make a collage of food items which we eat in summer and those that we eat in winter on chart papers. You can use pictures from old newspapers or magazines.**
- **Draw pictures of vegetables and fruits which you usually eat.**
- **Plant any seed. When a seed grows out of soil it is called a seedling. Enter your observations in the Table 1.4.**

  To observe the growth of the seedling put a mark with a pen. Measure the distance between the marks and the total length of the seedling above the ground.

Table 1.4 Growth of seedling

S. No.	Changes	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Length of the seedling above the ground						
2.	Number of leaves seen on the seedling						
3.	Difference in height on each day						

सामग्री
संतुलित आहार जीवन का आधार

3 Water We Need

I'll wash my face with water,
said Munna to his Nani.

We all quench our thirst with water,
We are all alive because of water.
Water has been with us for ages,
Its story can fill so many pages!

Somewhere it is dew,
Somewhere it is snow,

Steam is also water as you know!
Water has forms so many,
that is what says my Nani.

The rivers flow, the waterfalls sing,
and water swells in lakes and springs!

Life on earth it has brought,
Watered fields and life they got!
But when the water breaks in floods,
Great misfortune it always works!

SHRI PRASAD

(Translated from the Hindi)

Source: *Looking Around, NCERT Textbook, Class - III*

Rain Drop

Tip, top, rain drop
Tip, top, rain drop
Your loving coolness
Comes with a wave of happiness
With your every drop.

Tip, top, rain drop
Tip, top, rain drop
Life will flourish
on this planet
As long as you do not stop.

Tip, top, rain drop
Tip, top, rain drop
Your loving coolness
Comes with a wave of happiness
With your every drop.

On this planet
As long as you do not stop.

Tip, top, rain drop
Tip, top, rain drop
I want to conserve you
By harvesting you
From my roof top.

Tip, top, rain drop
Tip, top, rain drop
You are nectar of life
You give us food
Through a bountiful crop.

Tip, top, rain drop
Tip, top, rain drop
I would store you in tanks
I wouldn't allow you to go into drain
As watching you going waste
Gives me pain.

Tip, top, rain drop
Tip, top, rain drop

Shashi Prabha

Teachers' Note

- *The teacher may discuss about the importance and conservation of water. The objectives of the poem is to sensitise them about not to waste water.*
- *You can ask the students to sing poems and songs related to water.*
- *For this they can take help from their parents and other elderly persons. Even you can tell them some such poems and songs.*

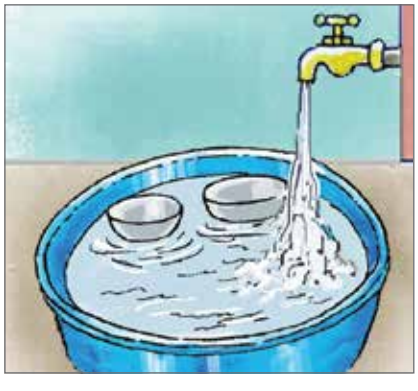
We all know about water and also know its importance for all living beings like humans, plants, animals, birds and other creatures.

What comes to your mind when you hear this word – WATER?

There may be many things which may strike your mind. Some of these may be:

- We drink water.
- We bathe with water.
- We clean utensils with water.
- Even animals and birds need water to drink and bathe.
- We use water in cooking vegetables, *daal*, rice, etc.
- Water is used for kneading the dough for making *chapaatis*.
- We water the plants, trees and crop fields.
- We use water for making tea, *mango panna, lassi, sherbet* and other such drinks.
- We clean our houses and surroundings with water.
- We wash our clothes with water.

Observe and Write What is Shown in These Pictures

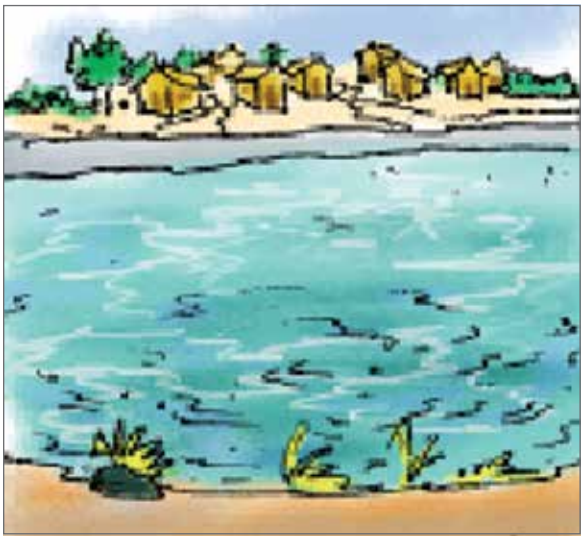


You may also write some other uses of water in the table given below.

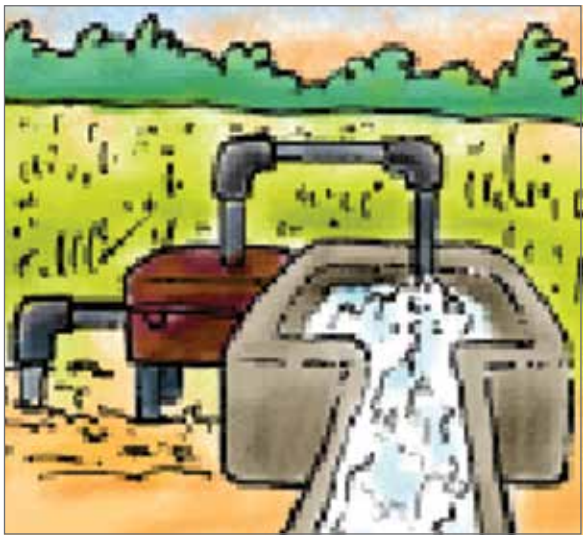
S.No.	Use of Water

Where Do We Get Water From?

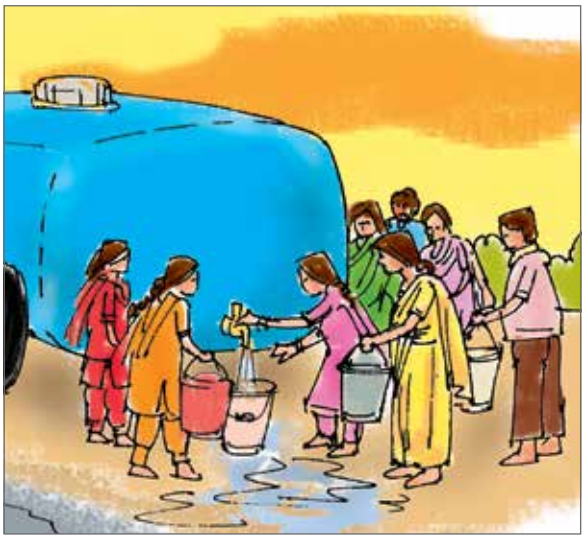
Observe the following pictures. Write the names of sources of water wherever not given.

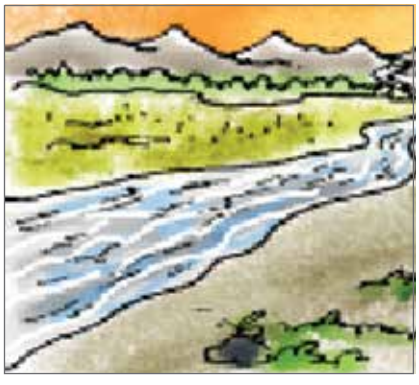


Village pond



Tube well





Sea

Lake

Teachers' Note

- *There must be some source of water in or around your village. Just describe it in the class. It will be more fruitful if you arrange a trip to observe some sources of water.*

Some jumbled words related to sources of water are given here. Write the correct word in the boxes given on the right.

1. ERVIR | R | I | V | E | R |
2. LEWL | | | | | |
3. DONP | | | | | |
4. KALE | | | | | |
5. INRA | | | | | |

Drinking Water

Can we drink water from all the sources of water? Krishna saw buffaloes bathing in the village pond. She says that even the people from the village wash their dirty clothes in the pond. Krishna does not drink this water. Why?

Think and Write

- How do you get drinking water?

- Do you get water at all times?

- Is there any leakage or dripping of water from the source you get it?

- Are there *matkas*/water containers to store water? Are all of them always filled with water? Are they kept covered all the time ?

- Are the *matkas*/water containers cleaned regularly?

- Is there a long-handled ladle to take out water from the *matka*/container?

- What do you do if you find that the water is not fit for drinking?

- When is the place of water cleaned in your school? What help can you do to keep it clean?

Let Us Discuss

- According to you why does the place of drinking water get dirty?
- What can we do to keep this place clean?

Find Out and Write

- How often (once a day, once in two days, etc.) are the containers or *matkas* and ladles cleaned in your school? Who cleans them?

- How many children are there in your school? How many taps, *matkas* or hand pumps are there? Are these sufficient for the children?

- Where does the water that is spilt go? Do you think this water can be reused for some other purposes?

Find Out

Put (✓) against the right answer.

- What type of toilet arrangement is there in your school ?

  Built toilet ☐ Open area ☐

  Place covered with curtains ☐

- How many toilets are there in your school?

  One ☐ More than one ☐

- Is there water available in the toilets?

  Yes ☐ No ☐

- Where does the water come from?

  The tap ☐ Filled containers ☐ brought from home

- Is there water for washing hands near the toilet?

  Yes ☐ No ☐

- Do you wash your hands after using the toilet?

  Yes ☐ No ☐

- Are the toilets kept clean?

  Yes ☐ No ☐

Teachers' Note

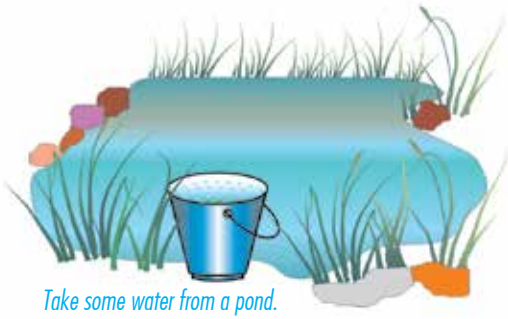
- *Teacher may discuss about water which is suitable for drinking purpose and that which is not suitable.*
- *Teacher may also discuss various water borne diseases in the class and the precautions to avoid occurence of such diseases.*

Cleaning Water

In Gauri's village they have only one pond as the source of water. Village people and the animals get water from here. Is this water safe for drinking? Let us find out what does Gauri's mother do to make the water safe for drinking.

Activity 1

You may also try to do this activity.



Take some water from a pond.

Put some alum in a small bag of cloth and tie it with thread.

Put the bag in water and stir it by holding the thread.

Pour the water in another vessel.

Boil the water and cool it.

It is important that we clean water before drinking it. One of the best ways to do this is to boil the water. If for some reason this cannot be done, can you think of some other ways to clean water?

Try to answer

- Why do you think that the water from the pond of Gauri's village was not fit for drinking?
- Why is this water dirty?
- How is drinking water cleaned in your house/school?
- Who cleans it? Do you also help in doing so?
- What will happen if you don't clean the water?
- Do you know of some ways for cleaning water?
- Draw pictures showing any two ways of cleaning the water.

Loss of Water from Our Body

Have you ever suffered from diarrhoea and vomiting? How did you feel? When we have diarrhoea and vomiting, we lose a lot of water from our body. This can be dangerous, if we do not take care. It is important that we make up for the water that we lose from our body. We should drink a lot of water when this happens. We should also mix some salt and sugar in the water.

Activity 2

Preparation of ORS

Take a glass of boiled water.
Mix one teaspoon of sugar in it.
Now add a pinch of salt. Your ORS is ready.

Activity 3

What dissolves in water and what does not?

Teachers' Note

- *Teacher may ask the students to prepare salt-sugar solution to be given to the person infected with diarrhoea and vomiting. The student must have the idea of the amount of sugar and salt to be added to a glass of clean water.*

Make a group of four friends. For the experiment you will need 4-5 glasses or bowls, spoons, water and the things listed in the Table 2.1. Take some water in each glass. Now try to dissolve one item in one glass from the Table 2.1. Observe what happens and note in the Table.

Teachers' Note

- *Water and the things to be dissolved in it may be taken in small quantity in order to save time.*
- *In addition to these things some other things may also be tried.*

S. No.	Things	Did it dissolve after adding to the water?	What happened after stirring for 2 minutes?
1.	Salt		
2.	Soil		
3.	Chalk powder		
4.	One spoon milk		
5.	Oil		
6.	Sugar		

Write down

- Could you see the salt after it dissolved in the water?

- What difference did you see in the water with salt and the water with chalk powder after keeping for sometime?

- Which of the two would you be able to separate from the water by straining with a cloth—salt or chalk powder?

- What will happen if sugar did not dissolve in water?

- Imagine stones dissolving in water. What do you think might happen?

- Have you ever been near a river or sea? Share your experience with the class.

- Was the water of that river clean and suitable for drinking? If not, then what do you think is the reason?

- What makes the water of the river dirty?

- Is the water from the sea drinkable? What do you think is the reason?

- Will there be the same amount of water in ponds and rivers in the summer and in the rainy season?

- Have you ever seen or read about floods? What happens when there is a flood?

Activity 4

Where Did the Water Go?

Do the following activities and observe.

1. Wet your hands with a little water and spread your palms. Observe them for a few minutes.
   Are they still wet?
2. Spread a wet hanky in sun. Observe after two-three hours.
   Is it still wet?
3. Wipe the blackboard of your class with a piece of wet cloth. Observe after five-ten minutes.
   Is it still wet?

Teachers' Note

- *Wipe the black board with water and tell students to observe how does the black board dry up?*
- *Teacher can show the students formation of salt from sea-water or salt-lake water, if posible.*
- *Teacher may take students to the kitchen of the hostel mess to show them how water evaporate from a tea kettle.*
- *Teacher may ask the students to draw a scene of flood.*
- *Teacher should also discuss the pollution of rivers and its effects.*

4. Put half a katori of water in a plate and keep it in sun. Observe it after three-four days.

   Is there the same amount of water which you had kept?

- Think where the water went in all these activities.
- Tell about some more such situations which you come across in daily life.

Water is converted into water-vapour which is not generally visible to us. Water-vapour ultimately forms clouds in the sky. Clouds bring rain, which fills our water sources.

Rain: An Important Source of Water

- What brings rain for us?

Clouds

- Apart from clouds, what else do you see in the sky when it rains? Do you see a rainbow sometimes? What colours do you see in it?

- How do you feel when it rains? Share your feelings with your friends?

- Have you seen children bathing, playing and dancing in rain? Do you also play in rain? How do you feel then?

- When it rains, plants get a new look. Why? Discuss in your class.

- Where does the rain water go in your surroundings?

- Can we collect the rain water to be used later? How?

- Have you ever done so at your home? When?

- Have you heard about *Tanka* (tank)? For what purpose is it made?

Like cities and towns, in many villages people get water from taps, hand pumps and tube-wells. However in some parts of the country, especially in the desert regions of Rajasthan, women and girls have to walk quite a long distance to fetch water. The task is not easy, particularly in summer when hot sun is over their head and hot sand below their feet. This task also involves a lot of time and effort which could have been utilised for studying and other important works. Is there any solution for such problems?

Yes! some people collect rain water. This is done by making ***tankas* (tanks).** To build a *tanka*, a pit is dug in the courtyard and it is made *pucca*. The *tanka* is kept covered with a lid. The roof of the house is made sloping so that the rainwater collected here flows through a pipe into the *tanka*. A sieve is attached to the mouth of the pipe so that no dirt goes into the *tanka*. This water is used for drinking after it is cleaned.

Scarcity of Water

Do we get enough water to drink, wash, bathe and for other purposes?

- Have you ever faced a shortage of water in your school or house? What did you do then?
- Have you read/heard some news about water? What kind of news did you read?
- Do you know one of the reasons for the scarcity is because people waste a lot of water.

Activity 5

- Go through the newspapers of the last one month.
- Look for all news items related to water.
- Cut them out.
- Stick all the cuttings together on a big paper to make a collage.
- Talk about what you have collected.
- Discuss in the class.

Have you ever faced a shortage of water in your area?

Narrate your own experience in the class where you had faced shortage of water and how you solved the problem.

Have you seen water being wasted in your home, school or any other place? Where ?

Have you seen someone using water judiciously? Whom did you see and where? What was done to save water?

Try to answer

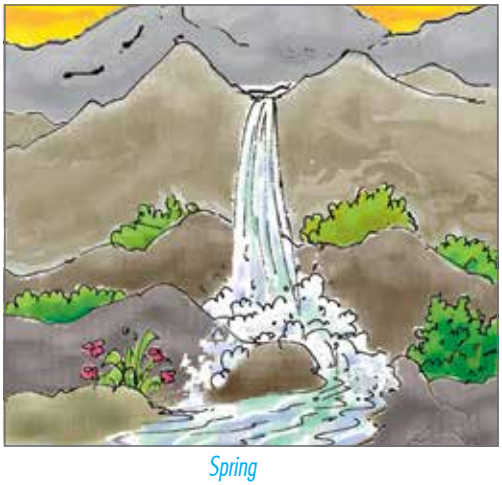
- Can you think of some other ways of saving water? Write your suggestions below.

- Do you think we can re-use the waste water which flows out from our kitchen and bathrooms ? If yes, give your suggestions.

Just imagine how good it would be if everyone got enough water!
How good it would be if we don't waste any water?

Fun with Water

- Observe these pictures carefully and see the flow of water. Water flows from higher level to the lower level.



Spring

River

- Look at the following figures:

A steel spoon sinks in water while a steel bowl (Katori) floats on water.

Boats floating on Water

Wooden Piece floating on Water

A boat and a ship float on water in a river/sea.

You can learn swimming as it is a great fun and a good exercise too.

Activity 6

- Take a few things which are easily available with you, e.g., rubber, pencil, stone, leaves, iron nails, feather, etc.
- Take a bucket of water and put these things one by one in it.
- Now, observe what floats and what sinks in water.

Fun with Water Colours

Water colours are used in making beautiful paintings.

Activity 7

Take a paper and fold it in the middle. Now unfold it and put some drops of different colours on it. Fold the paper again and press it. Unfold the paper. Look what you have made!

Activity 8

Colour these pictures of some utensils used to store water.

Conservation of a water body

It was October 1985, when we organised a 10-day camp for 50 students of National Service Scheme (N.S.S.) in the village Tabiji near Ajmer in Rajasthan. On the first day we went around the village to note down the problems of the people living in there. One of the problems was that the pond at the outskirts of the village was not in the condition to retain rain water for whole of the year. The simple reason was that about 25-metre piece of the mud wall of that pond, made to retain water, was washed away by the flood in 1979. The result of this damage was that the pond was able to retain only a little rain water which was consumed and evaporated within two or three months. People had other sources of water like well and tube wells but cattle were not able to drink water or bathe in the pond.

Villagers made hardly any effort to solve the problem as it required lot of labour and money to construct the wall again. There were 50 N.S.S. volunteers in the camp. They decided to do *shramdan* for four hours a day to reconstruct the damaged mud wall. They started the work on the same afternoon and then continued in the morning hours from the following day. On the first two days some villagers came to observe their work but did not bother to give a helping hand. But on the

third day they started coming and working with them. On the fourth day the number of persons doing *shramdan* were more than hundred including women and girls which kept on increasing on the following days. They filled the 25-metre pit and then raised the wall to a height of 8 feet just in 10 days. The pond was repaired and it was full of water in the next rainy season. This water was sufficient for the people and the cattle of this village Tabiji for whole of the year. The surroundings of the pond also became green with grass, bushes and trees. The credit of the achivement along with all others who worked for it also goes to the teacher incharge Dr. K.K. Sharma who had motivated and inspired the students as well as the people of the village.

True experience of village Tabiji near Ajmer in Rajasthan.

Let Us Discuss

- Have you ever heard/seen people doing Shramdan?
- Have you ever heard/seen any place in your area which has dried up/has very few water in it now but had lot of water earlier? Which one?
- Try to find out its reasons from your elders.
- Try to guess 25-metre length.

Teachers' Note

- *Teacher may also tell such success stories related to water conservation to inspire the students. Students may also be involved in such works which helps in conserving or re-using water.*

Activity 9

Sari/dhoti/dupatta/shawl have a definite length. Measure the length of any of these available with you. Now, you can measure 25-metre length using them. Now, think that such a long and thick wall of mud was washed away by flood which was reconstructed by the students.

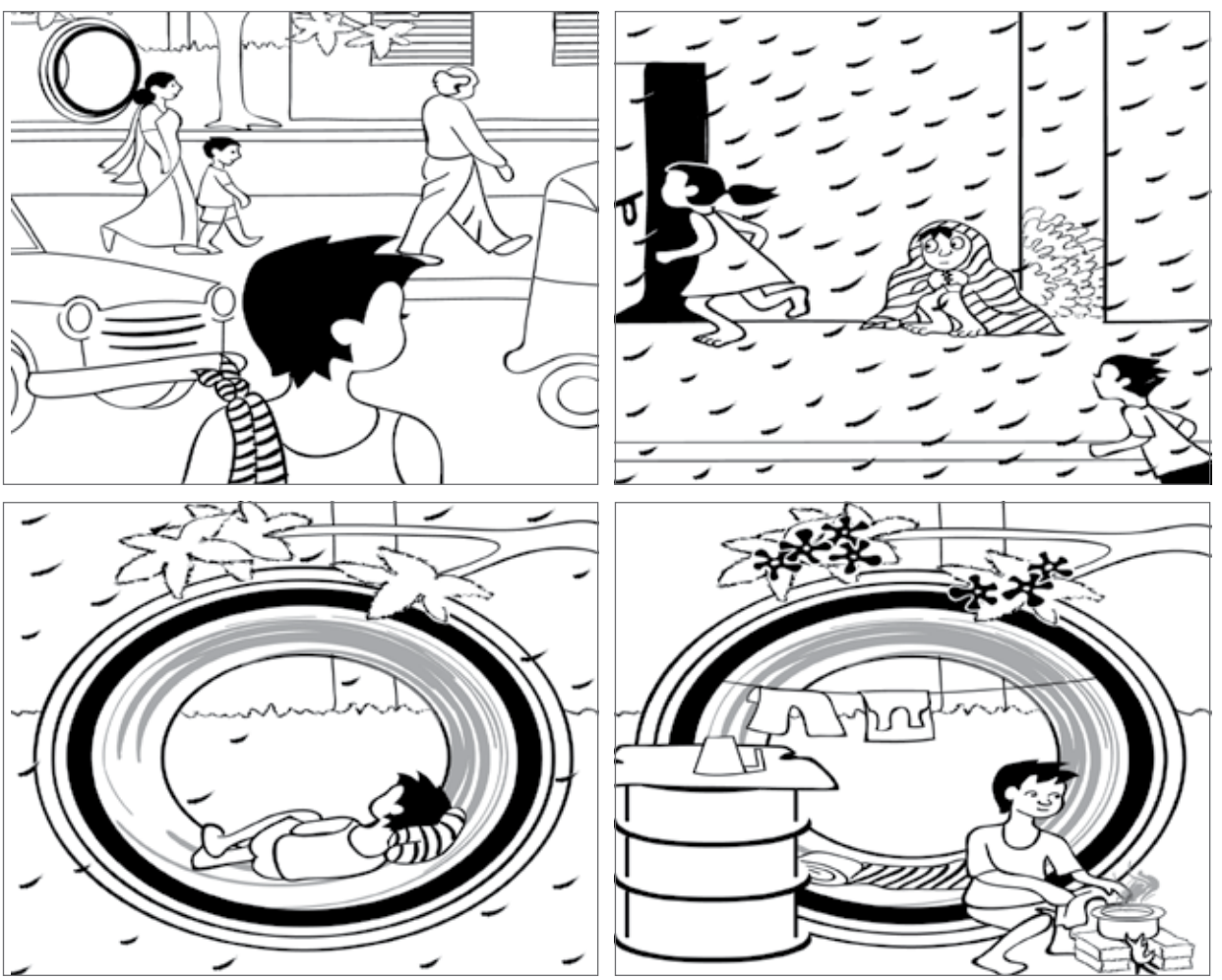
Now, compare this actual length with the guess made by you.

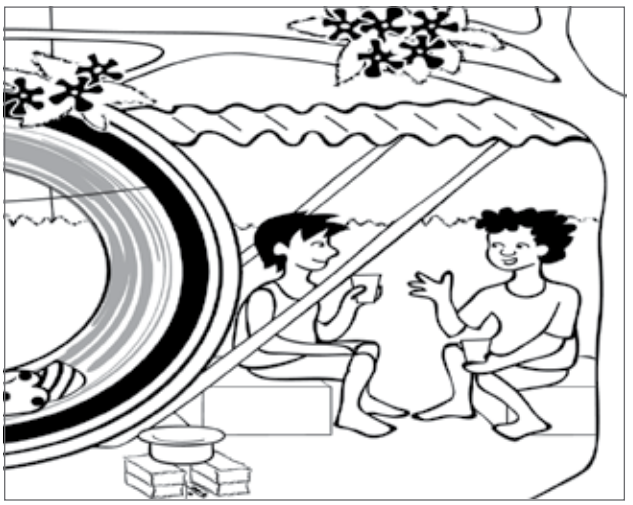
My Home

Read the following story about Chhotu.

Chhotu in Mumbai....

Chhotu used to live in a village in Madhya Pradesh. When he came to Mumbai he looked for a place to live. He did not have money even to rent a house. He was worried and desperate. He saw a pipe lying around. He thought "I can make use of this pipe to make myself a home!" He divided the pipe into different partitions for various activities. Chhotu is now happy because he has a house to live in.





You have learnt from Chhotu's story that all of us need a place to live. Such a place is called a **house**. It does not matter what kind of place it is. Like Chhotu, it could be a pipe. Each one of us has a house.

Why do we need a house? It protects us from the sun, rain, cold, storm, etc. Do you feel comfortable and safe in your house?

Think and write

1. Lila lives with her parents in a discarded truck. Can the truck be called her house?

2. Julie lives with her parents in a discarded railway compartment. Can the railway compartment be called her house?

3. Ayesha lives in a hostel. Can we call the hostel her house?

My Dream House

Activity 1

Draw your dream house and colour it. Compare it with the houses drawn by your friends.

Our house may not be like our dream house. But we all love our house. It is the place where we live with our family members. We eat together, and share whatever we have.

Living together happily in a house makes it a **home**. We cannot wait to get back home whenever we go out.

Share with your friends an experience when you missed your home the most.

My Home

Try to answer

1. Has your home been divided into different parts for various activities such as cooking and sleeping?

2. How much time in a day do you spend in each part of your home?

3. Is there any part of your home where a particular member of your family spends more time? Why?

4. Is there any part of your home where a particular member of your family never goes or goes for a short time? Why?

Teachers' Note

- *Initiate a discussion where in each child narrates how she decorates her home.*
- *Students may be encouraged to draw some Rangoli design in the classroom/corridor of the school.*
- *Rangoli competition can also be organised.*

A Clean Home

Is it necessary to keep our homes clean? Why? All of us try to keep our homes clean. We sweep and mop them everyday. We keep the garbage away from our homes. This keeps away rodents and other insects such as flies and ants.

Do you also help to keep your house clean? Which other members of your family help in cleaning?

We also keep the area around our houses clean. Sometimes we draw *Rangolis* in front of our houses to decorate them so that they look beautiful. During festivals we especially decorate our houses in the best way we can.

Do you also keep your room in the hostel clean? What do you do for this?

Try to answer

1. Do you decorate your hostel in some special way? When and how?

2. Make a list of things which you use to decorate your room in the hostel.

3. Do you use plants to decorate your room?

How do you decorate your homes during festivals? Discuss.

Activity 2

- Draw your favourite *Rangoli* design.
- Find out the materials used in *Rangoli*.
- Draw the *Rangoli* you have designed.

Group Activity

Do you remember any folk song on a theme related to house? Sing it in group.

Write a short skit on this theme. Enact it in your class.

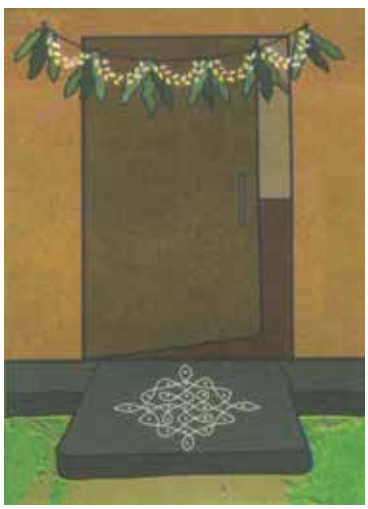
Teachers' Note

- *Initiate a discussion where in each child narrates how she decorates her home.*
- *Students may be encouraged to draw some Rangoli design in the classroom/corridor of the school.*
- *Rangoli competition can also be organised.*

I am Champa. I have come from Manali which is a hilly area. At our place it rains heavily and snows as well. When it is very cold, we like to sit in the sun. Our houses are made of stone or wood.

A House Like This!

Look at the following pictures of a group of children coming from different places. The children introduce themselves and describe the type of houses in their region. They give reasons for the special features of their houses.



I am Padumi. I have come from Molan village in Assam. It rains heavily in our place. So our houses are made almost ten to twelve feet above the ground. They are made on strong bamboo pillars. The insides of our houses are also made of wood.

I am Bhanwari. I have come from Rajasthan. Rainfall is very scarce in our area. It is very hot here. We live in mud houses. The walls of the houses are very thick. These walls are plastered with mud. The roofs are made of thorny bushes.

Teachers' Note

- *The teacher may pose questions on the following situations and initiates discussion in the class.*
- *Suppose you were to live in a tent in a place where it is very hot.*
- *Imagine yourself living in a house which is at the ground level and there is heavy rainfall.*

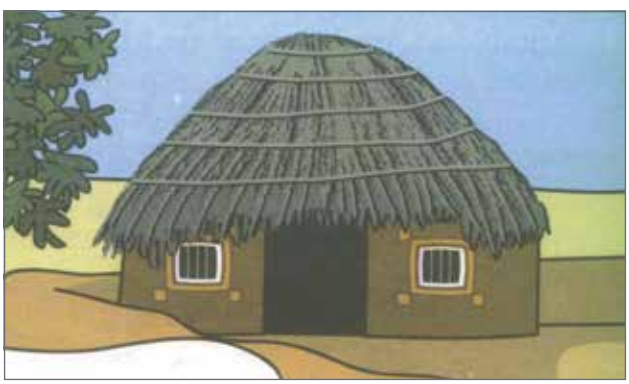
I am Mitali. I have come from Delhi. It is the capital of our country. It is a very big city. There is shortage of space. Therefore, there are multi-storeyed buildings. They are called high-rise buildings. I live in one of them. We use a lift to climb up.

I am Tashi. I have come from the cold desert of Leh. My house is made of unbaked mud bricks. The walls are coated with a thick layer of mud and lime.

Activity 3

Pictures of the houses of different children are given below. Write the name of the child according to the description given above by her.

I am Jannat. I have come from Srinagar in Kashmir. It is very cold there. There is a big lake called Dal lake. There are many house boats in the lake. I too live in a house boat.



Now you know why houses in different regions are so different in shape, size and the material used for their construction.

- Describe the type of house you would like to live in. Why?

- Place a (✓) mark against each material which has been used in building your house.
- Look at the houses of your neighbourhood. What are they made of ? Make a list of these materials.

Grass	Mud	Wood	Cement	Canvas	Iron
Plastic	Limestone	Bamboo	Bricks	Glass	Stone

- Collect samples of things that are used for making houses.

Teachers' Note

- *The teacher may discuss the variations in the topography and climatic conditions of different parts of India and the type of dwellings found there.*

Teachers' Note

- *The teacher may initiate a discussion on why many people have to leave their house and move to other places. The discussion could include migration due to jobs, natural calamity, political tension, etc., and how such changes can affect the whole family. But sensitivity to the needs and circumstances of people should be maintained in the discussion.*

Activity 4

Let Us Make A Brick

Knead some clay. Fill it in an empty matchbox and press. Let it dry. Take it out when dried. Your little brick is ready!

Colour your bricks. Write your name on them. Use all these bricks to make a colourful house. Decorate the roof of this house.

Activity 5

Collect or draw pictures of different kinds of houses. Use these to make a beautiful chart. Display it in your classroom.

A New Home

Find out and write

- Have your parents always lived in the same house where you are living now ?

- If not, why did they leave their old house?

Chetandas was nine years old when his parents first came to Sohna village with his little sister *Gudiya*. He was very happy because they were going to build a new house. His *Baba* and

Amma worked hard to make the house. He also helped. *Baba* dug the soil, and he would quickly fill the pans and passed them onto *Amma*. *Gudiya* and *Amma* mixed husk in the soil. *Baba* then made the walls.

All of them brought cow dung from nearby areas. *Amma* mixed it with the mud. She then coated the floor with the mixture. *Amma* told Chetandas that it would keep the insects away.

Then, the roof was to be made. *Baba* made a frame by joining strips of wood and fixed it on the four walls. They placed branches of *neem* and *keekar* trees on the frame so that termites would not harm the wood. *Amma* spread old gunny bags over the frames and covered them with mud. This is how Chetandas got his new house.

- A lot of mud was used when Chetandas's house was made. Why?
- You have shifted from your house in your native place to the hostel. Describe how this change has affected you?
- Describe your first day's experience in the hostel.
- What differences do you feel between your house and your hostel?
- What are the similarities between your house and hostel?

Activity 6

Invite an elderly person in your class to share her/his experiences of the houses when he/she was eight-nine years old.

(i) Where did she live ?

(ii) From what material was her house made ?

(iii) Did she have a toilet in her house ?

(iv) In which part of the house was food cooked ?

A Changing House

Activity 7

Survey at least 20 houses in your neighbourhood/near your hostel and find out the following:

(i) What materials have been used in their construction? Group these houses on the basis of the materials given in Table 3.1. Now, fill up the table.

Table 3.1

Material Used for Construction	Number of Houses
1. Wood	
2. Mud	
3. Unbaked bricks	
4. Baked bricks	
5. Cement	
6. Others	

(ii) Do the houses have toilets? If yes, fill the information in the following table:

Types of Houses	Number of Houses
Houses with toilets	
Houses without toilets	

(iii) Are the houses single-storeyed, double-storeyed or multi-storeyed?

Number of storeys	Number of Houses
Single-storeyed	
Double-storeyed	
Multi-storeyed	

Teachers' Note

- *The teacher may share her experience about the changes that have taken place in the types of houses since her childhood. You may point out the problem of dampness and the problem of going to upper floors.*

Teachers' Note

- *If there is a construction site nearby, the teacher may take the children to visit it. This will enable students to know the people working there, the nature of their work, the amount they are paid, (both for men and women) difficulties they face, etc.*

(iv) How many houses have separate kitchen?

(v) What is used for cooking?

Device for Cooking	Number of Houses
Clay chulha	
Gas stove	
Clay chulha and gas stove, both	
Some other	

Single and double storeyed houses *Multi-storeyed houses*

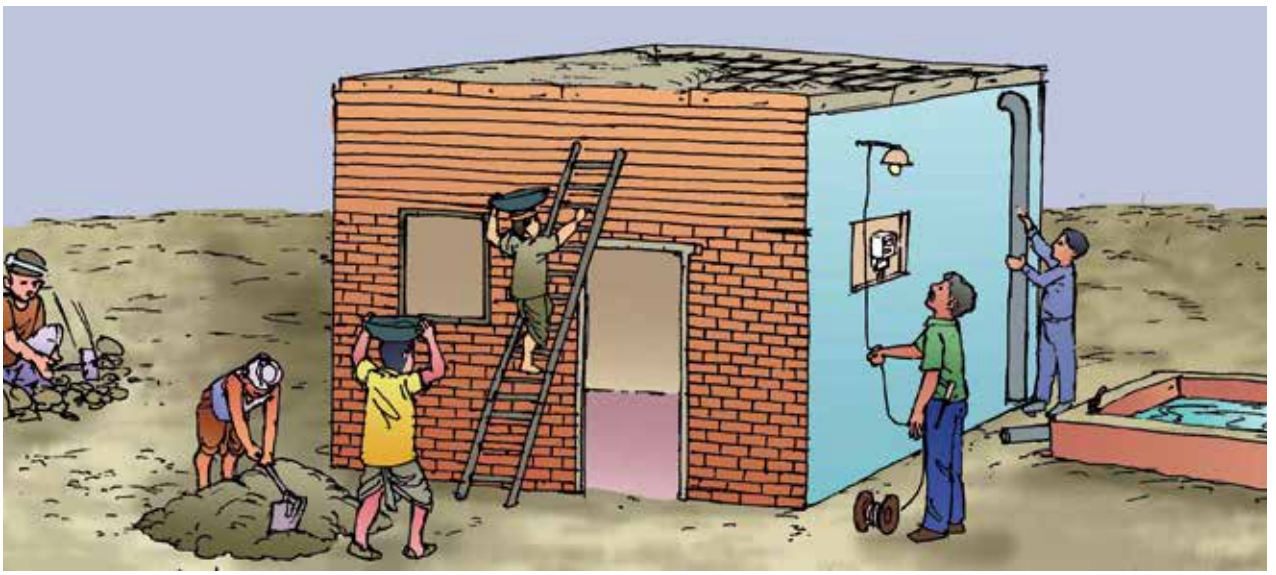
- Write down in your own words about the changes taken place in the types of houses.

Many Hands to Build A House

- Nowadays we engage different people for constructing a house. These people are experts in their own field. They are given names according to the work they do. For example, a person who works with wood is called a carpenter.
- In your native place, what do you call a person who works with wood?

Activity 8

Look at the picture and answer the following:



(i) What are the various kinds of work that are being done by different people here?

Nature of work	Tools used	What is the person called?
1.		
2.		
3.		
4.		

(ii) Do you know such pesons who do these types of work? Talk to them and find out about their work. Discuss it with your friends.

Something to think

Have you seen children working to make a living? In your opinion, is it right or wrong?

Let Us Make Houses

Activity 9

- Divide the children in the class in 3-4 groups. Let each group make a model of a house. For this you can use mud,

wood, paper, pieces of cloth, shoe-boxes, match boxes and colours.

- Place all the houses so that they make a neighbourhood.

Do Animals Have Homes?

You must have seen that some animals also live with us in our houses. Some of these animals live with us because we want them to, while some have come uninvited. Why are some animals kept? Why are others not welcome in our houses? Make lists of the animals which are wanted and which are not wanted in our houses.

Animals liked in houses	**Animals not liked in houses**

Activity 10

Draw pictures of any two animals in the boxes given below that live in our houses uninvited. Write their names below the pictures.

Have you come across a collection of grass, soft twigs, roots, wool, hair and cottonwool in or around your house?

This is a bird's nest. The nests are the homes of birds. If you happen to pass through a forest or a dense bush, you could find such nests. You may even find them hanging from the branches of trees. Next time you see a nest, look what is inside it. You could find some eggs or baby birds inside! But do not disturb them.

Teachers' Note

- *The teacher may initiate a discussion on the houses of animals including insects which are found in her area.*
- *If possible students may be shown birds' nest observable nearby the school. They may be taken to a visit outside the school.*

Activity 11

Draw pictures of any two animals in the boxes given below that live in our houses as pets. Write their names below the pictures.

Home for Bees

Have you ever eaten honey? Where and how is honey produced? Who produces it?

Honey is produced by bees that live in a beehive. Beehive is the home of bees. Every beehive has a Queen bee. She lays eggs. There are only a few males in the beehive. Most of the bees in the hive are Worker bees. They look after the baby bees.

Where is My Home?

Look at these pictures and read what these animals have to express.

Fishes in an aquarium say "They keep us inside this small glass container and we cannot move beyond".

Lion, the king of the forest, says, "Cage of a zoo is not my home. I live and stroll in a forest."

Now Write

- Why do you think some of the animals are sad?

- Do you think the monkeys should be made to dance to entertain people or should they be left free in the forest? Why?

Home of Plants

Have you seen lotuses blooming in ponds and lakes? How beautiful they look! Do you know what will happen to them if you take them out of water? Just like fish, lotuses cannot live without water. Water is their home.

Lotus

Try to answer

- Name some plants that live in water.

- List those water plants which are there in your neighbourhood.

Teachers' Note

- *The teacher may ask students the following questions:*

  Imagine yourself closed inside a room for months together. How would you feel?

  Imagine yourself to be a parrot and you are locked in a cage. How would you feel?

Where else do plants live?

You see them growing everywhere on land—near your home, in your school, in the forests, on the mountains, etc. All these places are the homes of plants.

Green fields in a village

A thick forest

Greenery in Kerala

Activity 12

Ask your elders or grandparents:

(i) Is there any plant which they no longer see in their surroundings?

(ii) Has the number of plants in their neighbourhood decreased? Why?

(iii) What has come up in the places where these plants used to grow?

Home of Birds

Birds live on trees, on land and in water bodies. They make their nests to lay their eggs and nurture their babies.

Sunbird

Tailorbird

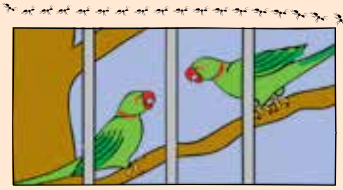
Birds with Their Nests

Weaverbird

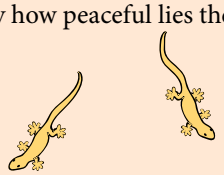
Let Us Sing Together

Home Sweet Home

You always tell me mother
The house belongs only to us,
But how do I believe that mother,
When I know it belongs to many more.



Look mother, how these mice,
Are all playing 'catch-catch' together,
And look how these mosquitoes fly,
Any how peaceful lies the happy spider.



And look mother at the lazy lizard,
How slowly it crawls to and fro,
And look at so many black ants,
All marching in a row.

And look outside in the courtyard,
The birds are all pecking about,
Just like when my sister and I,
Sometimes fight, quarrel and shout.

That is why I say,dear mother,
Don't think this house is only ours,
It's dear to us and all who live here,
And have been living for many years.

(Translated from the Hindi)
Bachcha Toli (Bharat Gyan Vigyan Samiti)

Teachers' Note

- *Students may be asked to record their observations and draw pictures of the plants.*
- *The teacher may initiate a discussion on the importance of conservation of homes of animals and the decrease in the number of animals due to destruction of their habitats.*

Teachers' Note

- *The teacher may initiate a discussion on the importance of conservation of plants and the role of the community's participation in such efforts, e.g., Bishnois.*

Puzzle

T	P	S	T	O	N	E	S
W	S	T	R	A	W	P	A
O	Q	E	I	R	O	M	N
O	C	E	M	E	N	T	D
D	G	L	A	S	S	W	V
N	G	L	E	A	V	E	S
M	A	R	B	L	E	X	Y
B	R	I	C	K	M	U	D

Encircle the names of some building materials in the grid given below. Write their names in the given space.

You Can Also Become A Scientist or A Technologist

(1961-2003)

Kalpana Chawla

- First Indian Woman Astronaut
- Joined NASA for space shuttling after completing Ph.D. in Aerospace Engineering in 1988
- Joined Johnson Space Center in Texas in 1995
- Became Pioneer Space Woman

Kiran Mazumdar Shaw

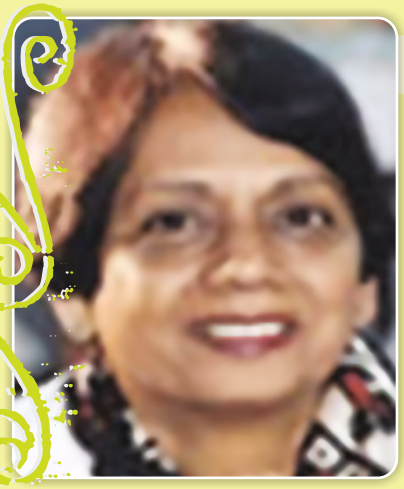
- Honoured with Padmashree award in 1989 and Padmabhushan award in 2005
- A Biotechnologist who became an eminent Woman entrepreneur
- Chairperson and Managing Director of Biocon India Ltd.

23 March 1953

18 July 1960

Archana Sharma

- J.C. Bose Award in 1974
- S.S. Bhatnagar Award in 1975
- Fellow of INSA in 1977
- Padmabhushan in 1984
- Specialisation: Genetics; Chromosomes; and Genetic Toxicology



14 January 1938

Indira Nath

- S.S. Bhatnagar Award in 1983
- Fellow of INSA in 1992
- Specialisation: Immunology; Pathology; Infectious Diseases; and Leprosy

Marie Curie

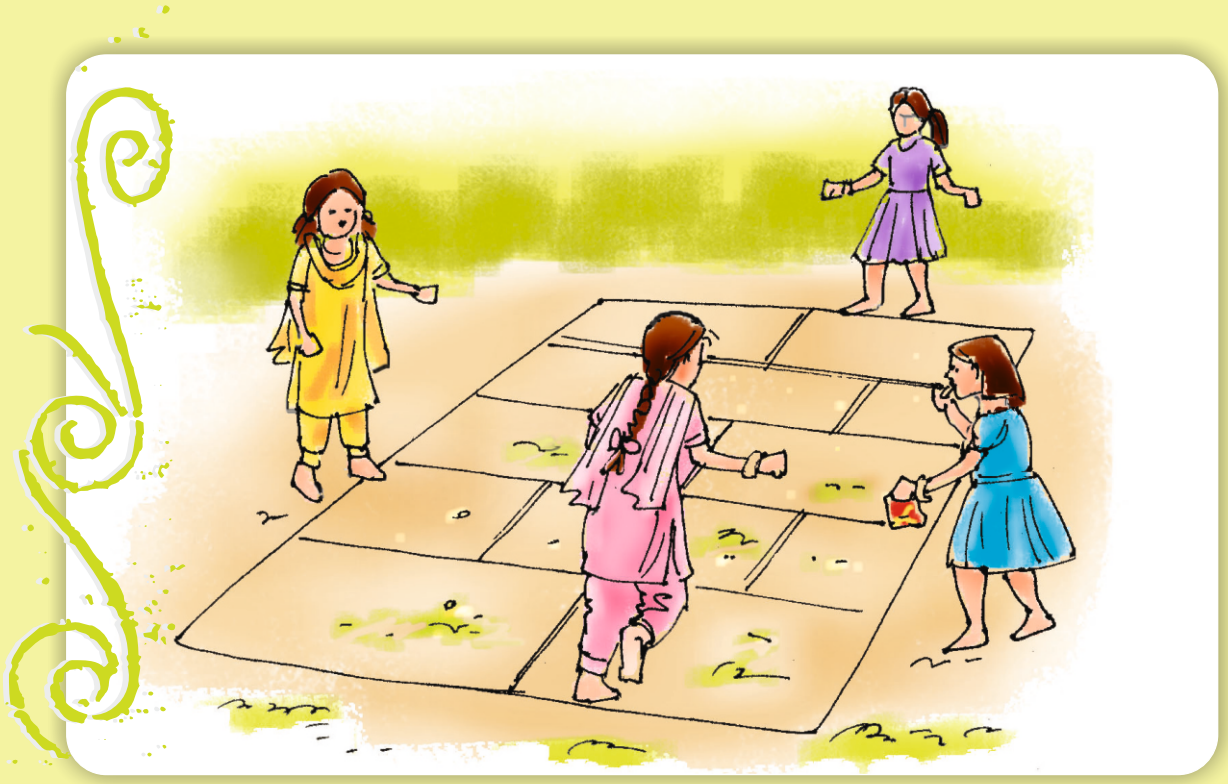
- The first and the only woman to receive the Nobel Prize twice in science (physics and chemistry)
- Discovered highly radioactive elements, Radium and Polonium

(1867–1934)

(1897-1956)

Irene Curie

- Nobel Prize in chemistry in the year 1935
- Discovered Artificial Radioactivity
- Curies are the family of most Nobel Laureates



Girls playing and enjoying togetherness

NOTES

NOTES