ગુજરાત શૈક્ષણિક સંશોધન અને તાલીમ પરિષદના પત્ર-ક્રમાંક
જીસીઇઆરટી/સીએન્ડઇ/2018/5808, તા.07/03/2018થી મંજૂર

Book 4

Textbook in Mathematics for Class IV

MATH-MAGIC

PLEDGE

India is my country.

All Indians are my brothers and sisters.

I love my country and I am proud of its rich and varied heritage.

I shall always strive to be worthy of it.

I shall respect my parents, teachers and all my elders and treat everyone with courtesy.

I pledge my devotion to my country and its people.

My happiness lies in their well-being and prosperity.

Price : ₹ 55.00

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

Gujarat State Board of School Textbooks
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PREFACE

With a view to implementing 'Equal Curriculum Policy', Gujarat State Government and GCERT took a decision to implement directly the textbooks of NCERT, New Delhi, in Gujarat according to the proposal no. JSBH/121/Single file-62/N dated : 19-7-2017. Keeping this objective in view, this textbook of **Mathematics**, published by NCERT, is being implemented in **Class 4**. For this, the Gujarati translation of NCERT textbook was prepared first.

During the Gujarati translation process, minor changes have been made in proper nouns, numbers and chapters in accordance with present situation and Gujarat specific with NCERT's prior approval. Now, the changes made in Gujarati version have been mandatorily incorporated in this English medium Mathematics Textbook. For this, expertise and experience of Shri Kinnari Dave has been secured by the Board. The Board is thankful to him for his noble contribution.

The Gujarat State Board of School Textbooks is also obliged to NCERT for their kind co-operation.

Creative suggestions for the enhancement of quality of the textbook are always welcomed by the Board.

P. bharathi (IAS)
Director
Executive President

Date : 13-12-2019
Gandhinagar

First Edition : 2019, Re-Print : 2020

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FOREWORD

The National Curriculum Framework (NCF), 2005, recommends that children's life at school must be linked to their life outside the school. This principle marks a departure from the legacy of bookish learning which continues to shape our system and causes a gap between the school, home and community. The syllabi and textbooks developed on the basis of NCF signify an attempt to implement this basic idea. They also attempt to discourage rote learning and the maintenance of sharp boundaries between different subject areas. We hope these measures will take us significantly further in the direction of a child-centred system of education outlined in the National Policy on Education (1986).

The success of this effort depends on the steps that school principals and teachers will take to encourage children to reflect on their own learning and to pursue imaginative activities and questions. We must recognise that given space, time and freedom, children generate new knowledge by engaging with the information passed on to them by adults. Treating the prescribed textbook as the sole basis of examination is one of the key reasons why other resources and sites of learning are ignored. Inculcating creativity and initiative is possible if we perceive and treat children as participants in learning, not as receivers of a fixed body of knowledge.

These aims imply considerable change in school routines and mode of functioning. Flexibility in the daily time-table is as necessary as rigour in implementing the annual calendar so that the required number of teaching days are actually devoted to teaching. The methods used for teaching and evaluation will also determine how effective this textbook proves for making children's life at school a happy experience, rather than a source of stress or boredom. Syllabus designers have tried to address the problem of curricular burden by restructuring and reorienting knowledge at different stages with greater consideration for child psychology and the time available for teaching. The textbook attempts to enhance this endeavour by giving higher priority and space to opportunities for contemplation and wondering, discussion in small groups, and activities requiring hands-on experience.

National Council of Educational Research and Training (NCERT) appreciates the hard work done by the Textbook Development Committee responsible for this book. We wish to thank the Chairperson of the Advisory Committee, Professor Anita Rampal and the Chief Advisor for this book, Professor Amitabha Mukherjee for guiding the work of this committee. Several teachers contributed to the development of this textbook; we are grateful to their principals for making this possible. We are indebted to the institutions and organisations which have generously permitted us to draw upon their resources, material and personnel. We are especially grateful to the members of the National Monitoring Committee, appointed by the Department of Secondary and Higher Education, Ministry of Human Resource Development under the Chairpersonship of Professor Mrinal Miri and Professor G.P. Deshpande, for their valuable time and contribution. As an organisation committed to the 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
20 November 2006

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The Council gratefully acknowledges the contributions of Sandeep Mishra for the voluntary technical support and of Sadiq Saeed *(DTP Operator)*, Pratul Kumar Vasistha *(Copy Editor)*, Binod Kumar Jena *(Proof Reader)* and Shakamber Dutt *(Computer Station Incharge)* in shaping this book.

This book has drawn upon ideas from existing materials such as *Kunnimani* — Mathematics Textbooks for Class III & IV (developed by DPEP, Kerala for the Government of Kerala, 1997). The Council acknowledges the support of the *Chakmak* team at Eklavya, Bhopal for the children's drawings.

The Council also acknowledges the following teachers — P.K. Abdul Lathif and Cheggareddy F. C., Indira Ramesh, Sandhya Kumar — for participating in discussions and some book development workshops. The support offered by K.K. Vashishtha, *Head*, Department of Elementary Education, NCERT is also gratefully acknowledged.

The Council gratefully acknowledges the photographs taken by the following:

Chapter 1 — *Anita Rampal, Gulab, Kabir Vajpeyi, Jugnu Ramaswamy, Y.K. Gupta, Seema K.K.* The contribution of *Vinyas Centre for Architectural Research & Design*, New Delhi and *Jagriti Public School*, Murshidabad, W.B. is also acknowledged.

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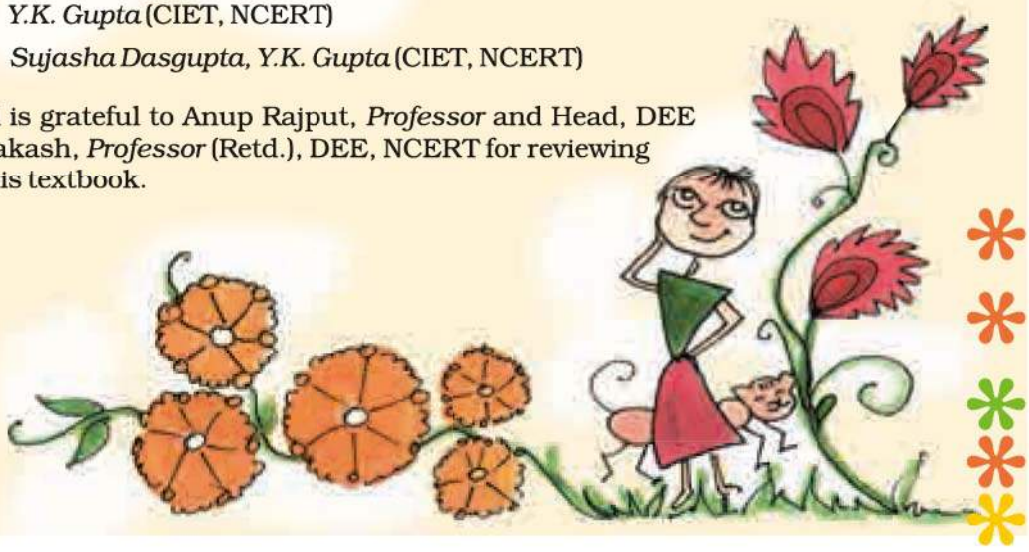


MATH-MAGIC

What is inside this book?

1 Building 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.

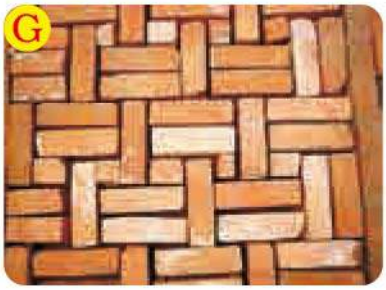
Look how the bricks are arranged in these five floor patterns.

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.

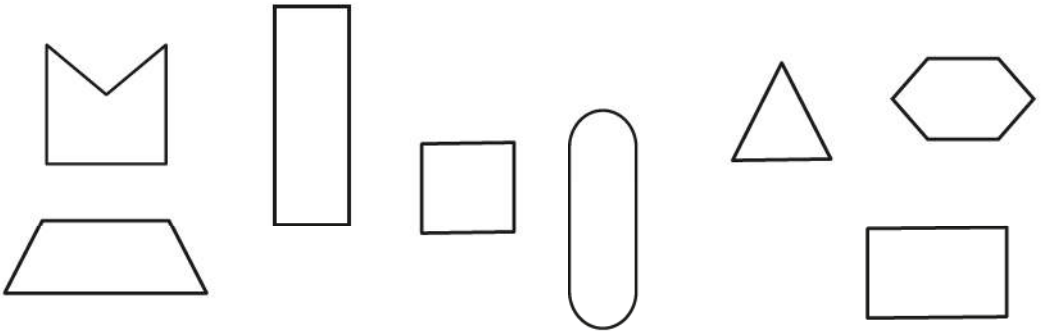


- Which pattern is made in a circle?
- In which pattern can you show mirror halves? Draw a line.

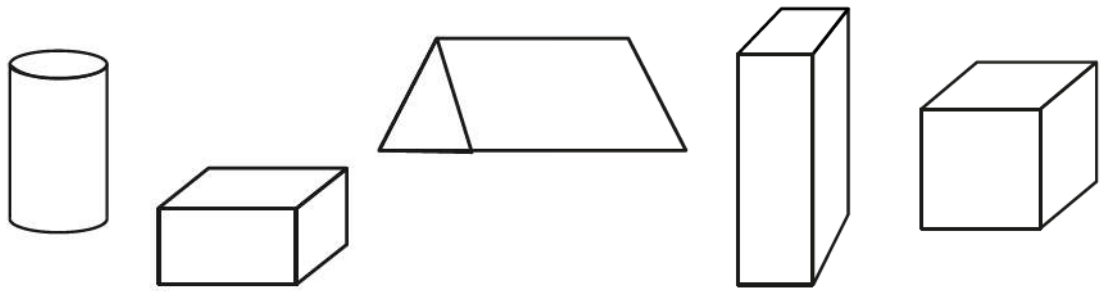
- Is any face a **square**?
- Draw the smallest face of the brick.

- 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 brick their walls. Each makes a different wall.

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?

Zainab

Muniya

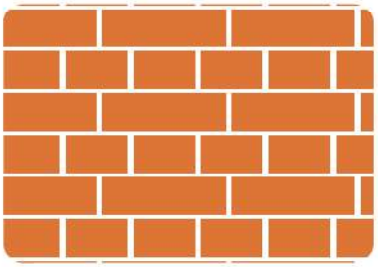
Look for walls where you can see different brick patterns.

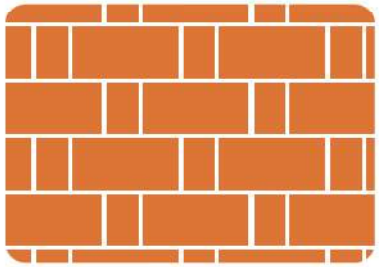
Different Wall Patterns

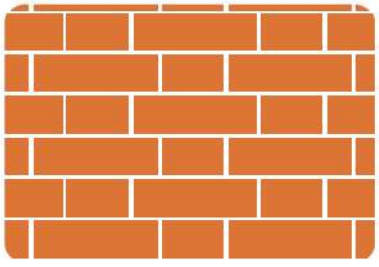
- Here are photos of three kinds of brick walls. Can you see the difference in the way the bricks are placed?
- Now match the photo of each wall with the correct drawing below:

Looking Through a Brick 'Jaali'

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





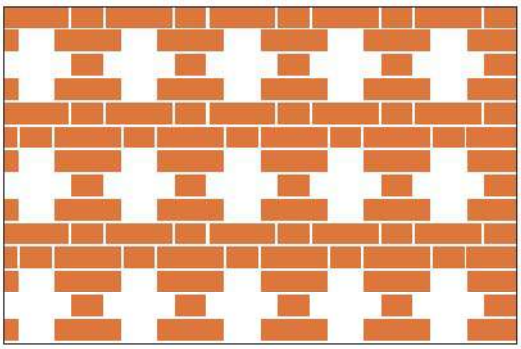


Looking Through a Brick 'Jaali'

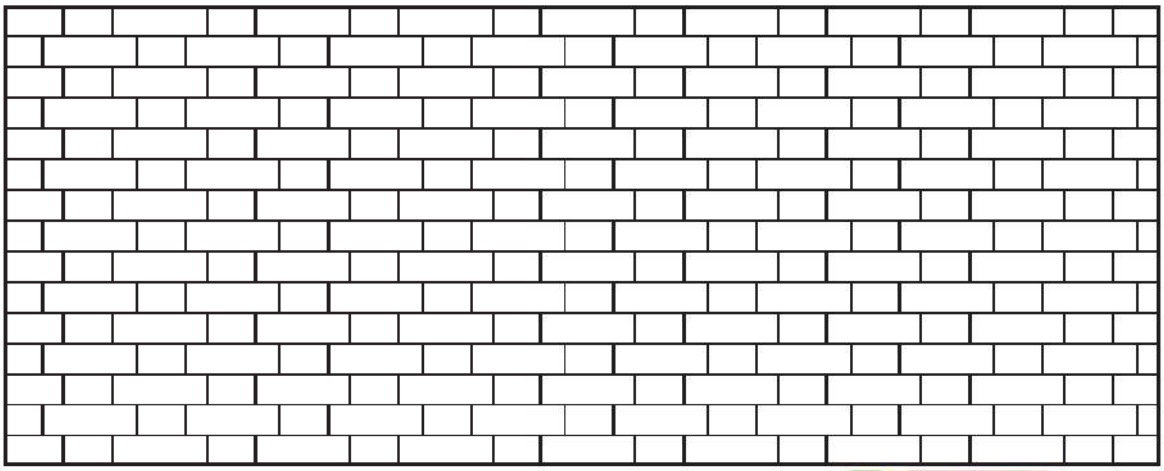
The masons who built Jagriti School had also made different *'jaali'* patterns on the walls.

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

This is a drawing of another beautiful *'jaali'*.

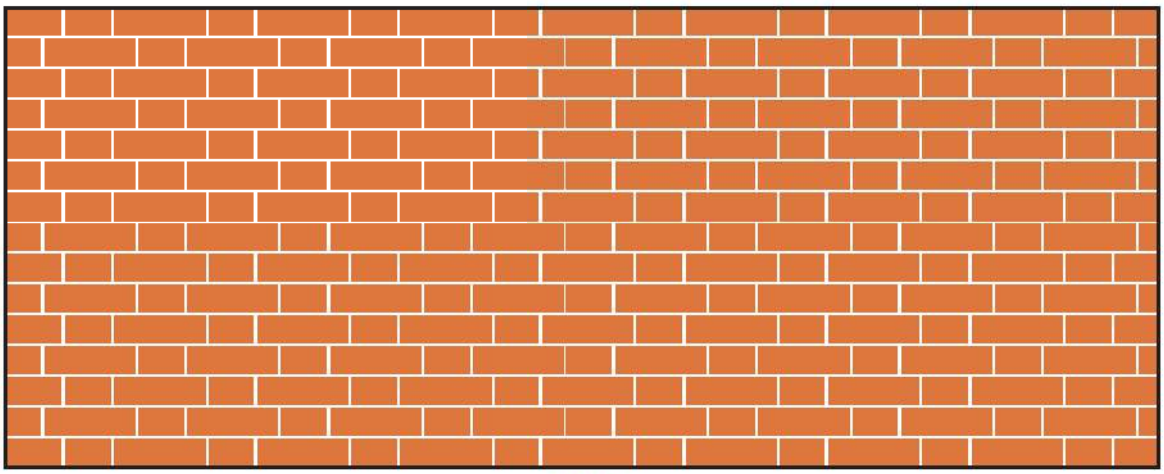


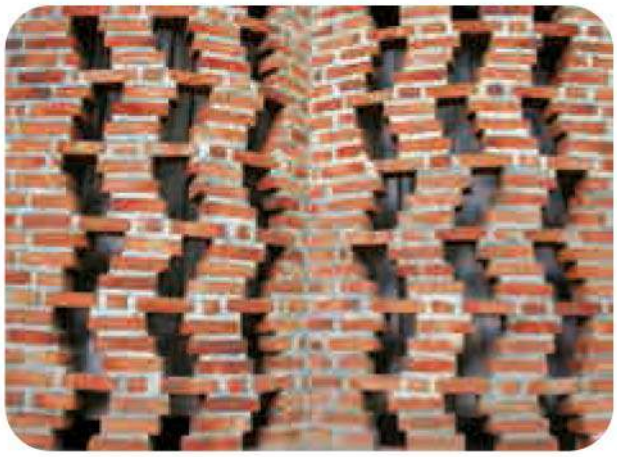
- Now colour some bricks red and make your own *'jaali'* patterns in the wall drawn below.

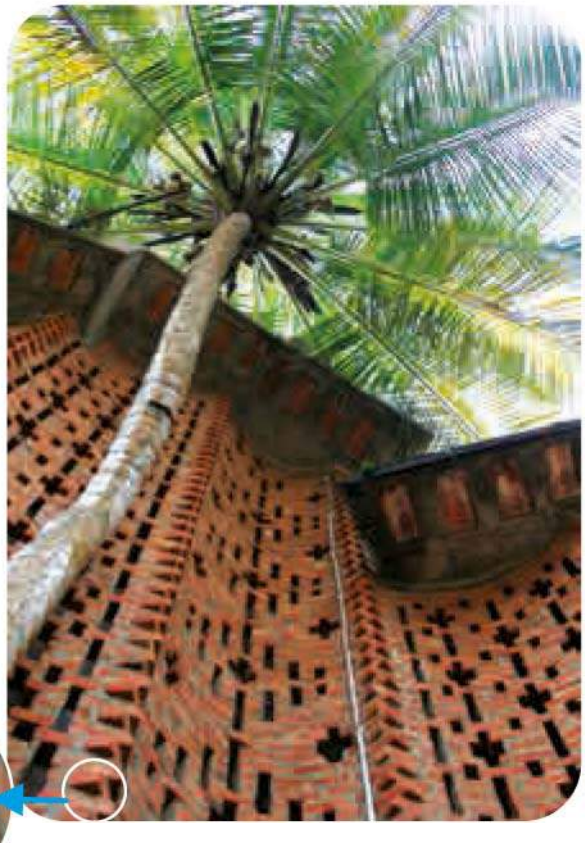


Can you see the window *(jharokha)* in this photo of the school?

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







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

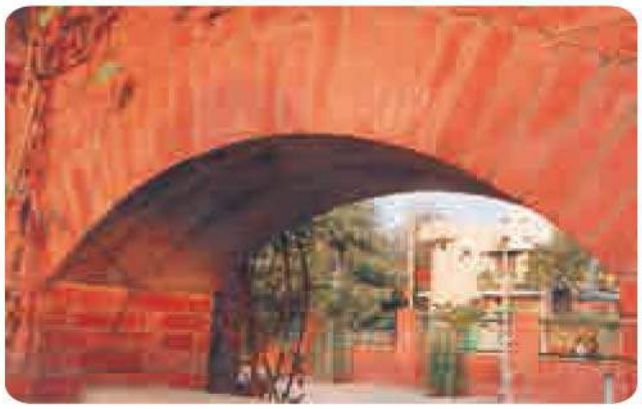
Do you see the **arch** in

photo?

This is from a school in Faizabad.

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

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. _____

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.

A

B

D

C

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

in one truck.

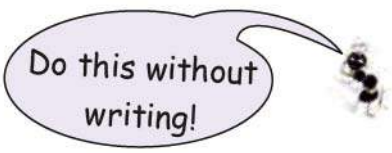
Mental Math: Bhajan Buys Bricks

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 1200 for one thousand bricks
New bricks from Intapur	- Rs 1800 for one thousand bricks
New bricks from Brickabad	- Rs 2000 for one thousand bricks

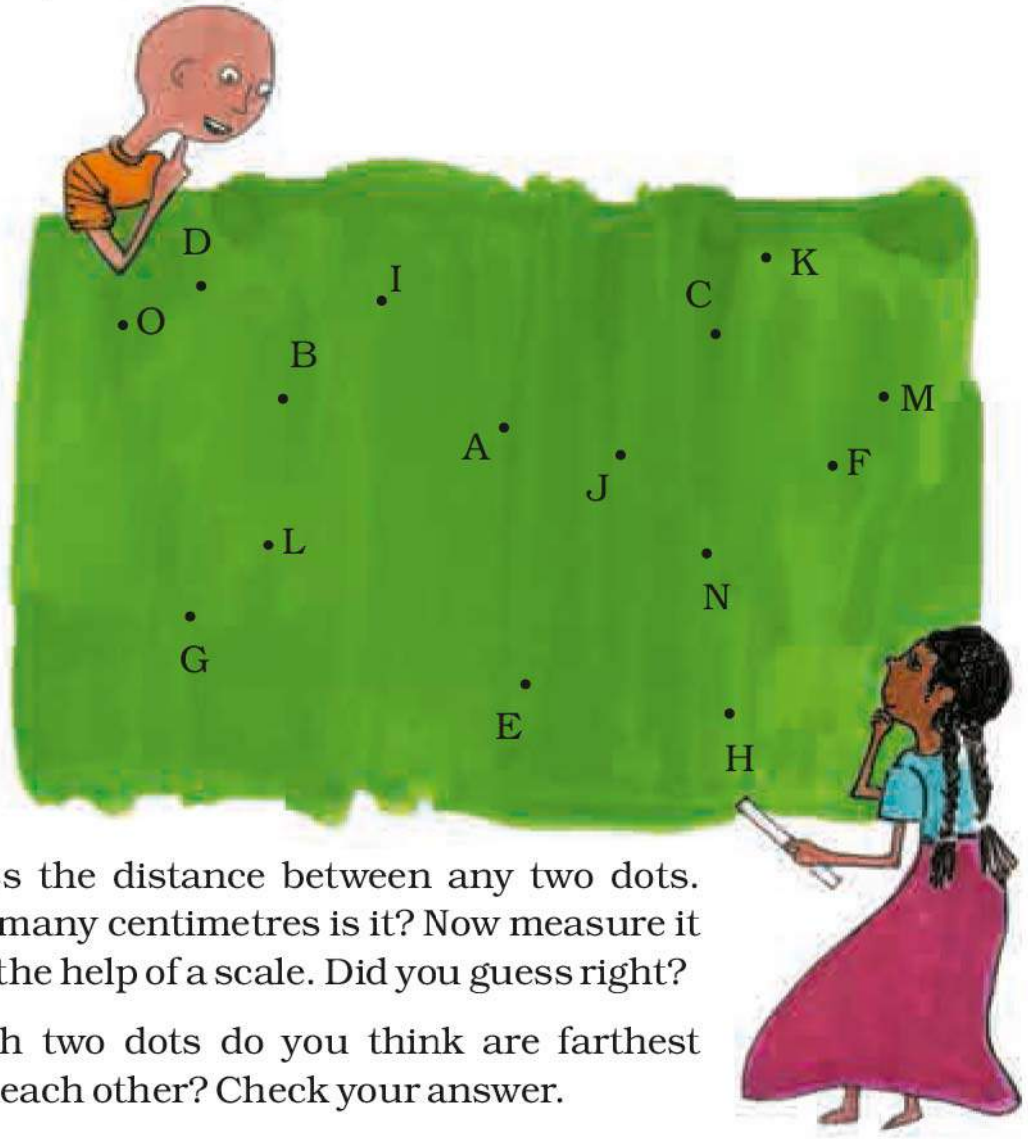
Bhajan decided to buy the new bricks from Brickabad. He bought three thousand bricks. How much did he pay? _____

- 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 centimetres is it? Now measure it with the help of a 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 partner to guess the distance. This can also be extended to estimating bigger distances on the floor. The border of this chapter should also be used as a scale.

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?

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?

Find out and fill the table below.

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

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

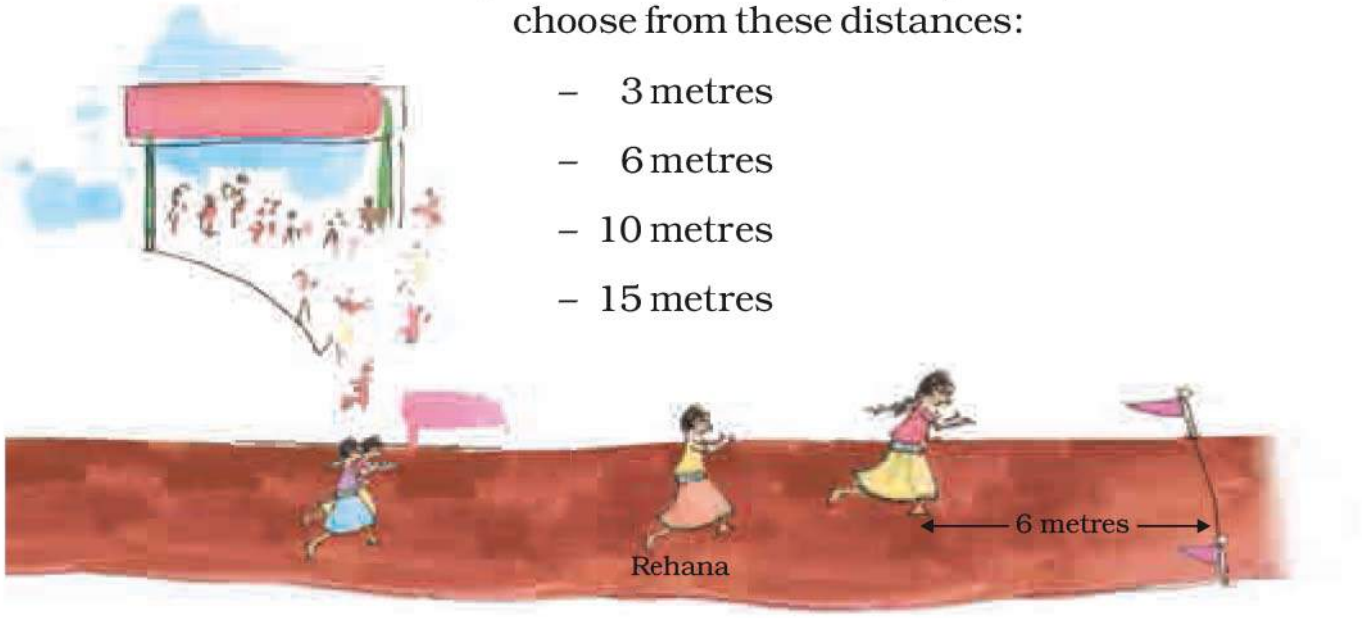
Inter-School Sports Meet

Race

This is a 100 metre race for girls. Arundhati is nearest the finishing line. She is about 6 metres from it.

Behind her is Rehana. Konkana and Uma are running behind Rehana. Look at the picture. To answer the questions below choose from these distances:

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



a) How far is Rehana from Arundhati? _____

b) How far ahead is Rehana from Kavita and Uma? _____

c) How far are Kavita and Uma 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

Here are the Indian Records and World Records for some jumps.

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

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)	Galina C. (7m 52 cm)	Anju G. (6m 83 cm)

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 very close to two and half metres?

   a) Stefka K.

   b) Chandra Pal

   c) Javier S.

   d) Bobby A.

Running Exercise

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

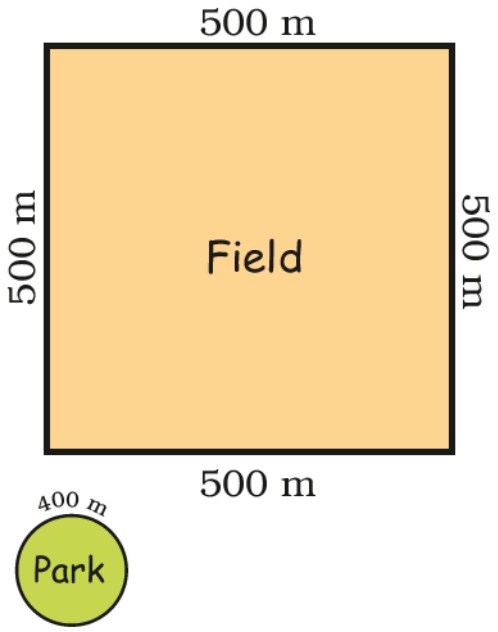
The field was very far from his home. So he chose a park nearby. The boundary of the park was about 400 metres long.

★ How many rounds of the park must DeviPrasad 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?



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?

_____

_ _

_____

_____

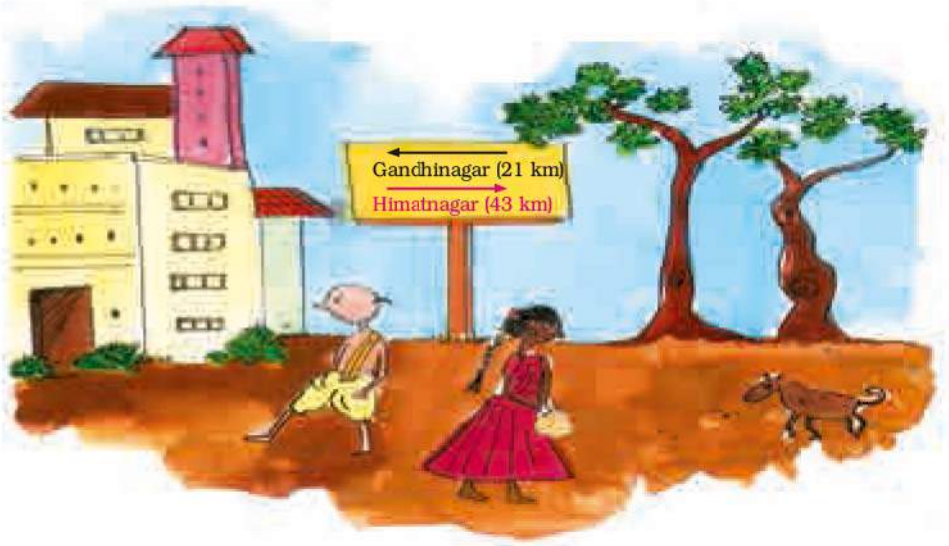
Guess and Find Out

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?

I Wish I Were !



Try to find out:

1. Which is the highest building that you have seen? About how many rooms high was it?

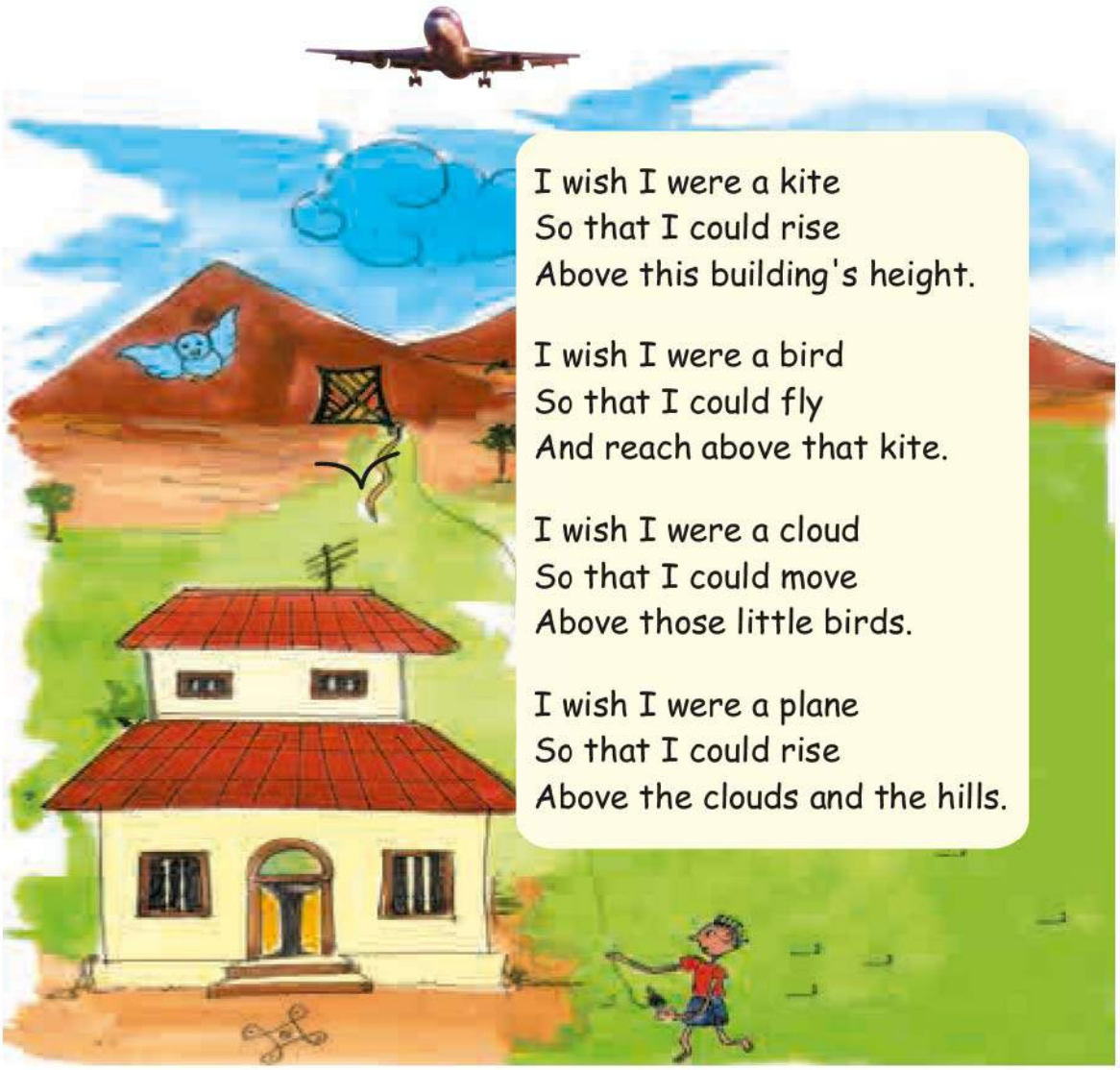
2. How high can a kite go? Can it go higher than the Qutab Minar?

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?

Friend's name	*Distance of home from school*

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 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.

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

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

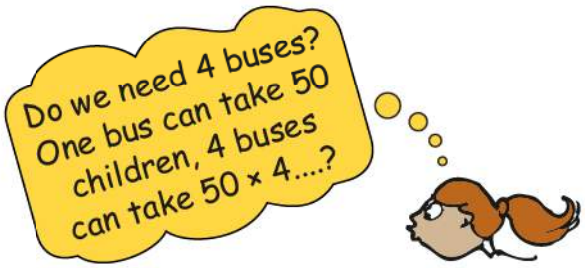
Ms. Meenakshi — We will need 4 buses.

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

Ms. Meenakshi — 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 _____



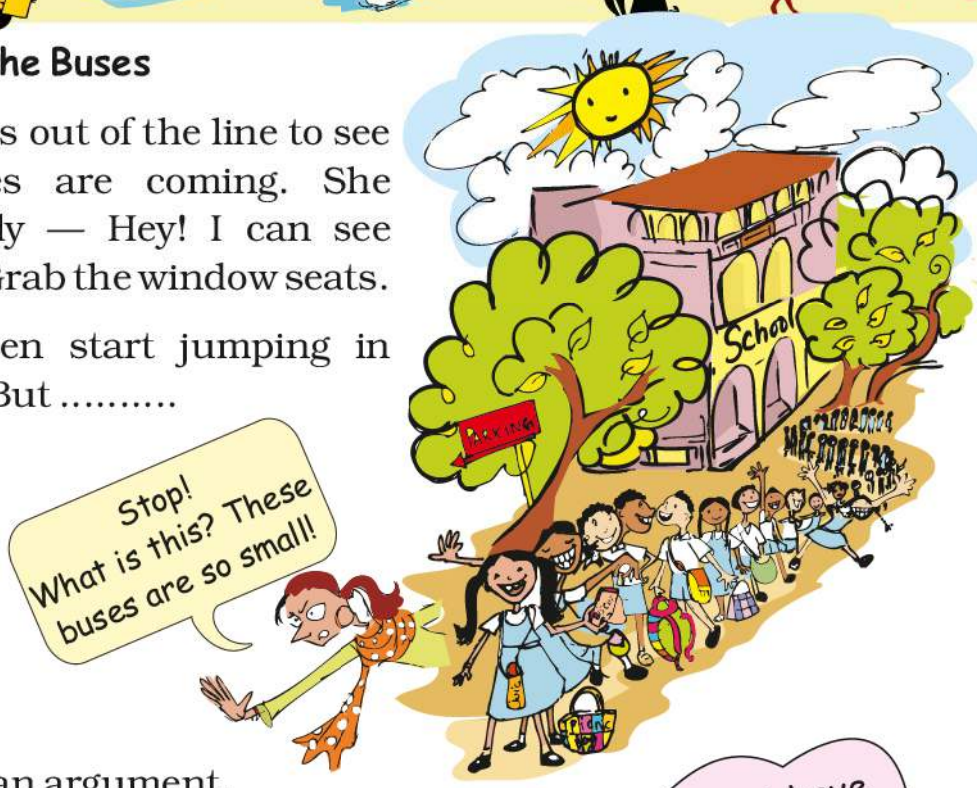
- So there are a total of _____ children going.
- If they get 4 buses, how many children will get seats? _____
- Will there be any children left without seats?

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.

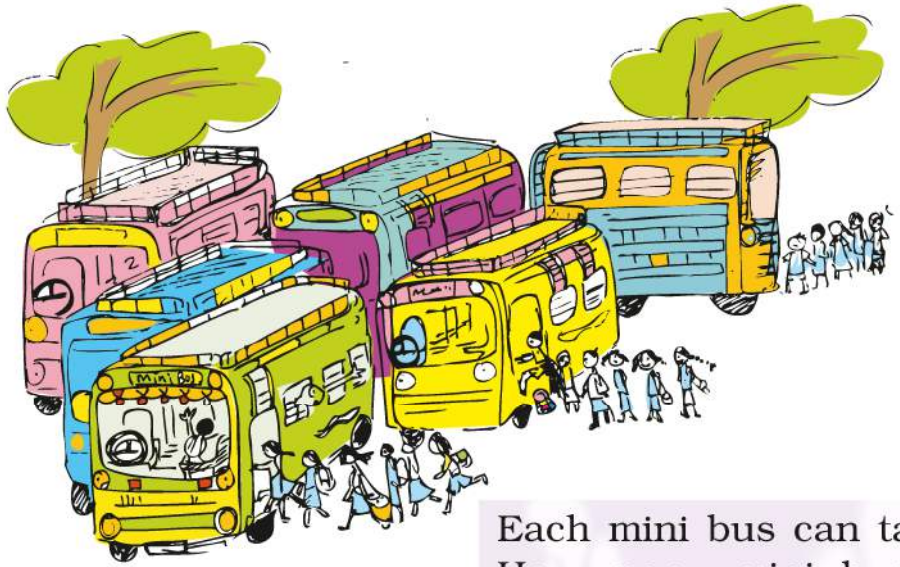
Waiting for the Buses

Sahiba jumps out of the line to see if the buses 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?

Mr. Bhimsen — It is about 70 km.

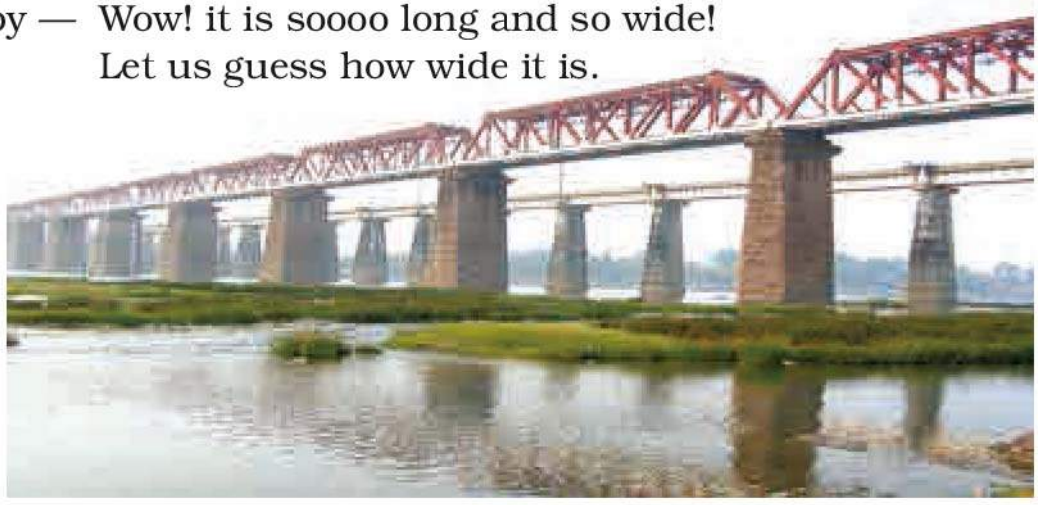
Ruby — Are we going to stop anywhere?

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.

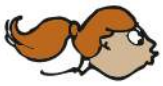
Ms. Asha — See, our bus is about 5 metres long. Imagine how many buses can stand in a line on this bridge.

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

Everyone looks down at the river.

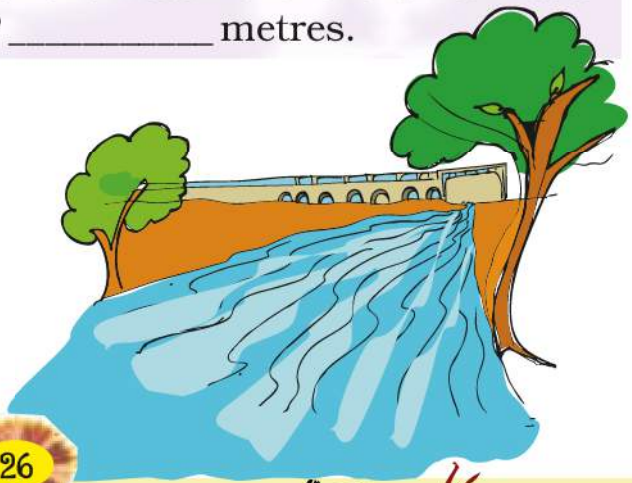
Mr. Rakesh— The water level now is quite low. It must be about 40 metres below the bridge.

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.

Sumit — 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.

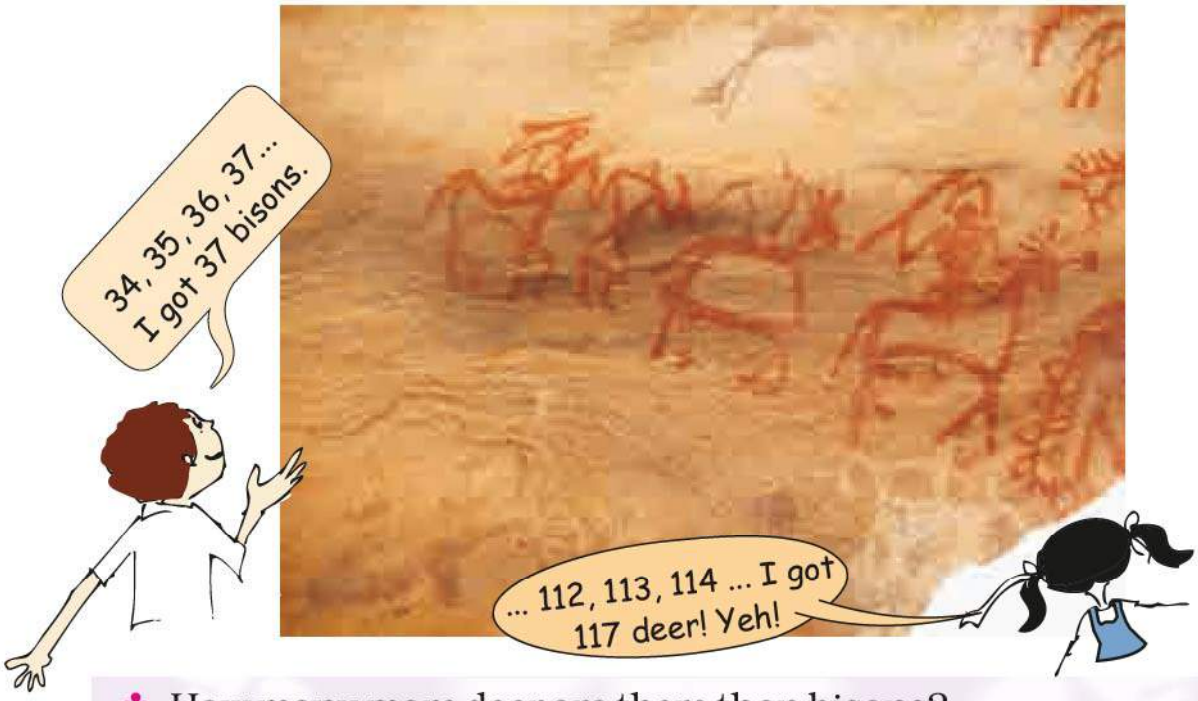
Manjeet — That means those caves are almost hundred great grandmothers old!!

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.

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



✤ How many more deer are there than bisons? _____

But Bina 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 Bina 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?

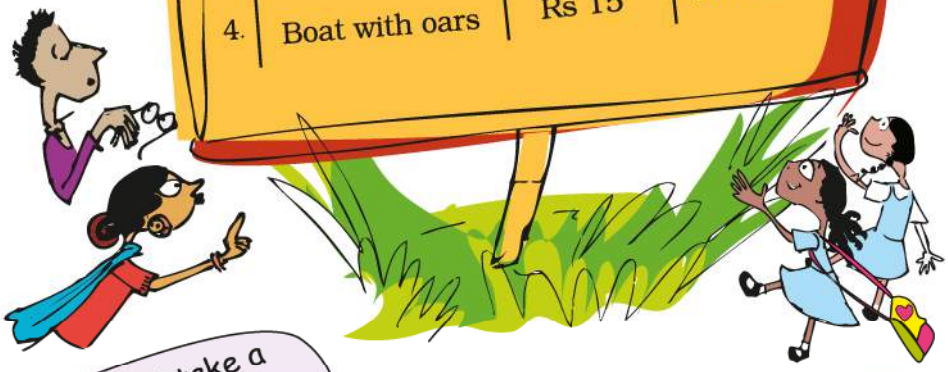
They are so lost in puzzles that they do not notice they have reached the lake. It is a very big lake with a small island in it.

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 30	45 minutes
2.	Paddle-boat	Rs 15	30 minutes
3.	Motor-boat	Rs 25	20 minutes
4.	Boat with oars	Rs 15	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 450 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 40. 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

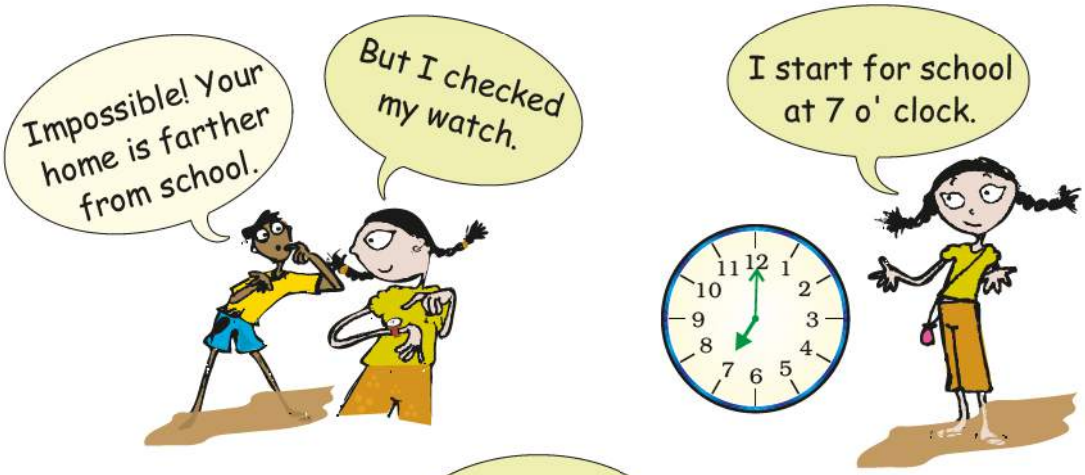
   b) 321 and 192 d) 401 and 91

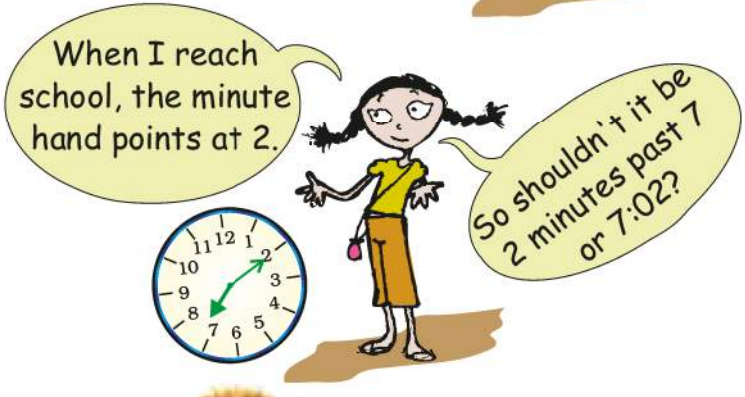
4. What happened at what time? Draw lines to match.

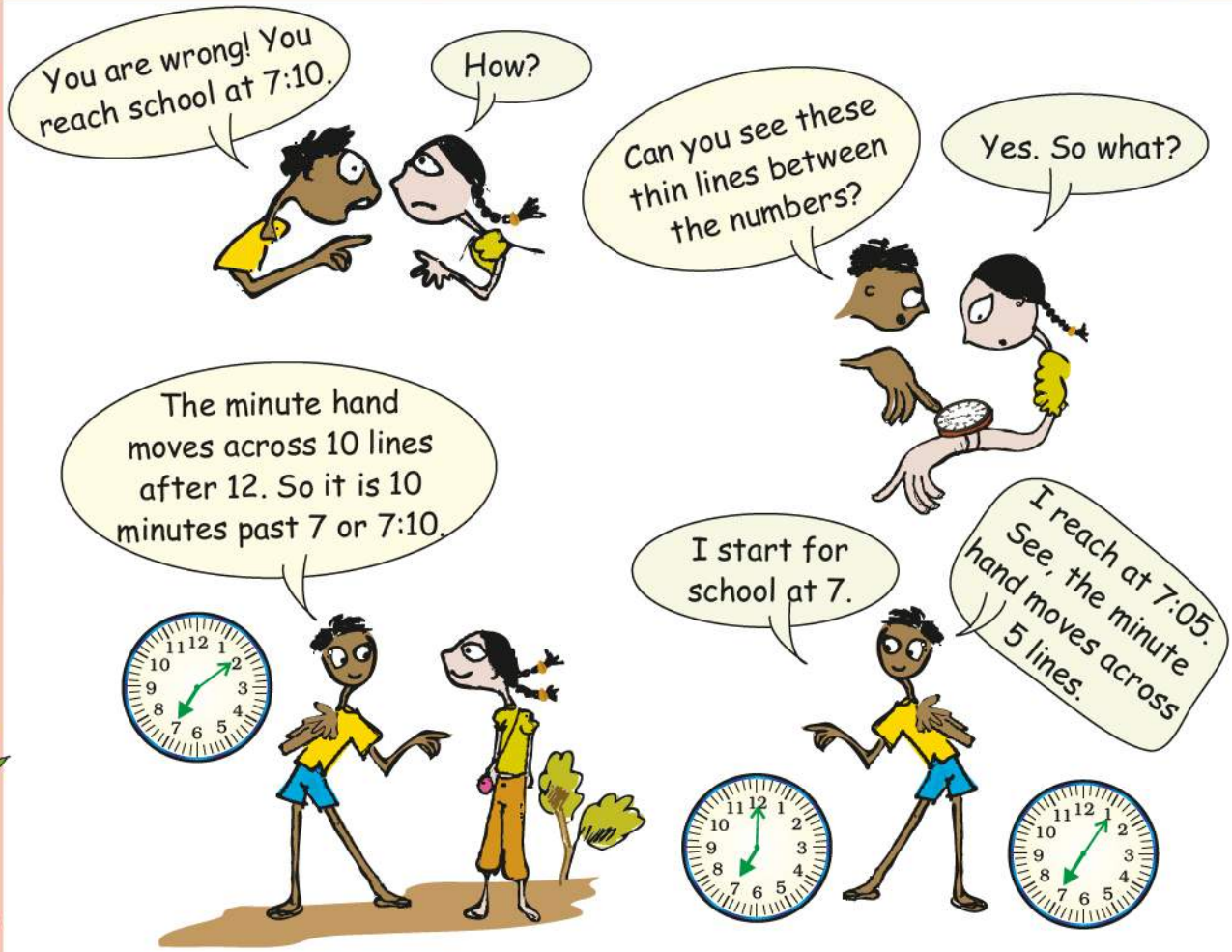
✤ Crossed the Narmada bridge	3:00 p.m.
✤ Looked at Bhimbetka paintings	6:00 p.m.
✤ At the petrol pump	9:10 a.m.
✤ Boating in the lake	12:30 p.m.
✤ Had lunch	11:30 a.m.
✤ Returned to Hoshangabad	9:30 a.m.

4 Tick-Tick-Tick

Pankaj and Saniya were discussing whose home is farther from school.







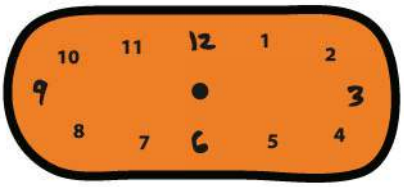
Practice Time

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

	Cheeku	*Bittu*	*Pinki*
	12:03	12:15	3:00
	7:25	5:07	5:35
	3:35	7:03	7:15

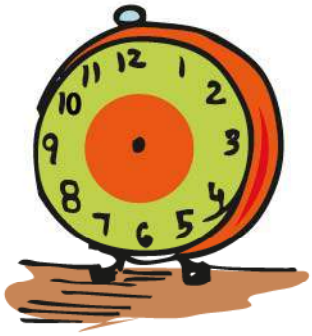
2) Show the following times in the clock:

3:10

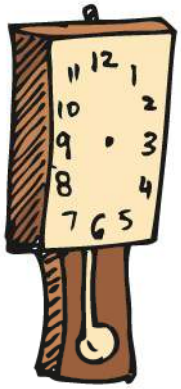


6:40

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 the sun rise at your place? ———

b) When does the sun set? ———

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

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

Look at the photo and guess the time at 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 by 4 pm in the evening.

3) ***Find out***

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

a)  to  _____

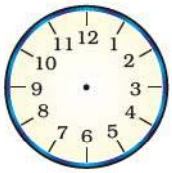
b)  to  _____

c)  to  _____

d)  to  _____

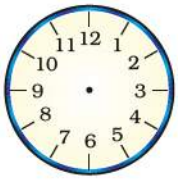
* Draw where the hands will be:

a) 20 minutes after 6 o' clock



c) 10 minutes after 7 o' clock

b) 30 minutes after 8 o' clock



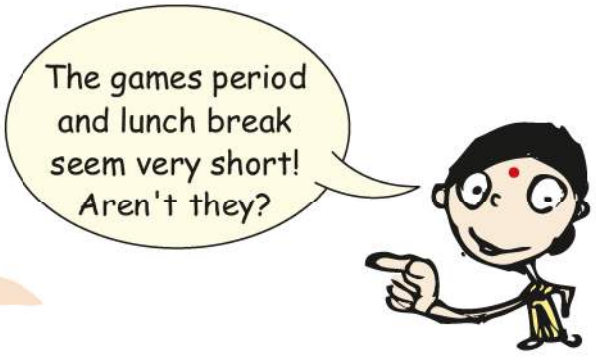
d) 15 minutes after 5 o' clock

* How long does your school assembly take? _____

How long is your lunch break? _____

How long is your games period? _____

Is it the same as all the 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 _____

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?

_____

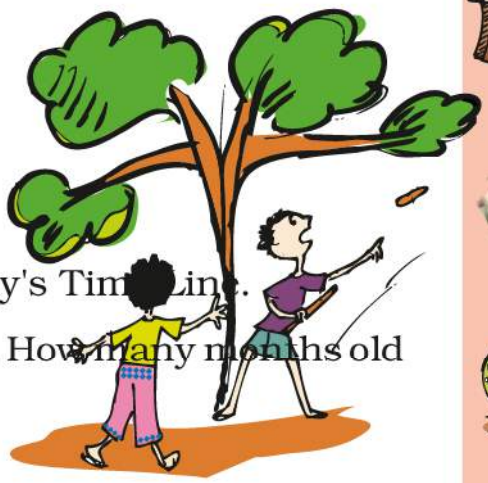
How long does a football match take?

Rani's Diary

Here are some pages from Rani's Diary —

Mark these in the correct order on Munny's Timeline.

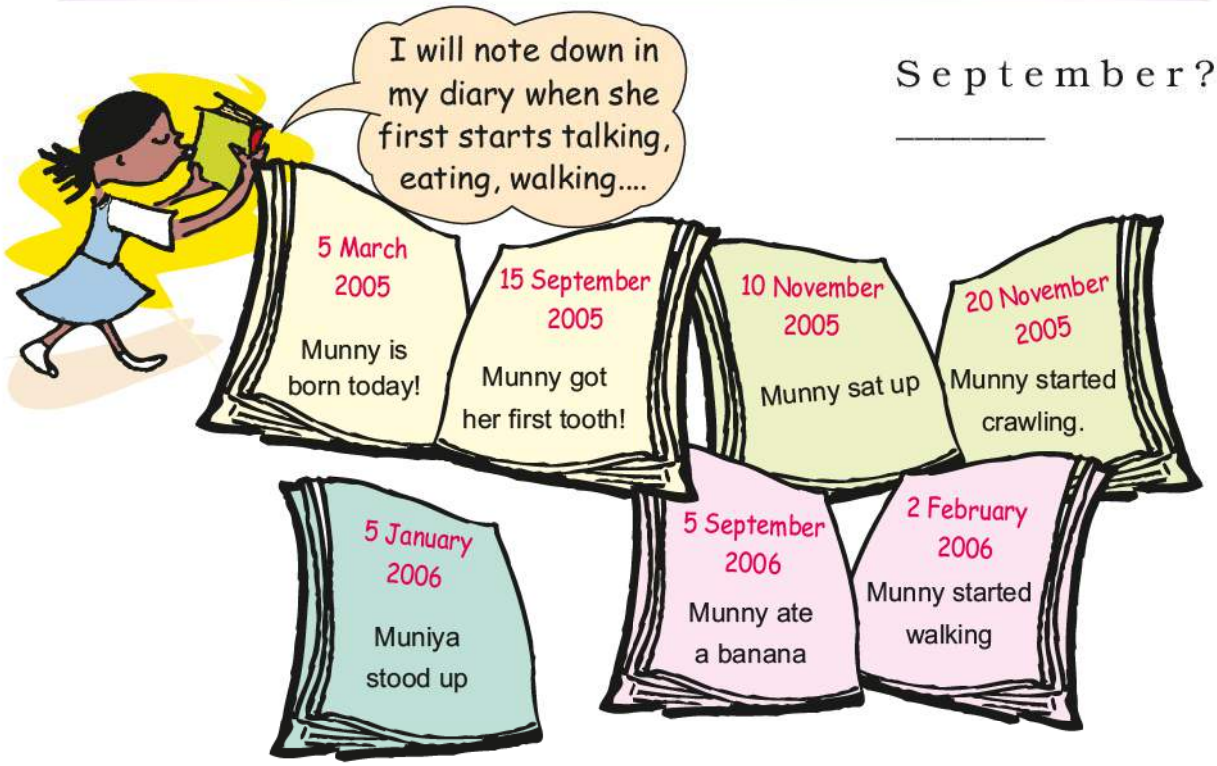
* Munny got her first tooth in September. How many months old



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.

was she then? How many months have passed from March to

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



September?

_____

* How old was Munny, when

5/3/05

↓

Was born

(a) she first sat up? _____

(b) she got her first tooth? _____

* What did she do first — 1) walking/eating a b[illegible]a?

2) crawling/stand[illegible]

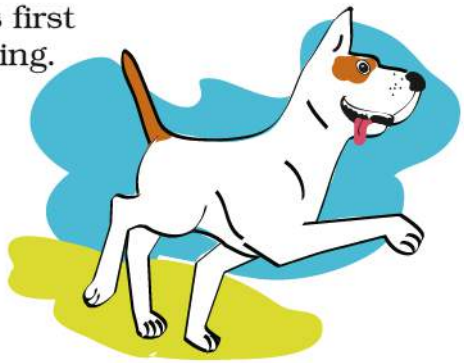
Rani had a pet puppy. After 2 weeks it opened its eyes. She watched it grow like this:

* Now make a time-line of this dog's life in your notebook.

* Note the differences between Munny and Rani's puppy:

Find out

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.

Do all animals grow at the same speed?

Discuss about the growth of —

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

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

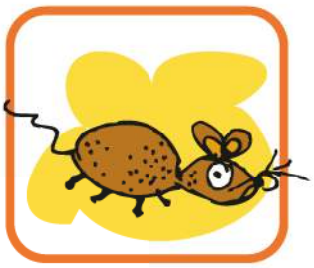
Draw pictures of the baby animal and the big animal.

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

* How much older is Appu's grandfather than Rani's grandfather? _____

* Will Chuchoo's grandfather ever grow as old as Appu's grandfather? _____

Elephant Appu's grandfather (95 years old)



Chuchoo rat's grandfather (2 years old)

Rani's grandfather (70 years old)

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

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

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.

her a letter —

Shabana who stays in Nagpur, got this letter on 13/05/18. She wrote back to Atif —

Ajmer

07/05/2018

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 10/05/2018. I will be back on 20/5/2018. 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

Ali

Ali wrote his letter on 07/05/18. You remember how we write a date in numbers?

Nagpur

14/05/2018

Dear Ali,

Hello!

I am doing well here. I got your letter yesterday. Happy holidays! My school will close on 1st June 2018. It will reopen on 10th August. I will go on a school trip to Goa and will return on 7/6/18. I will try to come to Ajmer after that. Bye

Shabana

07/05/18 is 7 May 2018.

Now write which dates these stand for –

10/5/18 _____

20/5/18 _____

7/6/18 10 May 2018

1/6/18 _____

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 Ali spend at his Nani's place? _____
* Fill in the table:

Who has got longer holidays — Shabana or Ali?

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

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

On 15 May 2017 Chandran went to a shop to buy butter. He

Occassion	Dates		Number of days
	From	To	
Summer holidays			
Navratri holidays			
Diwali Vacation			
Holidays after the exam			

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 15/01/17.

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 15/01/17? _____
— Can Chandran eat it on 15th May 2017? _____

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 07/17

  This shows it was made in July 2017.

  Exp. date 07/18

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

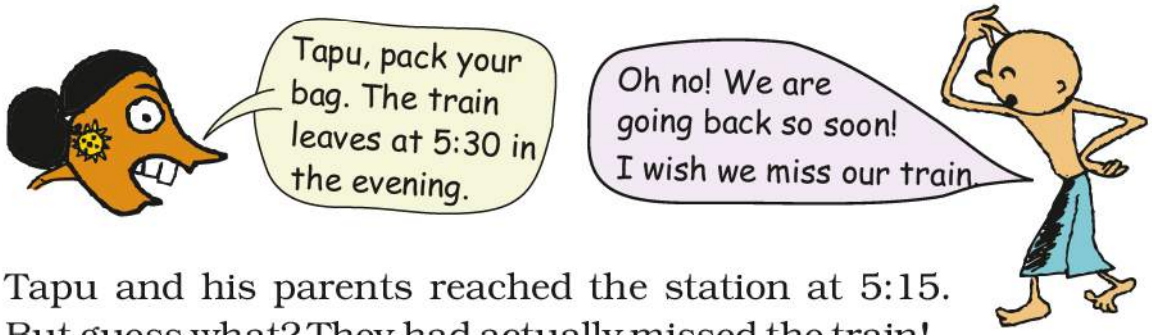
* What month and year is written as 07/18? _____

  Would it be safe to take the cough syrup in September 2018? _____

Tapu Missed the Train

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.

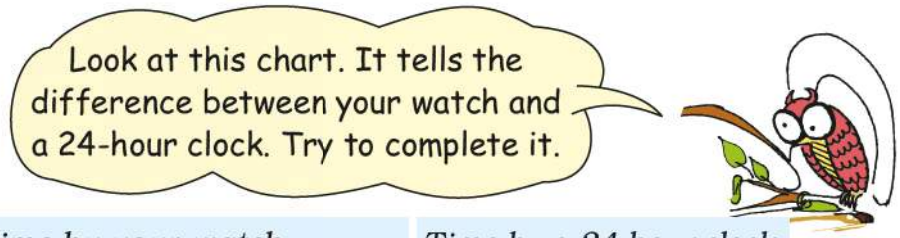
Tapu's school had closed for the summer holidays. He went to his grandma's place. He met a lot of his cousins there. He was enjoying himself and didn't want to go back home.



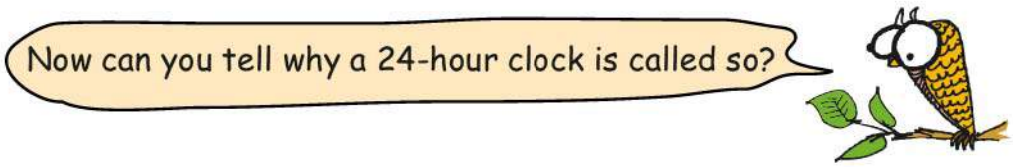
Tapu and his parents reached the station at 5:15. But guess what? They had actually missed the train!

Can you guess why they missed the train?

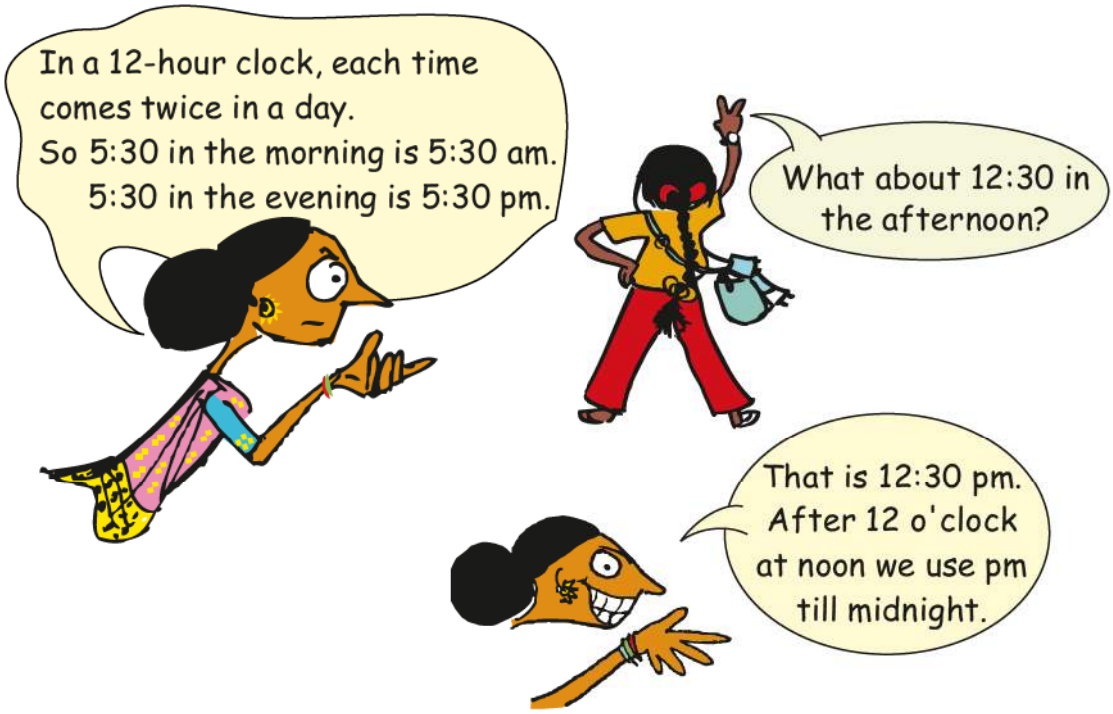
Actually the train had left at 5:30 in the morning! Tupu's parents were upset. They asked the station master —



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	_____



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



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. _____

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.

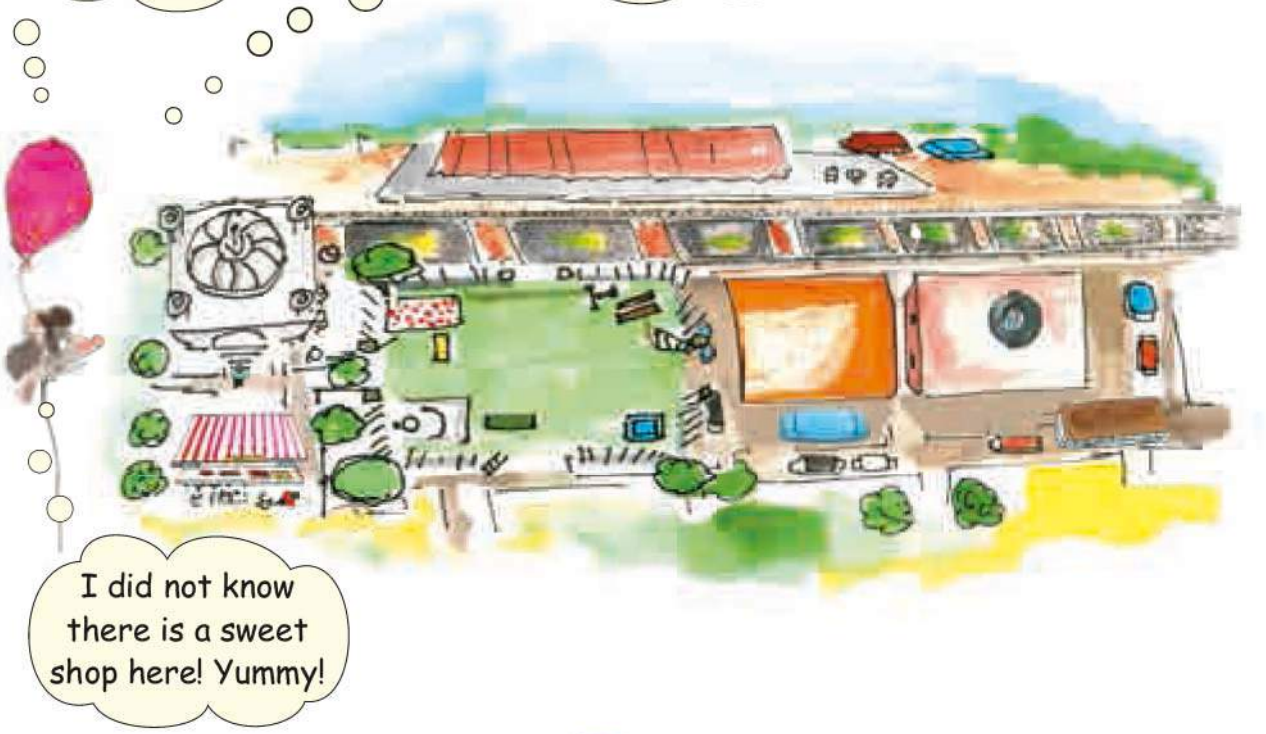
The balloon flew up and Gappu started going up in the sky. As he looked down, he could see his house.

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 ...

When I ran around in my house, it looked so big! But from here, it looks small. How is that?

Who is that, on the railway track? Is it that fat cat Monty? Ha! Ha! Ha! From here it looks like a big white mouse.

This must be the Gurudwara where Amarjeet goes every day.



I did not know there is a sweet shop here! Yummy!

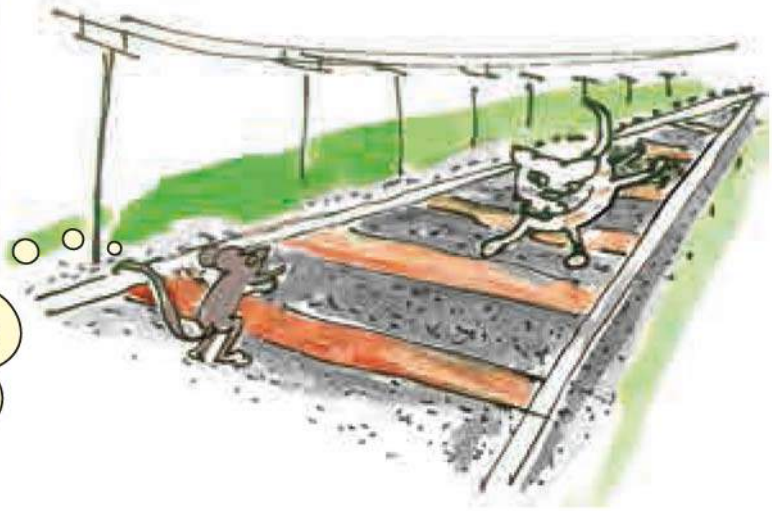
- Imagine how your classroom looks from above. Try to draw it and mark the benches, blackboard, doors, windows etc.

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

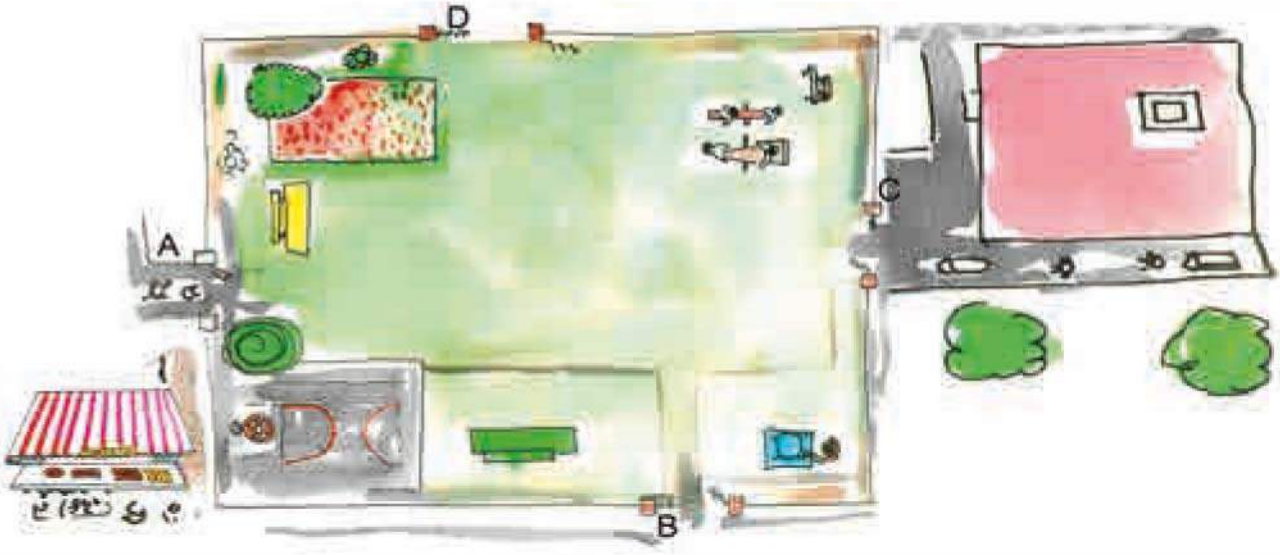
✤ Try to draw pictures of a shoe from the side, top, front etc.

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?

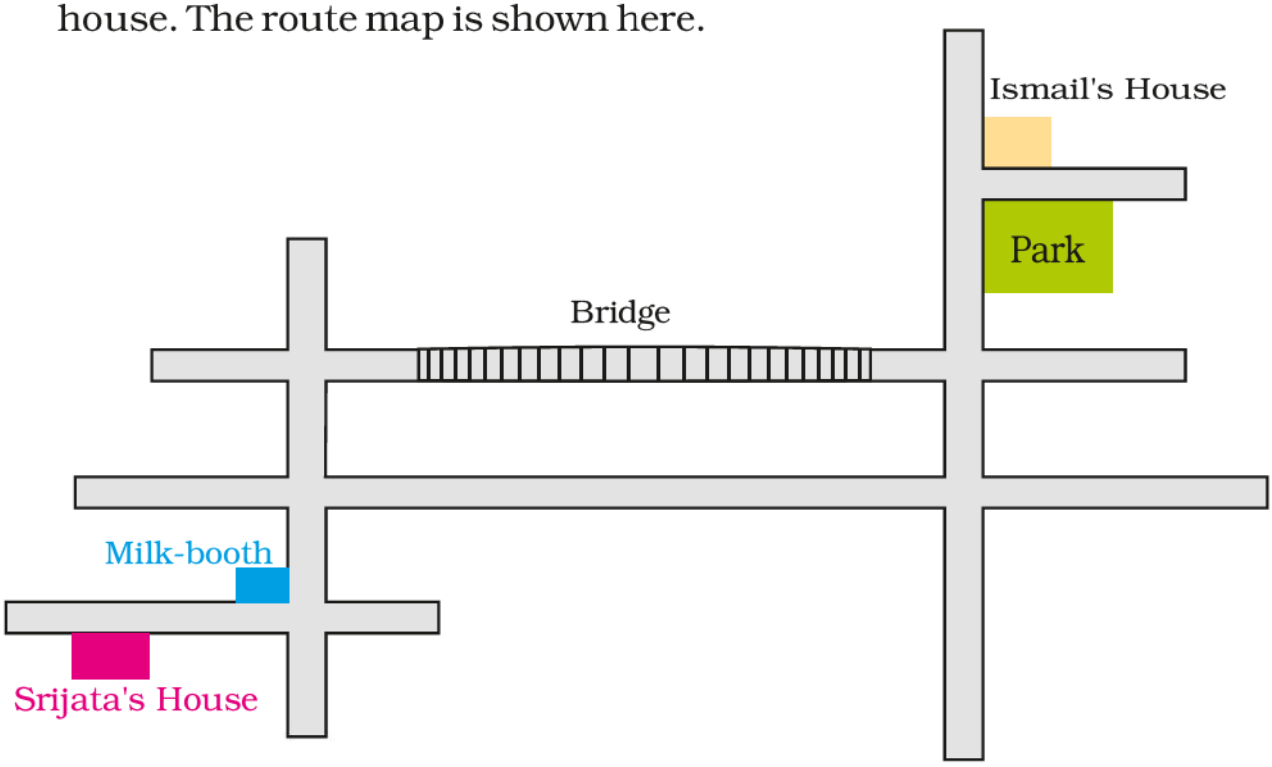
  1. Basketball court 2. Flower bed

  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.



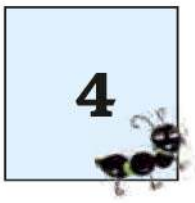
This is what Ismail told Srijata:

"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.

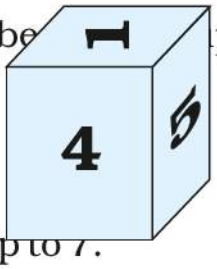
Gibli and the Big Box



Do you remember Gibli the ant in the Math-Magic 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.

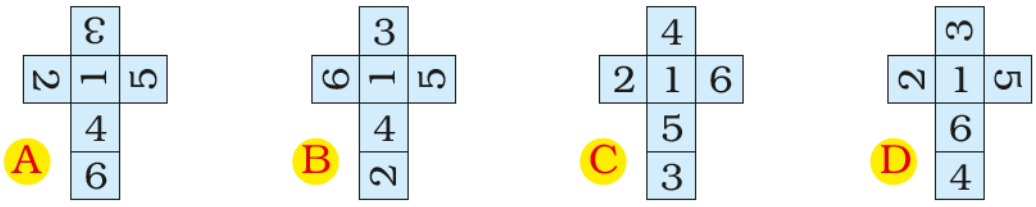


Gibli was confused. What was this box? She climbe p and tried to see from there. The box looked like this.

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?

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 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 30 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.

Hariya

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 360.

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 you do it?

Hey! I will do it like this — 9 times 2 is 18. So, 9 times 20 is 180.

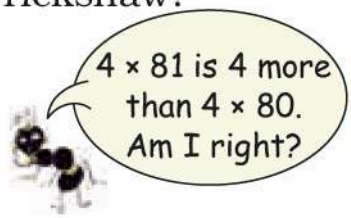
But I find this easier. For 10 rickshaws she will get Rs 20 × 10 = Rs 200. So, for 9 rickshaws, she will get Rs 200 – ___ =___ .

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.***



$2 \times 6 =$ _____	$4 \times 80 =$ _____
$20 \times 6 =$ _____	$4 \times 81 =$ _____
$2 \times 60 =$ _____	$9 \times 25 =$ _____
$3 \times 42 =$ _____	$31 \times 9 =$ _____

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.

Look at the next page 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 7/-
2. Newspaper	Rs 15/-
3. Iron	Rs 22/-
4. Brass	Rs 270/-
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

Can you do this without writing?

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

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.

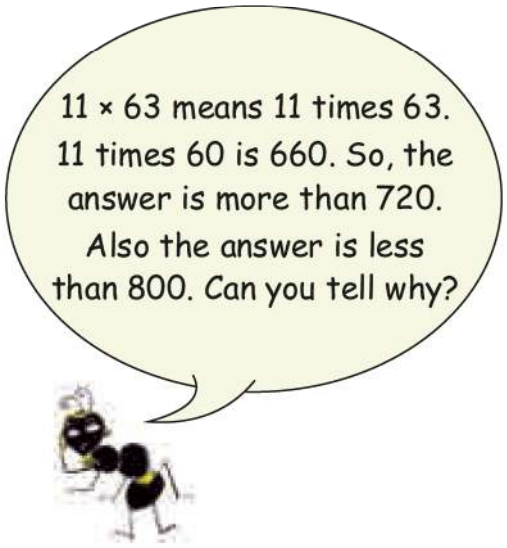
A. How much will Dinu pay for 63 kg plastic?

The rate of 1 kg plastic is Rs 11. So the cost of 63 kg plastic will be Rs 11 × 63.

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

Dinu's Rate-List	
Kind of Junk	Price of 1 Kg
1. Newspaper	Rs 17/-
2. Iron	Rs 24/-
3. Brass	Rs 280/-
4. Plastic	Rs 11/-
5. Waste Paper	Rs 8/-

	60	3
10	60 × 10 **600**	3 × 10 **30**
2	60 × 1 **60**	3 × 1 **3**



Dinu added the numbers in the boxes:

$$\begin{array}{rr} & 600 \\ + & 60 \\ + & 30 \\ + & 3 \\ \hline & 693 \\ \hline \end{array}$$

So, for 63 kg plastic, Dinu will give Rs 693.

* Kiran bought 1 kg plastic for Rs 10, but sold 1 kg plastic for Rs 11. How much money does she earn on selling 1 kg plastic? Rs _____

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

B. Kiran sells 32 kg iron

* How much money will Dinu pay for 32 kg iron?
* Kiran buys 1 kg iron for Rs 11, but sells it for Rs 24.

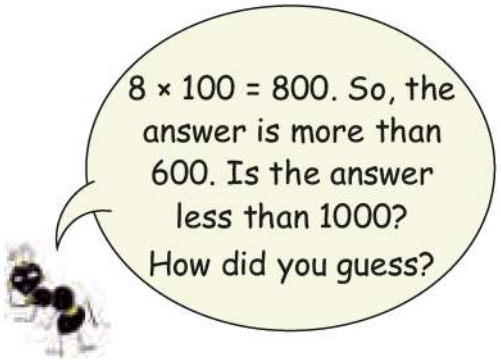
How much does she earn when she sells 32 kg iron? Rs _____

C. What will Dinu pay for 152 kg newspaper?

The rate of 1 kg newspaper is Rs 8. So the cost of 152 kg newspaper is Rs 8 × 152.

Dinu writes:

	100	50	2
8	100 × 8 **800**	50 × 8 **400**	2×8 **16**



Then he adds the numbers in the boxes:

$$\begin{array}{r} 800 \\ +\ 400 \\ +\ 16 \\ \hline 1216 \end{array}$$

So, for 152 kg newspaper he will give Kiran Rs 1216.

D. What does Dinu pay for brass?

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

First guess the answer and then calculate:

a) $37 \times 18 =$ e) $142 \times 5 =$

b) $45 \times 24 =$ f) $382 \times 3 =$

c) $69 \times 52 =$ g) $2 \times 175 =$

d) $77 \times 55 =$ h) $4 \times 206 =$

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 

8 notes of 

3 notes of 

7 notes of 

4 coins of 

6 notes of 

Kiran wrote the record in her diary.

11 March 2018

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 and coins from Dinu.

28 coins of 

5 notes of 

1 note of 

18 notes of 

9 notes of 

Now you make a record in her diary.

Find out how much she earned this time.

18 March 2018

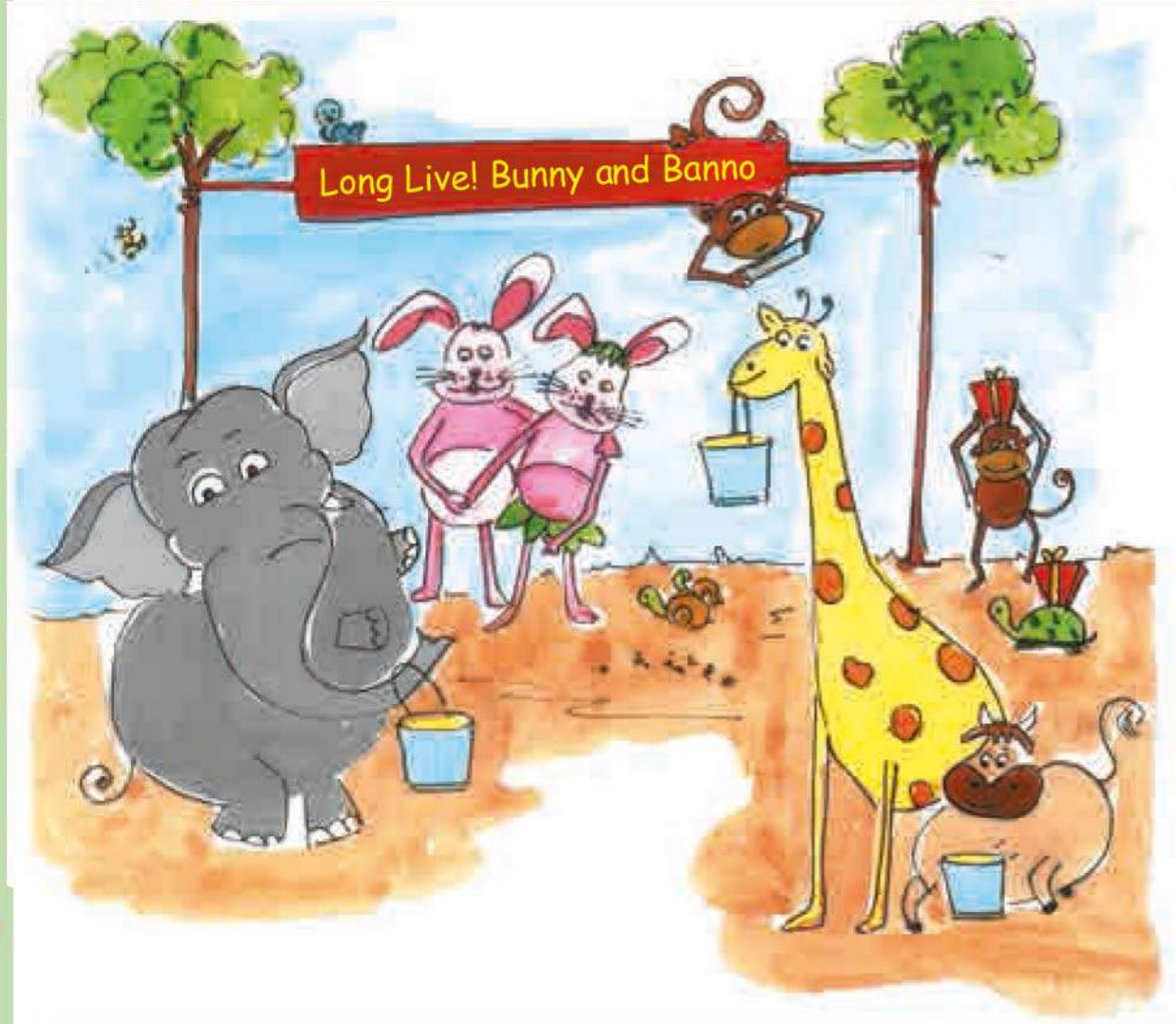
7 Jugs and Mugs

Bunny and Banno Celebrate their Wedding Anniversary.

Do you remember the wedding in Bunny's family last year? (See Math-Magic Class III page 153). Bunny and Banno 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, hopping and even crawling!



The elephant is drinking 50 litres of *kheer*.

The giraffe is drinking _____ litres.

The cow is drinking _____ litres.

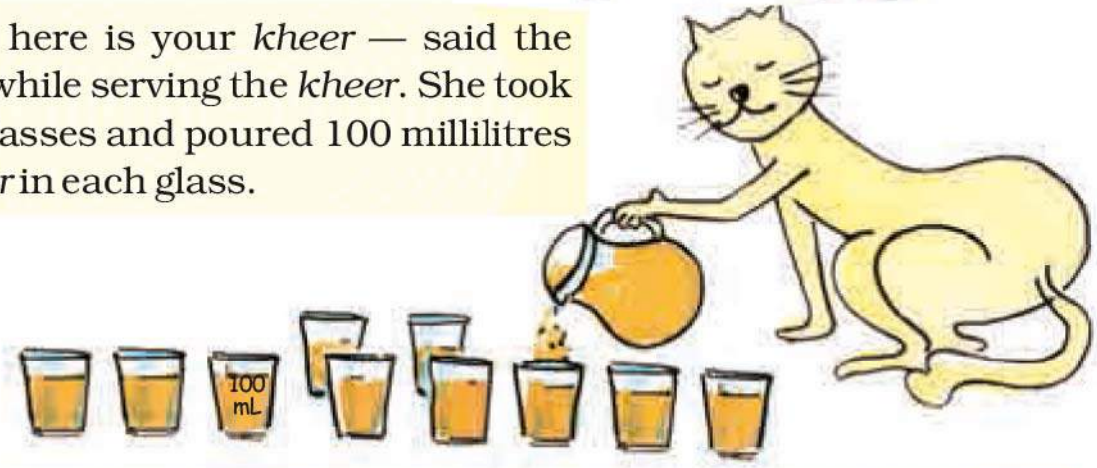
Then came the squirrel. She said — I can't drink 1 litre of *kheer*, please give me only 500 millilitres.

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 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?

Don't worry, they won't drink much. Each of them will take only one millilitre. 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!

After thinking the elephant said — No problem, I can manage.

Each ant drinks 1 millilitre of *kheer*.

So, 1000 ants drink: 1000 × 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.

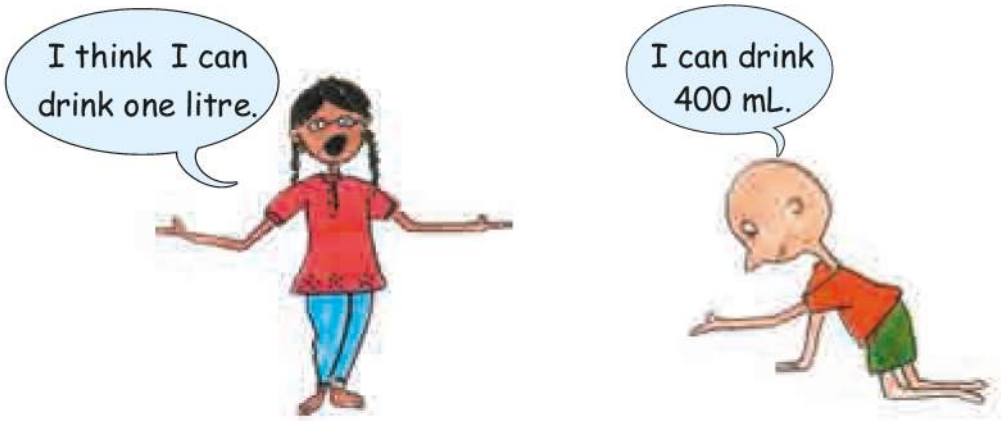
Who can have 1 Litre Kheer

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

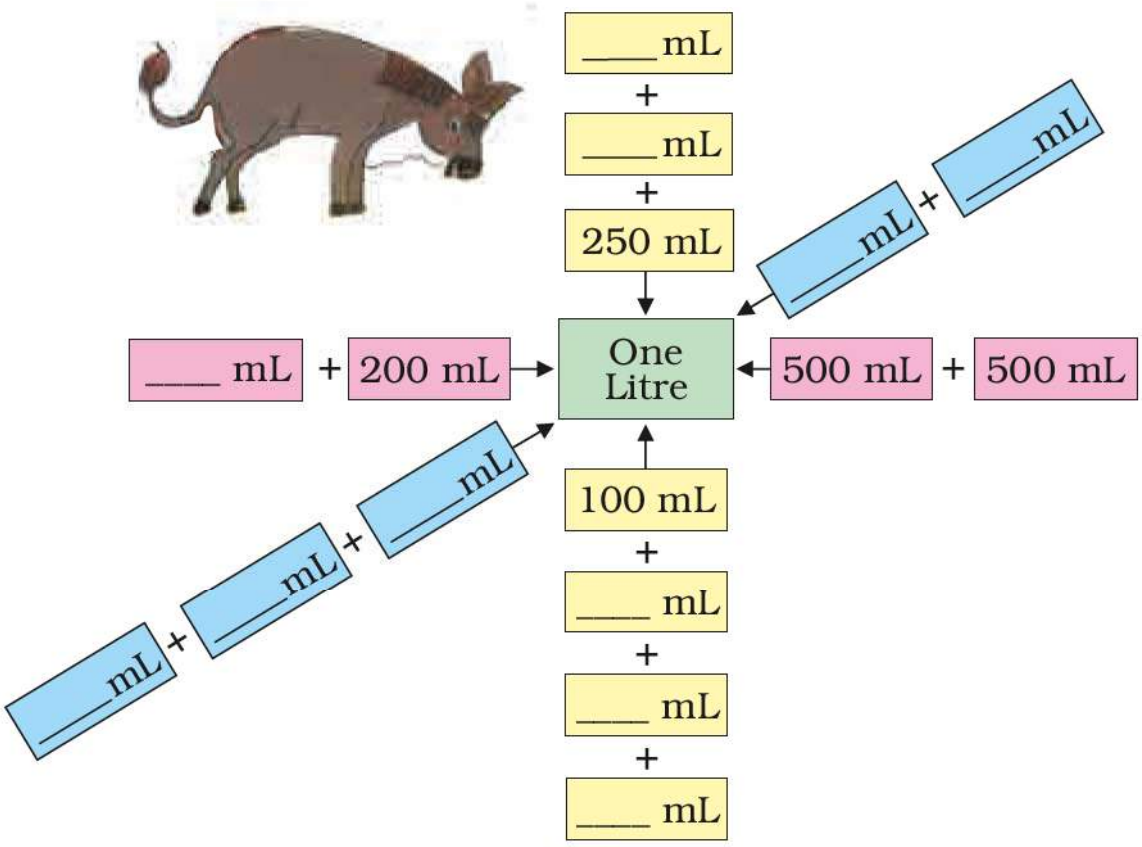
How much *kheer* can you have?

Can you drink 1 L 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.

My Litre Bottle

Packet	*How many mL or L?*
Milk	500 mL

Have you seen a one-litre water bottle?

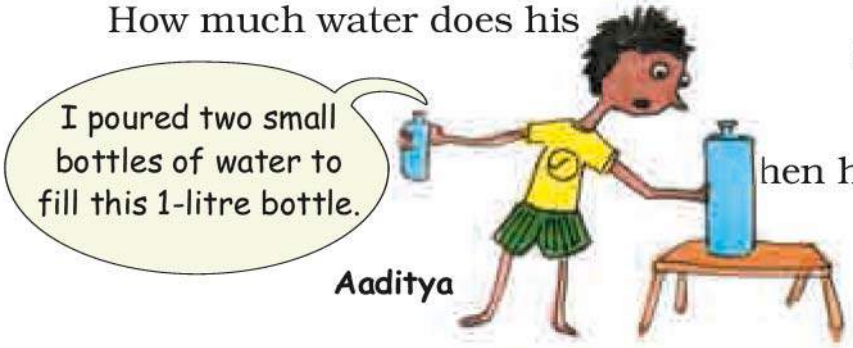
Collect a 1-litre bottle and some other small bottles. Guess how many times you have to pour from each of the small bottles to fill the litre bottle.

Check if your guess is correct and fill the table.

Look what Aaditya is saying.

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

How much water does his small bottle hold? _____



hen how much water does Leela's bottle hold? _____

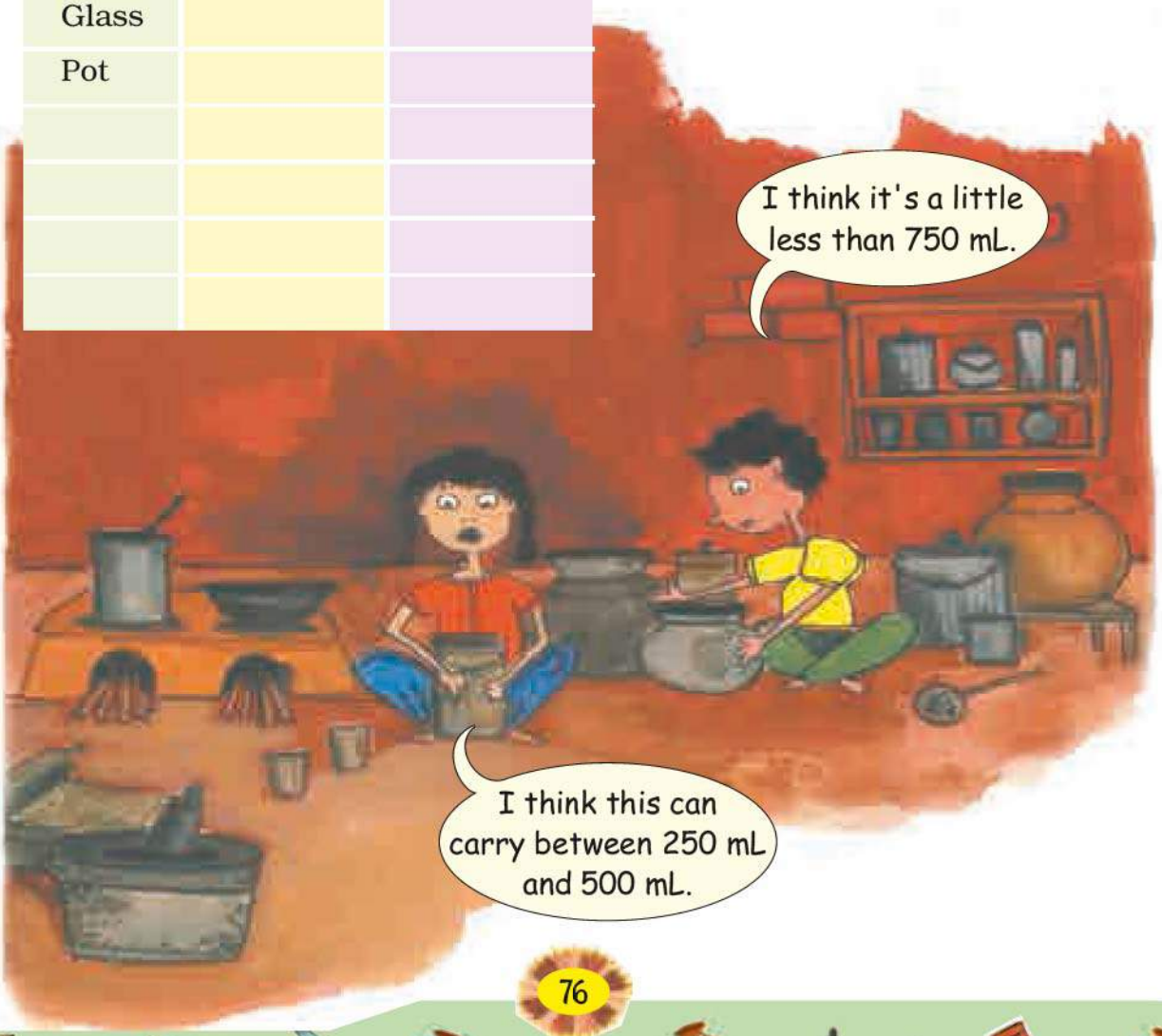
Ramu's Measuring Bottle

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

My Measuring Bottle

Find your own way to make a bottle which can measure 200 mL,

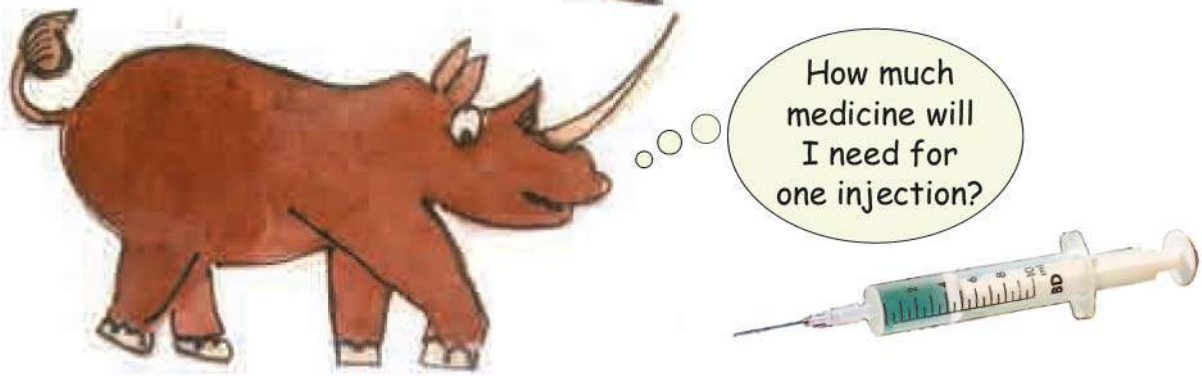
	My Guess	*My Measure*
Mug		
Glass		
Pot		



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.
- _____ — _____
- _____ — _____
- _____ — _____

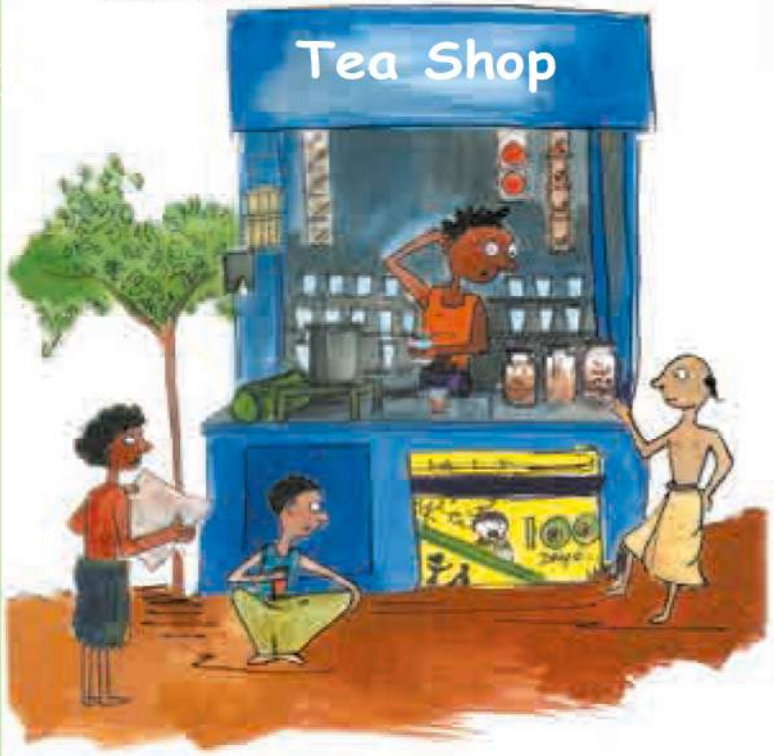
List things we use more than one litre at a time.

- Water for taking bath
- _____
- _____
- _____

Practice Time

1. Amina's water bottle holds one litre of water. She drank 250 mL of water and her friend Govind drank 150 mL. How much water is left in her bottle?

2. Yusuf 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. Radha'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 millilitres of medicine does she has to take every morning? _____

Water- Water

The table shows the water used in one day by a family of 5 people. They live in Goodallur 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 in this 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.

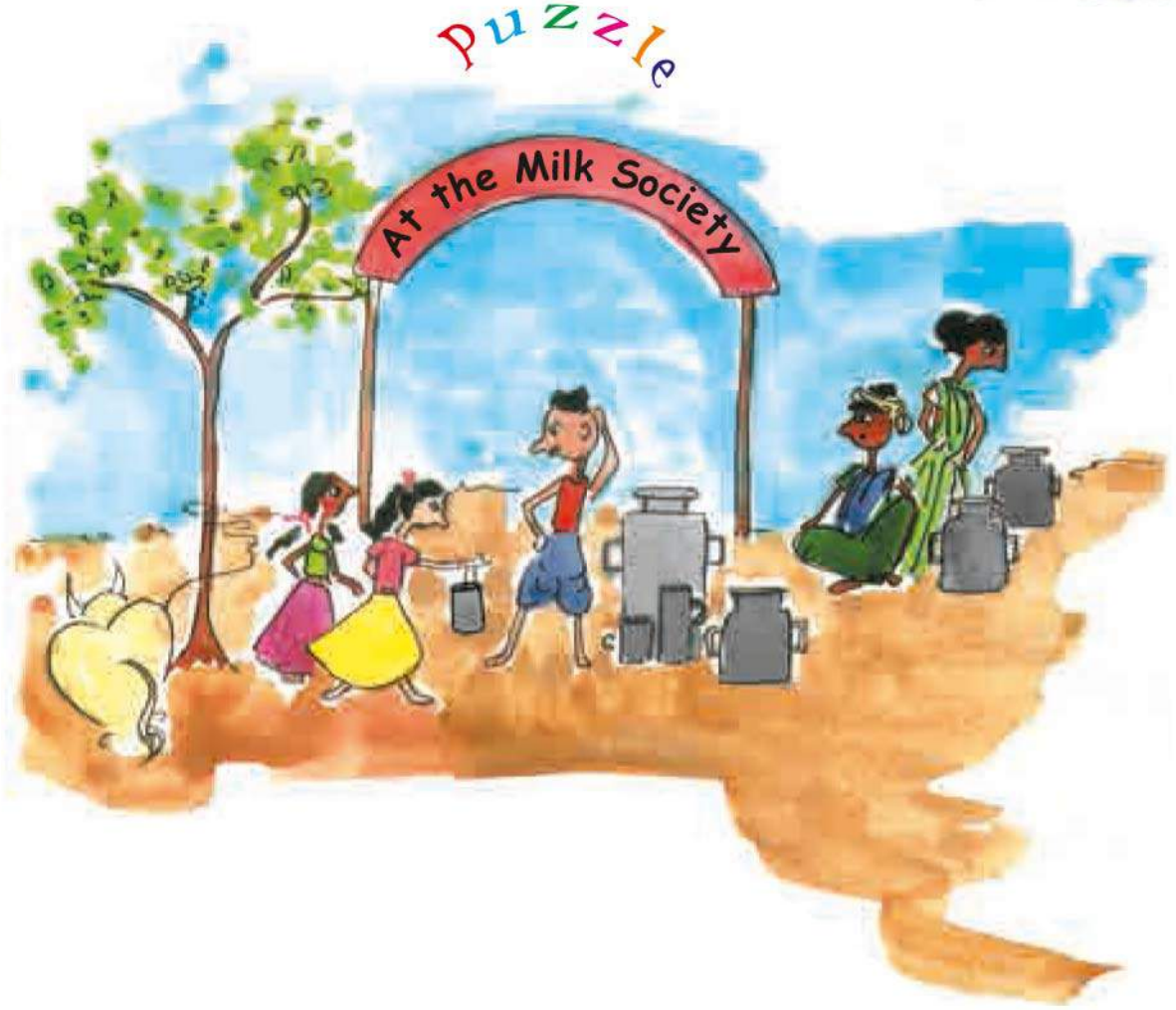
Find out how much water is wasted in a day. _____

In a week? _____

In a month? _____

In a year? _____

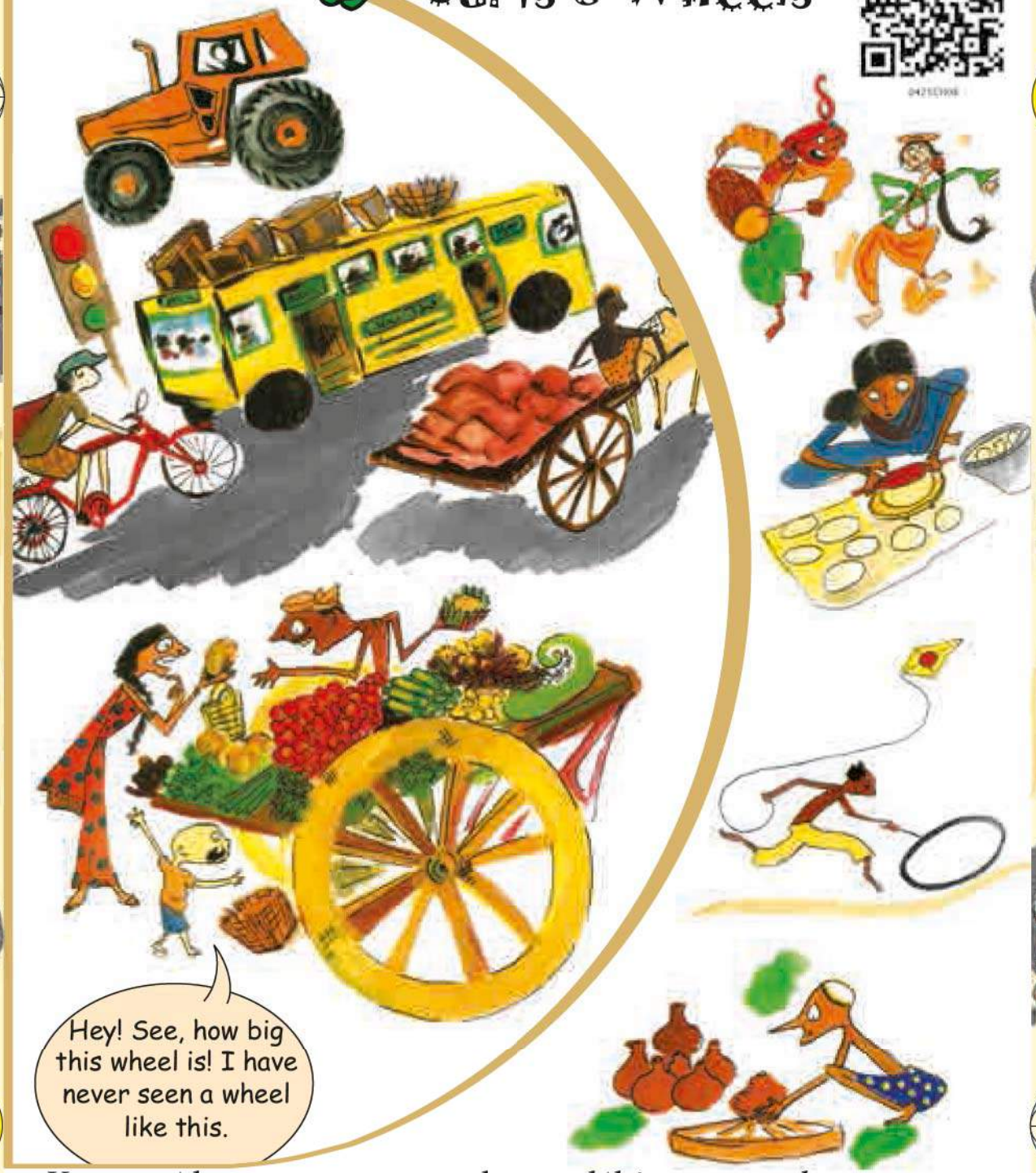
Puzzle



Anand village has a milk society. Geeta and Ami 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 gave them exactly 4 litres of milk.

Explain how he did this.

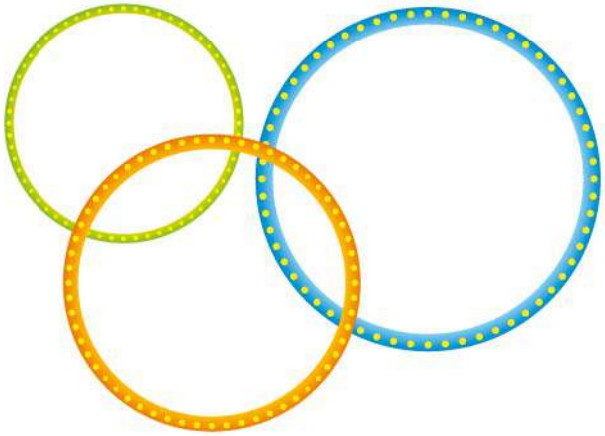
8 Carts & Wheels



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 madam or mother 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 things in your notebook or on the ground.

Which thing makes the smallest circle?

Which thing makes the biggest circle?