



Government of Tamilnadu

STANDARD TWO

TERM II

Volume 2

MATHEMATICS

**ENVIRONMENTAL
STUDIES**

NOT FOR SALE

Untouchability is Inhuman and a Crime

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Department of School Education

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MATHEMATICS

STANDARD TWO

TERM II

MATHEMATICS

1. Comparison of Numbers

Formation of 2-digit numbers without repetition.

Let us learn to form 2-digit numbers with the given digits.

Example

Take two numbers 2 and 6

using the given numbers, we can form two digit numbers 26 and 62.

The greater number is 62.

The smaller number is 26.

Fill the given box



Numbers	Greater number	Smaller number
4, 7		
6, 9		
8, 5		
9, 3		

Think it over!

If zero is one of the given two digits,
how many 2 digit numbers can be formed ?

Form 2-digit number using the following digits. Write the greater and smaller number.

★ 4 and 5

★ 7 and 9

★ 4 and 9

★ 2 and 3

★ 1 and 8

★ 5 and 3

Example

Using the three given numbers **3, 4 and 6**,

we get **34, 43, 46, 64, 63 and 36**

The greatest number is **64**.

The smallest number is **34**.

If one of the digits is **0**, We can form only four 2-digit numbers
For example, using the numbers **3, 0 and 6**

we get **30, 36, 63, 60**.

The greatest number is **63**.

The smallest number is **30**.


ACTIVITY

Form six 2-digit numbers, circle the smallest number and underline the greatest. The first one is done for you.

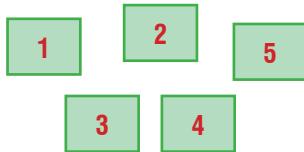
1,3,5	13	31	35	<u>53</u>	51	15
3,6,7						
4,2,0						
5,8,2						
6,5,1						
7,9,3						



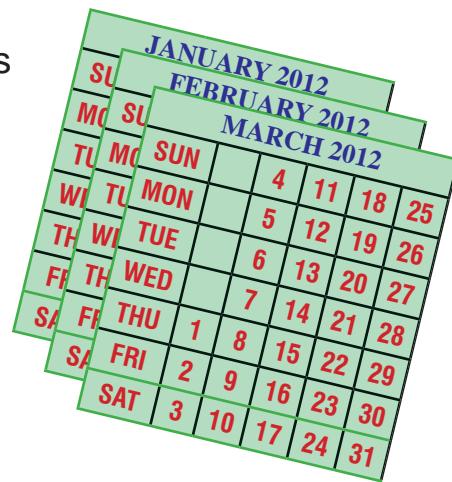
Among the three digits if two digits are zero,
how many 2- digit numbers can be formed?

MATHEMATICS

The teacher may prepare the number cards with the help of the children.



Collect the sheets of old monthly calendar.



Cut the numbers from 1 to 9.

Stick the number in a card board and cut each number separately.

Prepare as many sets of number cards as possible.

Divide the class into groups having 4 or 5 children .

Provide each group a set of number cards.

Using the number cards ask the children to form as many 2 digit numbers as possilbe.

Ask them to write down the greater and smaller number.

Ask the children to repeat the activity using different sets of number cards.

Record, which group formed the maximum number pairs?

Note : Add the number card **0** also and ask the children to find out the greater and smaller number.

Formation of 2-digit numbers with repetition.

Take two numbers say **3** and **7**. If the given numbers are repeated in ones and tens place we get, **33** and **77**.

The greater number is **77**.

The smaller number is **33**.

Take another example, **5** and **9**

The greater number is **99**

The smaller number is **55**

- ★ Form the greatest and the smallest number using **8** and **6**

Let us take three numbers **4, 5, 8**.

The greatest number is **88**.

The smallest number is **44**.

Numbers	Greatest number	Smallest number
3, 9		
4, 8		
2, 7, 5		
6, 3, 8		
1, 7, 9		

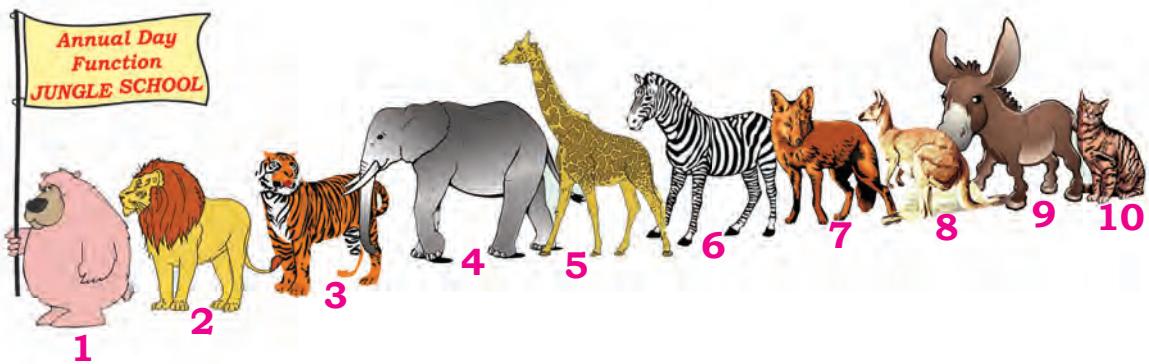
Think !

If one of the given numbers is zero, think of the greatest and smallest number.



Ordinal and Cardinal numbers.

Look at the animals.



The bear is standing in the first position.

The lion is standing second.

The zebra is the sixth animal in the line. Its position is sixth.

The cat is the tenth animal in the line. Its position is tenth.

Here first, second, third, are ordinal numbers.

An ordinal number tells the position of an object or a person in a collection.

A cardinal number tells the number of objects or persons in a collection.

Read and learn.

Cardinal		Ordinal	
1	One	1 st	First
2	Two	2 nd	Second
3	Three	3 rd	Third
4	Four	4 th	Fourth
5	Five	5 th	Fifth
6	Six	6 th	Sixth
7	Seven	7 th	Seventh
8	Eight	8 th	Eighth
9	Nine	9 th	Nineth
10	Ten	10 th	Tenth

Ordinal and Cardinal number of weeks and months.

Sunday is the first day of the week.

Wednesday is the _____ day of the week.

Friday is the _____ day of the week.

Saturday is the _____ day of the week.

January is the _____ month of the year.

August is the _____ month of the year.

The number of days in a week is _____

The number of months in a year is _____





ACTIVITY

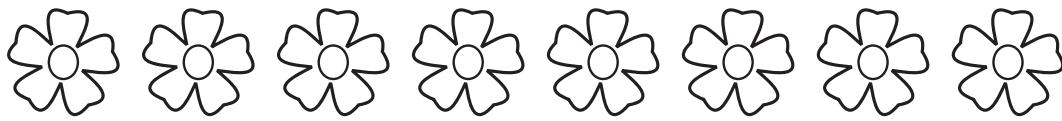
Colour it and enjoy !

From the left, colour the 3rd flower in blue.



From the left, colour the 7th flower in red.

From the left, colour the 8th flower in green.



ACTIVITY

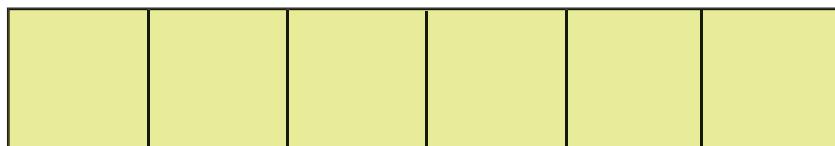
Who am I?

My 3rd letter is D.

My 1st and 4th letters are I.

My 5th letter is A.

My 2nd and 6th letters are N.



Teacher's Note



Encourage students to coin many words similar to the word given above.


ACTIVITY

The teacher may call the children as per the attendance roll.
 The teacher may collect the articles such as eraser, sharpener, coin, crayon etc. which are collected from the class environment.
 Ask each child to pick anyone object from the table and stand according to their roll number.
 The children may be asked the following questions.



What object is with the 1st child?

What is with the 5th child?

Who is having the pencil?

How many of them pick out the eraser?

The teacher can ask so many questions like these to the children.

Repeat the activity with the other children forming groups.

Teacher's Note

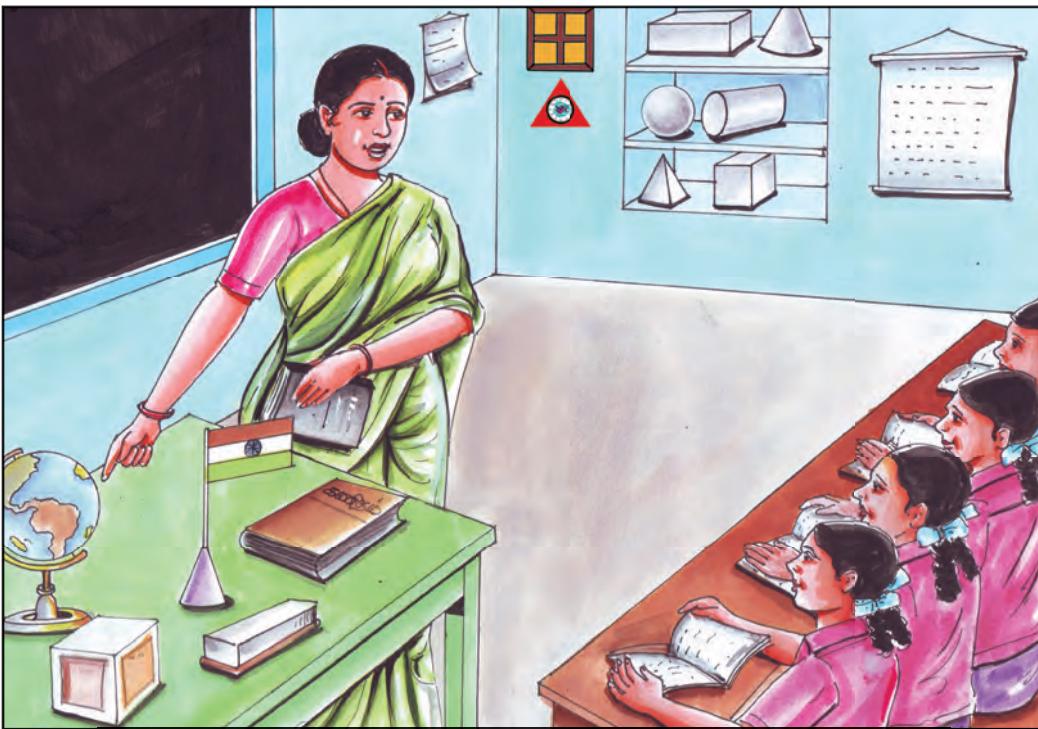

Highlight the use of ordinal numbers through daily life activities.

For example

6th birthday, 2nd child sitting in a row from the left, 1st day of the week, etc...

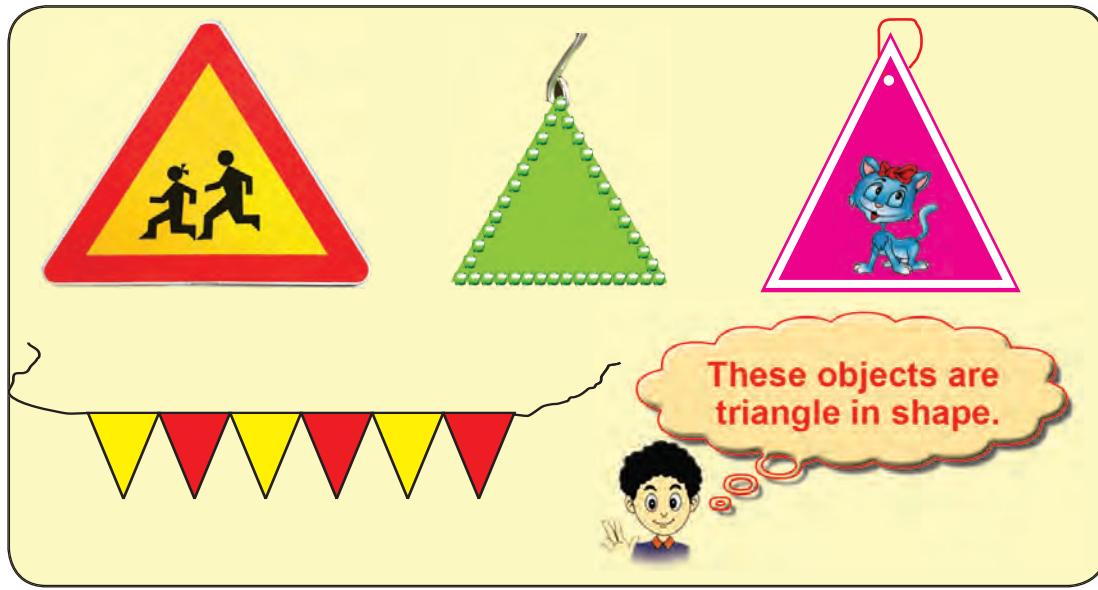
2. Shapes

Observe the classroom.



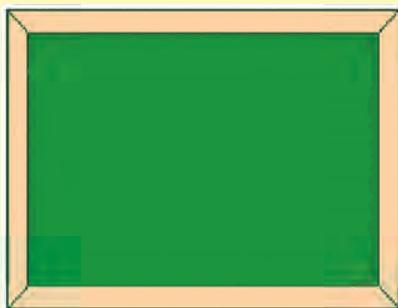
Teacher asks children to identify the different shapes of objects

Let us look at the following pictures.



MATHEMATICS

To
Mr. Raj
2nd Cross St,
Chennai - 600014.



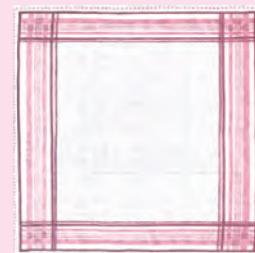
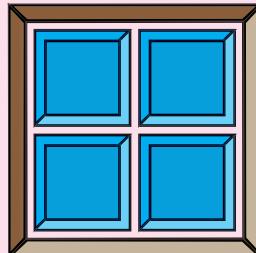
THE INDIA NEWS

INDIA'S NATIONAL NEWSPAPER
100% VANDITVADHAKA, MONDAY, SEPTEMBER 23, 2002

TeX: A free
text-processing tool



These objects are
rectangle in shape.



These objects are
square in shape.

Let us look at the following pictures.

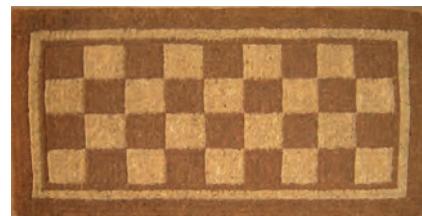
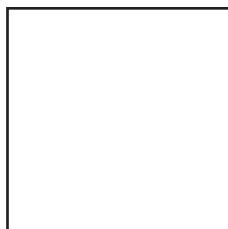
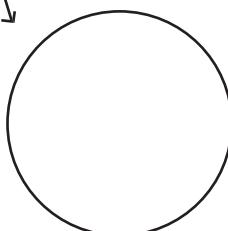
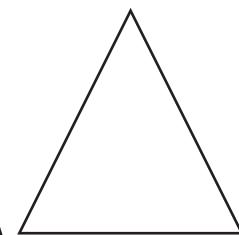
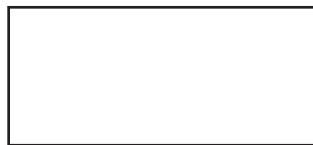


These objects are circle in shape.



MATHEMATICS

Match the following objects with their shapes.



MATHEMATICS

Mark the following objects by representing \triangle , \square , \square , \circ .

The mirror : _____

Wall clock : _____

A sheet of the book : _____

Ten rupee note : _____

Coin : _____

Hand kerchief : _____

Compact disc : _____

Fastoons : _____

Teacher's Note



Add many more objects found in the classroom situation to practice the children.

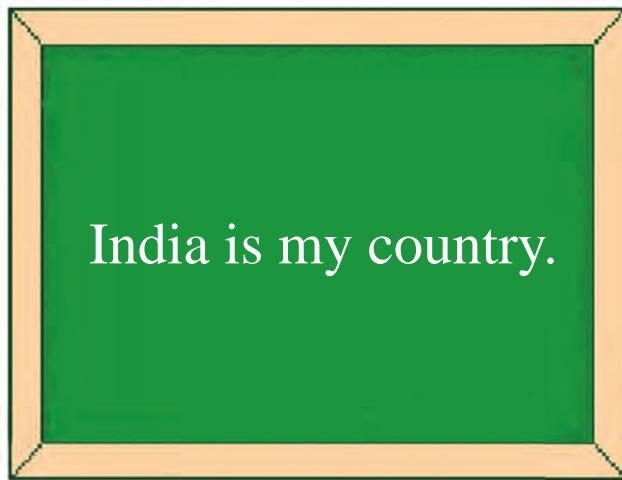


ACTIVITY

Make the figures such as triangle, rectangle, square using straws and Midribs of coconut leaves (broom sticks).

Think : Can you make circle using small sticks.

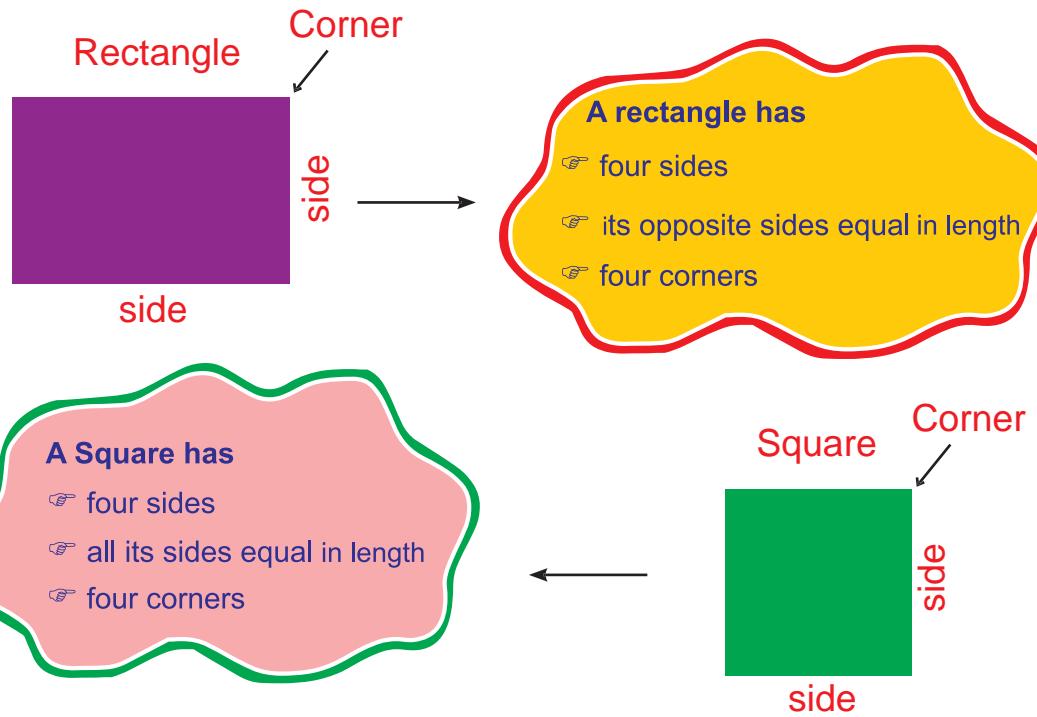
Two dimensional shapes.



Any flat surface is a plane. A plane has two dimensions.

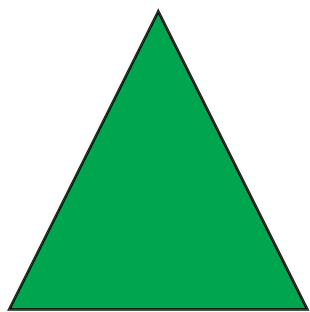
Examples :

top of the table, top of a textbook, a sheet of newspaper, floor.

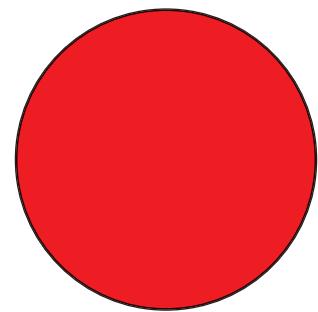


MATHEMATICS

Triangle



Circle



A Triangle has

- ☞ three sides which need not be equal in length
- ☞ three corners

A Circle has

- ☞ no sides
- ☞ no corners

Fill in the blanks.

A square has _____ equal sides.

A rectangle has _____ sides.

In a rectangle the _____ sides are equal.

A triangle has _____ corners.

A circle has _____ sides.

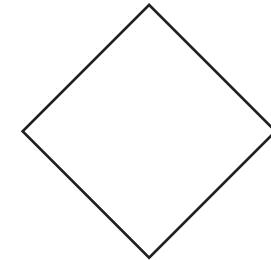
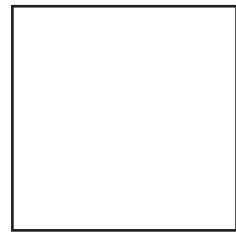
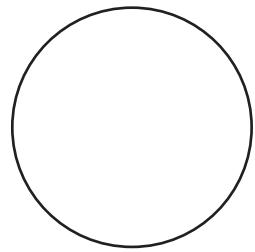
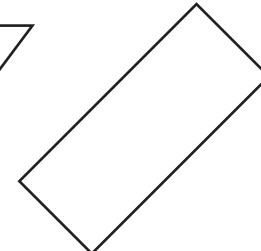
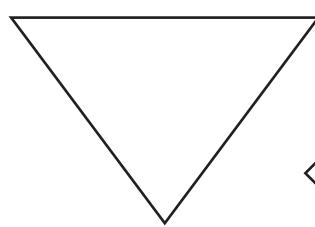
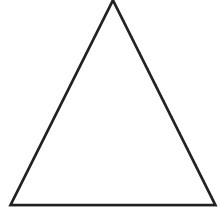
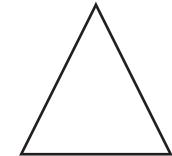
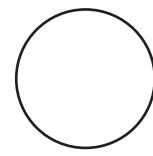
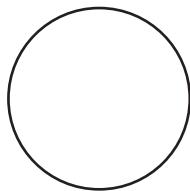
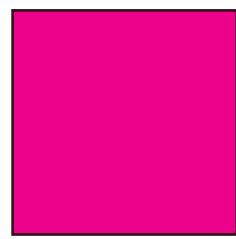
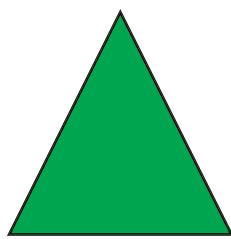
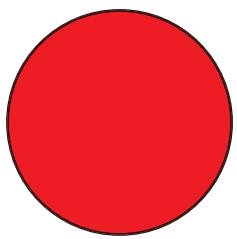
A square has _____ corners.

A triangle has _____ sides.

A circle has _____ corners.

MATHEMATICS

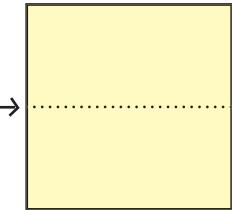
Colour the following shapes as given below.



Lines.

Take a plain sheet of paper and fold one side onto the opposite side. Press the sheet with your hands to form a crease and unfold the paper.

The crease gives you the idea of a straight line.



A line can be straight or curved.



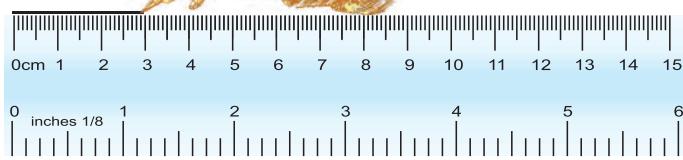
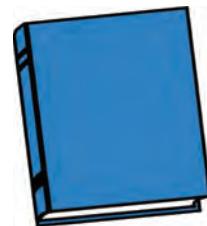
Straight line



Curved line

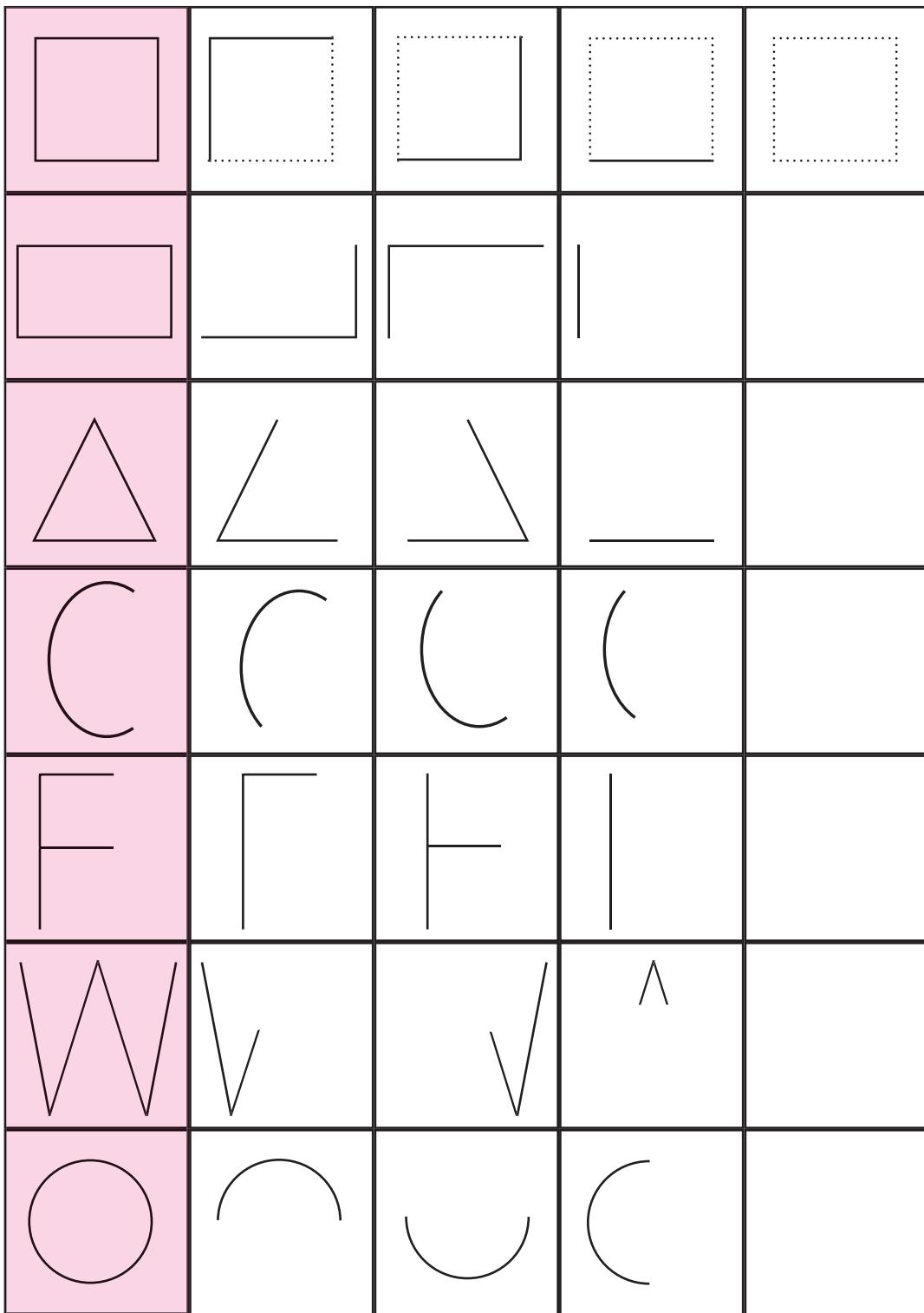
Shall we draw straight lines ?

Draw lines using these objects in your note book.



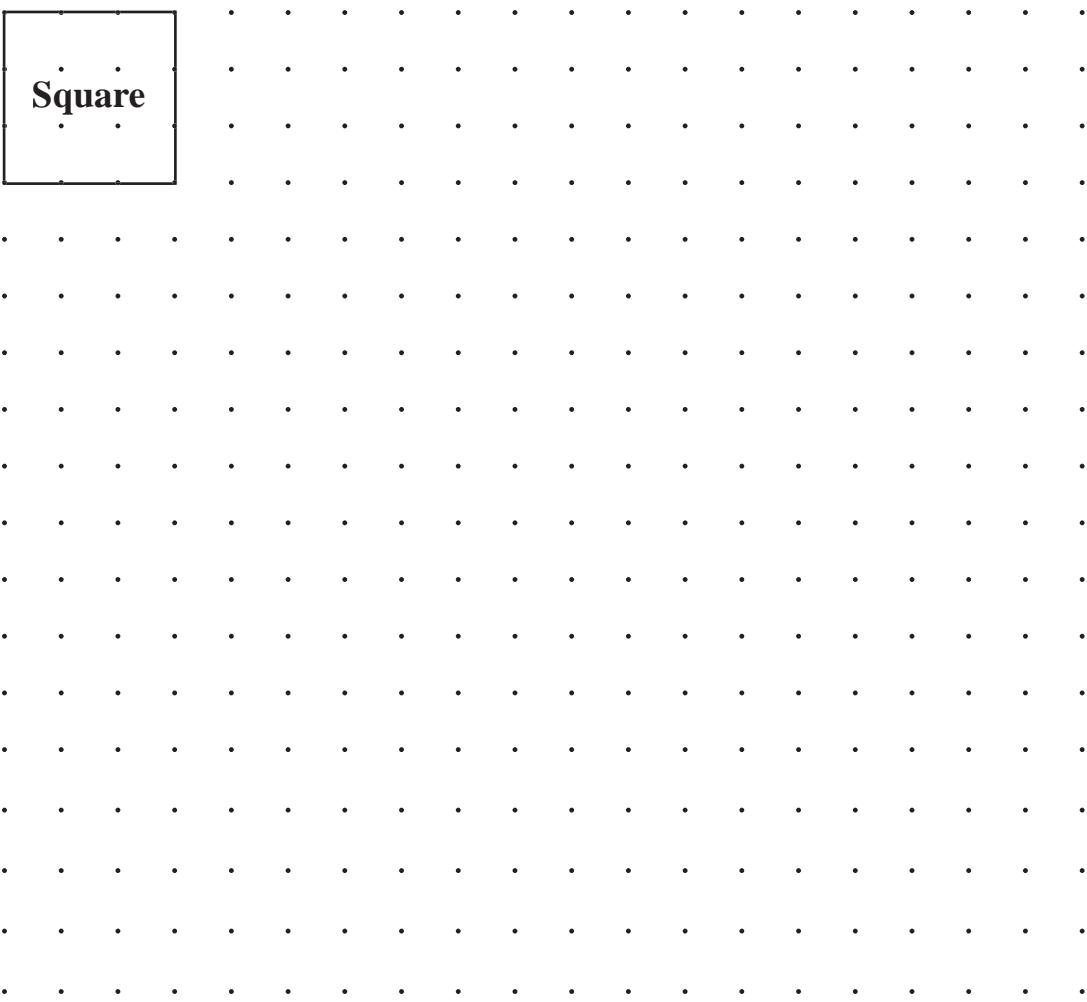
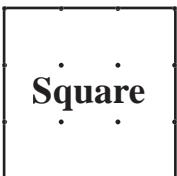
MATHEMATICS

Complete the following using straight and curved lines.



MATHEMATICS

Enjoy drawing squares, rectangles, triangles and straight lines by joining the dots as you like



Think it over

Can you draw a circle by joining
the above dots?



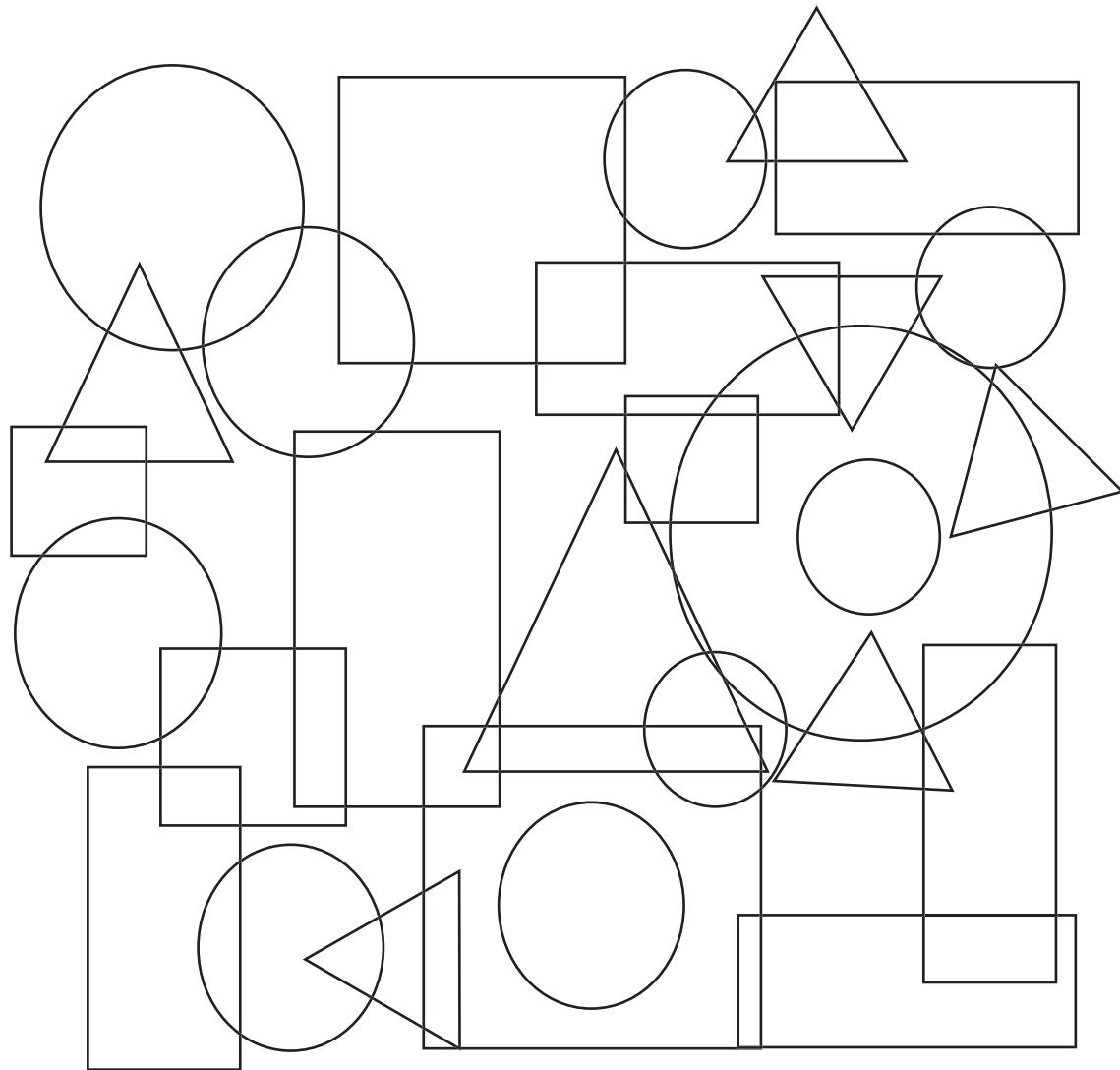
MATHEMATICS

Complete the given table using straight and curved lines.

3	3	3	3	3	3
፩		፩			
C					C
6			6		
፩	፩				
S		S			
ሀ			ሀ		
8				8	
Z					

MATHEMATICS

Count the circles, triangles, squares and rectangles in this jumble. Write the answers in blank spaces given below.



Triangles _____ Squares _____

Rectangles _____ Circles _____



3. Subtraction

Let us recall !

Subtract the following.

 $9 - 4 = 5$	 $9 - 4 = 5$
 $9 - 4 = 5$	 $9 - 4 = 5$
 $9 - 4 = 5$	 $9 - 4 = 5$
 $9 - 4 = 5$	 $9 - 4 = 5$





Subtract the following

$5 - 3 = \text{ }$

$3 - 2 = \text{ }$

$7 - 2 = \text{ }$

$10 - 2 = \text{ }$

$6 - 4 = \text{ }$

$10 - 3 = \text{ }$

$8 - 4 = \text{ }$

$9 - 3 = \text{ }$

$2 - 1 = \text{ }$

$6 - 3 = \text{ }$

$15 - 3 = \text{ }$

$12 - 8 = \text{ }$

$10 - 6 = \text{ }$

$11 - 9 = \text{ }$

$7 - 0 = \text{ }$

$19 - 4 = \text{ }$

$14 - 10 = \text{ }$

$15 - 2 = \text{ }$

$20 - 10 = \text{ }$

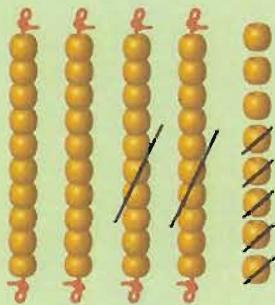
$13 - 7 = \text{ }$



Subtraction of two-digit numbers without regrouping.

Subtract 25 from 48.

$$48 - 25 = \square$$



T	O
4	8
2	5
	3

First subtract the digits in the ones place,

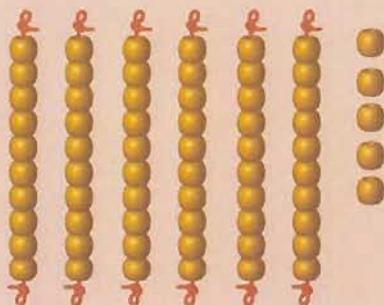
T	O
4	8
2	5
2	3

then subtract the digits in the tens place.

$$48 - 25 = 23$$

Subtract 23 from 65.

$$65 - 23 = \square$$



T	O
6	5
2	3

$$65 - 23 = \square$$





Subtract the following.

$$\begin{array}{r} \begin{array}{|c|c|} \hline \text{T} & \text{O} \\ \hline 8 & 4 \\ \hline - & \\ \hline 3 & 1 \\ \hline \end{array} \end{array}$$

$$\begin{array}{r} \begin{array}{|c|c|} \hline \text{T} & \text{O} \\ \hline 9 & 6 \\ \hline - & \\ \hline 4 & 2 \\ \hline \end{array} \end{array}$$

$$\begin{array}{r} \begin{array}{|c|c|} \hline \text{T} & \text{O} \\ \hline 6 & 8 \\ \hline - & \\ \hline 2 & 6 \\ \hline \end{array} \end{array}$$

$$\begin{array}{r} \begin{array}{|c|c|} \hline \text{T} & \text{O} \\ \hline 9 & 5 \\ \hline - & \\ \hline 5 & 4 \\ \hline \end{array} \end{array}$$

$$\begin{array}{r} \begin{array}{|c|c|} \hline \text{T} & \text{O} \\ \hline 8 & 6 \\ \hline - & \\ \hline 2 & 4 \\ \hline \end{array} \end{array}$$

$$\begin{array}{r} \begin{array}{|c|c|} \hline \text{T} & \text{O} \\ \hline 4 & 5 \\ \hline - & \\ \hline 2 & 3 \\ \hline \end{array} \end{array}$$

$$\begin{array}{r} \begin{array}{|c|c|} \hline \text{T} & \text{O} \\ \hline 5 & 7 \\ \hline - & \\ \hline 3 & 4 \\ \hline \end{array} \end{array}$$

$$\begin{array}{r} \begin{array}{|c|c|} \hline \text{T} & \text{O} \\ \hline 6 & 8 \\ \hline - & \\ \hline 2 & 6 \\ \hline \end{array} \end{array}$$

$$\begin{array}{r} \begin{array}{|c|c|} \hline \text{T} & \text{O} \\ \hline 8 & 9 \\ \hline - & \\ \hline 5 & 2 \\ \hline \end{array} \end{array}$$

$$\begin{array}{r} \begin{array}{|c|c|} \hline \text{T} & \text{O} \\ \hline 7 & 8 \\ \hline - & \\ \hline 5 & 5 \\ \hline \end{array} \end{array}$$

$$\begin{array}{r} \begin{array}{|c|c|} \hline \text{T} & \text{O} \\ \hline 9 & 8 \\ \hline - & \\ \hline 7 & 2 \\ \hline \end{array} \end{array}$$

$$\begin{array}{r} \begin{array}{|c|c|} \hline \text{T} & \text{O} \\ \hline 5 & 6 \\ \hline - & \\ \hline 4 & 1 \\ \hline \end{array} \end{array}$$

Subtract

$$\begin{array}{l} 17 \quad \text{from} \quad 39 \\ 24 \quad \text{from} \quad 87 \\ 45 \quad \text{from} \quad 76 \end{array}$$



$$\begin{array}{l} 63 \quad \text{from} \quad 98 \\ 50 \quad \text{from} \quad 65 \\ 36 \quad \text{from} \quad 48 \end{array}$$

If a number is subtracted from itself,
the result is zero.



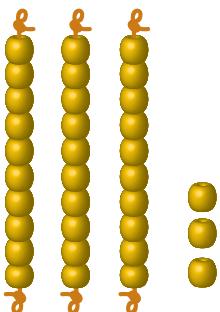
Example.

$$\begin{array}{r} 5 - 5 = 0 \\ 4 - 4 = 0 \\ 12 - 12 = 0 \end{array}$$



Subtraction of 2-digit numbers with regrouping.

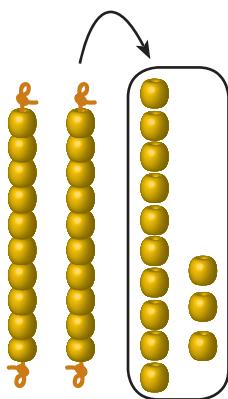
Let us subtract 16 from 33.



T	O
3	3
1	6

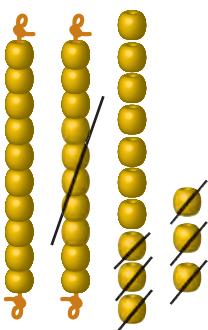
As $3 < 6$, we cannot subtract 6 ones from 3 ones.

So, we regroup 1 ten into 10 ones.



2	13
T	O
2	3
1	6

10 ones + 3 ones = 13 ones.



2	13
T	O
2	3
1	6

subtract

13 ones - 6 ones = 7 ones.

subtract

2 tens - 1 ten = 1 ten.

$$33 - 16 =$$

$$\boxed{17}$$



Subtract 36 from 62

$$62 - 36 = \boxed{}$$

T	O	
6	2	
3	6	

—

As **2 < 6**,

we cannot subtract **6** ones from
2 ones.

So, we regroup **1** ten into **10** ones.

5	12
T	O
6	2
3	6

—

10 ones + **2** ones = **12** ones.

5	12
T	O
6	2
3	6
2	6

—

subtracting

12 ones – **6** ones = **6** ones.

subtracting

5 tens – **3** tens = **2** tens.

$$62 - 36 = 26$$



Subtract 25 from 70

$$70 - 25 = \boxed{}$$

T	O
7	0
2	5

—

As $0 < 5$

We cannot subtract

5 ones from 0 ones

So, we regroup

1 ten into 10 ones.

6	10
T	O
7	0
2	5

—

10 ones + 0 ones = 10 ones

6	10
T	O
7	0
2	5

—

Subtracting

10 ones – 5 ones = 5 ones

Subtracting

6 tens – 2 tens = 4 tens

$70 - 25 = 45$



Subtract the following.

	5	14
T	O	
6	4	
—	3	8
	2	6

T	O	
4	2	
-	2	5

$$\begin{array}{r}
 \begin{array}{|c|c|} \hline
 \textcolor{orange}{\boxed{}} & \textcolor{orange}{\boxed{}} \\ \hline
 \textcolor{blue}{T} & \textcolor{blue}{O} \\ \hline
 5 & 3 \\ \hline
 - & \\ \hline
 1 & 7 \\ \hline
 \end{array}
 \end{array}$$

T	O
9	4
3	6
—	

T	O
9	3
1	7

T	O
7	3
4	6
-	

T	O
8	1
3	9
-	

T	O
6	3
4	5
—	

T	O
9	2
4	9

T	O
7	1
2	4

T	O	
5	1	
2	9	
-		

$$\begin{array}{c}
 \begin{array}{|c|c|} \hline
 \textcolor{brown}{\square} & \textcolor{brown}{\square} \\ \hline
 \end{array} \\
 - \quad \begin{array}{|c|c|} \hline
 \textcolor{blue}{T} & \textcolor{blue}{O} \\ \hline
 9 & 0 \\ \hline
 2 & 7 \\ \hline
 \end{array}
 \end{array}$$

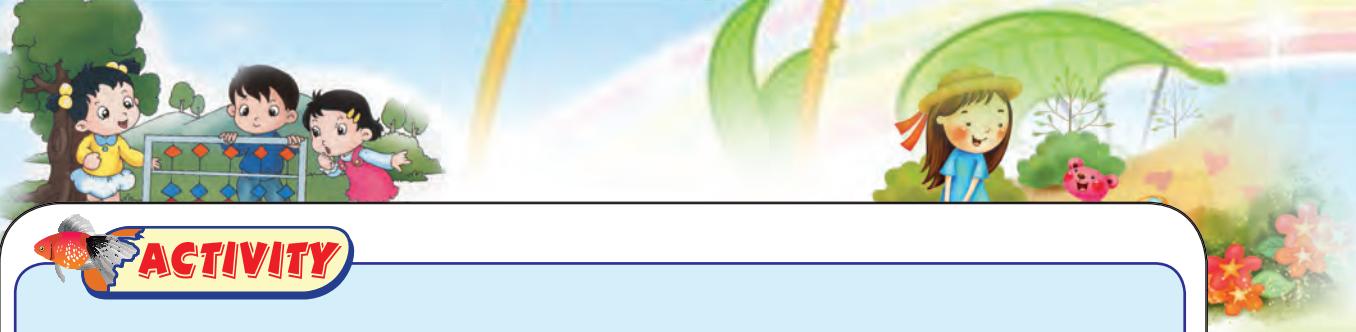
T	O
8	0
3	2
-	

T	O
6	4
2	9

T	O
5	4
2	8
-	

T	O
9	4
3	7





ACTIVITY

Prepare the number cards from to 1 to 100

1

2

3

.....

100

Divide the class into two groups.

Group 1 should take any two cards

Group 2 should find the answer by subtracting smaller from the greater number.

Repeat the activity by selecting different pairs of cards.

Repeat the activity by changing the group.



ACTIVITY

Prepare the number cards from 0 to 9.

Select any three cards. Form as many as 2 digit numbers from them.

Select any two numbers. Subtract the smaller from the greater number.

Do as many sums as possible.

(e.g.)

3, 4, 7



We can form the numbers 34, 37, 43, 47, 73, 74, 33, 44, 77

Among them select the number pairs such as 34, 37 ; 37, 43 ; 43, 47 ... subtract the smaller from the greater number.

Think over, likewise how many such numbers pairs can be formed?



Subtraction Stories.



In a poultry, there are **45** hens. **15** of them are sold. Find the remaining hens

Total number of hens	=	45
Number of hens sold	=	- 15
Number of hens remaining =		<u>30</u>

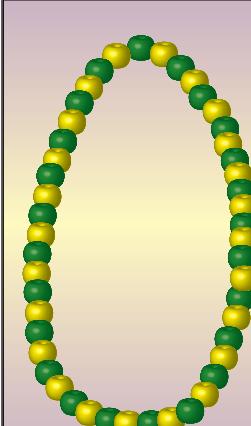
A shop keeper has **50** balloons. He sells **25** balloons. How many balloons are left ?



There are **64** houses, in a street. **34** houses are in a row, find the number of houses in the opposite row ?



A basket contains **65** apples. If **30** apples are sold, how many apples are remaining ?



In a mala, there are **50** green and yellow beads. **25** of them are green beads. How many are yellow beads ?



A farmer has **35** cattle. **12** of them are goats and the rest are sheep. How many sheep does the farmer have ?



Mind maths

I have **5** toy cars with me. **3** are red and the remaining are green. How many green toy cars do I have?

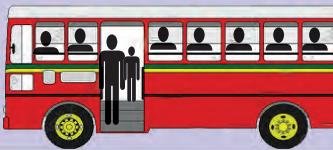


My grand father gave me **10** pencils. I gave **2** pencils to my sister . How many pencils were left with me?

I bought **9** biscuits. I ate **5** of them. How many biscuits were left with me?



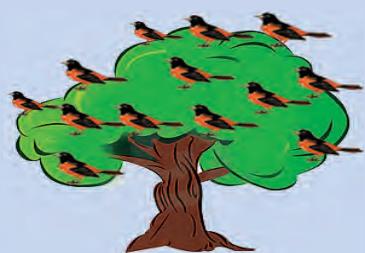
My father gave me **15** story books. I gave **9** of them to my friend. How many books are with me?



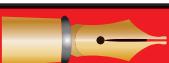
In a mini bus **18** passengers were travelling. At the next stop **6** of them got down. How many passengers were there in the bus ?



A coconut seller had 28 coconuts. **18** of them were sold. How many coconuts were there with the seller?



There were **13** birds on a tree. **8** of them flew away. How many birds were left on the tree?

Teacher's Note

Teacher could give more situations as above to practice mind maths involving subtraction.



4. Measures of Weight

Observe the pictures and answer the questions.



Which is heavier ?

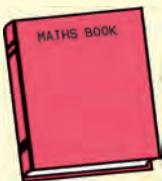


Which is lighter ?

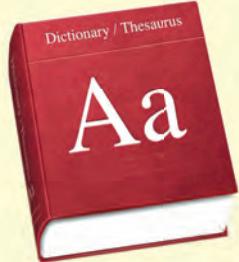
Now let us compare 3 objects



Heavy



Heavier



Heaviest

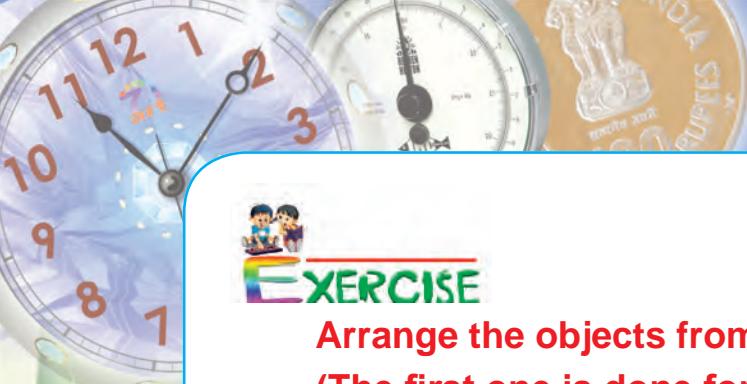


ACTIVITY

Collect the following items and arrange them from lightest to heaviest



MATHEMATICS



EXERCISE

Arrange the objects from lightest to heaviest
(The first one is done for you).



1



3



2



**Various kinds of weighing machines are given below.
Recall and tell where have you seen each of them?**



Generally, we use a balance to compare or measure the weights of objects.

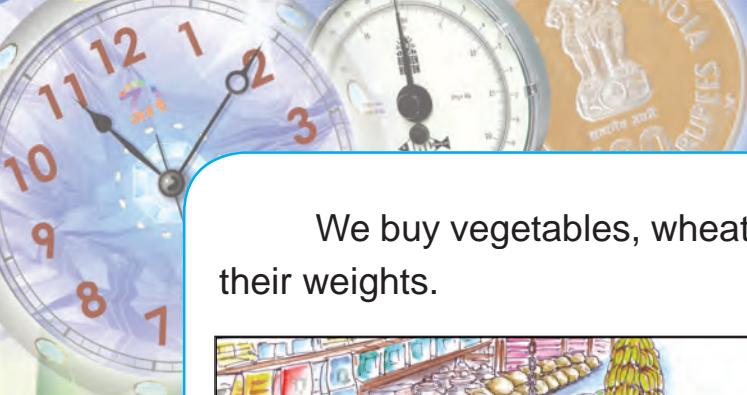
An apple is heavier than a tomato.
A tomato is lighter than an apple.



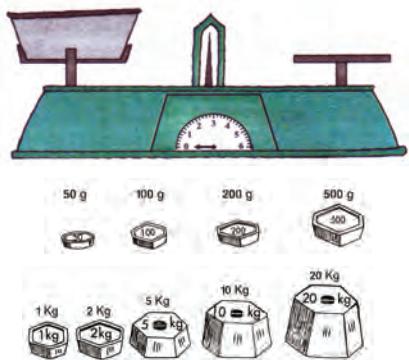
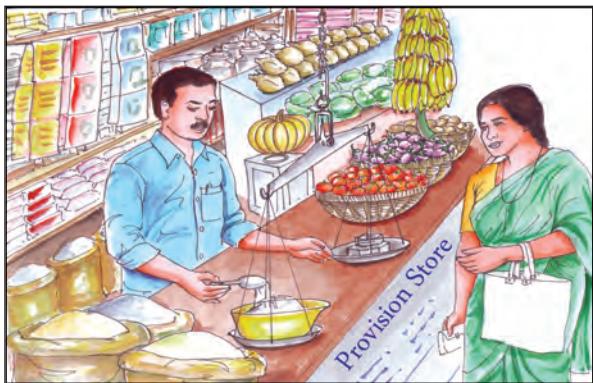
A stone is heavier than a spoon.
A spoon is lighter than a stone.

When the pans are in the same position,
we understand that the objects on the
two pans are of equal weight





We buy vegetables, wheat, rice, sugar, fruits etc., by measuring their weights.



We measure smaller weights in grams and bigger weights in kilograms.

ACTIVITY

Lift the following pairs of objects with both your hands and compare their weights.

- ★ a **banana** and a **stone**.
- ★ a **ball** and a **lock**.
- ★ a **pen** and a **pencil**
- ★ a **marble** and an **eraser**.

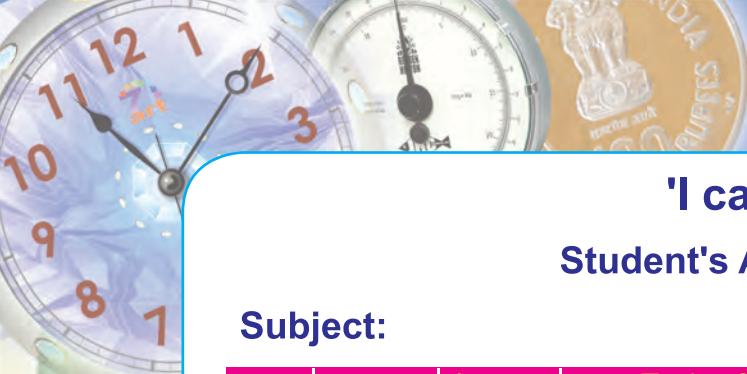


You can verify your answer by repeating the activity using simple balance.

Do you Know?

The heaviest water animal is the blue whale.





'I can, I did'

Student's Activity Record

Subject:

MATHEMATICS