Merry Math-IV

A Textbook of Mathematics
for
Class-IV

The Jammu and Kashmir Board of School Education,
Srinagar/Jammu

Published by
The Jammu and Kashmir Board of School Education Srinagar/Jammu

Revised Edition - 2018
Reprint: 31T- February, 2021

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Printed at: Gita Offset Printers Pvt. Ltd., C-90, Okhla Industrial Area-I, New Delhi-20

Foreword

The world of Mathematics is fascinating and it constitutes a gateway to logic, reason and development of analytical skills and appreciations of harmony in nature. Children bring various mathematical skills from their surrounding and culture into the classroom which is the basic of learning mathematics. Teaching and learning in the early years must emphasize both higher goals and context specific goals as both are interdependent and interconnected. In the initial years children learn mathematical vocabulary e.g. matching, sorting, pairing, ordering, pattern, one to one correspondence and mathematical concepts related to numbers, shapes & measures. Some of the special features of *Merry Math* textbook series are as:-

- Attractive illustrations that will engage the child's attention.
- Do and learn to promote activity-based learning.
- The material is created in a way that allows children to observe patterns to generalise them, and to develop their own patterns.
- The contents have been developed in five very natural streams flowing from Class I to Class V, which overlap very often, not only with each other but also with the themes developed in other subjects that are being learnt simultaneously.
- Weightage has been provided to the areas like shapes, spatial understanding patterns measurement and data handling.
- To deal with the problems, the text books have several situations with multiple correct solutions to make the children aware that there can be several strategies for handling a problem.

The Jammu and Kashmir Board of School Education (JKBOSE) is always committed to initiate the process of review and revision of school curriculum, and framing guidelines based on the recommendations of National Education Policy (NEP). While determining the Contents of this textbook titled ***Merry Math IV*** a conscious attempt has been made to correlate Mathematics to the situations which the children experience outside the class room. Sincere efforts have been made to present the contents of the book to the students in appealing and playway manner so as to eliminate the fears/panic usually associated with learning of Mathematics. As recommended by NEP the textbook aims at making departure from traditional methods of rote learning and adopt to the practical methods of meaningful and associative learning by encouraging the children to pursue imaginative activities. The teachers are earnestly advised to improve upon their dependence on traditional methods of teaching and solely relying on the textbooks; they should not ignore the other modern resources and means of learning.

The process of reform and continuous improvement in the quality of the textbook is our top most priority. JKBOSE always welcomes comments and suggestions that will enable us to undertake revisions and refinement as and when necessitated.

I gratefully acknowledge the textbook on Mathematics titled ***"Math Magic"*** published by NCERT, New Delhi that has set the benchmark for the development of this textbook. In the end, I appreciate the sincere efforts of Ms. Manisha Sarin (JKAS), Secretary JKBOSE, Prof. (Dr.) Sudhir Singh, Director Academics JKBOSE, Dr. Aliya Qayoom, Assistant Director and her team for their contribution in bringing out the reprint edition of the textbook.

Prof. (Dr.) Parikshat Singh Manhas
Chairman, JKBOSE

Acknowledgment

The Jammu and Kashmir Board of School Education is grateful to all the following experts of Textbook Development Committee of National Council of Educational Research and Training (NCERT), for development of this Textbook of Mathematics.

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I express my gratitude to Director NCERT for allowing us to use their textual material. Prof. (Dr.) Parikshat Singh Manhas, Chairman has been a beacon of support to us in bringing about this reprint edition. I am grateful for his confidence in the team of experts and Academic Division, which has enabled us to work to our potential and contribute towards the benefit of student. I am also thankful to Ms. Manisha Sarin (JKAS), Secretary JKBOSE, and the Curriculum development wing of JKBOSE.

Prof. (Dr.) Sudhir Singh
Director Academics

Contents

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1 Buildings with Bricks

Brick Patterns for Jagriti School

This is the true story of Jagriti School in Murshidabad (West Bengal). When its building was being made, there was a plan to make brick patterns on the floor and walls. Jamaal, Kaalu and Piyaar were the masons for the brick work. They wanted to get new ideas for the school building. So they took their other friends to see the old tomb of Murshid Kuli Khan. (See photos.)

This building has a big floor with about two thousand beautiful brick patterns. These were made by masons long back – about three hundred years ago.

Look how the bricks are arranged in these five floor patterns.

Which floor pattern do you like the most? _____

Have you seen such patterns anywhere?

The masons came back excited. Jamaal said — Ah! In those days they had made so many interesting brick patterns. We had forgotten these! Let us make some nice designs on the floor of this school.

Each mason made a different brick pattern. The school is proud to have such a beautiful building! Children play and sing on it and also make new patterns themselves.

- Which pattern is made in a circle?
- In which pattern can you show mirror halves? Draw a line.
- Now you draw some new floor patterns.

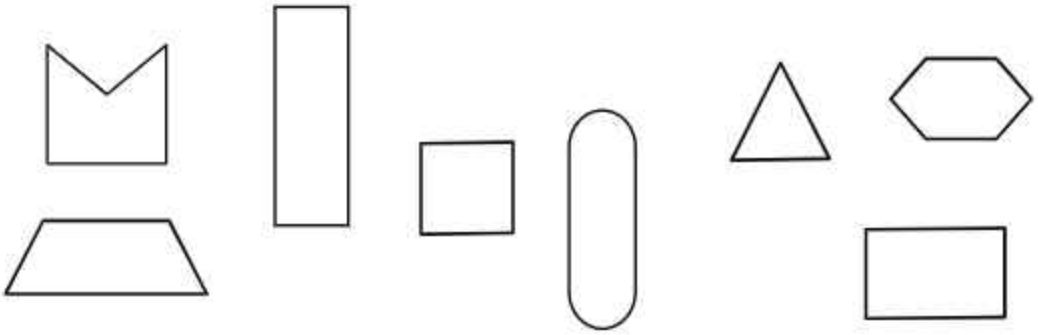
How to Draw a Brick?

These are two photos of the same brick.

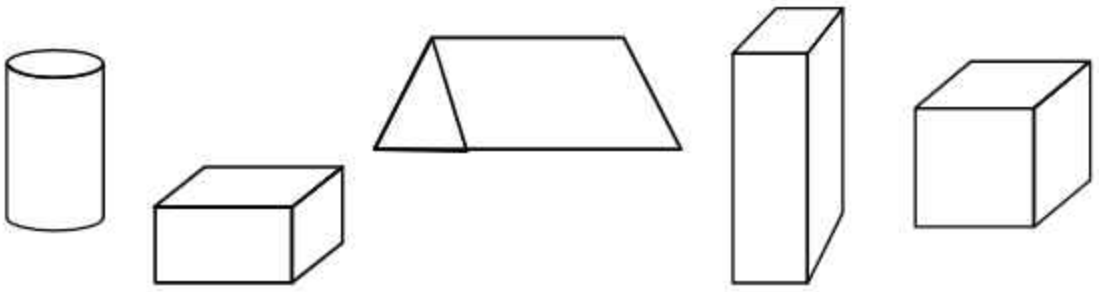
In one photo we can see only one **face** of the brick. In the other we can see three faces. Circle the photo showing three faces.

- How many faces in all does a brick have? ____
- Is any face a **square**?
- Draw the smallest face of the brick.

- Which of these are the faces of a brick? Mark a (✓).



- Which of these is a drawing of a brick? Mark a (✓).



- Make a drawing of this box to show 3 of its faces.
- Can you make a drawing of a brick which shows 4 of its faces?

A Wall that will not Fall

One day Muniya and Zainab are playing with bricks and making their walls. Each makes a different wall.

Zainab

Muniya

Zainab says her wall will not fall easily. Masons too do not put bricks one on top of the other, as Muniya has done.

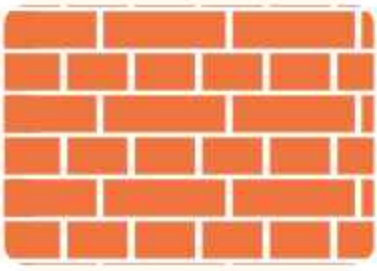
What do you think? Which wall will be stronger?

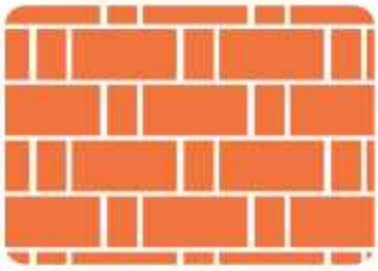
Look for walls where you can see different brick patterns.

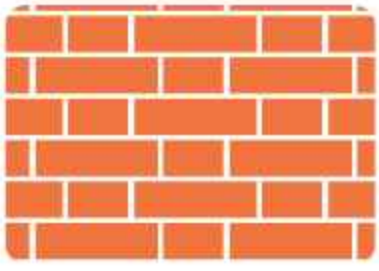
Different Wall Patterns

❖ Here are photos of three kinds of brick walls. Can you see the difference in the way the bricks are placed?

❖ Now match the photo of each wall with the correct drawing below:





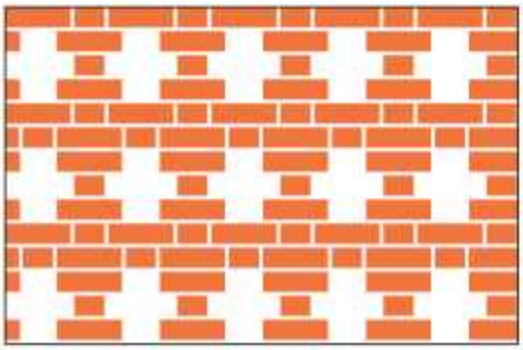


Looking Through a Brick 'Jaali'

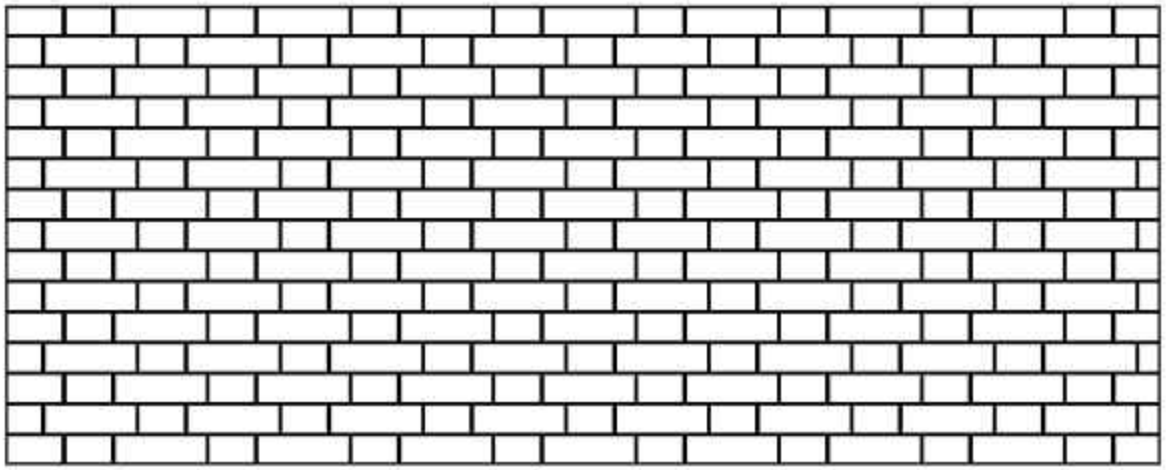
The masons who built Jagriti School had also made different *'jaali'* patterns on the walls.

❖ How many different *'jaali'* patterns can you see in these two photos?

This is a drawing of another beautiful 'jaali'.

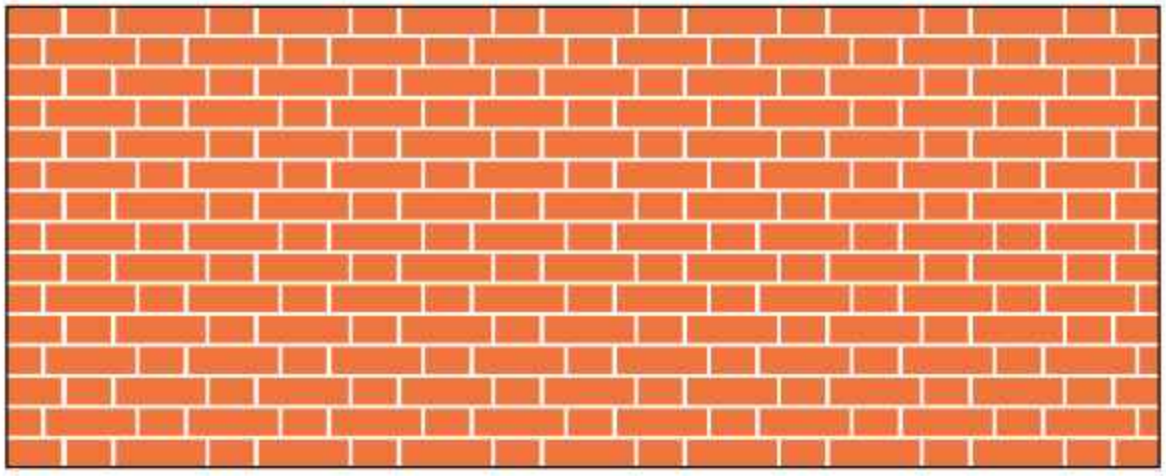


- Now colour some bricks red and make your own 'jaali' patterns in the wall drawn below.



Can you see the window (*jharokha*) in this photo of the school?

- Now draw some jharokha patterns on the wall here. You can shade it black.



This '*jaali*' is from a library building in Kerala.

See how the edge of the bricks is used to make a **triangle** in the wall.

Have you seen bricks that look like triangles? Look at the bricks around the tree in this photo.

Do you see the **arch** in this photo?

This is from a school in Faizabad.

Find out

Look for other arches around you and draw them.

Have you seen arches in a bridge?

- Where else have you seen an arch?

_____

A Special Arch

In this photo from Orchha, see how the arch is made. It has a nice name – *Ghoonghat Waali Mehraab* (the arch with a veil).

Isn't the 'jaali' of this window beautiful? It is made of thin bricks. Have you ever seen thin bricks? Look around.

Jamaal and Kaalu, the masons of Jagriti School, said that their grandfathers used many different kinds of bricks. Some of these are shown in this photo.

- Which of these bricks have curved edges?
- How many faces do you see of the longest brick?
- Is there any brick which has more than six faces?

Find Out: The Size of a Brick

Have you seen bricks of different sizes?

- Take one brick and measure it.
  a) How long is it? _____
  b) How wide is it? _____
  c) How high is it? _____
- Muniya wants to make a wall 1 metre long. How many bricks will she need to put in a line? _____

Bricks and Bricks — Hot and Fresh!

Ganesh and Sahiba live near a kiln where bricks are made.

- Can you guess how high is the chimney here? Is it:
  a) about 5 metres?
  b) about 15 metres?
  c) about 50 metres?

Ganesh and Sahiba love to look at the pattern of bricks in the long, long lines kept out to dry. They also watch how bricks are made.

Here are four pictures from the brick kiln. These pictures are jumbled up. Look at them carefully.

Write the correct order. _____

A

D

B

C

How do you think a brick is made out of soil dug from the earth? Look at the pictures and discuss in groups.

Have you seen a brick kiln? Did you try to guess the number of bricks kept there?

There are many, many brick kilns in India – thousands of them! More than one hundred thousand! Can you imagine how big this number is? This number is also called one lakh. Can you try to write it? Ask your friends where they have heard of a lakh.

Find out

Look at these photos and guess how many bricks are carried by this truck.

Also find out from a truck driver how many bricks they can carry in one truck.

Mental Math: Bhajan Buys Bricks

Bhajan went to buy bricks. The price was given for one thousand bricks. The prices were also different for different types of bricks.

Old bricks	- Rs 3500 for one thousand bricks
New bricks from Intapur	- Rs 5500 for one thousand bricks
New bricks from Brickabad	- Rs 6000 for one thousand bricks

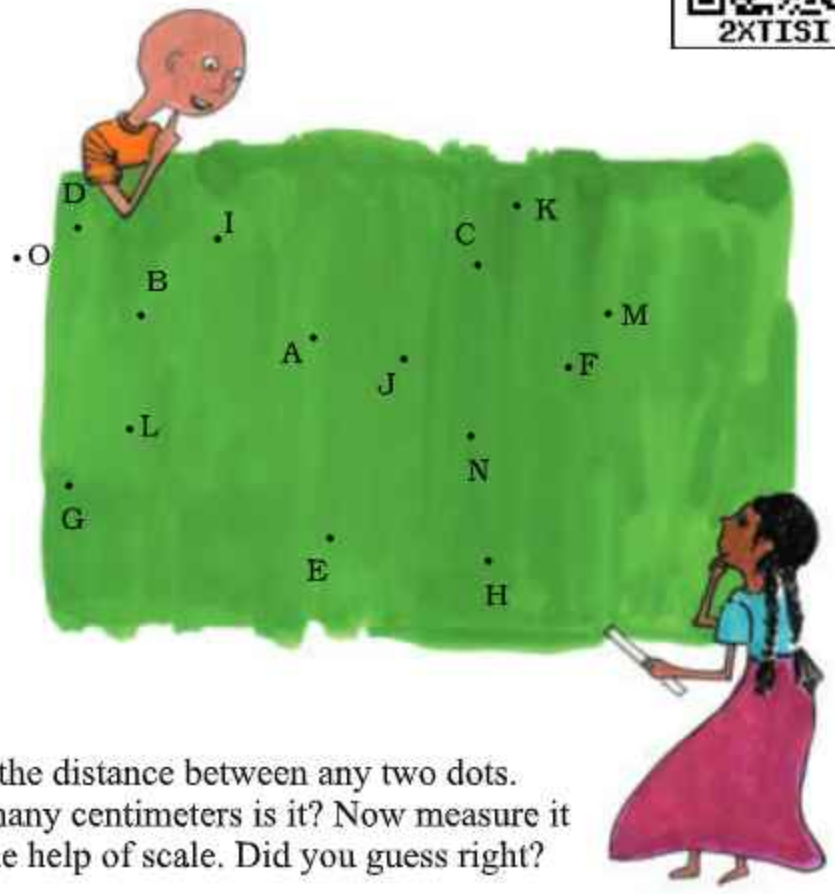
Bhajan decided to buy the new bricks from Brickabad. He bought three thousand bricks. How much did he pay? _____

❖ Guess what he will pay if he buys 500 old bricks.

2

Long and Short

How Far Apart are the Dots?

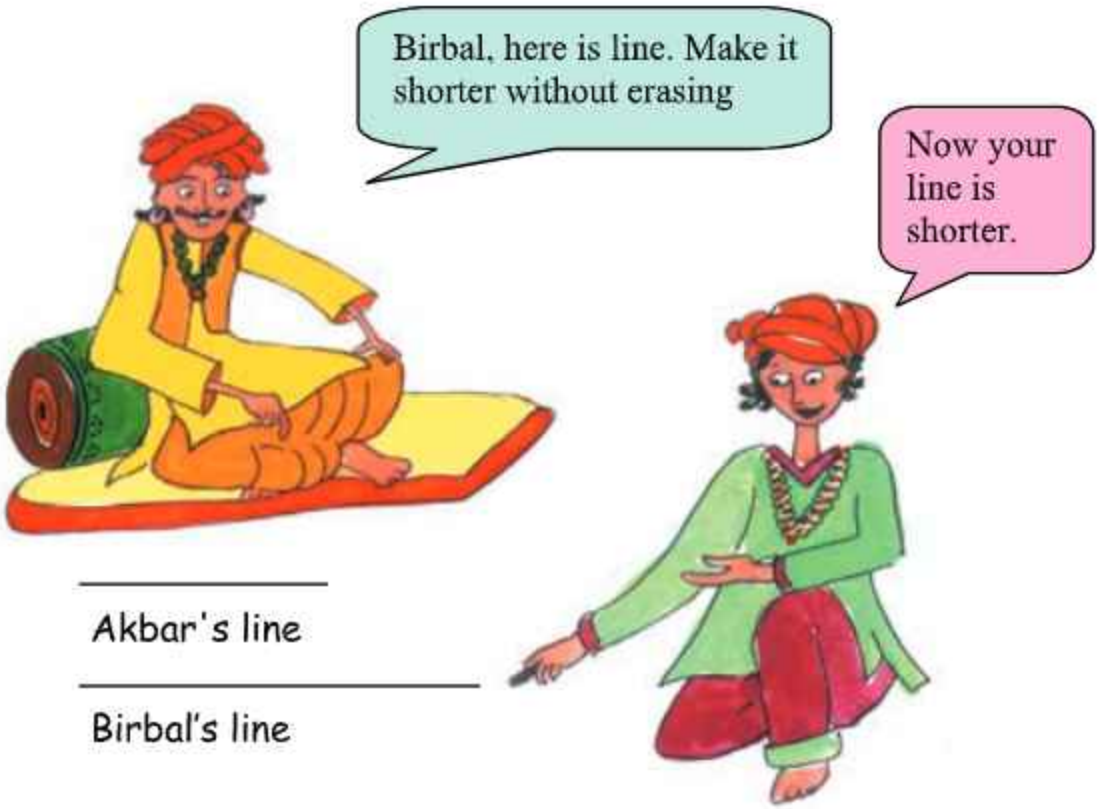


- Guess the distance between any two dots. How many centimeters is it? Now measure it with the help of scale. Did you guess right?
- Which two dots do you think are farthest from each other? Check your answer.
- Which two dots are nearest to each other? Check your answer.

Children can play this game in pairs, making dots on a plain sheet and asking their part to guess the distance. This can also be extended to estimating bigger distances on floor.

The Shorter Line

Akbar was a famous king. He had a smart minister called Birbal. Once Akbar gave him a difficult question. He drew a line on the floor.



Look at the picture and explain how Birbal made Akbar's line shorter.

Now can you be as smart as Birbal? Make his line shorter without erasing it.

Just think - is there any longest line?

Let's Try This

- Make her right arm 1 cm longer than the left arm.

- Draw a cup 1 cm shorter than this cup.

- Draw a broom half as long as this broom.

- Draw another hair of double the length.

How Tall Have You Grown

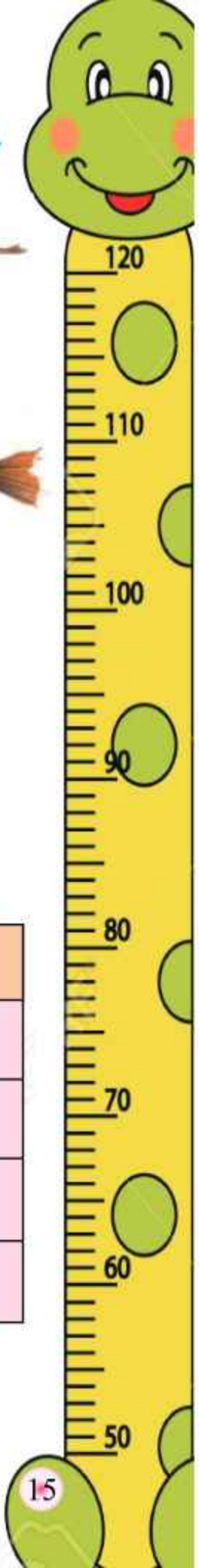
Do you remember that in class 3 you measured your height?

Do you think you have grown taller?

How much? _____ {cm}

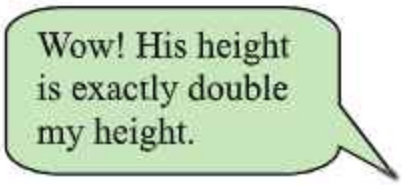
Have your friends also grown taller?

Friend's name	*Last year's height [in cm]*	*This year's height [in cm]*	*How many cm have they grown?*



Roshni once read a list of the tallest people in the world. One of them was 272 cm tall! That is just double of Roshni's height. How tall is Roshni?

_____ cm.



Imagine

- Could that person pass through the door of your classroom without bending?
- Will his head touch the roof of your house if he stands straight?

The Long and Short of Your Family!

- Who is the tallest in your family? _____
- Who is the shortest in your family? _____
- What is the difference between their heights? _____

Inter - School Sport Meet

Race

This is a 100 metre race for girls. Amina is nearest the finishing line. She is about six metres from it.

Behind her is Rehana. Alka and Dolma are running behind Rehana. Look at the picture below
choose from these distances:

- 3 metres
- 6 metres
- 10 metres
- 15 metres

a] How far is Rehana from Amina? _____
b] How far ahead is Rehana from Alka and Dolma? _____
c] How far are Alka and Dolma from the finishing line? _____

Have you heard about a 1500 m or 3000 m race? [You remember that 1000 metres make 1 kilometre and 500 metres make half a kilometre.]

➢ So you can say –

In a 1500 metres race people run _____ km
In a 3000 metres race people run _____ km

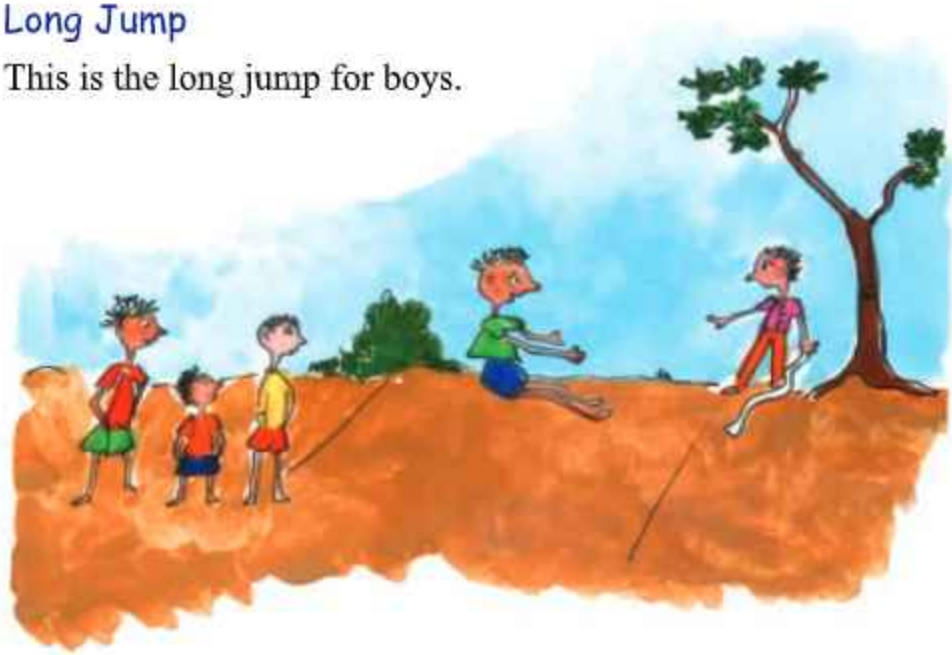
Have you heard about marathon races in which people have to run about 40 kilometres? People run marathons on roads because the track of a stadium is only 400 metres.

10 rounds of a stadium track = _____km

So, if you run a marathon on a stadium track, you will have to complete _____ rounds!

Long Jump

This is the long jump for boys.



Aslam has the longest jump of 3 metres 40 cm. Manpreet is second. His jump is 20 cm less than Aslam's. Gopal comes third. His jump is only 5 cm less than Manpreet's jump.

- How long are Manpreet's and Gopal's jumps?
  _____
- Try and see how far you can jump.
- How far can you throw a ball? _____metres.
- Look for a big ball, like a football or volleyball. How far can you kick it? _____

Here are the Indian and world Records for some jumps.

Sports	*World Record*	*Indian Record*
High Jump [Men]	Javier S. [2m 45 cm]	Chandra pal [2m 17 cm]
Long Jump [Men]	Mike P. [8m 95 cm]	Amrit Pal [8m 8 cm]
High Jump [Women]	Stefka K. [2m 9 cm]	Bobby A.[1m 91 cm]
Long Jump [Women]	Galena C. [7m 52 cm]	Anju G. [6m 83 cm]

Find out from the table –

1. How many centimetres more should Chandra Pal jump to equal the Men's World Record for high jump?

2. How many centimetres higher should Bobby A. jump to reach 2 metres?

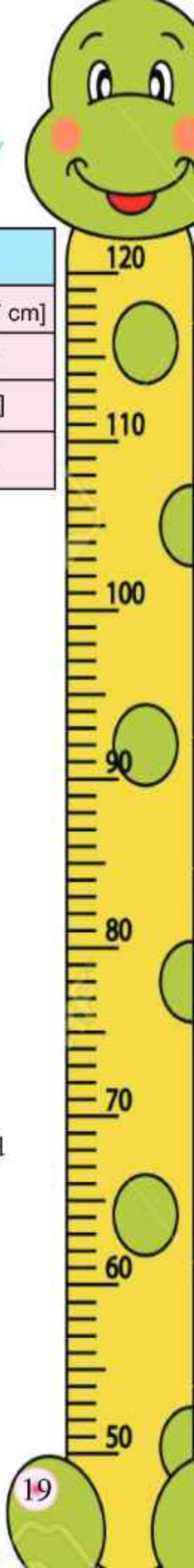
> Remember that 1m = 100 cm
>
> Half metre =?

3. Galina's long jump is nearly
   a] 7 metres
   b] 7 and a half metres
   c] 8 metres

4. Look at the Women's World Records. What is the difference between the longest jump and the highest jump?

5. If Mike P. could jump _____ centimetres longer, his jump would be full 9 metres.

6. Whose high jump is close to two and half metres
   a] Stefka K.
   b] Chandra Pal
   c] Javier S.
   d] Bobby A.



Now Lets Try These:

1. Write the length of each of the following the segments by reading the scale.

a]

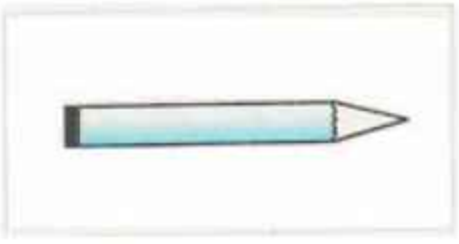
b]

c]

2. Using a 15 – cm scale, find the lengths of the following objects (in centimetres).
   [Remember, we measure from zero mark.]

a] How long is the nail?

b] How long is the pencil?



c] How long is the leaf?

d] How long is the brush?

e] How long is the 10 – rupee note?

3. Find the length of the following objects (in centimetres):

[a] A postcard [b] A book
[c] A chalk – stick [e] An eraser

4. Draw line segments of the following lengths:

[a] 3 cm	[b] 6 cm	[c] 8 cm	[d] 5 cm
[e] 10 cm	[f] 7 cm	[g] 9 cm	[h] 2 cm
[i] 5.5 cm	[j] 7.5 cm	[k] 10.5 cm	[l] 6.5 cm

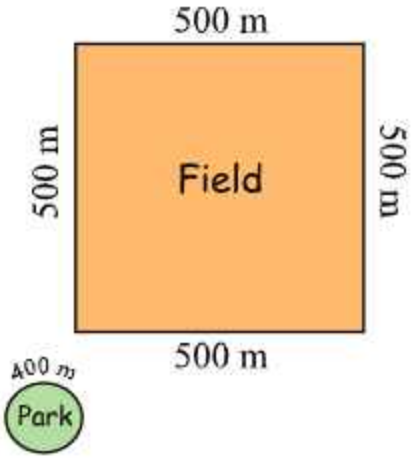
(Answers)
Activity I:

1. [a] 11cm
   [b] 9 cm
   [c] 2 cm

2. [a] 2 cm
   [b] 6 cm
   [c] 4 cm
   [d] 7 cm
   [e] 12 cm

Running Exercise

The doctor has told Mohammad Sadiq to run 2 km every day to stay fit. He took one round of this field. How far did he run?



The field was very far from his home. So he chose a park nearby. The boundary of the park was about 400 metres long.

- How many rounds of the park must Mohammad Sadiq run to complete 2 km?
- One day the weather was very good and a cool breeze was blowing. He felt so good that he kept jogging till he got tired after 8 rounds. That day he ran _____ km and _____ metres!

How Many Rooms High?

The Qutab Minar is 72 metres high.

About how many metres high is your classroom?

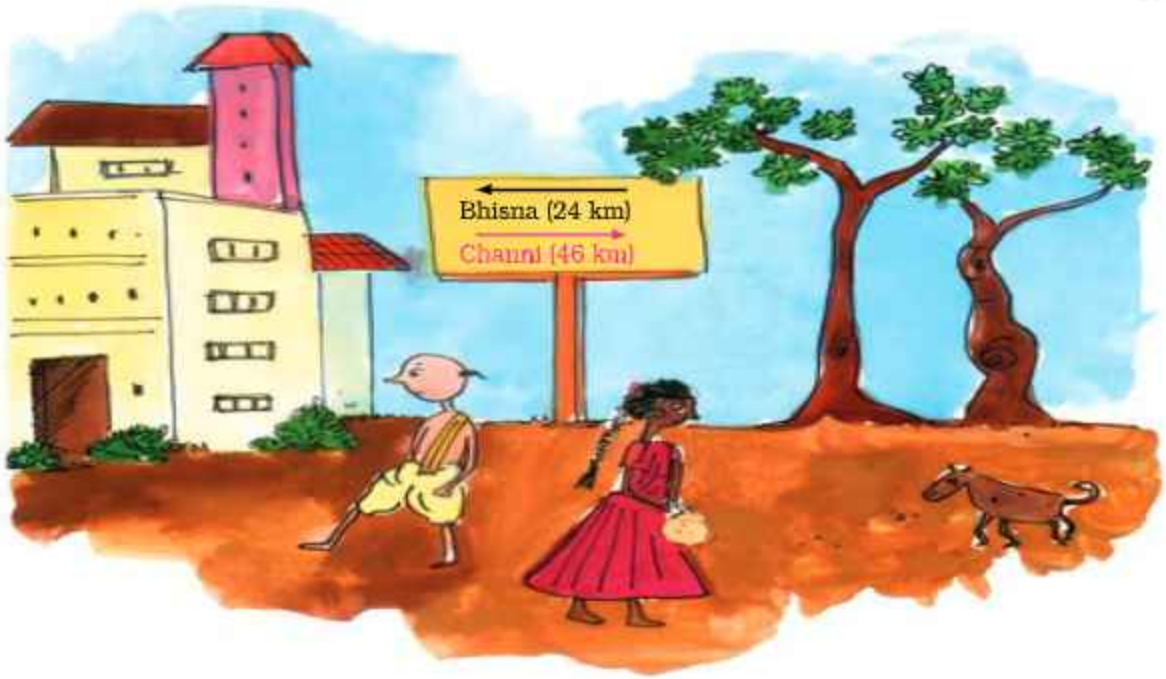
Guess how many rooms, one on top of the other, will be equal to the Qutab Minar. _____

Explain how you made a guess.

From Bhisna to Channi

Anikait is going to Bhisna which is 24 kilometres [km] away.
Anjali is going to Channi which is 46 km away in the opposite direction.

How far is Bhisna from Channi?_____



How Far is Your Home from School?

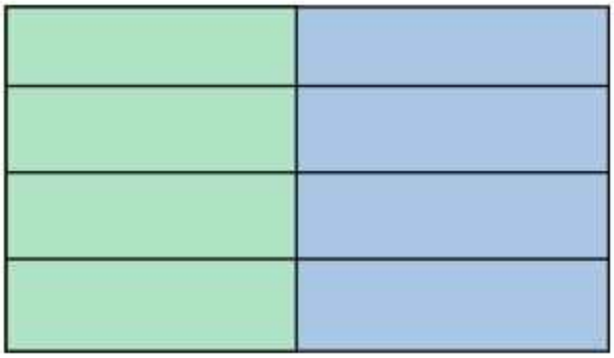
Akram comes to school from very far.
He first walks about400 metres to the pond.
With slippers in his hands, he then
walks 150 metres through the pond.
Next he runs across the 350 metres
wide green field. Then he carefully crosses the

40 metres wide road to reach his school.

How much does Akram walk every day to reach school? _____
Is it more than 1 km? _____

- Find out how far your friends live from school and fill the table. Write in metres or kilometres.

Friends name	*Distance of home from school*



Who among you lives nearest to the school? _____

Who lives farthest from the school? _____

How many children live less than 1 kilometre away from your school? _____

Is there anyone who lives more than 5 km away from the school?

How do they come to school? _____

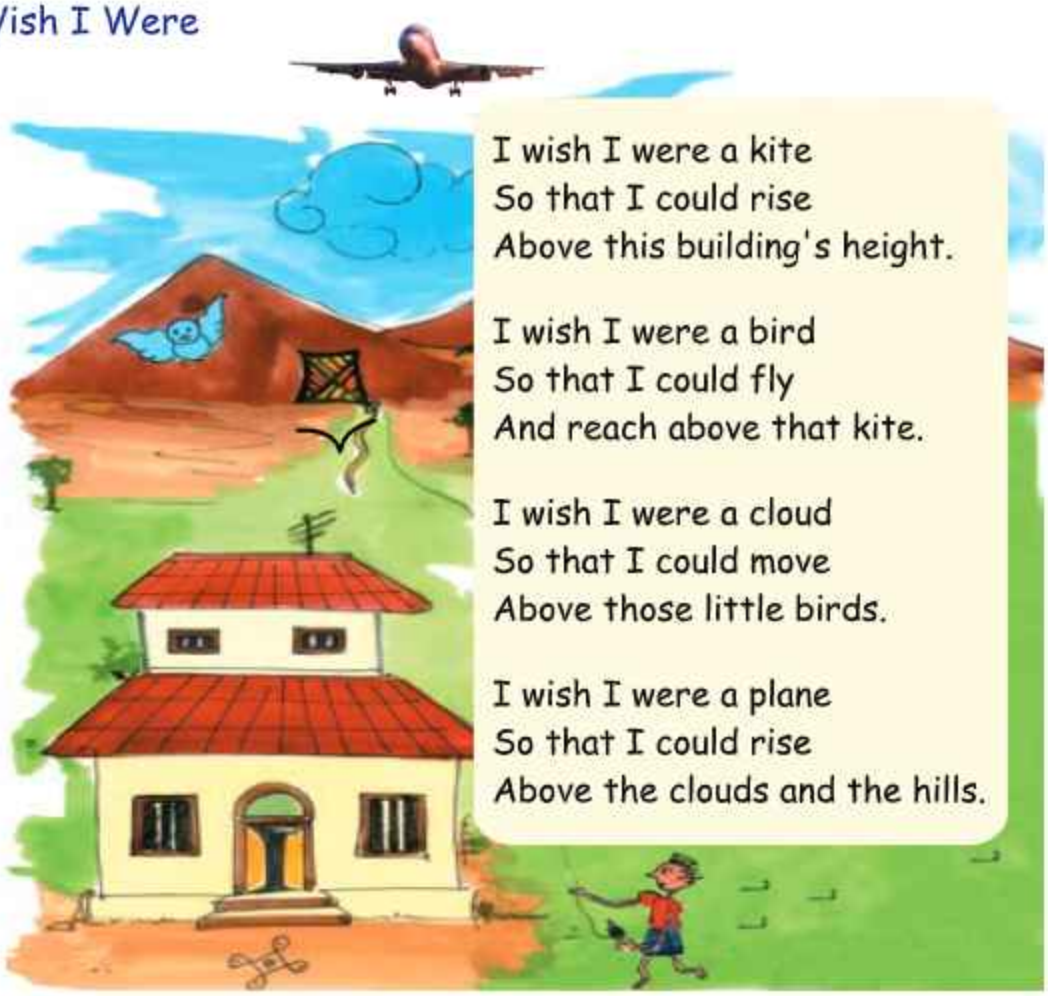
_____

Guess and Find Out

1. How long is the thread in a reel?
2. How long is the string of a kite reel? Can it be more than a kilometre long?
3. If a handkerchief is made out of a single thread, how long would that thread be?

Children will get a good idea of 1 kilometre distance if it is possible to take them for a 1 km walk, preferably along a straight path.

I Wish I Were



I wish I were a kite
So that I could rise
Above this building's height.

I wish I were a bird
So that I could fly
And reach above that kite.

I wish I were a cloud
So that I could move
Above those little birds.

I wish I were a plane
So that I could rise
Above the clouds and the hills.

Try to find out:

1. Which is the highest building that you have seen? About how many rooms high was it?
2. How high can a kite go? Can it go higher than the Qutab Minar?
3. How high can a plane fly? Can it fly higher than Mount Everest which is about 9 km high?
4. Have you ever seen clouds below you?

It would be useful here to discuss about children's experiences, particularly when talking about clouds and their height, so that they get an intuitive feel of relative heights, and can begin to estimate large distances.

3

A Trip to Bhopal

2Y3EU6

Today Rohi is very excited. All the children of her school are going on a trip to Bhopal with their teachers. Ms. Meena and Mr. Rakesh are talking about the number of buses needed.

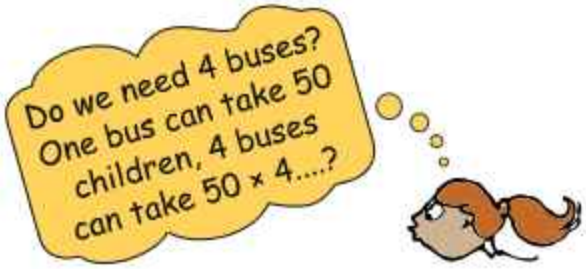
Ms. Meena — We will need 4 buses.

Mr. Rakesh — I think we need at least 5.

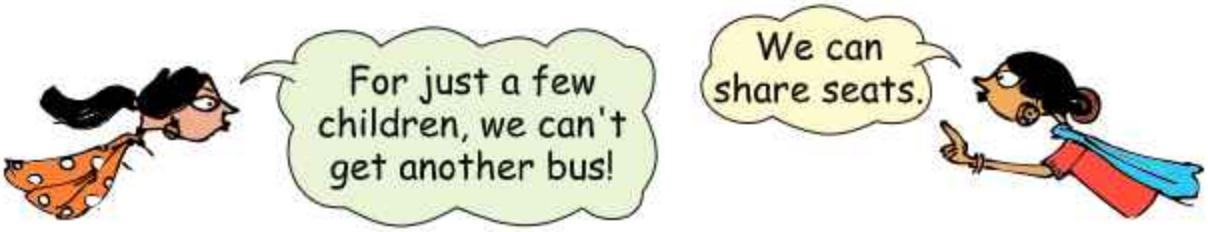
Ms. Meena — Each bus has 50 seats.

Mr. Rakesh — Let us see how many children are going.

Class	*Number of children*
I	33
II	32
III	42
IV	50
V	53
	Total _____



- So there are a total of _____ children going.
- If they get 4 buses, how many children will get seats? _____
- Will there be any children left without seats?



Children should be encouraged to estimate first and then find out the answer using any method they want. It is important to discuss the methods children use to solve a problem.

Waiting for the Buses

Sahiba jumps out of the line to see if the bus are coming. She shouts loudly — Hey! I can see them. Run! Grab the window seats.

Many children start jumping in excitement. But .....

Now there is an argument.

Each mini bus can take 35 students. How many mini buses are needed? _____

The Journey Begins

As the buses start moving, children sing at the top of their voices. Some look outside to enjoy the view of the green fields and the hills.

Indra — When will we reach Bhopal?

Ms. Asha — If we don't stop anywhere, we should reach there in 2 hours, that is around _____ o' clock.

Manjeet — Is it very far?

Sham — It is about 70 km.

Ruby — Are we going to stop anywhere?

Mr. Rakesh — May be at Bhimbetka, about 50 km from here.

⌘ If they go to Bhimbetka, they will reach there

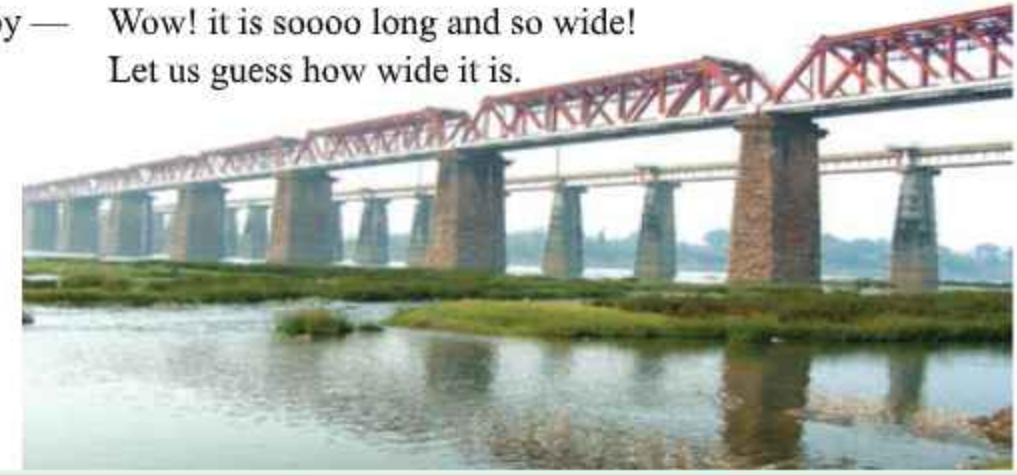
— Before 10 o'clock

— Between 10 o'clock and 11 o' clock

— After 11 o' clock

As they are talking, Bahadur shouts — Hey! look at the Narmada. Everyone looks out of the windows.

Ruby — Wow! it is soooo long and so wide!
Let us guess how wide it is.



Gopi — Uhm---m, 100 metres? No, it is much more. Can't say.

Victoria — It must be more than half a kilometre.

Ms. Asha — Look, it is written – 'This bridge is 756.82 metres long'. So we can guess that the Narmada must be about 500 metres wide at this place.

⌘ Was Victoria right ?

Sadaf — I just can't imagine 500 metres.

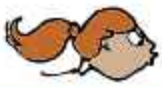
Ms. Asha — See, our bus is about 5 metres long. Imagine how many buses can stand in a line on this bridge.

⌘ Have you ever crossed a long bridge? About how many metres long was it? _____

Everyone looks down at the river.

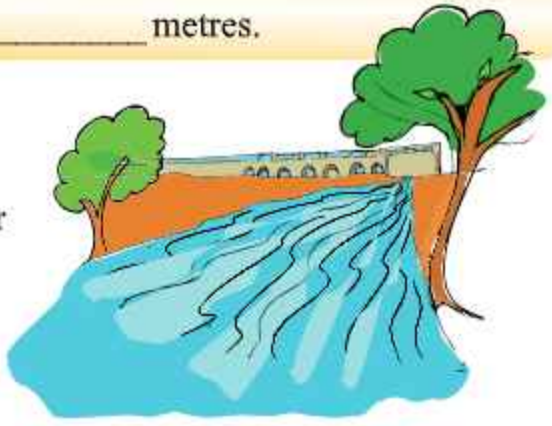
Mr. Rakesh — The water level now is quite low. It must be about 40 metres below the bridge.

Ms. Asha — But in the rainy season, the water had risen. Then it was just about 15 metres below the bridge.



⌘ What is the difference between the water level of the Narmada in the rainy season and now? _____ metres.

The children discuss about the river for some time. .....



Suddenly, the bus stops with a jerk.

Oh! The petrol pump. Two buses need to be refilled.

The buses stand in a line. Children are sticking their necks out to see how diesel is filled in the bus. Some children have got down to look more closely.

⌘ Each bus takes about 15 minutes to refill and there are two buses to be refilled. So they stop there for about _____ minutes, which means they are late by about _____ minutes.

⌘ Look in the picture and find the price of 1 litre of diesel. _____

As the buses are being refilled, some children go to the toilet near the petrol pump.

How much time did Aman take to come out of the toilet? _____

To Bhimbetka

After the buses are refilled, the journey starts again. Now the children are told that they are stopping at Bhimbetka.

Anjan — What is Bhimbetka?

Ms. Raina — It's a place with lots of caves and cave-paintings made by people ten thousand years ago.

Sonu — Ten tho....uu....saa....nd years! I cannot even think of one thousand years back!

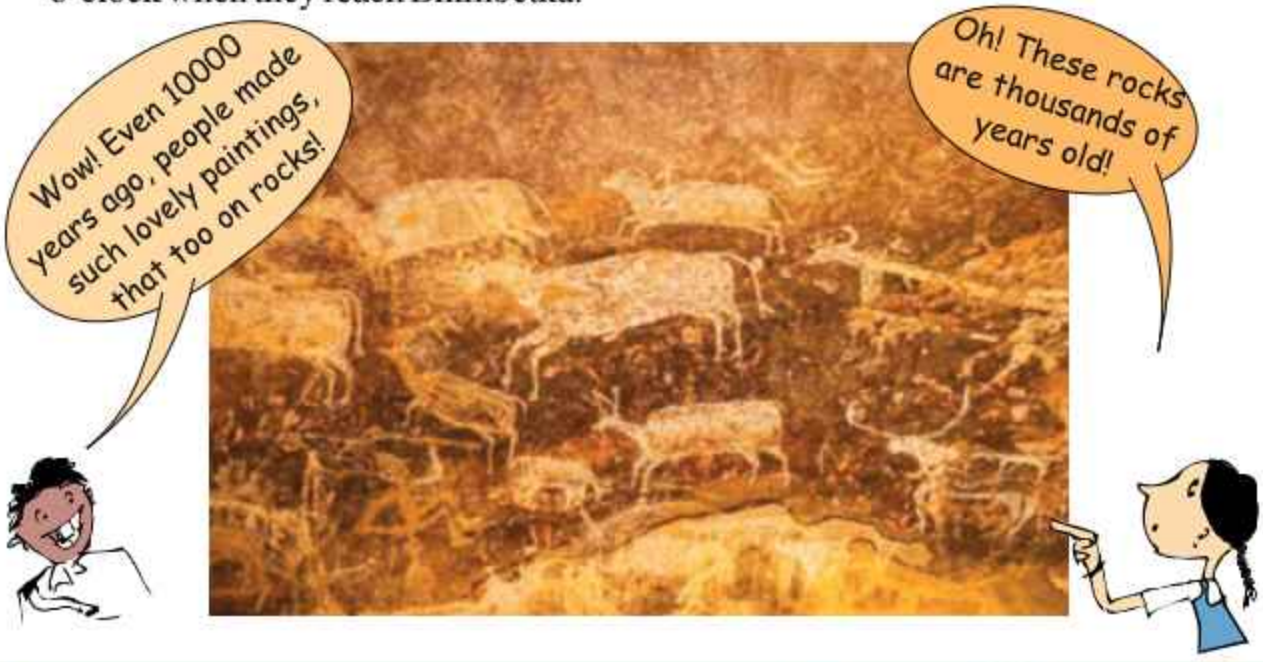
Gopi — Oh! one thousand years is a big thing, I can't even think of one hundred years.

Gauri — I can think of 100 years because my father's grandmother is 100 years old.

Manjeet — That means those caves are almost hundred great grandmothers old!!

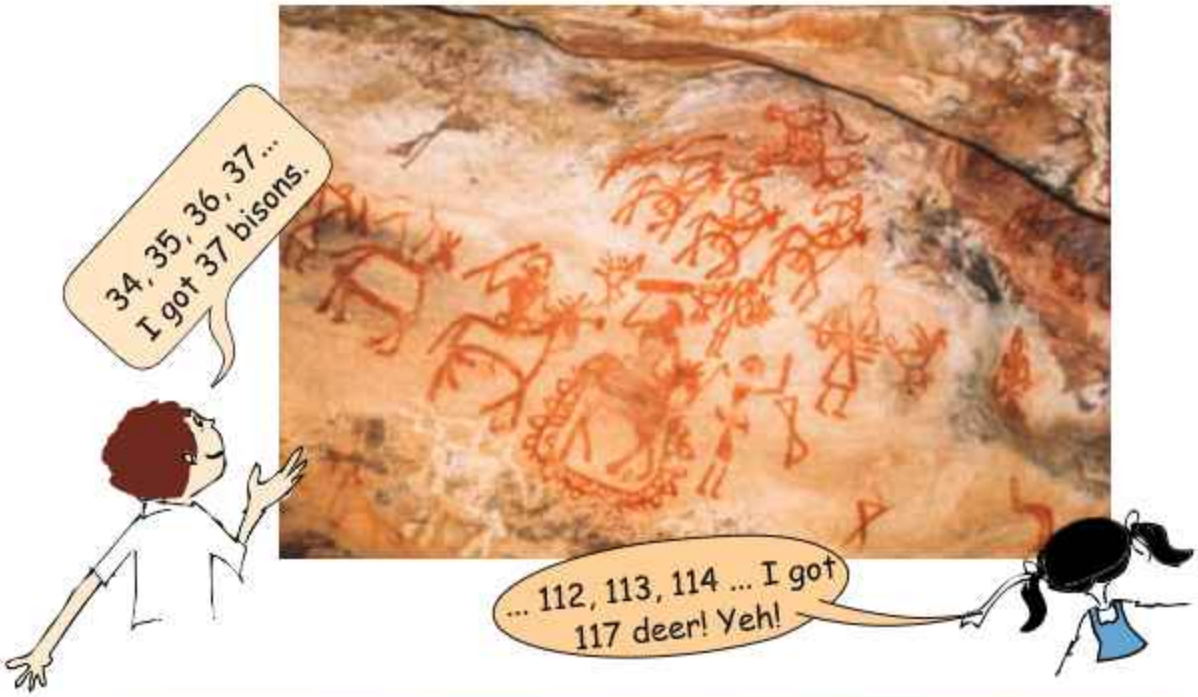
Everybody bursts into laughter – Ha! Ha! Ha!

Now the children are really excited to see the cave-paintings. It is about 11 o' clock when they reach Bhimbetka.



Shankar — This painting also has very big bisons. Hey, I got an idea. I will count the bisons and you count the deer in the paintings.

Mala — I will count people. Let us see which are the most — bisons, deer or people.



⌘ How many more deer are there than bisons? _____

But Mala is the happiest because the number of people is even more than the number of deer and bisons together. Her count is less than 200.

⌘ How many people must Mala have counted?

214 / 154 / 134 / 177

The guide tells them that there are 600 cave-paintings in all.

It is time to leave Bhimbetka.

⌘ They have spent 1 hour there. What time is it? _____

They are now moving towards Bhopal. They should reach there in less than 1 hour, at about _____ o' clock.

Lunch Time

The children are hungry by this time so they take out their lunch-packs. Biscuits, oranges and bananas are also distributed in all the buses.

Each child is to be given 1 orange, 1 banana and 5 biscuits.

All the children take oranges and biscuits but 38 children do not take bananas.

⌘ How many oranges, biscuits and bananas are distributed?

Manjeet and Bhanu quickly finish their lunch and start asking puzzles to pass the time.

Manjeet — Tell me the number which is exactly between 100 and 150.

Bhanu — 120 ... no, 130 ... no it is 125.

Manjeet — Right. OK! You ask now.

Other children join in. Everyone is asking puzzling questions.

A I gave four toffees each to four of my friends and three toffees are left with me. How many toffees did I have?

B What numbers can you make using 3, 5 and 7? You can make 357 and 537. What others?

C A number becomes double if it is increased by 8. What is the number?

Children can be asked to solve many more similar questions or puzzles, both orally and in writing. They should also be encouraged to explain the strategies they use.

D Think of a number which can be divided by 2, 3 and 5 and comes between 25 and 50.

E A small ant climbs 3 cm in 1 minute but slips down 2 cm. How much time will it take to climb to 2 cm?

Can you solve these? Try them out.

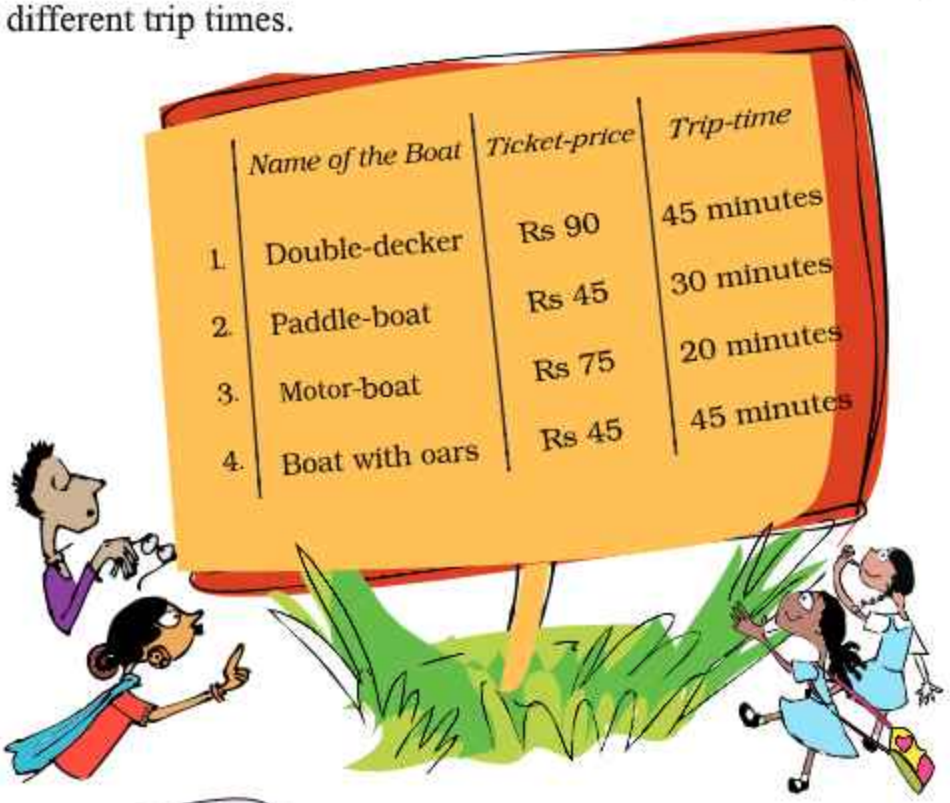
Which Boat do We Take?

They are so lost in puzzles that they do not notice they have reached the lake. It is a very big lake with a small island in it.

The lake looks very beautiful at this time. There are a lot of ducks making a loud noise. Some children give them popcorn.

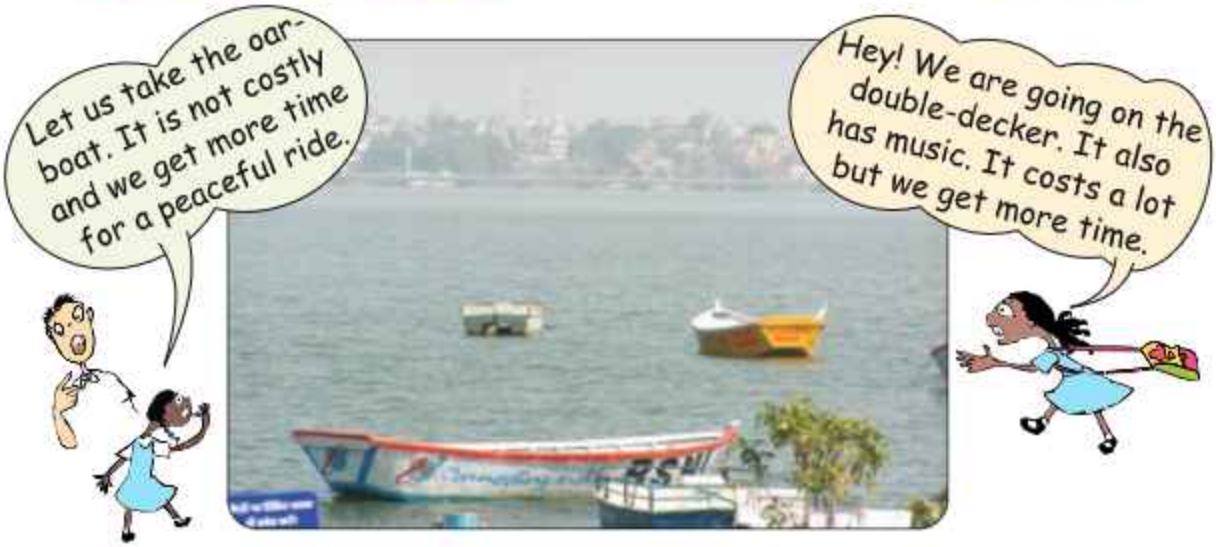
Now comes the exciting part! It is time to go for boating. They have to choose which boat to take. But that is not easy.

There are different kinds of boats. Each has a different ticket price, and also different trip times.



	Name of the Boat	Ticket-price	Trip-time
1.	Double-decker	Rs 90	45 minutes
2.	Paddle-boat	Rs 45	30 minutes
3.	Motor-boat	Rs 75	20 minutes
4.	Boat with oars	Rs 45	45 minutes

Based on the table showing ticket rates, trip time etc. some questions are given in the book. Children should be motivated to make many more questions themselves.



- Indra and Bhanu first went in the motor-boat, and then took the oar-boat.

  How much did they pay for both the boats? Rs _____

  How much time did they get for both rides? _____

- One group of children went for the double-decker trip. They paid Rs 1350 in total. How many children went for the double-decker trip? _____
- Which boat makes two trips in 1 hour?
- Which boat takes less than half an hour to complete a trip?
- Which boat gives them the most time taking the least money?
- Javed went twice for boating. He paid a total of Rs 120. and boated for 50 minutes. Which two boats did he take? _____

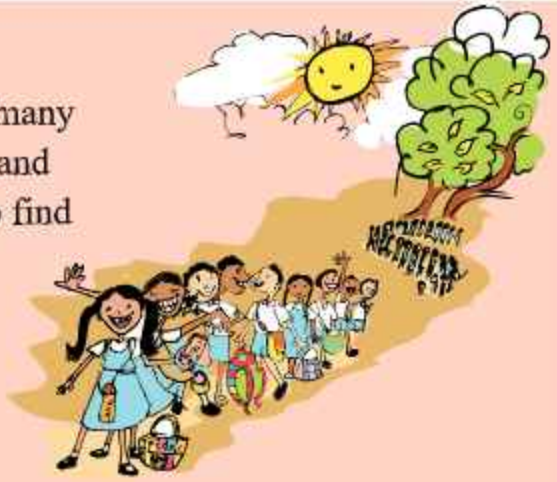
Time to Return

Children enjoy different boat rides till 4 o'clock. It is time to return. Now they will not stop anywhere and reach back in two hours.

So, they should reach Hoshangabad by _____ o'clock.

Find out

Have you ever been on a school trip? How many children were there in all? How did you go and how far? How much time did it take? Try to find out the cost of travel for each child.



Practice Time

1. There are four very old cave-paintings. Mark the oldest.

   a) 4200 years old c) 8500 years old

   b) 1000 years old d) 1300 years old

2. One bus can carry 48 children. How many children can three buses carry? About —

   a) 100 b) 200 c) 150

3. Which pair of numbers add to make more than 500?

   a) 152 and 241 c) 99 and 299

   b) 321 and 192 d) 401 and 91

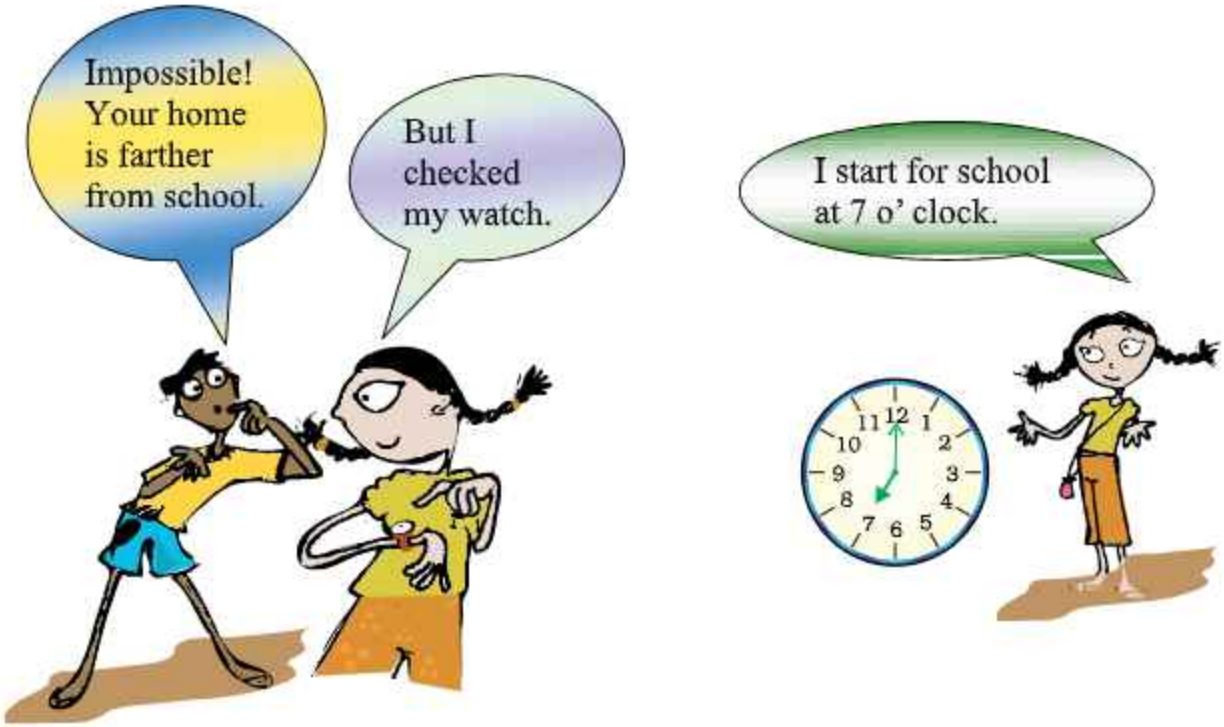
4. What happened at what time? Draw lines to match.

⌘ Crossed the Narmada bridge	3:00 p.m.
⌘ Looked at Bhimbetka paintings	6:00 p.m.
⌘ At the petrol pump	9:10 a.m.
⌘ Boating in the lake	12:30 p.m.
⌘ Had lunch	11:30 a.m.
⌘ Returned to Hoshangabad	9:30 a.m.

4 Tick - Tick - Tick

2YCAVT

Aaquib and Maria were discussing whose home is farther from school.



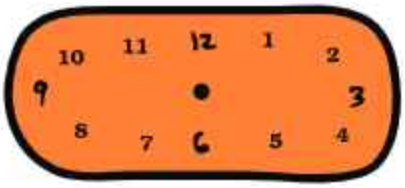

When I reach school, the minute hand points at 2.
So shouldn't it be 2 minutes past 7 or 7:02?
You are wrong! You reach school at 7:10
How?
Can you see these thin lines between the numbers?
Yes, so what?
The minute hand moves across 10 lines after 12. So it is 10 minutes past 7 or 7:10.
I start for school at 7.
I reach at 7:05. See, the minute hand moves across 5 lines.

Practice Time

1] Three friends read time from a clock. Who is right?

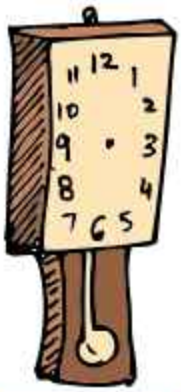
	Babloo	Raju	Alka
	12:03	12:15	3:00
	7:25	5:07	5:35
	3:35	7:03	7:15

2] Show the following times in the clock



3:10	6:40	4:45

2:20



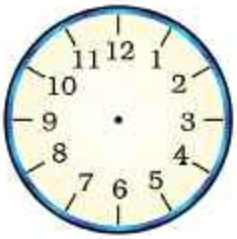
3:15

7:35

Do you like sky watching? If yes, then this one should interest you:

A] At what time does sun rise at your place? _____

B] When does the sun set? _____



Does the sun rise and set at the same times every day?

Look at the newspaper and see the time of sunrise and sunset in different months.

Look at photo and guess the time of this place.

This photo was taken in Paris, France. In Paris the sun sets after 9 pm at night during summer. This photo was taken at night! But in winter it becomes dark here at 4 pm in the evening.

3] Find out

- How long will it take the minute hand to move from

A]  to  ____ C]  to  ____

B]  to  ____ D]  to  ____

➢ Draw where the hand will be:

A] 20 minutes past
6 O' clock

C] 10 minutes past
7 O' clock

B] 30 minutes past
8 O' clock

D] 15 minutes past
5 O' clock

➢ How long does your school assembly take? _____

How long is your lunch break? _____

How long is your games period? _____

Is it the same time as all other periods? _____

➢ How many minutes can these activities take? Make a guess and then check at home.

Boiling 1 litre milk _____

Filling a bucket _____

Sweeping your room _____

Activity Time

➢ In one minute, how many times can you –

A] Snap your finger _____

B] Skip a rope _____

C] Jump up and down _____

D] _____ _____

Write more such fun activities in this column.

➢ Here is another challenge for you.
How long can you –

A] Speak non – stop

_____

B] Stand on one leg

_____

C] Sing 'Aaaaa….' Without break _____

➢ How long do you take to –

A] Run a 50 metre race _____

B] Collect 50 pebbles from the ground _____

C] Count 1 to 100_____

➢ Lets us look at a clock again! Solve this one –

A] The minute hand started from '2'. How many minutes will it take to come back to '2' again? _____

B] What happens to the hour hand? Does it also move? How long will it take to move from one number to the next?

C] Look around you and list the activities that take about one hour to complete.

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

How long does it take to cook dinner at home?

More than an hour / less than an hour.

Ask your father if he can cook as fast as your mother does.

Yes / No

Which games take less than an hour to finish? _____

How long does a football match take?

Children will enjoy doing activities to see all the things they can do in one minute. Observing activities at home will give them a sense of time and also help them value the effort of others.

Lets Us Try These - (Activity I):-

1. Copy and complete these sentences:

A] This clock shows 10 minutes to 4.
This is same as _____ minutes past 3.

B] This clock shows quarter to 8.
This is the same as _____ minutes past 7.

C] This clock shows half past 10.
This is the same as _____ minutes past 10.

D] This clock shows quarter past 3.
This is the same as _____ minutes past 3.

E] This clock shows 6:15.
This is the same as quarter past _____.

2. Write the time for each clock. The first one is done for you:

A] 

4:20

B] 

C] 

D] 

E] 

F] 

Answers:

1. a] 50
   b] 45
   c] 30
   d] 15
   e] 6
2. b] 8:40
   c] 6:47
   d] 7:12
   e] 12:11
   f] 3:16

Rani's Diary


Come let's go to see my new baby sister.
Maa I have brought sweets for Muniya.
But she can't eat. She is too small!
And she doesn't even talk!
She will start doing all this slowly as she grows up!

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Here are some pages from Rani's Diary —

Mark these in the correct order on Muniya's Time Line.

5/3/05

↓

Was born

- Muniya got her first tooth in September. How many months old was she then? How many months have passed from March to September? _____
- How old was Muniya, when
  - (a) she first sat up? _____
  - (b) she got her first tooth? _____

- What did she do first — 1) walking/eating a banana?
  2) crawling/standing?

Rani had a pet puppy. After 2 weeks it opened its eyes. She watched it grow like this:

After 3 weeks it got its first teeth and started eating.

After 4 weeks — it started walking around but was still wobbling.

It had a full set of teeth by the time it was 7 months old.

After 1 year, it was a grown-up dog and got its own puppies.

- Now make a time-line of this dog's life in your notebook.
- Note the differences between Muniya and Rani's puppy:

Positions	*Muniya (age)*	*Puppy (age)*
Started walking		
Ate food for the first time		
Got the first tooth		

Find out

Do all animals grow at the same speed?

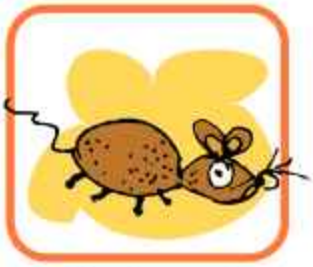
Discuss about the growth of—

1. A hen
2. A cow
3. A bird

Draw pictures of the baby animal and the big animal.

Here are the pictures of grandfathers posing for a photograph. Who looks the oldest to you?

Elephant Appu's grandfather
(95 years old)



Chuchoo rat's grandfather
(2 years old)

Rani's grandfather
(70 years old)

- How much older is Appu's grandfather than Rani's grandfather?

  _____

- Will Chuchoo's grandfather ever grow as old as Appu's grandfather?

  _____

- How much younger is Chuchoo rat's grandfather than Rani's grandfather?

  _____

This is a good opportunity for children and teachers to find out about the life spans and growth patterns of different animals. The idea is to compare and discuss without having to memorise any such information.

Holidays are Fun!

Atif's holidays had begun. He was very excited. He had made some wonderful plans and wanted to tell his cousin Shabana. So he wrote her a letter—

Ajmer
1/5/06

Dear Shabana aapa,

Hello!

How are you? I am fine here. Aapa, my holidays have started from today! I am going to my Nani's place on 5/5/06. I will be back on 20/5/06. My school will reopen on 30/6/06. When does your school close? Why don't you come here? We will have great fun!

Bye for now

Atif

Shabana who stays in Nagpur, got this letter on 6/5/06. She wrote back to Atif—

Nagpur
7/5/06

Dear Atif,

Hello!

I am doing well here. I got your letter yesterday. Happy holidays! My school will close on 1st June 2006. It will reopen on 10th August. I will go on a school trip to Goa and will return on 7/6/06. I will try to come to Ajmer after that. Bye

Shabana

Atif wrote his letter on 1/5/06. You remember how we write a date in numbers?

1/5/06 is 1 May 2006.

Now write which dates these stand for –

5/5/06 5 May 2006

20/5/06 _____

7/6/06 _____

1/1/07 _____

Write these dates in numbers.

1 June 2006 _____

30 May 2006 _____

10 Aug 2007 _____

- How long did it take the letter to reach from Ajmer to Nagpur?_____
- How many days will Atif spend at his Nani's place? _____
- Fill in the table:

	Dates		Number of days
	From	To	
Shabana's holidays			
Atif's holidays			

Who has got longer holidays — Shabana or Atif?

- Which long holidays do you get in school? Fill the table.

Occassion	*Dates*		*Number of days*
	From	*To*	
Summer holidays			
Autumn Break			
Winter Break			
Holidays after the exam			

On 15 May 2006 Chandran went to a shop to buy butter. He checked the packet to see if this butter was safe to eat.

It was written on the packet — Best before 180 days from the date of packing.

Then he checked the date of packing. It was 15/01/06.

Help him find out if he should buy this butter or not.

— In which month was the butter packed? _____
— Which month will it be 180 days after 15/01/06? _____
— Can Chandran eat it on 15th May 2006? _____

Do you ever check the date of packing of things you buy?

Have you seen medicines which have the expiry date written on them? It tells you after which date it is unsafe to take the medicine.

Find Out

✦ Which are the other things that come with an expiry date?

On a cough syrup it was written:

Mfg. date 07/03

This shows it was made in July 2003.

Exp. date 07/05

This shows the month and year till when it is safe to take.

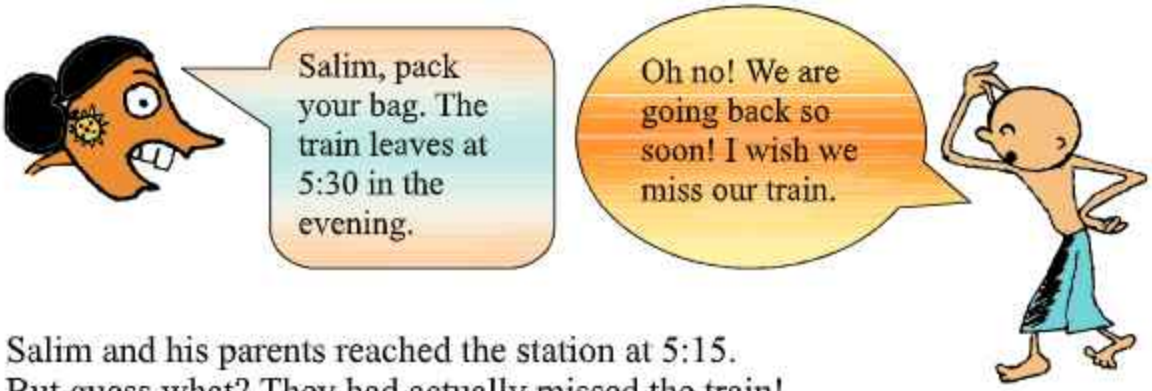
✦ What month and year is written as 07/05? _____

Would it be safe to take the cough syrup in September 2005? _____

Children are not expected to know the words 'manufacturing' or 'expiry' dates, but only to recognise these as symbols that show when the medicine is made and till when it is safe to take. Teachers could encourage children to read and observe more such dates on different products.

Salim Missed the Train

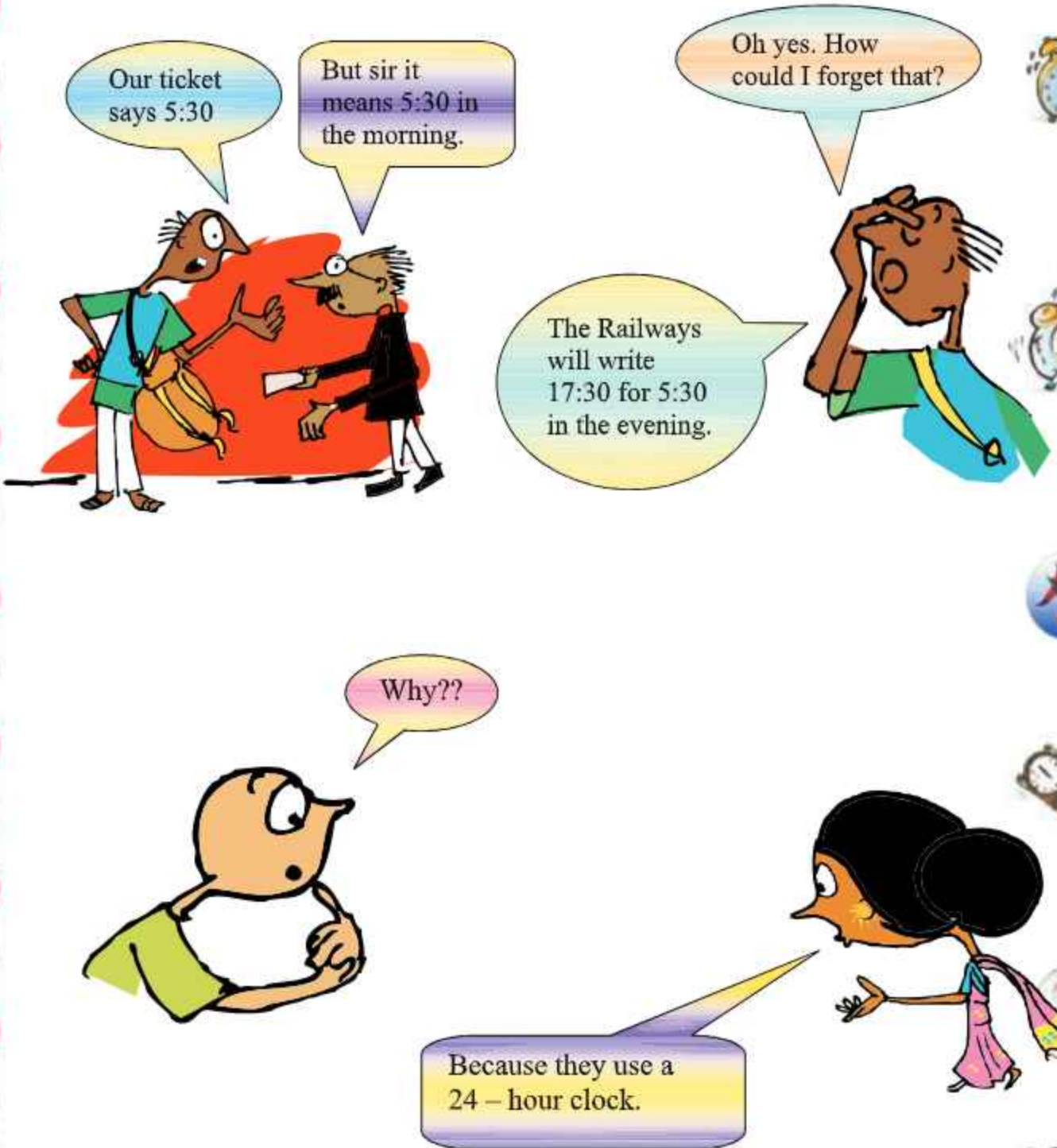
Salim's school had closed for the summer holidays. He went to his grandma's place. He met a lot of his cousins there. He was enjoying himself and didn't want to go back home.



Salim and his parents reached the station at 5:15.
But guess what? They had actually missed the train!

Can you guess why they missed the train?

Actually the train had left at 5:30 in the morning! Salim's parents were upset. They asked the station master –



Look at this chart. It tells the difference between your watch and a 24 – hour clock. Try to complete it.

Time by your watch (12 – hour clock)	*Time by a 24 – hour clock*
1 o' clock in the afternoon	13:00 hours
2 o' clock in the afternoon	14:00 hours
3 o' clock in the afternoon	_____
3:30 in the afternoon	15:30 hours
6 o' clock in the evening	_____
9 o' clock in the evening	_____
12 o' clock at midnight	_____

Now can you tell why a 24 – hour clock is called so?

Suppose a train leaves at 8:30 at night. The time written on the Railway ticket would be _____.

In a 12 – hour clock, each time comes twice in a day.
So 5:30 in the morning is 5:30 am.
5:30 in the evening is 5:30 pm.

What about 12:30 in the afternoon?

That is 12:30 pm. After 12 o'clock at noon we use pm till midnight.

You must have noted the time of sunrise and sunset. Write here using am and pm.

Time of Sunrise	
Time of Sunset	

Where have you seen a 24 – hour clock being used?

1. _____

2. _____

3. _____

Let's Try These - (Activity II):-

1. Write a.m. or p.m. To make these sentences correct:

[a] Asif comes back from school at 2:10 _____

[b] Aly cleans his teeth at 6:40 _____

[c] Maria goes to bed at 10:00 _____

[d] Babloo takes his lunch at 1:10 _____

[e] Shaziya takes breakfast at 9:00 _____

Early to bed and early to rise makes the man Healthy, wealthy and wise.

2. Write the following times, using a.m. or p.m.:

[a] 6:35 in the morning

[b] 10:15 in the night

[c] 4:30 in the evening

[d] 4:50 in the morning

[e] 11:05 in the night

[f] 12:30 in the day

Time Duration [in minutes]

1. Aarif took part in a cycle race.

Time of start

Time of finish

How many minutes did he take?

OR

What was the duration of the race?

Duration: 45 minutes – 5 minutes

40 minutes

2. Neelofar went to attend her Mathematics class.

Time of start

Time of finish

What was the duration of her Mathematics Class?

9:45 to 10:00	15 minutes
10:00 to 11:00	1 Hour
11:00 to 11:40	40 minutes

1 hour 55 minutes

Hey what's the time now?

Let's Try These - (Activity III):-

1. How many minutes pass between:

   [a] 3 o' clock and quarter past 3?

   [b] 2 o' clock and quarter to 3?

   [c] Half past 10 and quarter to 11?

   [d] Quarter to 7 and quarter past 7?

2. Altaf left for school at 7:30 a.m. He reached the school at 8:10 a.m. How long did it take him on the way?

3. Maria started doing her home work at 4:10 p.m. She finished it at 4:55 p.m. How long did it take her to do the home work?

Answers:

1. [a] 15 minutes
   [b] 45 minutes
   [c] 15 minutes
   [d] 30 minutes

2. 40 minutes

3. 45 minutes

Time Duration [in Hours and Minutes]

1. Aamir's school starts at 7:40 a.m. and closes at 1:20 p.m. How long does the school work?

7:40 a.m. to 8:00 am	20 minutes
8:00 a.m. to 1:00 p.m.	5 hours
1:00 p.m. to 1:20 p.m.	20 minutes

Total time = 5 hours 40 minutes

So, the school works for 5 hours 40 minutes

2. Saima goes to bed at 9:30 p.m. and gets up next morning at 6:40 a.m. How long does she remain in bed?

9:30 p.m. to 10:00 p.m.	30 minutes
10:00 p.m. to 6:00 a.m.	8 hours
6:00 a.m. to 6:40 a.m.	40 minutes

Total time = 8 hours 70 minutes
Or
9 hours 10 minutes

So, Saima remains in bed for
9 hours 10 minutes

3. A school starts at 7:15 a.m. It works for 5 hours 30 minutes. When does the school close?

Time 5 hours after 7:15 a.m. is 12:15 p.m.
Time 30 minutes after 12:15 p.m. is 12:45 p.m.

So, the school closes at 12:45 p.m.

4. A train leaves Mumbai at 7:20 p.m. and reaches Surat after 2 hours 50 minutes. When does the train reach Surat?

Time 2 hours after 7:20 p.m. is 9:20 p.m.
Time 50 minutes after 9:20 p.m. is 10:10 p.m.

So, the train reaches Surat at 10:10 p.m.

Let's Try These - [Activity IV]:-

1. A bus leaves Delhi for Shimla at 7:20 a.m. It takes 9 hours to reach Shimla. At what time does the bus reach Shimla?

2. A film shows starts at 3:15 p.m. It runs for 2 hours 40 minutes. At what time does the show ends?

3. Anjum leaves her home for school at 6:30 a.m. She reaches school after 40 minutes. At what time does she reach school?

4. Aasma drove to her friend's house. She left at 10:30 a.m. and reached at 4:20 p.m. How many hours and minutes did the journey take?

Answers:-

1. 4:20 p.m.
2. 5:55 p.m.
3. 7:10 a.m.
4. 5 hours 50 minutes

Interpreting a Calendar

Here is a calendar showing the month of January, February and March.

Day	JANUARY	FEBRUARY	MARCH
Monday	6 13 20 27	3 10 17 24	31 3 10 17 24
Tuesday	7 14 21 28	4 11 18 25	4 11 18 25
Wednesday	1 8 15 22 29	5 12 19 26	5 12 19 26
Thursday	2 9 16 23 30	6 13 20 27	6 13 20 27
Friday	3 10 17 24 31	7 14 21 28	7 14 21 28
Saturday	4 11 18 25	1 8 15 22	1 8 15 22 29
Sunday	5 12 19 26	2 9 16 23	2 9 16 23

[A] Finding out the number of days between two dates:

1. How many days are there from 15th January to 12th February?

Days left out in January = 31 – 14 = 17
Days in February = 12
Total number of days = 17 + 12 = 29

So, there are 29 days from 15th January to 12th February.

2. How many days are there from 9th January to 21st March?

Days left out in January = 31 – 8 = 23
Days in February = 28
Days in March = 21
Total number of days = 23 + 28 + 21 = 72

So, there are 72 days from 9th January to 21 March.

Leap year is when February has 29 days.

[b] Finding out the date before / after some days:

1. What date is 24 days after 17th January?
   Days in January = 31 – 17 = 14
   Days in February = 24 – 14 = 10

   So, the date 24 days after 17th January is 10th February

2. What date is 14 days before 6th March?
   Days in March = 6
   Days in February = 14 – 6 = 8

   So, the date 14 days before 6th March is (28 – 8 =) 20th February.

There is never a Wrong time to do a Right thing.

5 The Way The World Looks

Gappu's Air Journey

Gappu was a brave little mouse. One day, he saw children playing with a huge gas balloon. The balloon went up and touched the roof. Gappu was thrilled. He got an idea. Next day, when the children went to school, Gappu climbed up the string of the balloon. He could see the blades of the fan from above.

❖ Draw how the fan looks from below.

Gappu looked down. He could see the bed, the chair, one table with books on it and the other table with a bottle, a jug, fruits etc.

❖ Look for these things in the photo.

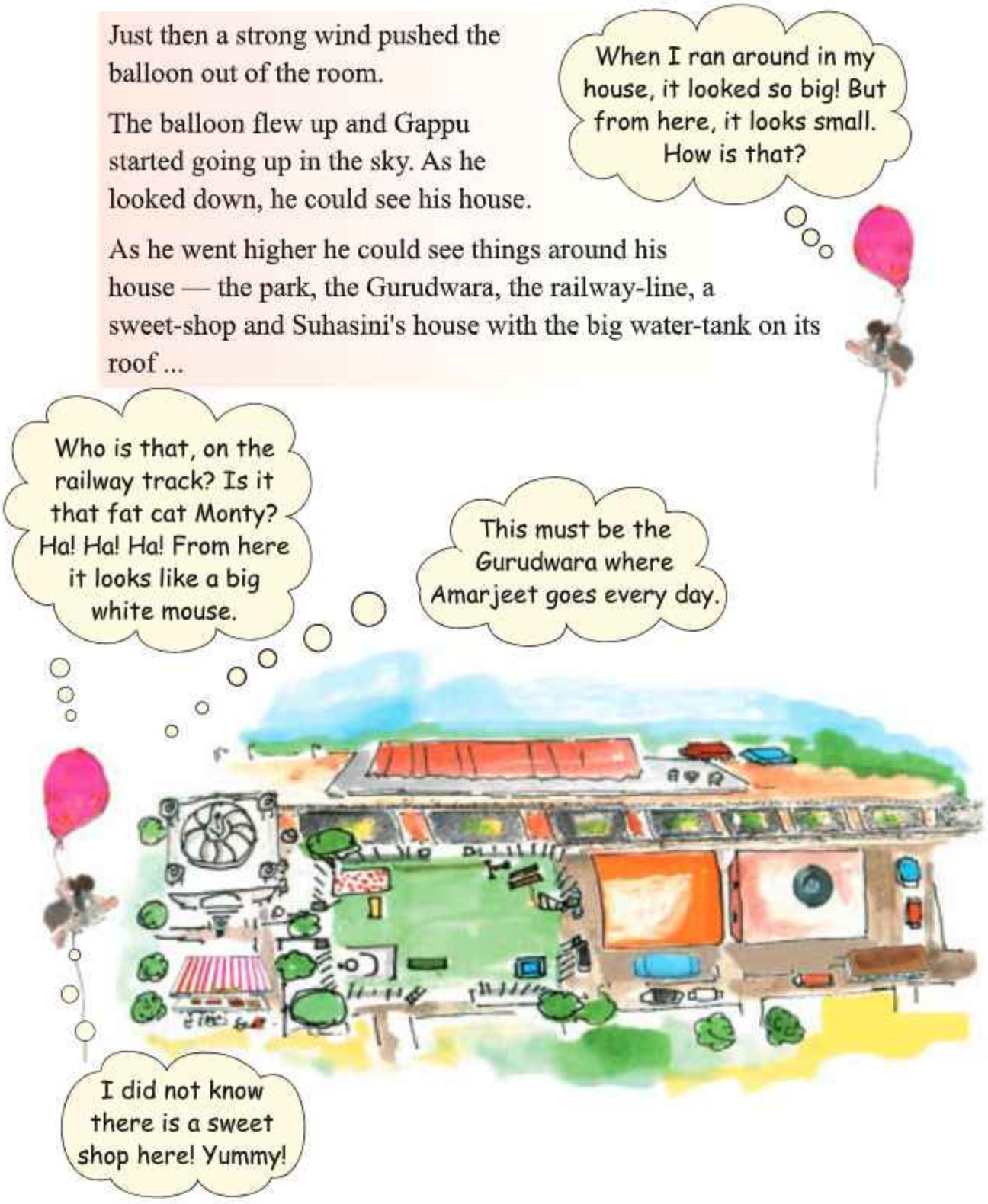
The story demands a high level of imagination and children need adequate discussion about how things look differently in shape and size when you see them from different views and distances. However, the story should not lose its fun element.

❖ Can you think why Gappu could see the cheese on the jug but Chinky could not?

Just then a strong wind pushed the balloon out of the room.

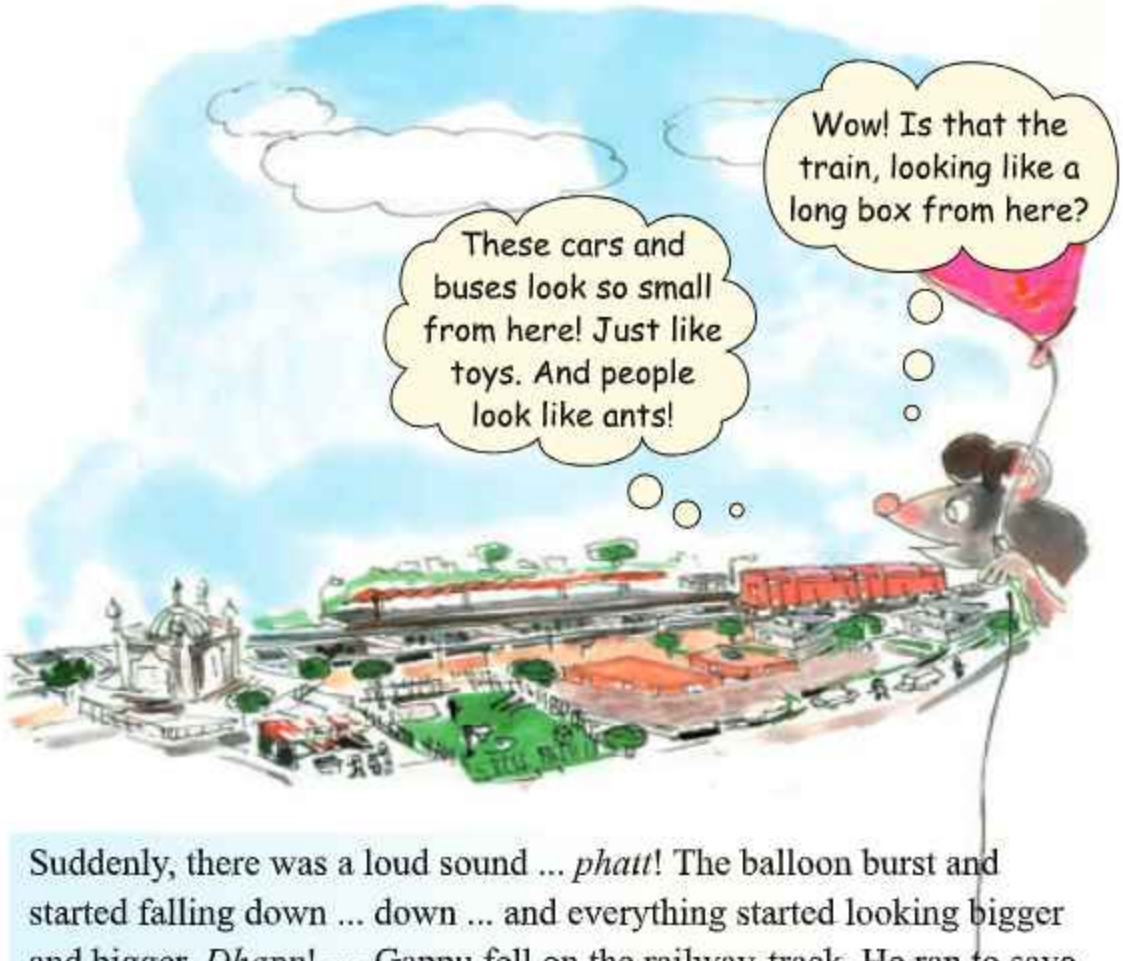
The balloon flew up and Gappu started going up in the sky. As he looked down, he could see his house.

As he went higher he could see things around his house — the park, the Gurudwara, the railway-line, a sweet-shop and Suhasini's house with the big water-tank on its roof ...



❖ Imagine how your classroom looks from above. Try to draw it and mark the benches, blackboard, doors, windows etc.

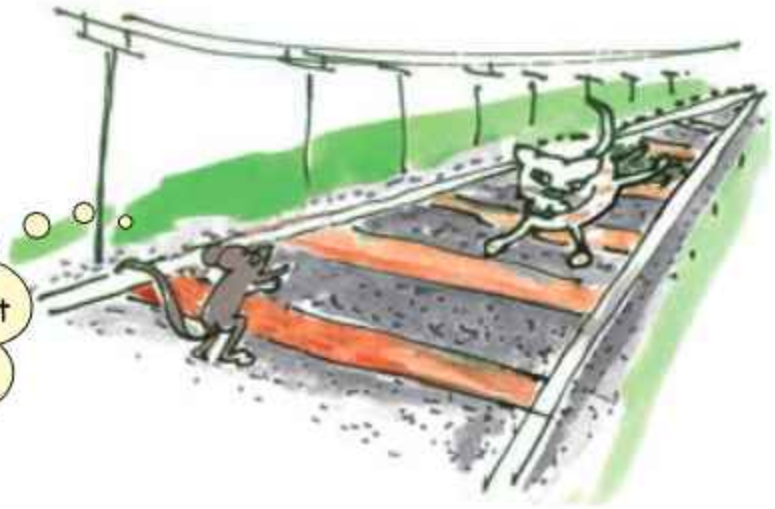
The balloon went up, up and up. Gappu kept wondering how big the world is! Now he could see lots of houses, streets, roads and buses.



Suddenly, there was a loud sound ... *phatt*! The balloon burst and started falling down ... down ... and everything started looking bigger and bigger. *Dhapp*! --- Gappu fell on the railway-track. He ran to save himself from the cruel Monty who ran after Gappu and the other rats on the railway track.

When Gappu saw the railway-track from above, it looked like this —

But when he fell on the track, the railway line looked like this.



Oh! Things look so different when you look at them from the top and from the side.

❖ Look at these pictures and discuss why things look wide and big at this end but narrow and small at the other end.

Match Two Views of the Same Pose

This is a top view of a girl in a yoga pose.

Only one of the photos below is the correct match of the same yoga pose. Mark it.

These are two different views of the same bowls.

❖ In which photo are the bowls upside down? _____

Look at the side view in photo 3 to find the answer.

❖ Draw lines to match the side view with the top view of

— A pipe

— A funnel

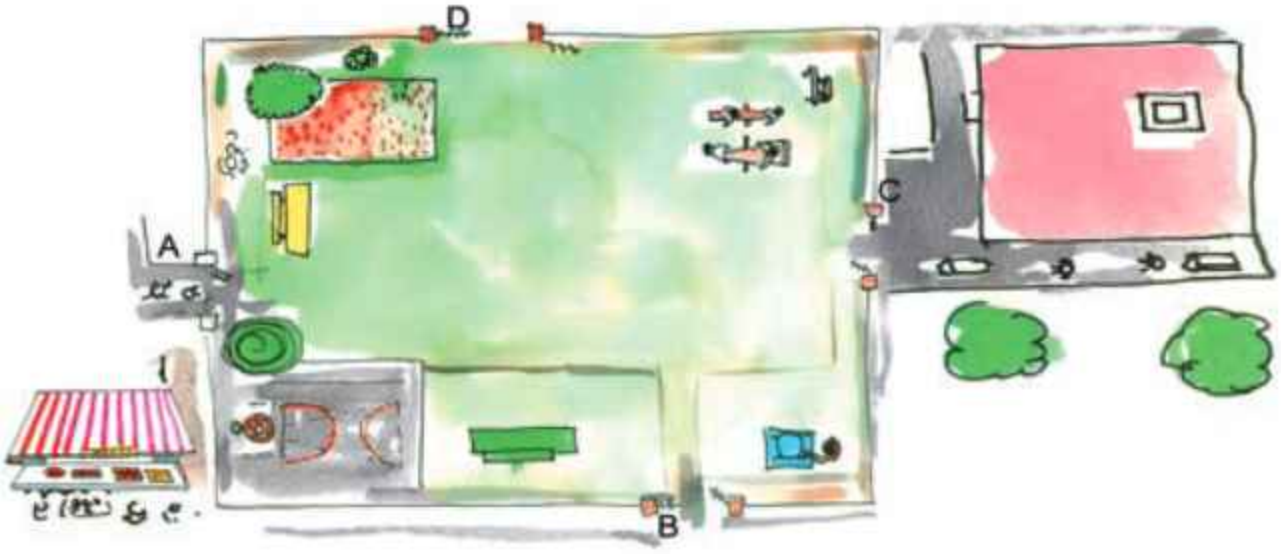
❖ Try to draw pictures of a shoe from the side, top, front etc.

It would be exciting for children to imagine and find out how different things can look from different angles. It also helps to improve their spatial understanding.

The Park behind Gappu's House

Do you remember the park behind Gappu's house?

Here is a bigger picture of that park. Look at it carefully and answer the questions.



- Mark the gate nearest to the sweet shop. A / B / C / D
- Which gate is nearest to Gappu's house?
- If you enter from gate B, the green bench will be to your —

  Left / Right / Front
- When Suhasini entered the park, the flower bed was to her right. Which gate did she enter from?
- Which of these is nearest to you if you enter from gate C?

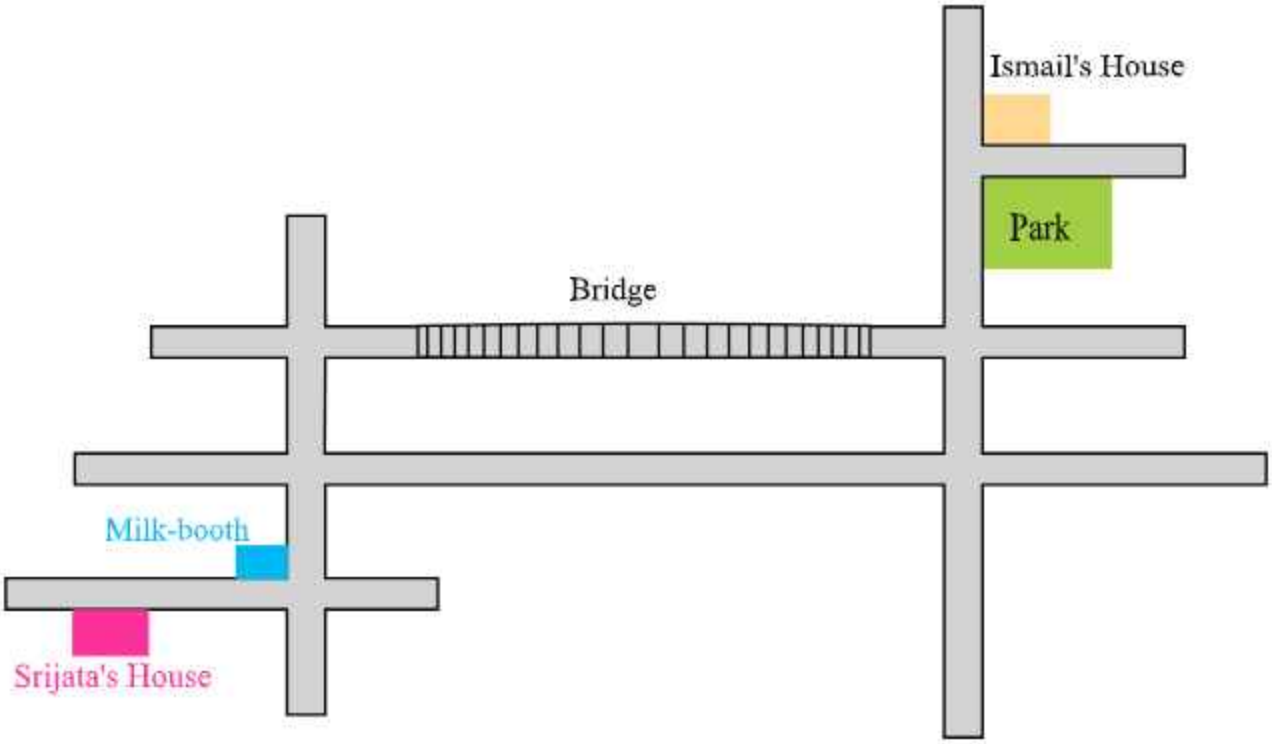
  1. Basketball court 2. Flower bed

  3. Green bench 4. See-saw

Young children tend to think of directions like left, front etc. in absolute terms. It is important for the development of spatial understanding to make them aware that directions are relative to one's position. Something that is towards the left from one position can be towards the right from another position. More activities can be done in the class based on this concept.

Ismail's Home

On the phone Ismail told Srijata the route to his house from her house. The route map is shown here.



This is what Ismail told Srijata:

"From your house, reach the milk-booth and then take a left turn. From the second crossing take a right turn and go over the bridge. Go straight and then take the first right turn. After about 100 metres you will see a big park.

When you cross the park you will come to a side lane. My house is the first house in that lane.

- Did Ismail go wrong somewhere? Can you correct him?
- Show where Srijata will reach if she takes the route he told her.
- Write the directions for going from Ismail's house to Srijata's house.

Gibli and the Big Box

Do you remember Gibli the ant in the Merry Math Book 3?

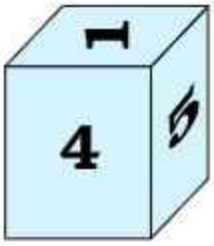
Well, one day Gibli saw a big box on her way. It looked like this.

Gibli moved across and turned left. Now she could see the other face of the big box.

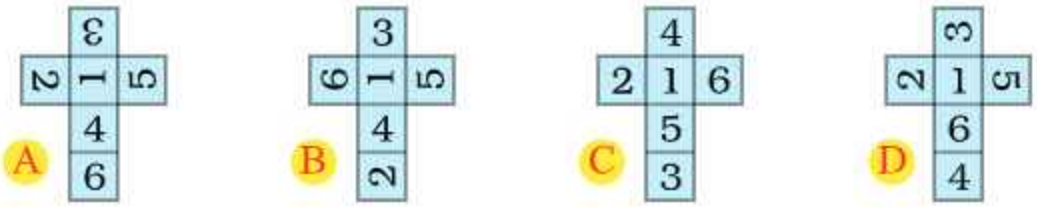
Gibli was confused. What was this box? She climbed on a cup and tried to see from there. The box looked like this.

Can you guess what that box-like thing was?

The numbers on the opposite faces of this box add up to 7.



- Which number was on the opposite side of 5?
- In the picture, which number will be at the bottom?
- Which number will Gibli see if she again turns left from 5?
- What will this box look like if you opened it up? Mark the correct picture.



Try it out

Draw a shape like this on a thick paper. Cut it out and colour the different faces in different colours.

Can you use this box to play a game?

2YL6XG

6

The Junk Seller

Have you ever met a *Kabariwali* – a woman who sells junk? This is a true story told by Kiran, who has a junk shop in Patna.

I studied in a Hindi medium school in my village. My father wanted girls to study like boys. I loved Hindi and Science, but I had hated Maths! Today Maths is most useful for my work. I could never imagine this in school.

What about you? Do you also find Maths Difficult?

What is the most difficult thing in your Maths book? _____

What do you think is the easiest lesson? _____

When I was young, my father died in an accident. So my mother worked as a servant in some houses. We had a difficult time. I had to leave school after Class VIII. I wanted to study more but my mother got me married.

My husband's family lived in a mud house. His two brothers and his sister did not go to school. He had a tea stall.

Find out: how much for a cup of tea?

Ask people and find out the cost of a cup of tea

- At a tea stall _____
- At a hotel _____

If a person who runs a tea stall earns Rs. 300 in a day, how much will he earn in 10 days? _____

And in a month? _____

How did you get the answer? Discuss.

I thought of starting my own business. I thought I should open a bangle shop or a tailor shop. But my uncle said that we could earn a lot by opening a junk shop.

In 2001, my mother – in – law and I opened a junk shop. We took a loan of Rs 8000 for the shop.

Find out: what is a loan?

- Have you ever heard of someone taking a **loan**? For what? _____
- How much loan was taken? _____
- How much money was paid back? _____

Hariya and Babu want to buy a handcart for Rs 300.

I have taken a loan of Rs 300 from a bank for six months. I will pay Rs 51 every month to the bank.

But I have taken a loan of Rs 300 from Chunnilal. After six months, I will pay back Rs 300.

Hariya

Babu

Who has to pay back more – Hariya or Babu? _____

People laughed and teased us about our work. They called it *Ganda kaam* or 'dirty business'. But I did not think so, I knew this idea would work.

Now we have a *pucca* house with electricity. We have a fridge, a TV and a gas stove. My husband's brothers, sister and also my daughter go to school.

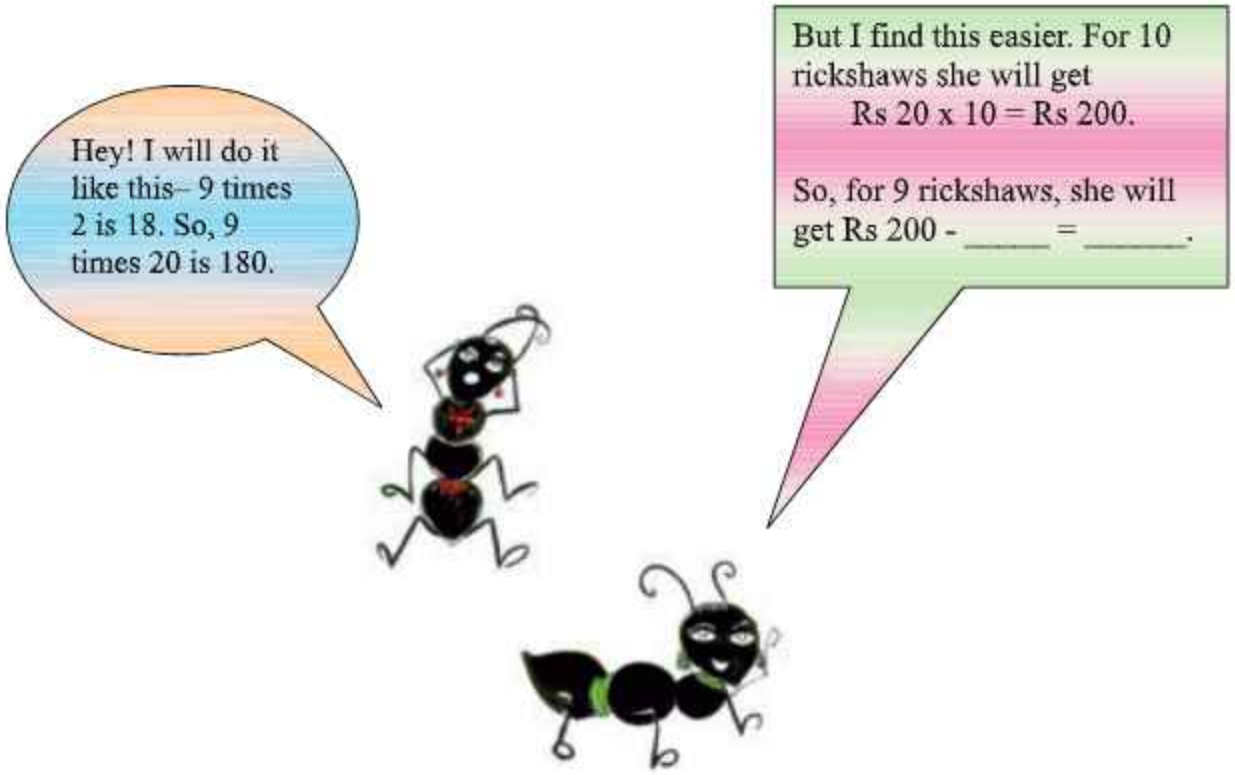
I have 9 rickshaws of my own. I give the rickshaws on rent, each for Rs 20 a day. On Sundays I do not take any money for them.

How much does Kiran Earn from 9 Rickshaws in a Day?

For 1 rickshaw she gets Rs 20 per day.

So, for 9 rickshaws she will earn Rs _____.

How did it you do it?

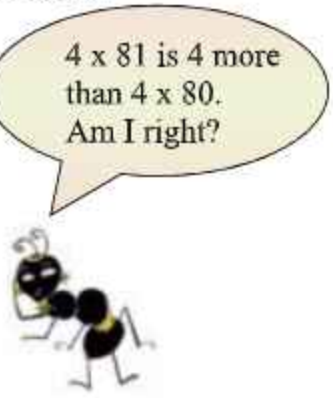


Think of some other ways to do it.

Encourage children to use their own strategies to solve such problems. There should be discussion on how they arrived at their answers.

- In a week how much does Kiran earn from one rickshaw?
- Do it mentally and write the answers.

2 x 6 = _____	4 x 80 = _____
20 x 6 = _____	4 x 81 = _____
2 x 60 = _____	9 x 25 = _____
3 x 42 = _____	31 x 9 = _____



I have my own small junk shop. I buy junk from junk collectors. They go from house to house and bring junk on handcarts. I then sell it at the big shop.

How Much to Pay for this Junk?

Kiran has bought some junk from junk collectors.

1 kg newspaper costs Rs 5.
30 kg cost Rs 5 x 30 =Rs 150.
So for 31 kg she pays
Rs _____

Look up at the rate list to see today's rates. Help Kiran to find out the cost of the junk.

- How much will Kiran pay for 31 kg newspaper?

This exercise encourages children to use different strategies (other than the standard algorithm) for doing multiplication.

Rate – List

Kind of Junk	Price of 1 kg
1. Waste Paper	Rs 4/-
2. Newspaper	Rs 5/-
3. Iron	Rs 12/-
4. Brass	Rs 170/-
5. Plastic	Rs 10/-

How much will Kiran pay for 42 kg newspaper?

Also find the cost of:

A] 22 kg of plastic

B] 23 kg of waste paper

C] 12 kg of iron

Guess the total money Kiran will pay to the junk collectors. Will it be
– More than 600?
– less than 600?

Can you do this without writing?

Smart Kiran Sells the Junk

Kiran sells her junk to a big shop. She checks the prices on her mobile phone and sells only when she gets a good price.

Today she has gone to sell plastic, newspaper, iron and brass at Dinu's big shop.

Dinu weighs 32 kg iron, 4 kg brass, 152 kg newspaper, 63 kg Plastic.

A. How much will Dinu pay for 63 kg plastic?

The rate of 1 kg of plastic is Rs 12.
So the cost of 63 kg of plastic will be RS 12 x 63.

Remember, you used boxes to multiply two numbers in Class III.

	60	3
10	60 x 10 600	3 x 10 30
2	60 x 2 120	3x 2 6

Dinu's Rate – List

Kind of Junk	Price of 1 kg
1. Newspaper	Rs 6/-
2. Iron	Rs 14/-
3. Brass	Rs 180/-
4. Plastic	Rs12/-
5. Waste Paper	Rs 4.50/-

Dinu added the numbers in the boxes:

600
120
30
+ 6

756
---

12 x 63 means 12 times 63. 12 times 60 is 720. So, the answer is more than 720. Also the answer is less than 800. Can you tell why?

So, for 63 kg plastic, Dinu will give Rs 756.

- Kiran bought 1 kg plastic for Rs 10, but sold 1 kg plastic for Rs 12.How much money does she earn on selling 1 kg plastic? Rs _____

So, how much money does she earn for 63 kg? Rs _____

A. Kiran sells 32 kg iron

- How much money will Dinu pay for 32 kg iron?
- Kiran buys 1 kg iron for Rs 12, but sells it for Rs 14.

How much does she earn when she sells 323 kg iron? Rs _____

B. What will Dinu pay for 152 kg newspaper?

The rate of 1 kg newspaper is Rs 6. So the cost of 152 kg newspaper is Rs 6 x 152.

Dinu writes:

	100	50	2
6	100 x 6 **600**	50 x 6 **300**	2x 6 **12**

6 X 100 = 600. SO, the answer is more than 600. Is the answer less than 1000? How did you guess?

Then he adds the numbers in the boxes:

```
  600
  300
+  12
 ____
  912
 ____
```

So, for 152 kg newspaper he will give Kiran Rs 912.

I bought 1 kg newspaper for Rs 5, but sold for Rs 6. How much money did I earn by selling 152 kg of newspaper? _____

D. What does Dinu pay for brass?

How much money will Dinu pay for 4 kg Brass? _____

Guess the answer first.

First guess the answer and then calculate:

a] 37 x 18 = _____ e] 142 x 5 = _____

b] 45 x 24 = _____ f] 382 x 3 = _____

c] 69 x 52 = _____ g] 2 x 175 = _____

d] 77 x 55 = _____ h] 4 x 206 = _____

Fill My Diary

Kiran bought some junk from the junk collectors. She paid them Rs 841. She sold the junk at Dinu's big shop and Dinu gave her these notes and coins.

6 notes of 

3 notes of 

8 notes of 

7 notes of 

4 coins of 

6 notes of 

Kiran wrote the record in her Diary.

11 March 2009

Money I paid – Rs 841

Money I got – Rs 600

- Rs 150

- Rs 140

- Rs 60

- Rs 40

- Rs 4

Total Rs 994

Rs 994

- Rs 841

Money I earned: Rs 153

Later she paid Rs 919 to the junk collectors. When she sold the junk she got these notes from Dinu.

28 coins of 

18 Notes of 

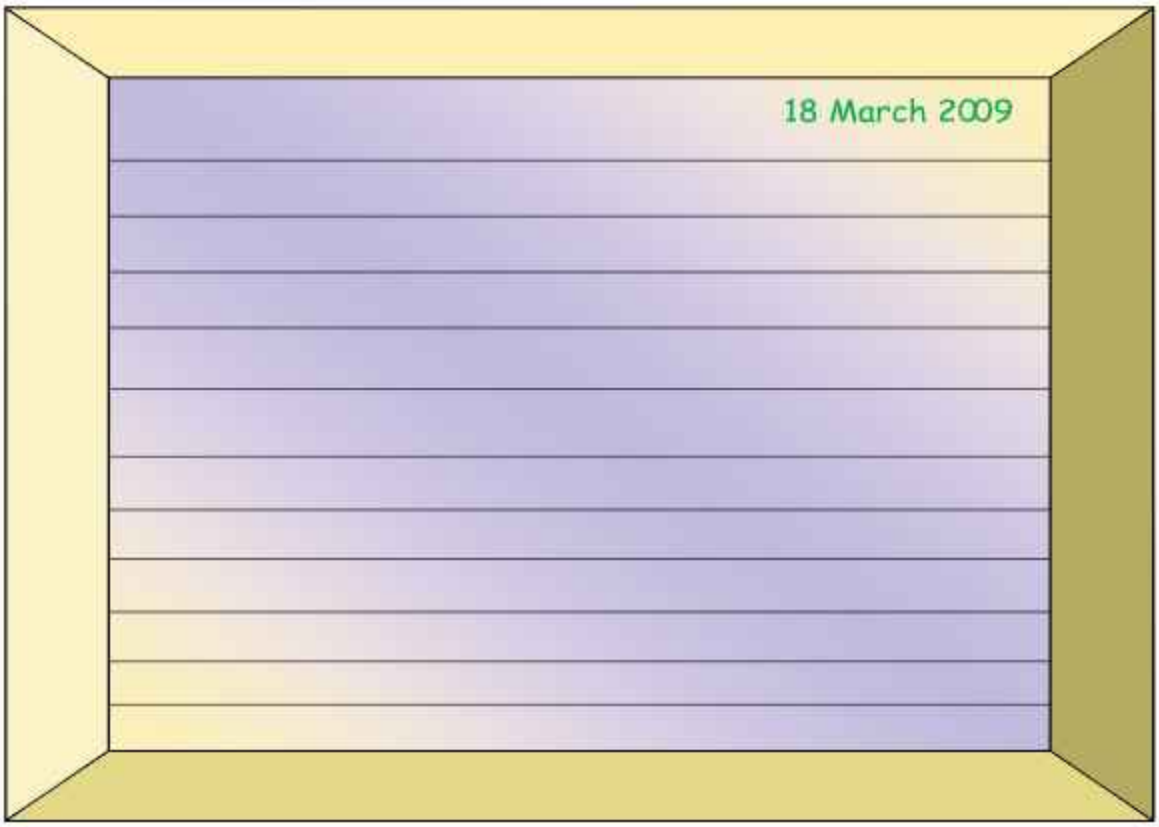
5 Notes of 

9 Notes of 

1 Note of 

Now you make a record in her diary.

Find out how much she earned this time.



Let's Try These - [Activity]:

1. Find the products:

a] 400 x 4 b] 2040 x 2 c] 3001 x 3

d] 1024 x 30 e] 1413 x 90 f] 1848 x 70

g] 15 x 200 h] 67 x 300 i] 84 x 600

2. Find the products:

a] 24 x 234 b] 91 x 347 c] 88 x 567

d] 148 x 456 e] 474 x 168 f] 364 x 272

g] 113 x 405 h] 371 x 501

3. A farmer plants 125 banana trees in a row. How many bananas trees are required for plantation in 23 rows?

4. A library has 215 racks of books. If each rack holds 205 books, how many books does the library have?

5. A woman saves Rs 260 every month. How much money will she save in 5 years?

6. A cycle costs Rs 575. How much will 150 cycles cost?

7. How many minutes are there in the month of January?
(Hint: 31 X 24 X 60)

8. A man has 615 notes of 50 – rupees denomination. How much money does he has?

Answers:

1.

a] 16000 b] 4080 c] 9003
d] 30720 e] 127170 f] 129360
g] 3000 h] 20100 i] 50400

2.

a] 5616 b] 31577 c] 49896
d] 67488 e] 79632 f] 99008
g] 45765 h] 185871

3. 2875 trees

4. 44075 books

5. Rs 15600

6. Rs.86250

7. 44640 minutes

8. Rs 30750

Money is honey my dear sonny,
And a rich man's joke is always funny.

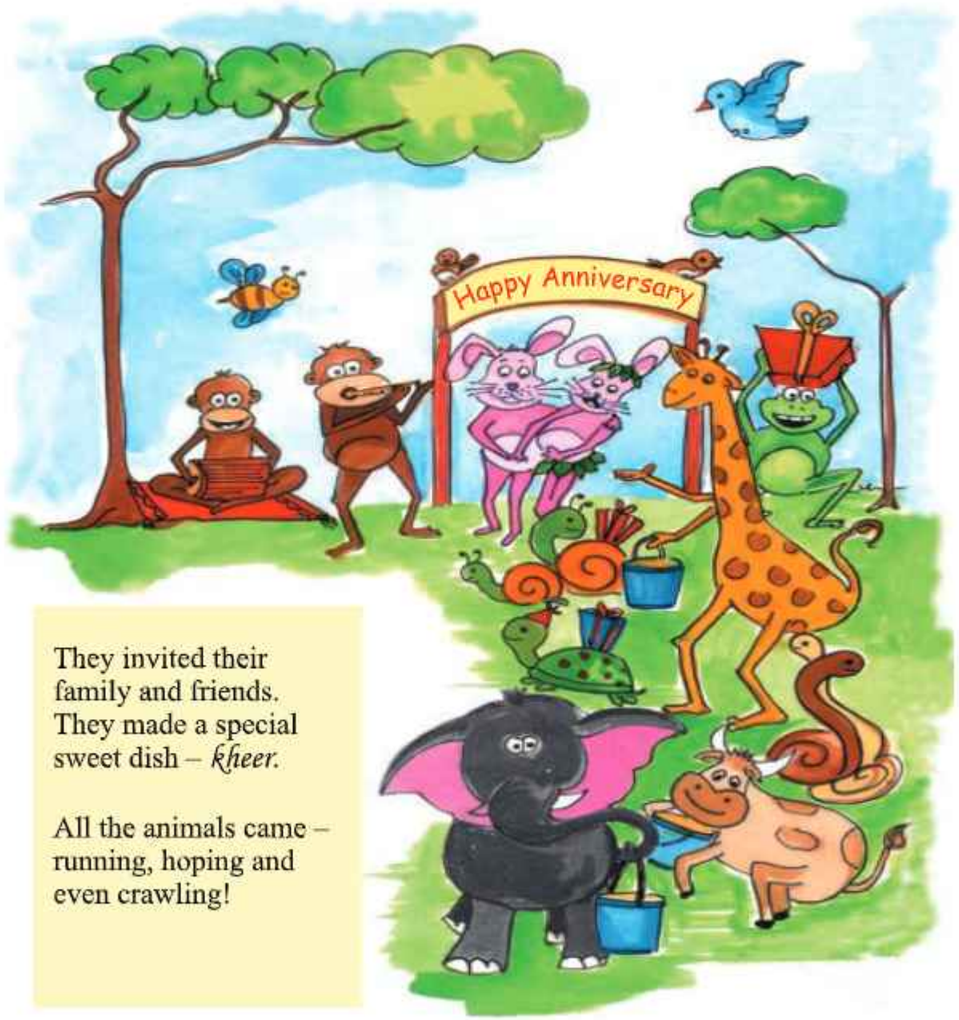
2YV2Z4

7

Jugs and Mugs

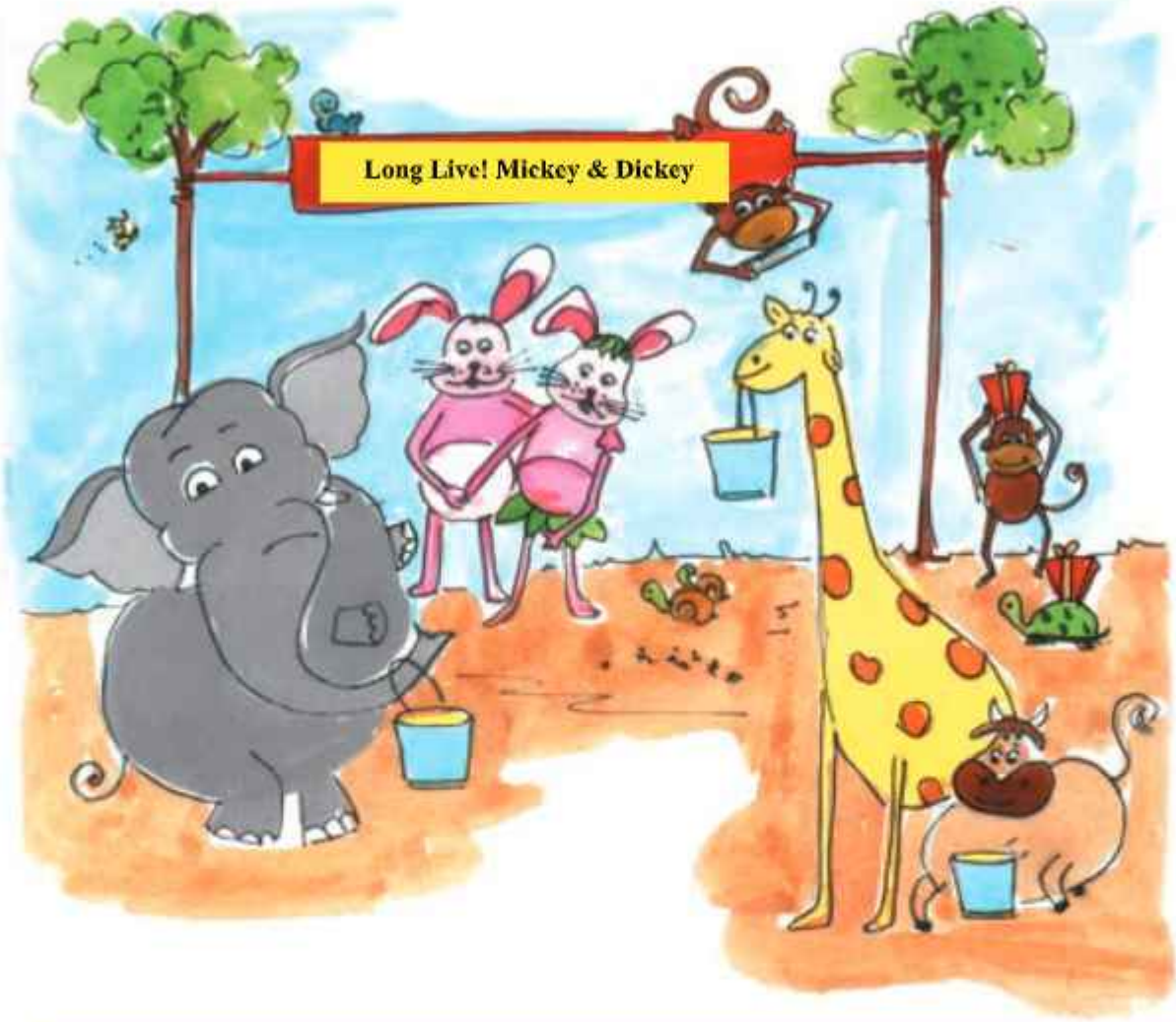
Mickey and Dickey Celebrate their Wedding Anniversary.

Mickey and Dickey got married last year they decided to have a party one year after their wedding.



They invited their family and friends. They made a special sweet dish – *kheer.*

All the animals came – running, hoping and even crawling!



The elephant is drinking 50 litres of *Kheer.*

The giraffe is drinking _____ litres.

The cow is drinking _____ litres.

Then came the squirrel. She said – I can't drink 1 litre of *Kheer,* please give me only 500 millilitres.

The donkey asked – 500 millilitres of *kheer*? Isn't that more than a litre?

The fox said – Come on, don't behave like a donkey! One litre is 1000 millilitres, so 500 millilitres is a half a litre.

The frog hopped along with nine other friends. He said – oh, we only want 100 millilitres each!

Ok., here is your *Kheer* – said the cat, while serving the *Kheer*.
She took 10 glasses and poured 100 millilitres *Kheer* in each glass.

The donkey looked confused and asked – Ten glasses of 100 ml each. How much is that?

The fox got another chance to show off! He said – Ah, That is simple! 10 times hundred millilitres is _____ millilitres = _____ litre.

Now you write it 10 x 100 ml = _____.

Look, a group of ants is marching here! - the grass hopper said.

The Kheer is finished. Now what can we do? - the cat said sadly.

Don't worry, they won't drink much. Each of them will take only one milliliter. That is all. I will share my *Kheer* with them – the elephant said and wiped the cat's tears with his ear.

How many are you all together? – the elephant asked.

We are only one thousand – said the ants.

The cat said – Oh no, one thousand! We have to give *Kheer* to 1000 ants!

Each ant drinks 1 millilitre of *Kheer.*

So, 1000 ants drink: 1000 x 1 ml = _____ ml.

Ah! They will need the same as the ten frogs – said the donkey.

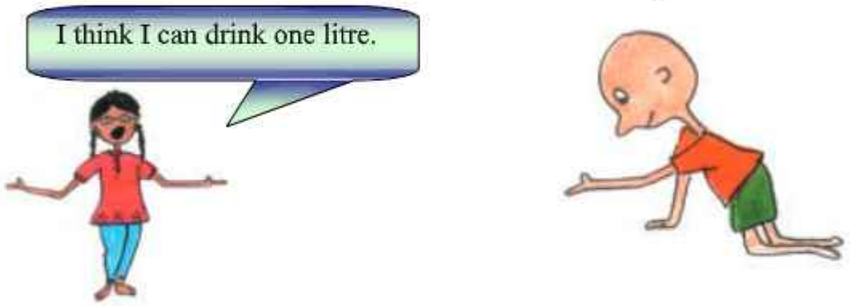
All the ants drank the *Kheer.* Everyone was happy. They sang and danced to celebrate the wedding anniversary

Who can have 1 litre Kheer

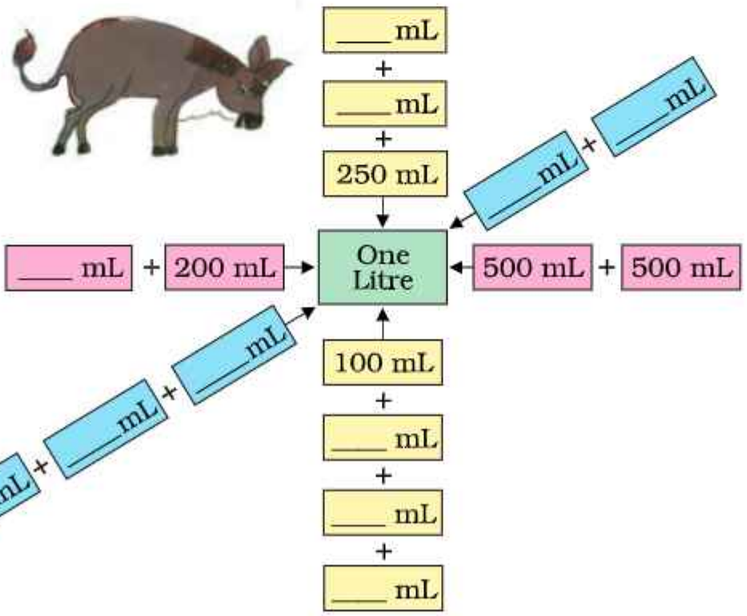
Do you like *Kheer*? What do you call it at home?

How much *Kheer* can you have?

Can you drink 1 litre water at one time?



The donkey is trying to look for different ways to add up to 1 litre.
Help him complete the chart



Look Around

Look at these pictures. Now look for some other things we get in packets or bottles like these. Make your own list.

Packet	How many Ml or l?
Milk	500 ml

My Litre Bottle

Have you seen a one – litre bottle?

Collect a 1- litre bottle and some other small bottles. Guess how many times you have to pour from each of the small bottles to fill the litre bottle.

Check if your guess is correct and fill the table.

Bottles	*My guess*	*My measures*
Bottle 1		
Bottle 2		
Bottle 3		

Look what Anshuman is saying.

Anshuman

How much water does his small bottle hold?

_____

Then how much water does Anju's bottle hold? _____

Anju

To fill the 1 – litre bottle I need to pour water 5 times from my small bottle.

Aalim's Measuring Bottle

Aalim got an empty 250 ml coconut oil bottle. Look at the picture and discuss what he did to make his measuring bottle.

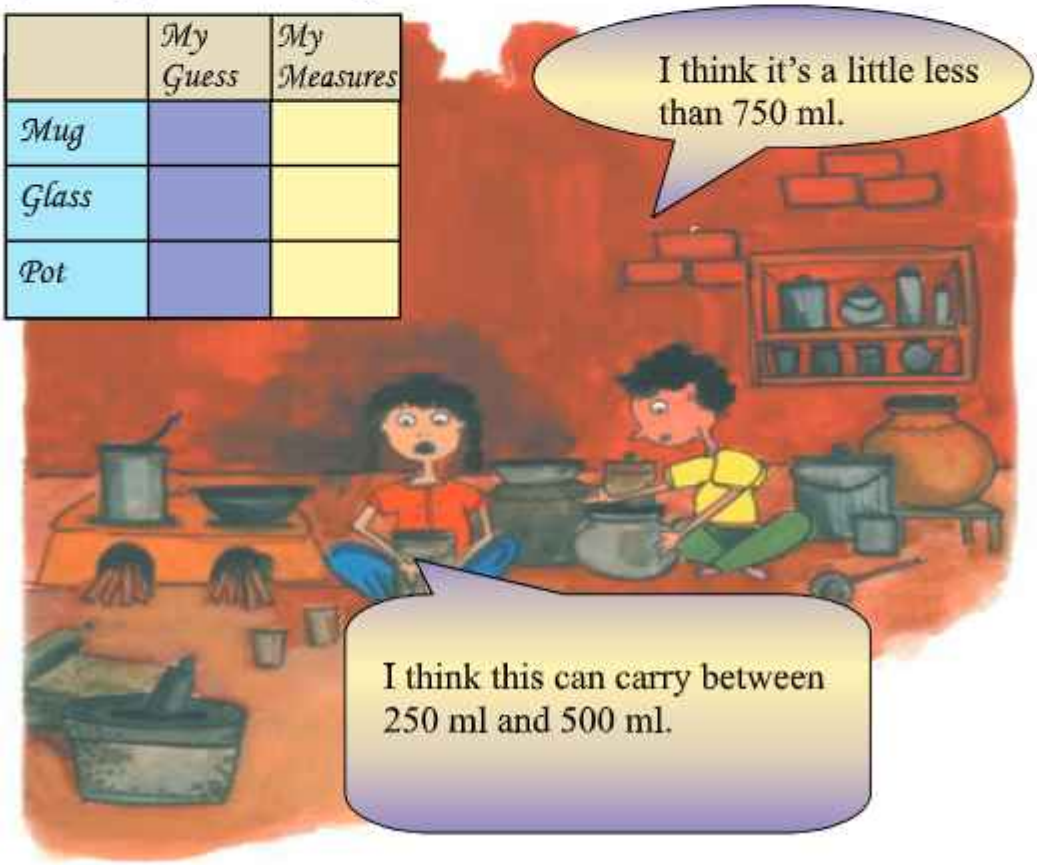
My Measuring Bottle

Find your own way to make a bottle which can measure 200 ml, 400 ml. 600 ml, 800 ml and 1 litre. Discuss with your friends and teacher how you made this.

Guess and Check

Look at the buckets, mugs, glasses and other things in your house. Guess how much water each can hold. Check if your guess is right by using your measuring bottle.

	My Guess	*My Measures*
Mug		
Glass		
Pot		

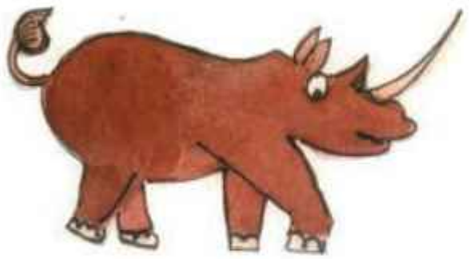


Veena in Hospital

Veena has to take 3 injections in a day for 5 days.

How much medicine will she need for one day?

How much medicine in all for 5 days?



How much do we use at a time?

- Eye drops — We use less than 1 ml at a time.
- _____ — _____
- _____ — _____
- _____ — _____

List of things we use more than one litre at a time.

- Water for taking bath
- _____
- _____
- _____

Practice Time

1. Anju's water bottle holds one litre of water. She drank 250 ml of water and her friend Anshuman drank 150 ml. How much water is left in her bottle?

2. Rehman runs a tea shop. For making a glass of tea he uses 20 ml of milk. Yesterday he made 100 glasses of tea. How much milk did he use?

3. Meena's grandma was ill. The doctor gave her a bottle with 200 ml of medicine. She has to take the medicine every morning for 10 days.

   How many milliliters of medicine does she have to take every morning? _____

Water - Water

The table shows the water used in one day by family of 5 people.
They live in Sambha village.

Activity	***Water in Litres [L]***
Cooking and Drinking	***30 L***
Washing clothes	***40 L***
Cleaning pots, pans	***20 L***
Bathing	***75 L***

Total water used by them _____

How many litres of water does your family use in a day?
Guess and fill the table.

Activity	*Water used [in buckets]*	*Water used [in Litres]*
Cooking and drinking		
Washing clothes		
Cleaning pots, pans		

Drops and Drops Make an Ocean

Is there any tap in your school or your home which is leaking?
How much water do you think we waste through a leaking tap?
Place your litre jar below the leaking tap so as to catch all the drops in the bottle. Note the time. After one hour check how much water is in the bottle.

Find out how much water is wasted in a day. _____

In a week? _____

In a month? _____

In a year? _____

Puzzle

Lasgan village has a milk society. Amina and Maria went
there to buy 4 litres of milk. But the man could not find the one litre measure. He had only a 3 litre and a 5 litre bottle with him. But he exactly gave them 4 litres of milk.

Let's Us Try These – [Activity]:-

1. Decide what would you use, l or ml to measure these quantities:

[a] The ink in your pen
[b] Milk in a cup
[c] Petrol in a car
[d] Medicine in a tea-spoon
[e] Water in a fish-tank
[f] Cough syrup in a bottle.

2. Fill in the blanks. The first one is done for you.

What measure will be used to measure		*1 l*	*500m l*	*200m l*	*100m l*	*50m l*
1.	*750 ml of diesel*		*1 time*	*1 time*		*1 time*
2.	*150 ml of milk*					
3.	*450 ml of water*					
4.	*1 l of petrol*					
5.	*800 ml of petrol*					
6.	*1 l 700 ml of milk*					

3. How many 200 ml measures of water will fill a:
[a] 1 litre measure?
[b] 2 litre measure?

4. How many 100 ml measures of oil will fill a :
[a] 200 ml measure?
[b] 500 ml measure?
[c] 1 litre measure?

5. A jar contains 1100 ml of honey. How many litre and milliliters of honey is there in the jar?

Answers:

1.
[a] mℓ
[b] mℓ
[c] ℓ
[d] mℓ
[e] ℓ
[f] mℓ

3.
[a] 5
[b] 10

4.
[a] 2
[b] 5
[c] 10

5. 1 ℓitre 100 mℓ

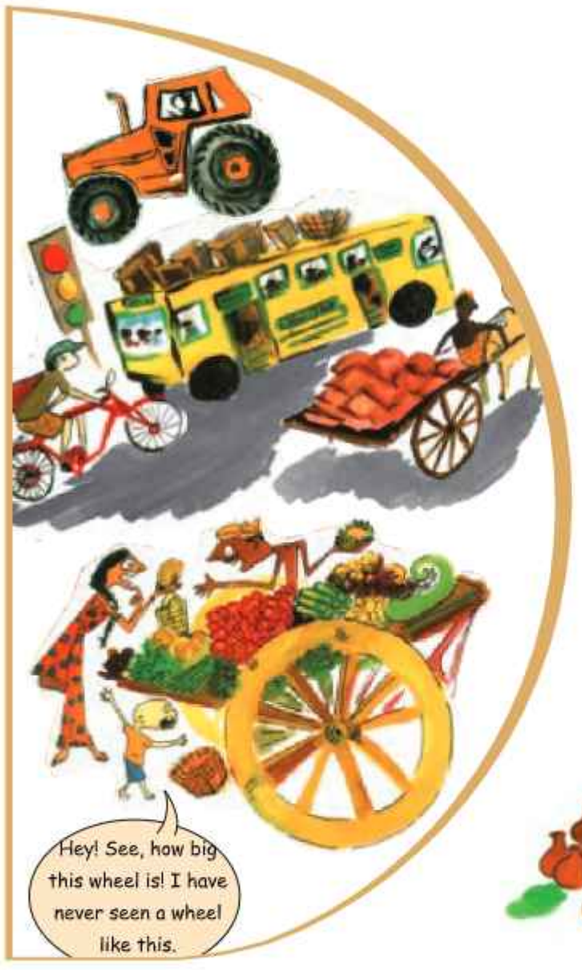
Smile a Lot it Costs Nothing.

2Z4Y1R

8

Carts and Wheels

2ZDU3E



You must have seen many such round things around you.

List some more in your notebook.

Round Bangle

Have you ever gone to a bangle shop?

- Guess which of these bangles is of your size.
- Take a wire and make a bangle for yourself. Can your teacher wear this bangle? _____
- A bangle can be used to trace a circle. What are the other things around you that you can use to trace a circle?

  _____ _____ _____

  _____ _____ _____
- Trace a circle with the help of some of these in your notebook or on the ground.

  Which thing makes the smallest circle?

  Which thing makes the biggest circle?