Modern Simple Mathematics

PART - 1

By

Council for Preparation of Textbooks

Translated By

Irfan Ahmed Siddiqui

Foreword

New developments in science and technology, explosion of knowledge in various fields and changing trends in the methodology of teaching, and their effects on society and culture demand that textbooks are revised accordingly. In view of the above, we have drawn a plan to revise all our textbooks. *Modern Simple Mathematics* is part of the plan.

In preparing the book, besides taking into account the objectives of teaching Mathematics, those thoughts and views have been given due importance with which is associated the real purpose of the life of pupils.

The psychology of pupils, their mental level and teaching principles have also been given due weight. With a view to create interest in Mathematics, which is otherwise considered a boring and dull subject for pupils, exercises in the book have been so designed as to relate them to their day-to-day life.

The principles and method of solving problems have been explicitly explained with sample solved examples. The book, as the pupils as well as the teachers will find, has been profusely illustrated with graphics to clarify each and every point and also to make the book interesting and attractive.

This book is English version of the original Urdu book *Jadeed Asan Riyazi*. This is our first attempt to bring out books for English Medium students. Suggestions and comments are highly appreciated and will be thankfully acknowledged. We acknowledge all those whose kind co-operation, guidance and assistance have culminated in the production of this book.

Mohd. Ashfaque Ahmed
(Incharge)

New Delhi
3.9.1427H
27.9. 2006

Teaching Mathematics

The need and utility of Mathematics in our day-to-day life is universally acknowledged. No one can eventually do without the basic concept of Mathematics - whatsoever profession one is in.

Everyone has to deal, more or less, with personal and family budget, marketing, mutual give-and-take, measurement, Zakat and Ushr, inheritance and other obligations. That is why the practice of teaching basic Mathematics to little children from the very beginning has been in vogue for centuries. And in this age of science and technology this need has assumed much more importance. Inventions, industries and scientific developments in the various fields have left an abiding influence on the very course of our life. Whether it is industry or handloom, business or agriculture, science or technology, the knowledge of Mathematics is required at every step. Thus for the success of life it is essential that every pupil is taught Mathematics up to the secondary level.

Not only to meet practical needs of life, the knowledge of basic concepts of Mathematics is necessary to gain mastery over different subjects, to study science and social sciences and even the books of language, and to understand them quite well.

Children do require the knowledge of counting, addition, subtraction and other details of weighing and measurement in doing work at home and school, in knowing the quantity and number, shape and size of things, in business transaction, in games and sports and in satisfying their curiosity at every step in their day-to-day life. For the fulfilment of this need it is necessary to teach them Mathematics. This is the most important subject next only to the basic knowledge of Islam and the mother tongue. Thus it should be given special attention accordingly.

The real purpose of teaching Mathematics at the elementary level is to gradually develop so much awareness in children that they may solve mathematical problems in their day-to-day life, ascertain the quantity and number as well as shape and size of the things they come across, handle business transaction, have suficient knowledge of weighing and measurement as well as time and distance, and make further study in Mathematics. To achieve this purpose it is inevitable to teach Mathematics at the elementary level.

(Late) **Afzal Hussain,** M.A., L.T.

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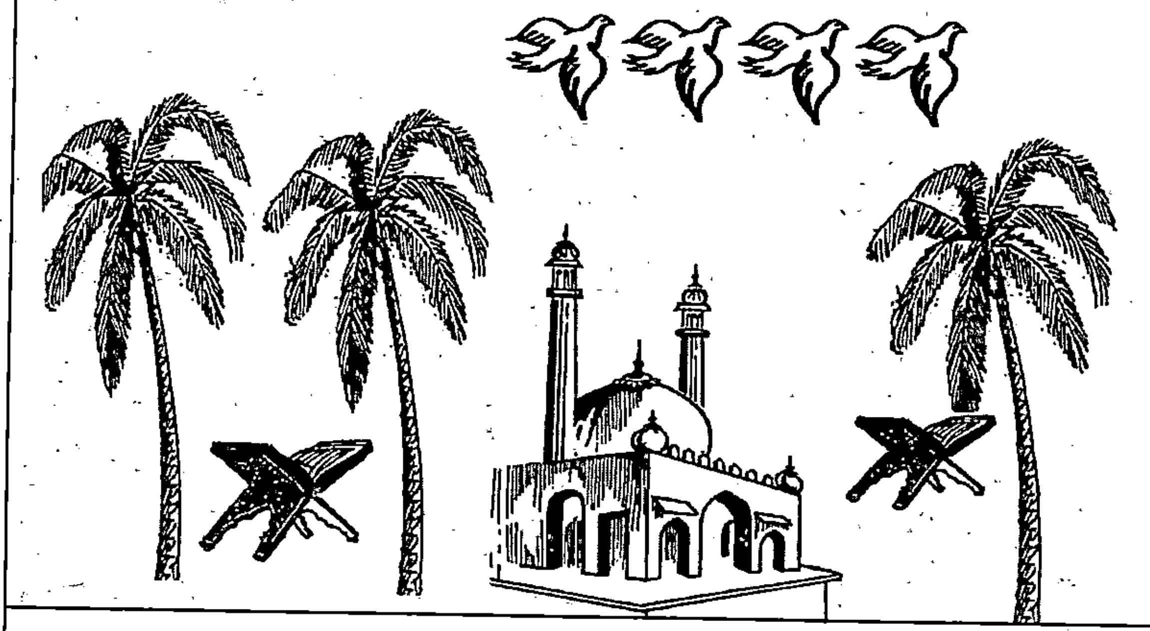
CHAPTER - 1

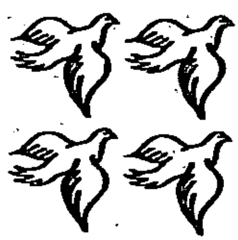
Names of Articles and Their Counting



1 ONE

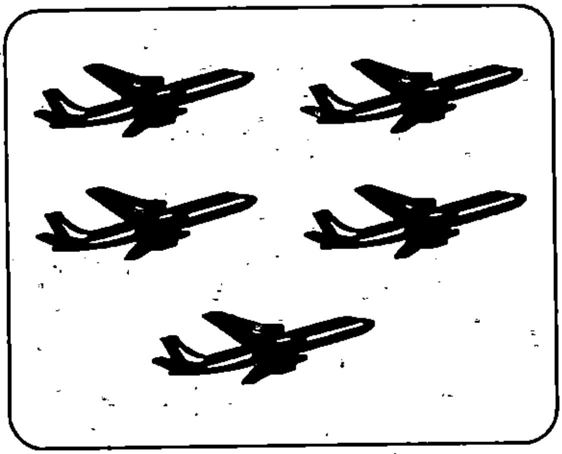
2 TWO

3 THREE



4 FOUR

For Teachers: Ask pupils to name the pictures and count them.



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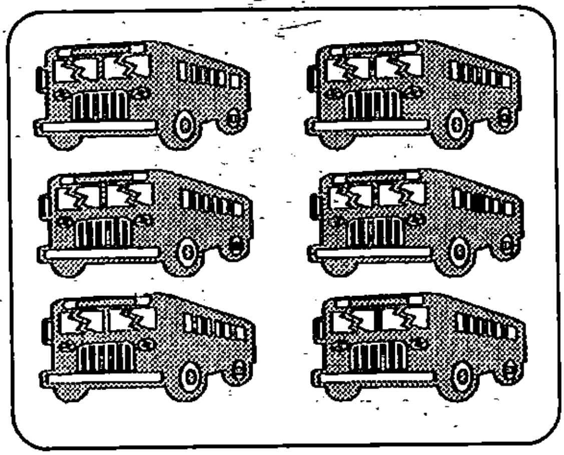

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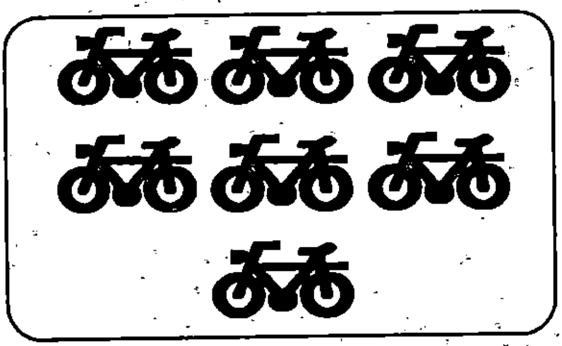

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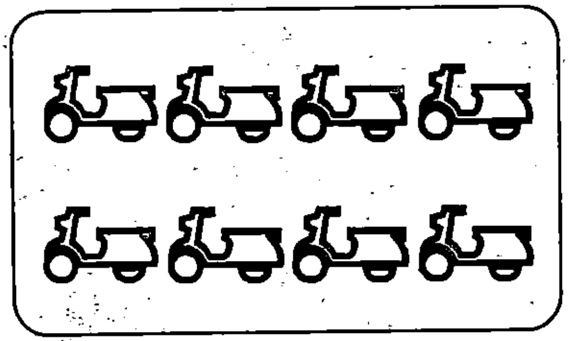

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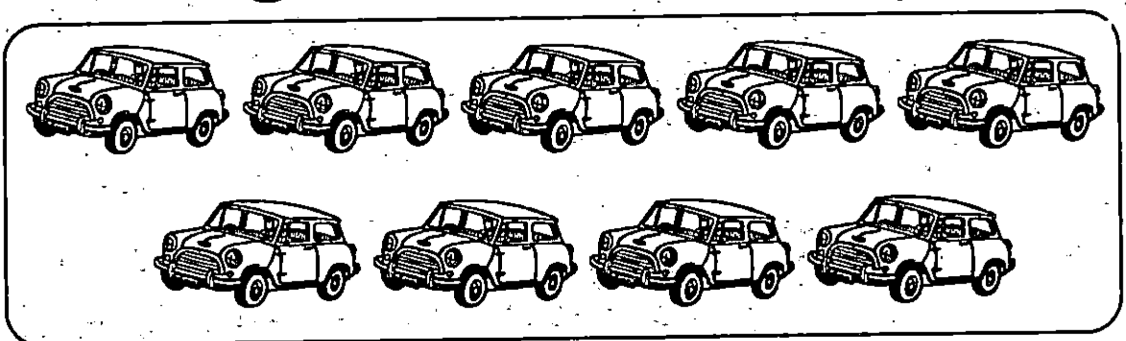

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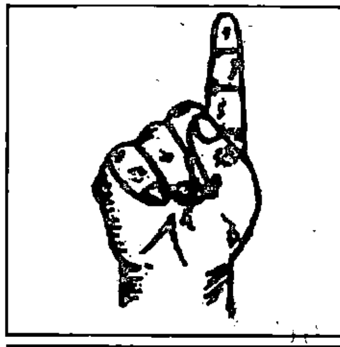
For Teachers: Encourage pupils to identify sets of each object and then count objects in each set. A collection of some objects is called a set.

Concept of "1"

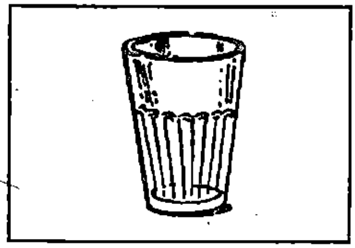


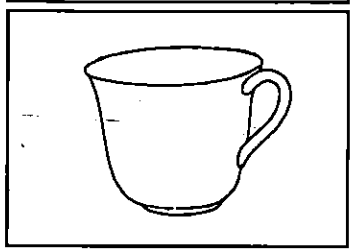
1

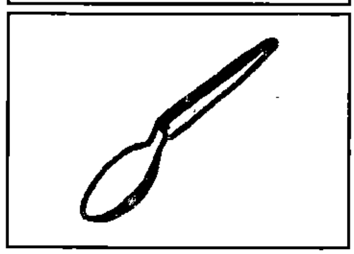
1

1

ONE

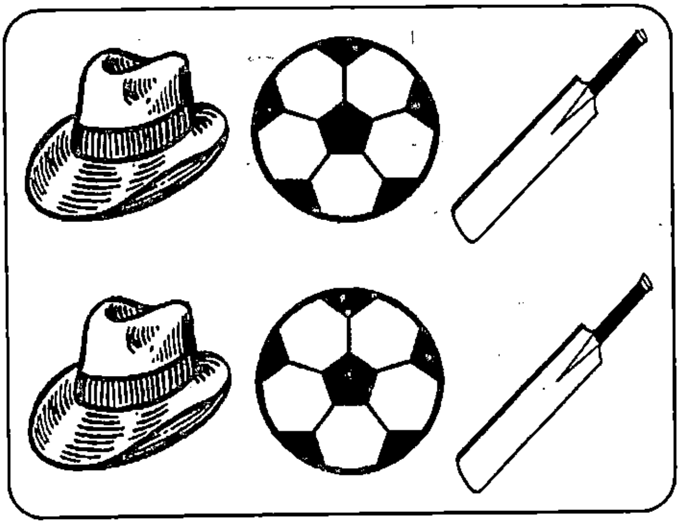


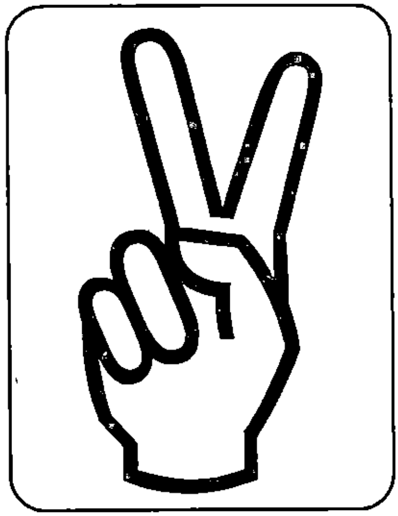




For Teachers: Ask pupils to name the articles and then count each of them. Write 1 (One) on the blackboard and teach that this is ONE, "1". One is represented by "1" which is called a digit.

Concept of "2"





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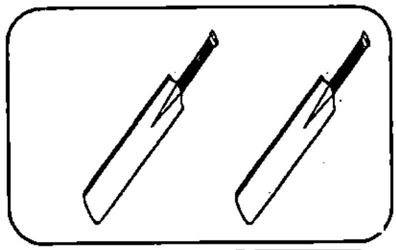
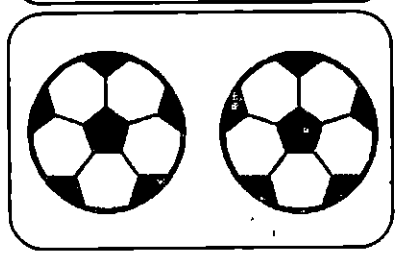
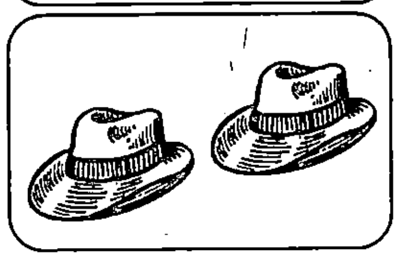
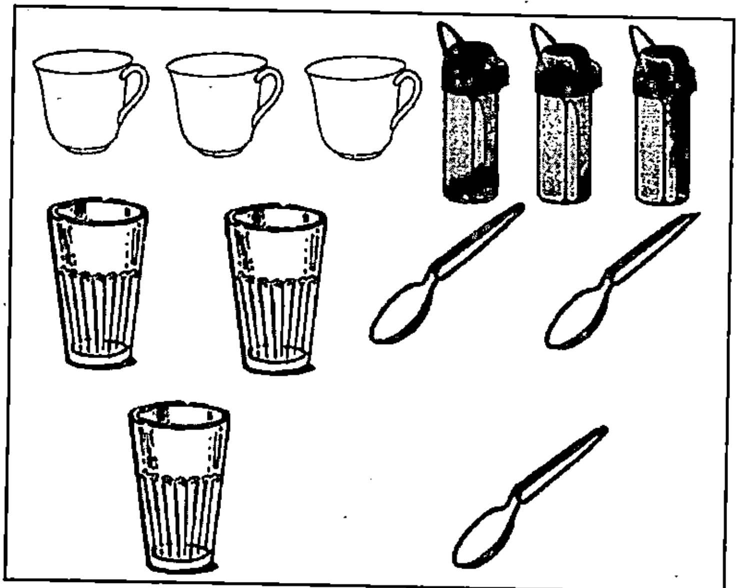


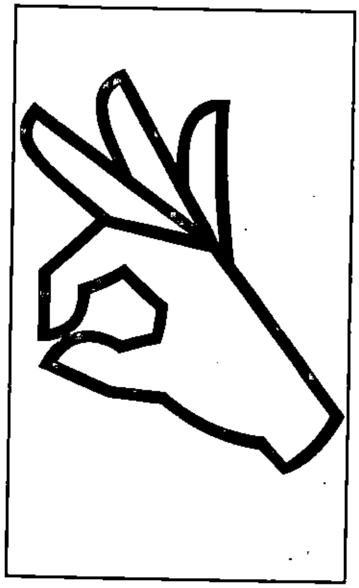




For Teachers: Take two objects in your hand and say loudly "Two". Then write on the blackboard "2" and tell the two things are represented by the figure 2. Give more concrete examples of counting 2 from your classroom environment as two doors, two fans, two chalks, two windows, etc.

Concept of "3"





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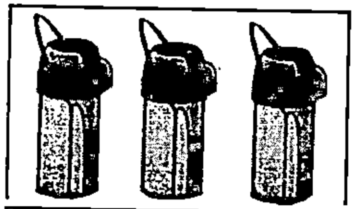
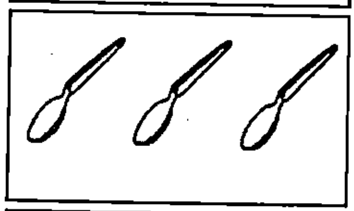
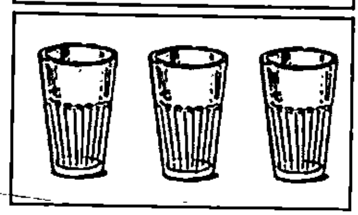


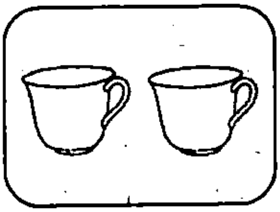
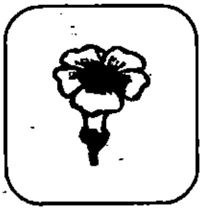
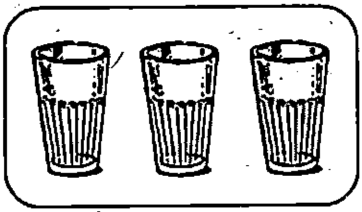
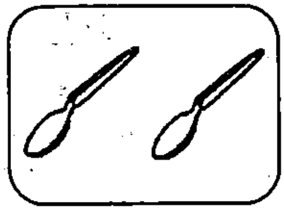




Teachers should follow the pattern of teaching One and Two as described earlier.

EXERCISE

Count and Write:

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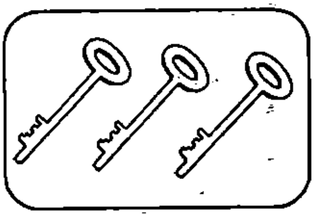
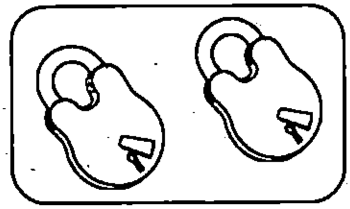
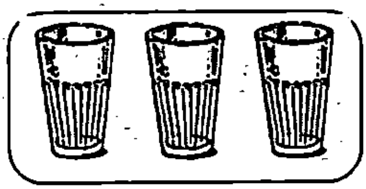
   

Ask the pupils to recognise the pictures, count and write number in the boxes below each

EXERCISE

Match numbers with pictures:

1



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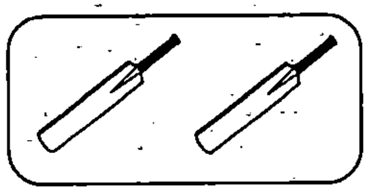


2

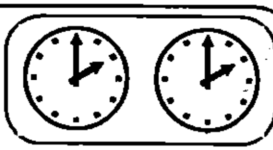
Draw different pictures on the blackboard and ask pupils to match them. Then get the exercise done by pupils.

Match numbers with pictures:

1 

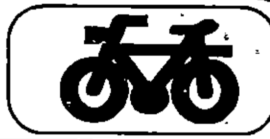
2 

3 

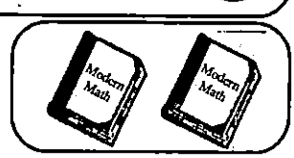
1 

2 

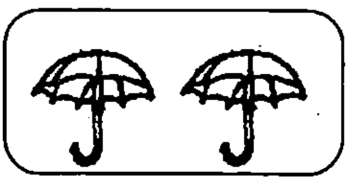
3 

1 

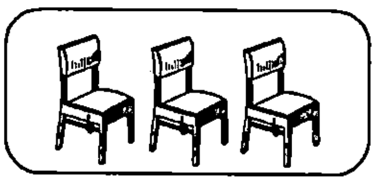
2 

3 

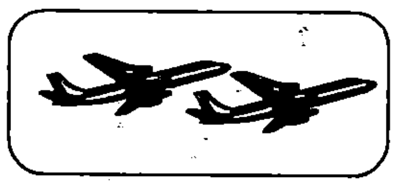
First one is done for you.
Encircle the correct number:



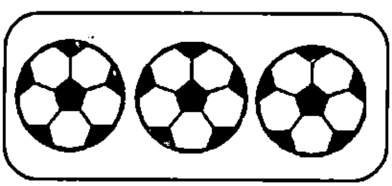
1 2 3



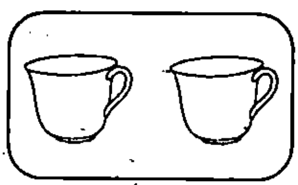
1 2 3



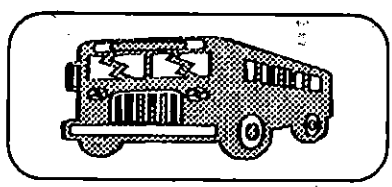
1 2 3



1 2 3



1 2 3

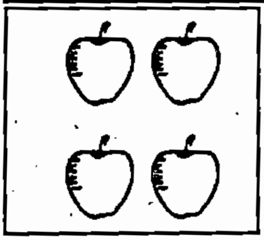
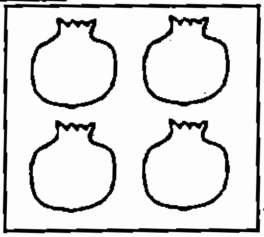
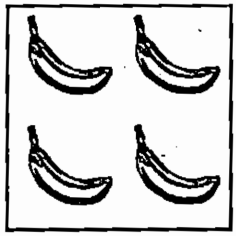


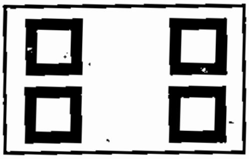
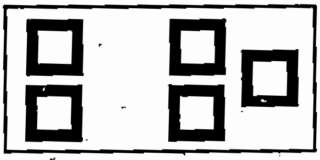
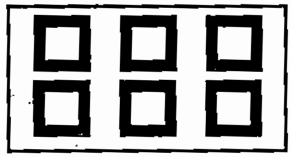
1 2 3

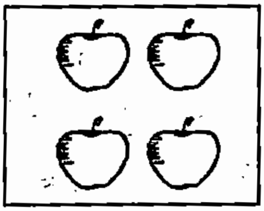
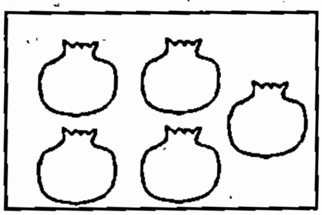
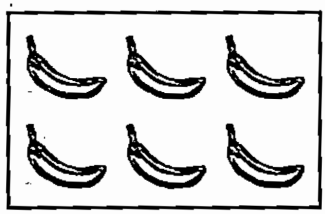
CHAPTER - 2

Recognition of Numbers from 4 to 9

Concept of 4, 5, and 6

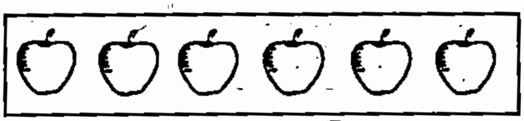

4  5  6 

4  5  6 

Ask pupils to tell the names of objects and help count them.

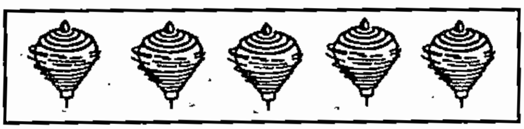
EXERCISE

Encircle the correct number. One is done for you.

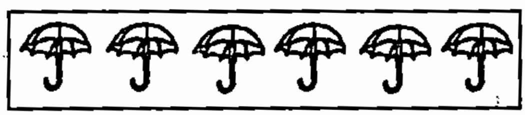


4 5 6

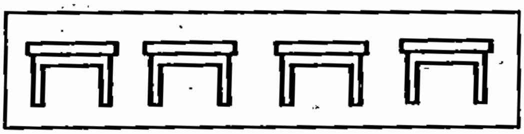
4 5 6



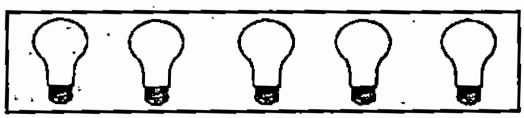
4 5 6



4 5 6

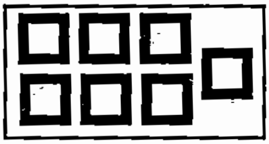


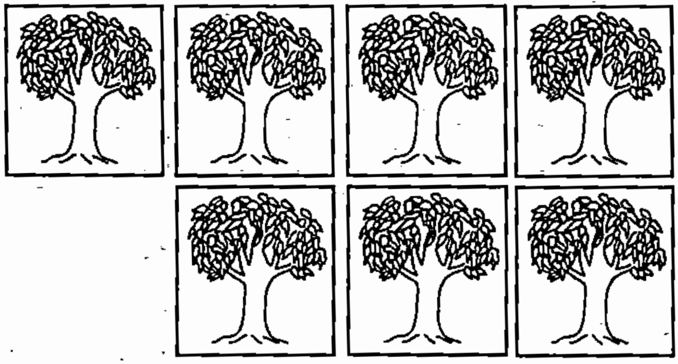
4 5 6

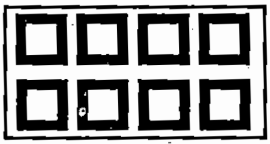


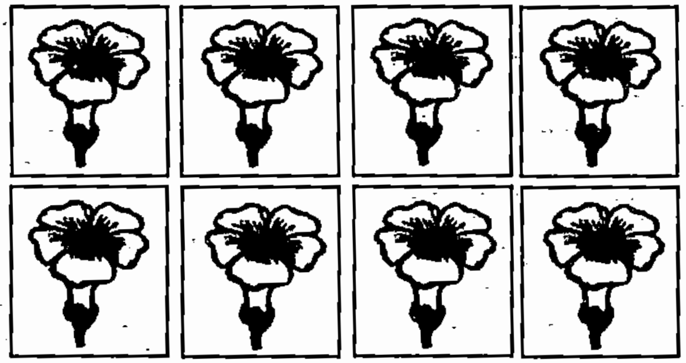
4 5 6

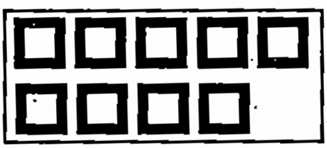
Concept of 7, 8, and 9

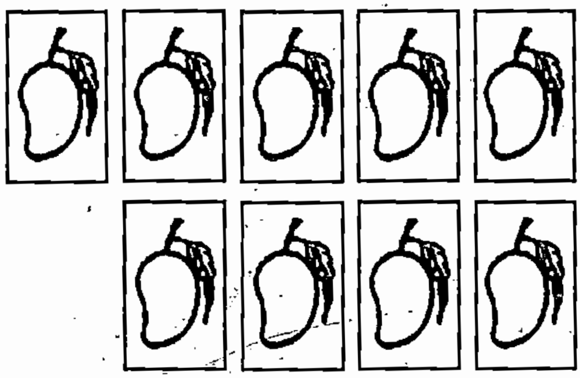
7 



8 



9 



Ask pupils to count the objects.

CHAPTER - 3

Reading and writing of numbers 1, 2 and 3

1	ONE	1	1						
2	TWO	2	2						
3	THREE	3	3						
2	TWO	2	2						
1	ONE	1	1						

To teach writing of One (1) teach vertical stroke downward ↓. For 2, teach semi circle and horizontal line ⟶ and for 3, two semi circles 3.

Reading and writing of numbers 4, 5 and 6

4	FOUR	4	4						
5	FIVE	5	5						
6	SIX	6	6						

Concept of slanting line / \ will help pupils write 4 and 5

(↙ ⟶ ↓) or 4 similarly ⟵ ↓ or 5

I II III (five in three steps)

Reading and Writing of Numbers 7, 8 and 9

7	SEVEN	7							
8	EIGHT	8							
9	NINE	9							

Count and Write:

O O O O O O O	O O O O O O O O	O O O O O O O O O	O O O O O O O O
O O O O O O O O O	O O O O O O O	O O O O O O O O	O O O O O O O

Concept of TEN - 10

For Teachers: There is no symbol or numeral for 10. There are only 10 numerals 0,1,2,3,4,5,6,7,8 and 9. All the numbers are represented by these numerals. To show ten we use 1 and 0 with 0 (zero) written right to 1 as 10.

EXERCISE

Match numbers with pictures.

1

2

3

4

5

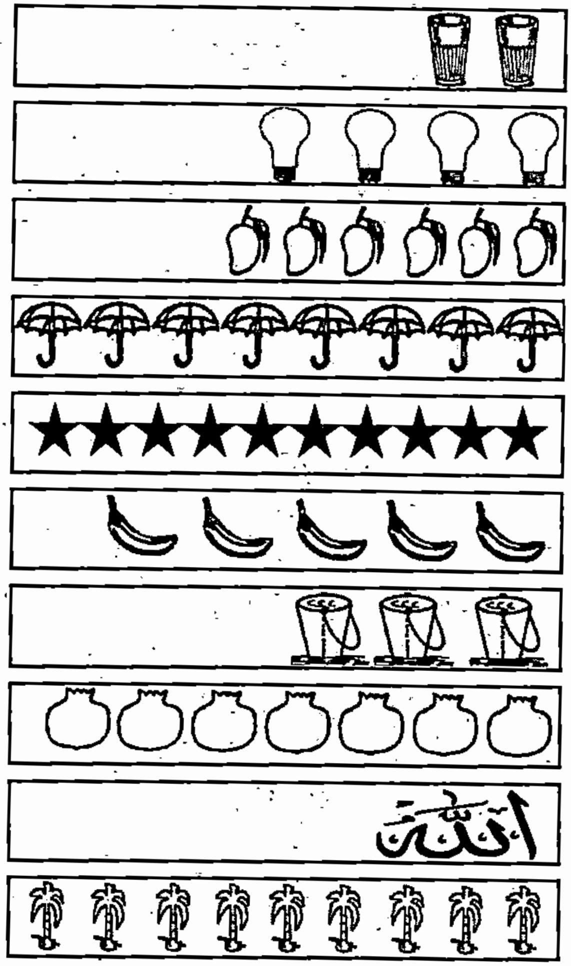
6

7

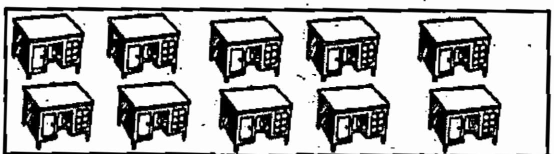
8

9

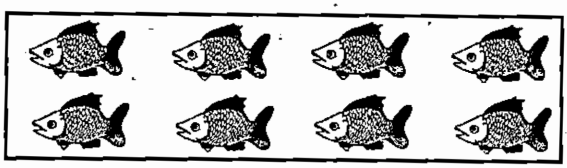
10



Encircle the correct number:



7 8 9 10



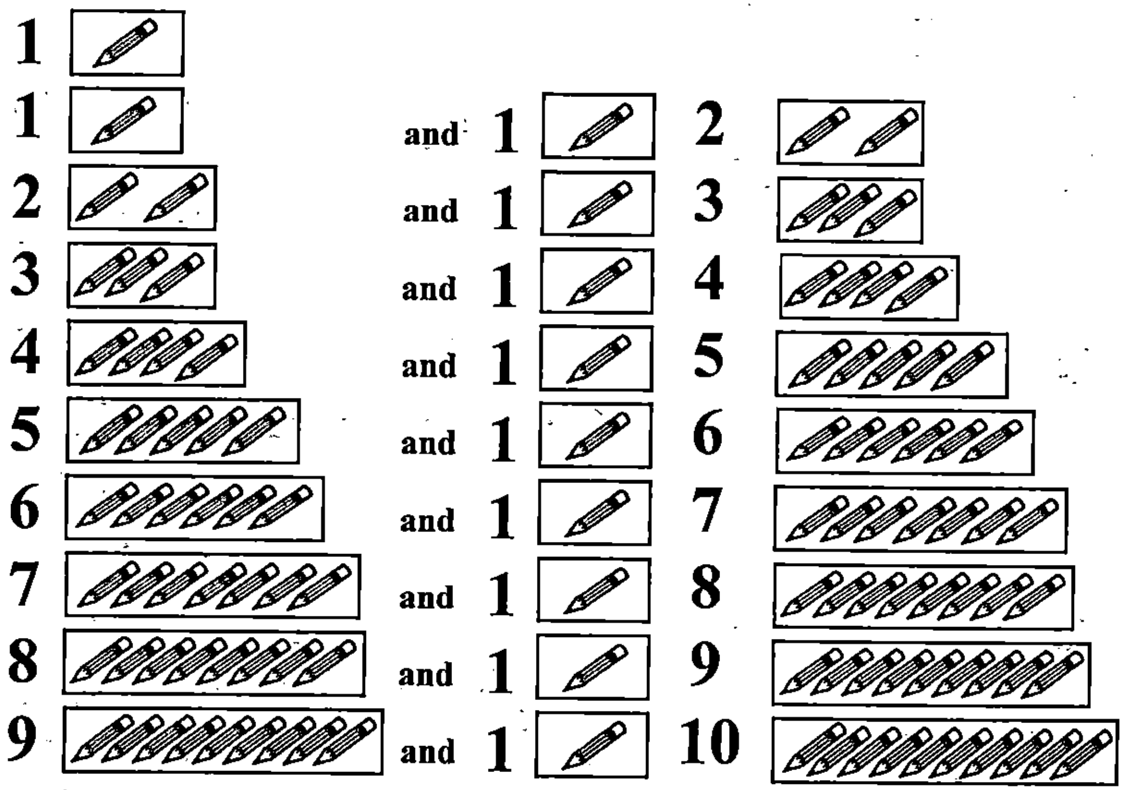
7 8 9 10

6 7 8 9

7 8 9 10

CHAPTER - 4

The Concept of Addition



Teachers should explain how we add one to any number and what we get.

○	1	1	1	1	1
○○	2	2	2	2	2
○○○	3	3	3	3	3
○○○○	4				
○○○○○	5				
○○○○○○	6				
○○○○○○○	7				
○○○○○○○○	8				
○○○○○○○○○	9				
○○○○○○○○○○	10				

EXERCISE

Fill in the blanks:

1			4				8		
10		8		6		4		2	

Write from 1 to 10

1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10

Fill in the blanks. (Complete the Series)

1		3	

1		3	

	8		10

1		3		

4		6			9

3			6		

	3			6				10

CHAPTER - 5

One, Two
Buckle my shoe

Three, Four
Shut the door

Five, Six
Pick up sticks

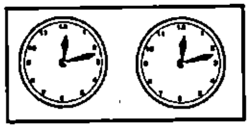
Seven, Eight
Lay them straight

Nine, Ten
A big fat hen.

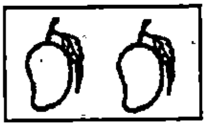
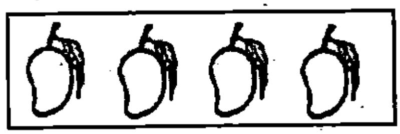
CHAPTER - 6

Addition

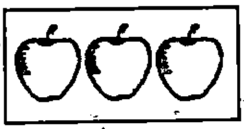
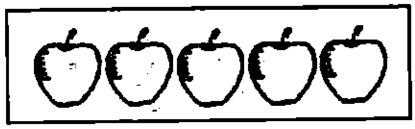
Explain the examples with the help of pictures.

 and  are 

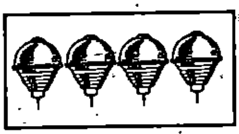
1 + 1 = 2

 and  are 

2 + 2 = 4

 and  are 

3 + 2 = 5

 and  are 

4 + 3 = 7

First teach with concrete objects as shown above. Then say only numbers.

2 toffees and 3 toffees are 5 toffees

2 and 3 are 5

We replace 'and' by + (plus symbol) and 'are' by = (equal to symbol) and write these

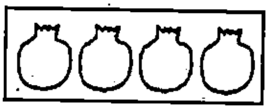
2 and 3 are 5

2 + 3 = 5

(Read two plus three equal to five and so on.)

Addition of one-digit number

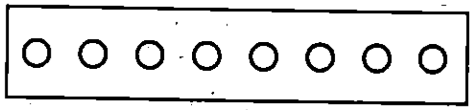
Example:

 +  = 

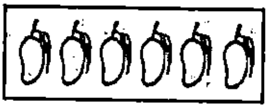
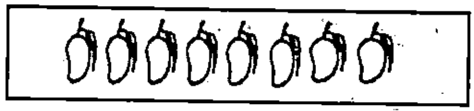
$\boxed{3}$ + $\boxed{4}$ = $\boxed{7}$

 +  = 

$\boxed{4}$ + $\boxed{5}$ = $\square$

 +  = 

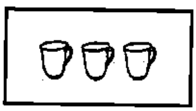
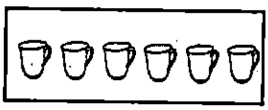
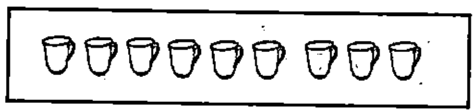
$\square$ + $\square$ = $\square$

 +  = 

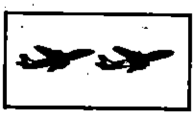
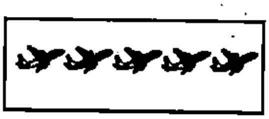
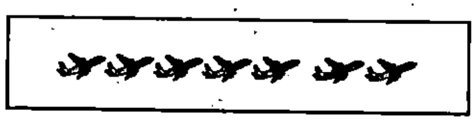
$\square$ + $\square$ = $\square$

 +  = 

$\square$ + $\square$ = $\square$

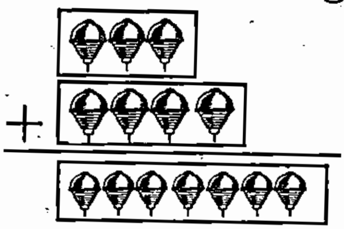
 +  = 

$\square$ + $\square$ = $\square$

 +  = 

$\square$ + $\square$ = $\square$

Adding Vertically and Horizontally



$$\begin{array}{r} \boxed{3} \\ + \boxed{4} \\ \hline \boxed{7} \end{array} \qquad \begin{array}{r} 3 \\ +\ 4 \\ \hline 7 \\ \hline \end{array}$$

EXERCISE

(A) Add:

1 + 2 =	5 + 2 =
2 + 1 =	6 + 2 =
3 + 2 =	7 + 2 =
2 + 3 =	8 + 1 =
1 + 3 =	5 + 4 =
1 + 4 =	6 + 3 =
4 + 1 =	7 + 2 =
3 + 1 =	1 + 7 =
5 + 1 =	1 + 8 =
6 + 1 =	2 + 5 =

(B) Add:

$$\begin{array}{r} 3 \\ +2 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ +3 \\ \hline \end{array} \quad \begin{array}{r} 1 \\ +2 \\ \hline \end{array} \quad \begin{array}{r} 1 \\ +3 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ +4 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ +3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ +2 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ +5 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ +2 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ +6 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ +2 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ +7 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ +5 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ +4 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ +6 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ +3 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ +1 \\ \hline \end{array} \quad \begin{array}{r} 1 \\ +8 \\ \hline \end{array}$$

(C) Fill in the Blanks:

$$\begin{array}{r} \square \\ +2 \\ \hline 6 \end{array} \quad \begin{array}{r} 2 \\ +2 \\ \hline \square \end{array} \quad \begin{array}{r} 3 \\ +\square \\ \hline 3 \end{array} \quad \begin{array}{r} \square \\ +3 \\ \hline 4 \end{array}$$

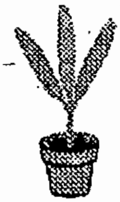
CHAPTER - 7

Concept of Subtraction

Example:

How many leaves?

How many leaves are fallen?

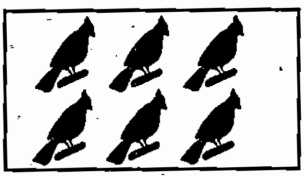


How many leaves are left?

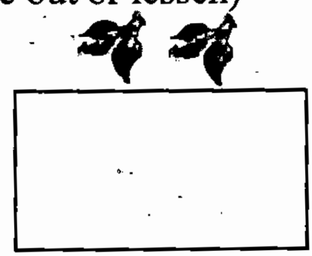
$\boxed{5} \quad - \quad \boxed{2} \quad = \quad \boxed{3}$

2 taken out from 5 equals three

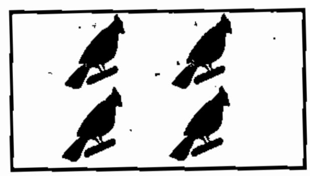
(To subtract means take out or lessen)



6 birds sitting



2 birds flying away



4 birds remaining

$6 \quad - \quad 2 \quad = \quad 4$

" – " minus sign (means to take away)

6 Toffees

or

$6 \quad - \quad 2 \quad = \quad 4$

OOOOOØØ

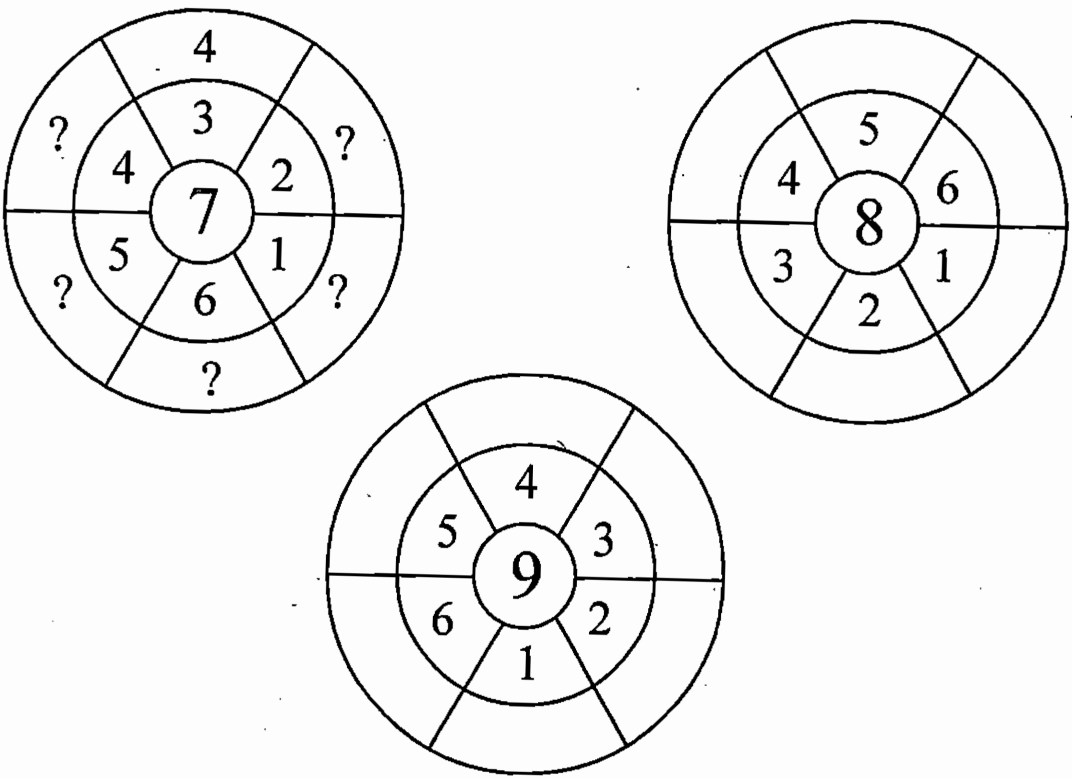
Total	7	$7 - 2 = 5$
How many cut	2	
Remaining	5	

EXERCISE

(A) Subtract:

$\begin{array}{r}5\\-1\\\hline\end{array}$	$\begin{array}{r}6\\-1\\\hline\end{array}$	$\begin{array}{r}7\\-1\\\hline\end{array}$	$\begin{array}{r}8\\-1\\\hline\end{array}$	$\begin{array}{r}9\\-1\\\hline\end{array}$	$\begin{array}{r}4\\-1\\\hline\end{array}$
$\begin{array}{r}9\\-2\\\hline\end{array}$	$\begin{array}{r}8\\-2\\\hline\end{array}$	$\begin{array}{r}7\\-2\\\hline\end{array}$	$\begin{array}{r}6\\-2\\\hline\end{array}$	$\begin{array}{r}5\\-2\\\hline\end{array}$	$\begin{array}{r}4\\-2\\\hline\end{array}$
$\begin{array}{r}9\\-7\\\hline\end{array}$	$\begin{array}{r}8\\-7\\\hline\end{array}$	$\begin{array}{r}7\\-6\\\hline\end{array}$	$\begin{array}{r}6\\-5\\\hline\end{array}$	$\begin{array}{r}5\\-4\\\hline\end{array}$	$\begin{array}{r}4\\-3\\\hline\end{array}$
$\begin{array}{r}6\\-4\\\hline\end{array}$	$\begin{array}{r}8\\-6\\\hline\end{array}$	$\begin{array}{r}7\\-5\\\hline\end{array}$	$\begin{array}{r}5\\-1\\\hline\end{array}$	$\begin{array}{r}3\\-1\\\hline\end{array}$	$\begin{array}{r}9\\-7\\\hline\end{array}$

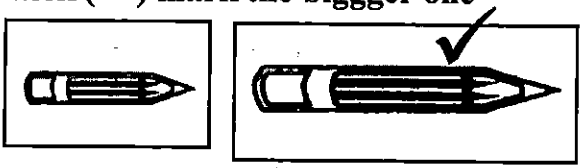
(B) Subtract and write in the outer circles. One is done for you.

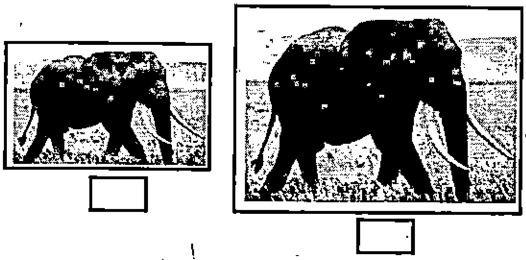


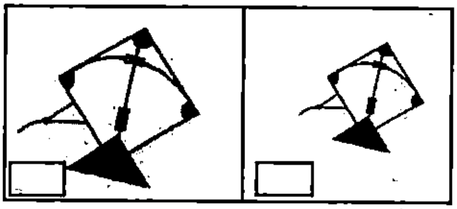
CHAPTER - 8 Comparision of Objects

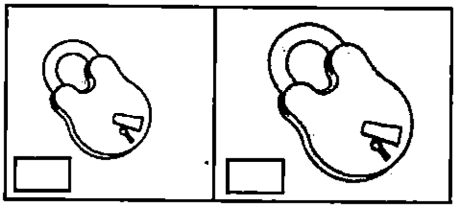
Big and Small

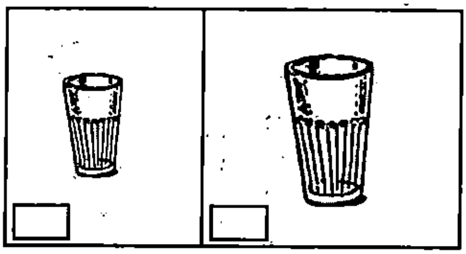
Tick (✓) mark the biggger one

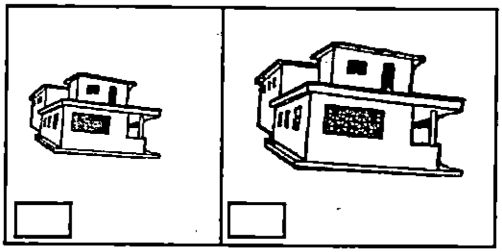








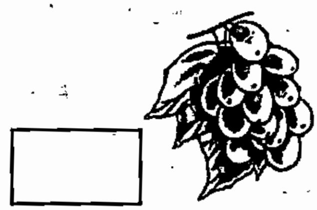




More or Less

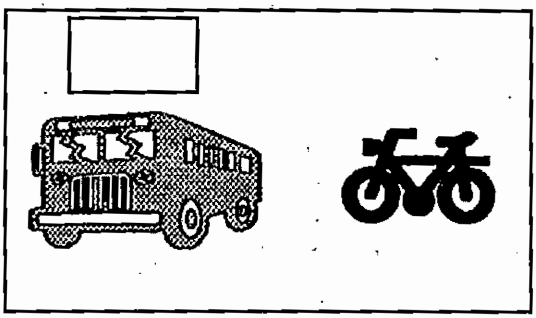
Tick (✓) mark the one which is the lesser.

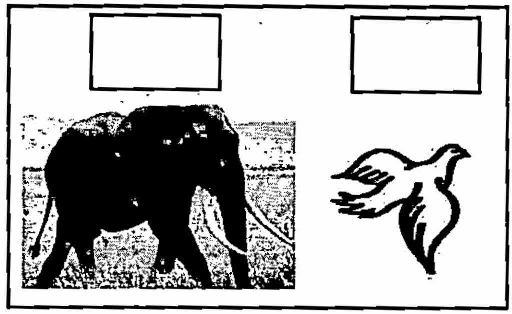
More or less



Tick (✓) mark the one which is the lesser

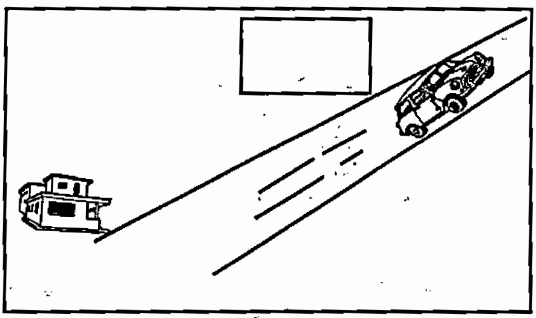
Heavy or light

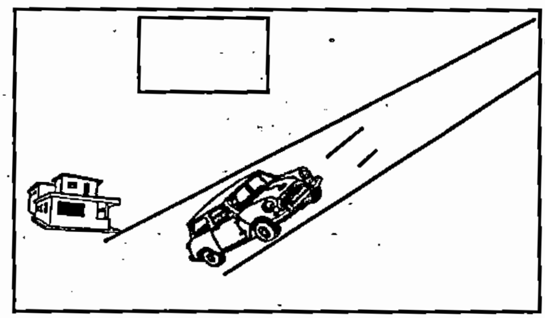




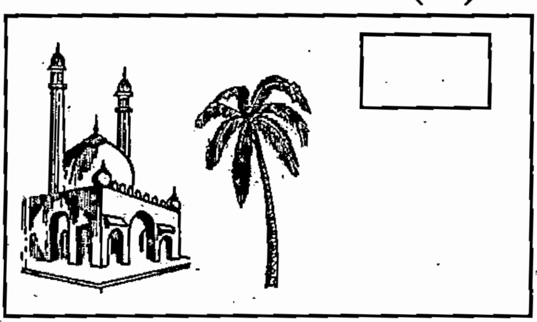
Tick (✓) mark the lighter

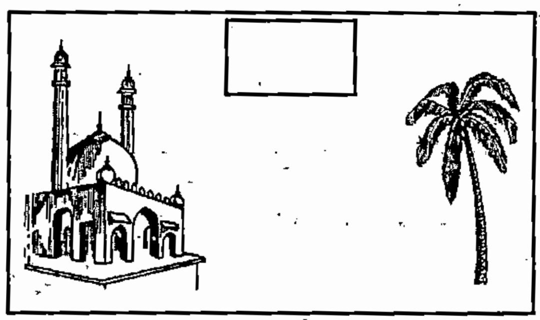
Far or Near





Tick (✓) mark the nearer car

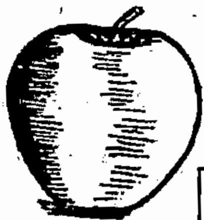




Tick (✓) mark the farther one

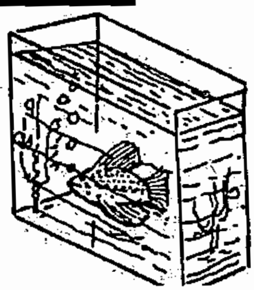
Full and Half

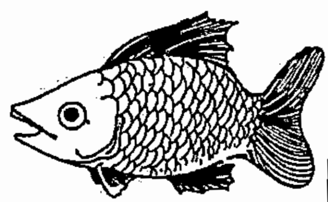
Tick (✓) mark which is full

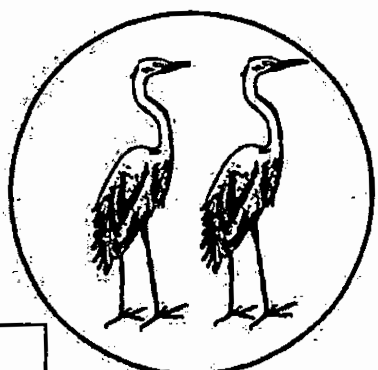


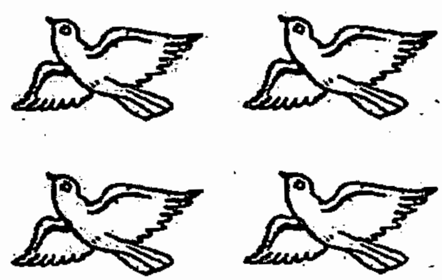
In or Out

(Tick (✓) mark which is inside)



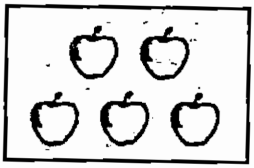




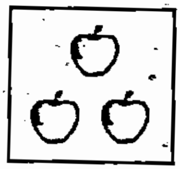


Tick (✓) mark which is outside

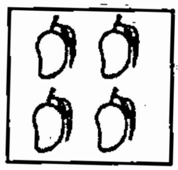
More or Less or Equal



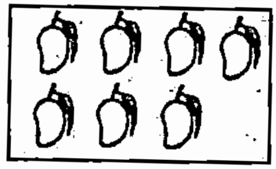
More



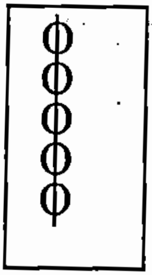
Less



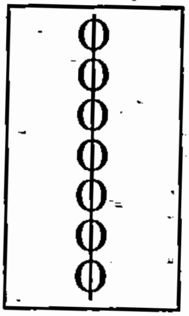
Less



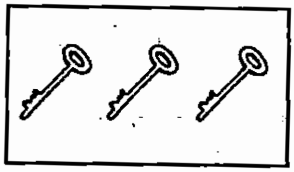
More

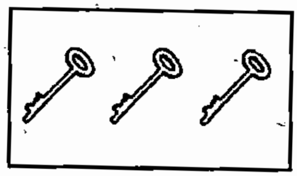


Less



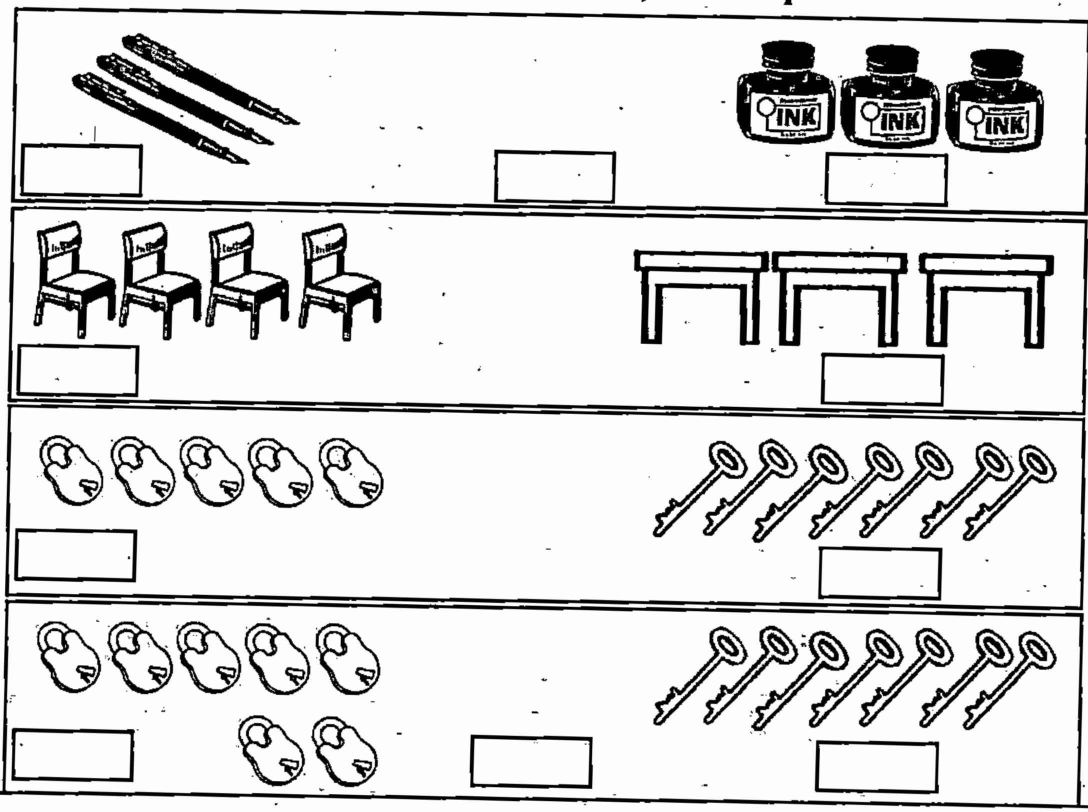
More





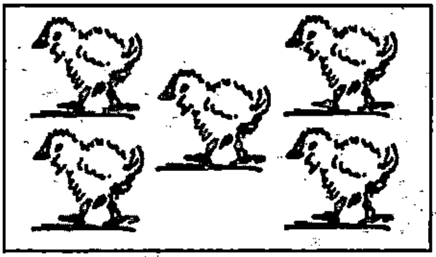
Equal

Match one to one and see if these are more, less or equal.

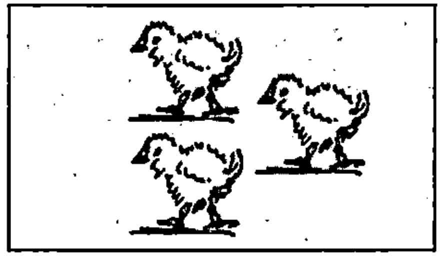


Comparison of Numbers

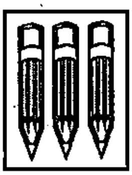
use of symbol > and <



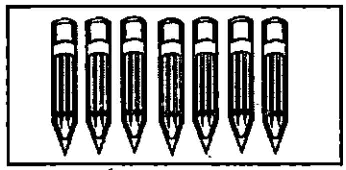
are more than



5 > 3 (5 is Greater than 3)

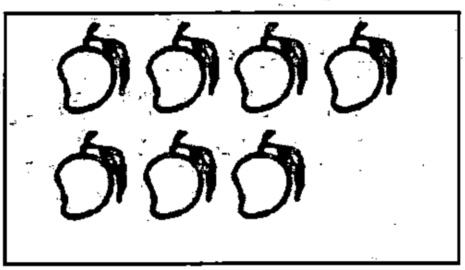


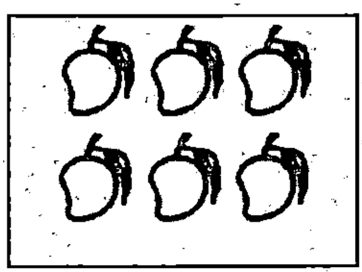
are less than



3 < 7 (3 is less than 7)

(**Note:** Pointed end directs towards Smaller number)





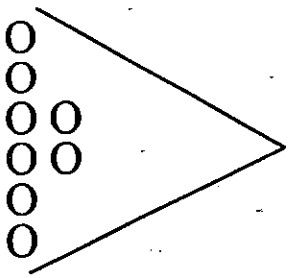
How many mangoes?

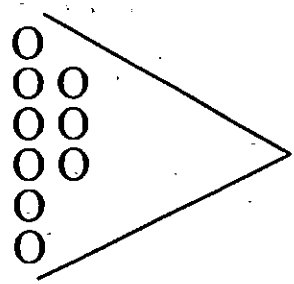
How many mangoes?

Put ">" or "<"

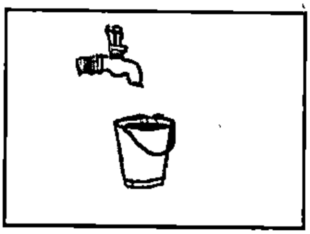
6		7	7		4	8		9
6		5	7		9	2		4
6		4	8		2	3		7
6		3	7		8	4		6

>

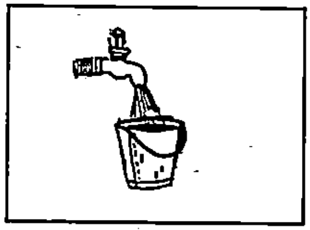




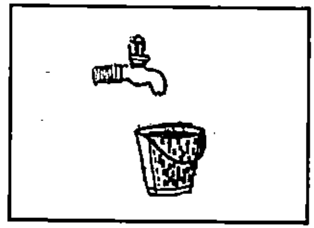
Between, Ahead and Behind



Empty bucket

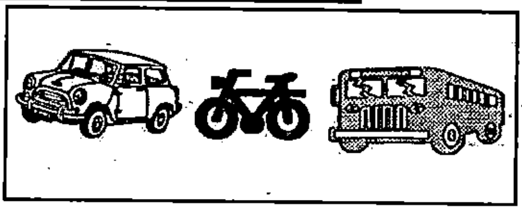


Filling with water

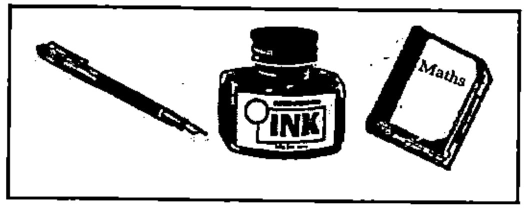


Filled bucket

Concept of Between

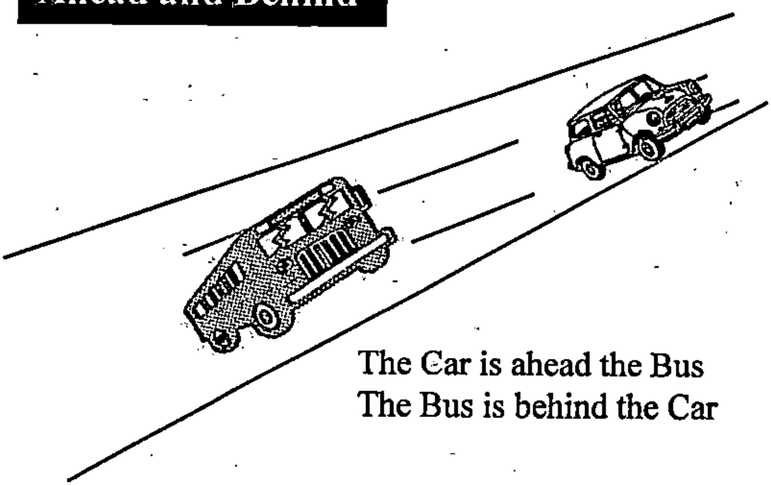


The Cycle is between
the Car and the Bus



The Inkpot is between
the Pen and the Book

Ahead and Behind



The Car is ahead the Bus
The Bus is behind the Car

Teachers should give ample examples of before, after, between, ahead and behind from daily life with sufficient activities.

Numbers: Before and After

[1]

1	Comes before	2
2	Comes before	3
3	Comes before	4
☐	Comes before	5
☐	Comes before	6
7	Comes before	☐
8	Comes before	☐
9	Comes before	☐

[2]

2	Comes after	1
3	Comes after	2
4	Comes after	3
5	Comes after	___
6	Comes after	___
7	Comes after	___
8	Comes after	___
9	Comes after	___
10	Comes after	___

[3] What comes before

______	3
______	6
______	5
______	7
______	8
______	2
______	9
______	10
______	1

[4] What comes after

1	______
4	______
3	______
5	______
7	______
6	______
9	______
8	______
2	______

[5]

There are two numbers in each set. Fill the Proper number in the box.

	number written before	number written after
2 , 4	1	5
3 , 5		
6 , 7		
1 , 6		
7 , 8		

[6]

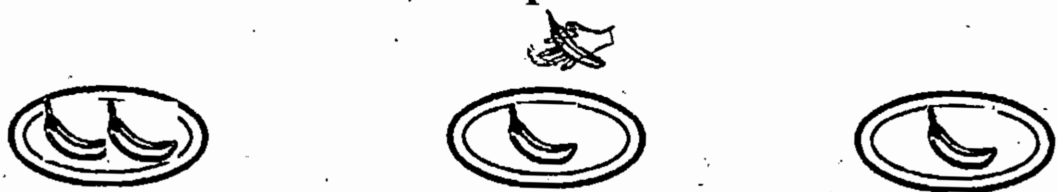
1	is less than	2
3	is less than	
4	is less than	
6	is less than	
7	is less than	
9	is less than	

[7]

7	is more than	6
8	is more than	
9	is more than	
10	is more than	
5	is more than	
4	is more than	

CHAPTER - 9

Concept of Zero

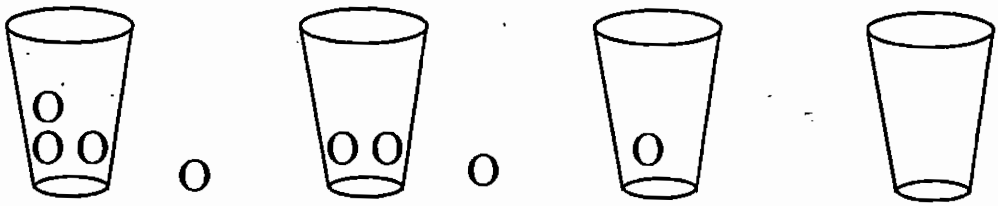


How many bananas? One banana is taken off Now how many bananas are there?

The remaining banana is taken off

How many bananas now NIL / Empty/ Nothing

NIL / Nothing or Empty is represented by Zero.



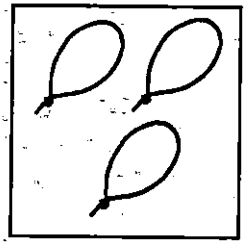
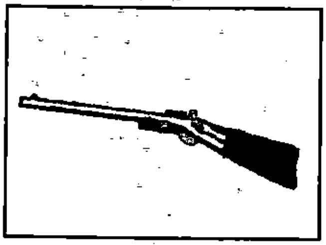
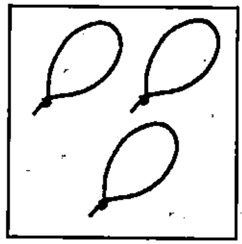
Three marbles Two marbles One marble Nothing / No or NIL Zero marble

Three flowers Two flowers One flower Nothing / No or NIL Zero flower

Explain the concept of Zero by giving more examples as How many TVs are there in your classroom? = No or Zero. How many cars are there in your classroom - No or Zero, etc.

You had 3 toffees. You ate one in the moring, one in the noon and one in the evening. How many toffees do you now have? No or Zero.

Adding and Subtracting zero from numbers

Example 1: There were three balloons. A boy took aim by air pistol but could shoot no balloon. How many balloons are left?

3 Balloons – None burst = 3 left

$3 - 0 = 3$

Example 2: A pot had 4 litre milk. No one drank from it. How much milk is there in the pot?

Milk in the pot = 4 *l*
None drank = 0 *l*
left = 4 *l* (same as it was earlier, that is no change)

If we subtract zero from any number, we get the same number

$4 - 0 = 4$, $3 - 0 = 3$, $5 - 0 = 5$
$2 - 0 = 2$, $1 - 0 = 1$, $9 - 0 = 9$

Example 3: Tariq ate 4 mangoes in the morning. He ate none in the noon. How many mangoes did he eat in all?

ate in the morning = 4 mangoes
ate in the noon = 0 mangoes
Total = 4

$$\begin{array}{r} 4 \\ +0 \\ \hline 4 \\ \hline \end{array}$$

If we add zero to any number, we get the same number

$4 + 0 = 4$ $3 + 0 = 3$ $2 + 0 = 2$ $1 + 0 = 1$

Exercise:

$3 + 0 = \square$ $4 + 0 = \square$ $5 - 0 = \square$
$10 + 0 = \square$ $9 - 0 = \square$ $8 + 0 = \square$
$\square + 0 = 7$ $\square - 0 = 6$ $\square + 0 = 5$
$\square - 0 = 4$ $\square + 0 = 3$ $\square - 0 = 9$

CHAPTER - 10

Reading and writing from 11 to 20

ooooo ooooo	o	Ten and one	=	Eleven 11	=	10 + 1
ooooo ooooo	oo	Ten and two	=	Twelve 12	=	10 + 2
ooooo ooooo	ooo	Ten and three	=	Thirteen 13	=	10 + 3
ooooo ooooo	oooo	Ten and four	=	Fourteen 14	=	10 + 4
ooooo ooooo	ooooo	Ten and five	=	Fifteen 15	=	10 + 5
ooooo ooooo	oooooo	Ten and six	=	Sixteen 16	=	10 + 6
ooooo ooooo	ooooooo	Ten and seven	=	Seventeen 17	=	10 + 7
ooooo ooooo	oooooooo	Ten and eight	=	Eighteen 18	=	10 + 8
ooooo ooooo	ooooooooo	Ten and nine	=	Nineteen 19	=	10 + 9
ooooo ooooo	oooooooooo	Ten and ten	=	Twenty 20	=	10 + 10

Exercise:

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

Fill in the blanks:

1		3		5		7		9	
	2		4		6		8		
11		13	14		16		18		
	12		14	15		17			20

Counting by skipping (skip by two)

1	3	5	7	9	11	13	15	17	19

Similarly skipping by 2's

2	4	6	8	10	12	14	16	18	20

Counting in reverse order:

20			13	12	11			4	3	2
19			14		10			5		1
18	17	16	15		9	8	7	6		

Write in reverse order:

20	19			16				12			9	
7				3								

Write 'before' and 'after' numbers. First one is done for you

5	6	7		9			7	
	14			19			16	
	12			17			15	

Write the number that comes just 'before'

8	9		18		14		20		12

Write the number that comes just 'after'

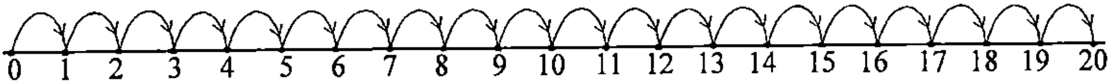
14	15	16		17		13		18	

Write the number that comes between:

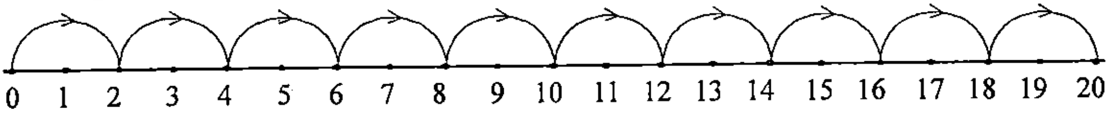
9	10	11	15		17	17		19	18		20

- Give ample practice for counting and writing from 1 to 20.

Starting from 0 move one step and count till 20.

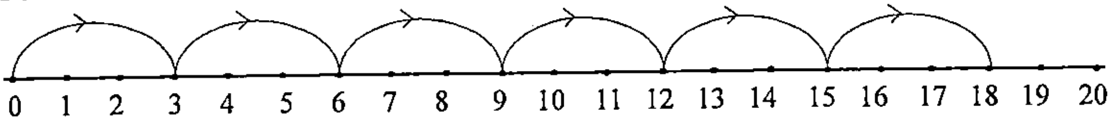


Starting from 0 move two steps. Count and write.



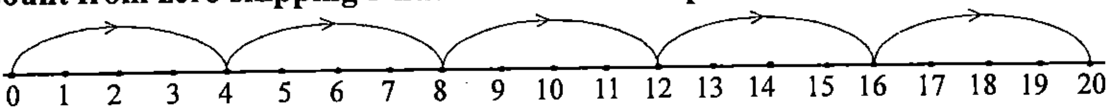
0	2	4	6	8	10	12	14	16	18	20

Starting from 0 move forward skipping two numbers in each step.
Count and write



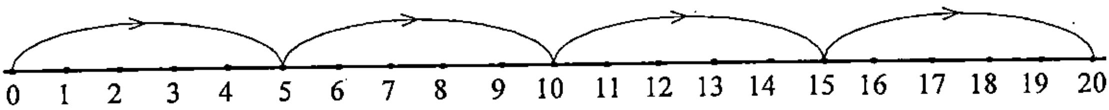
3	6	9	12	15	18

Count from zero skipping 3 numbers in each step.



4	8	12	16	20

Count from zero skipping 4 numbers in each step.

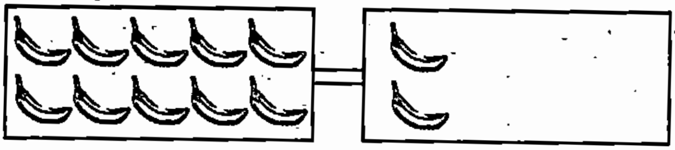


5	10	15	20

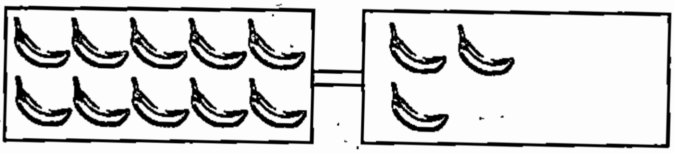
Practise writing from 1 to 20

1	1			11	11		
2	2			12	12		
3	3			13	13		
4	4			14	14		
5	5			15	15		
6	6			16	16		
7	7			17	17		
8	8			18	18		
9	9			19	19		
10	10			20	20		

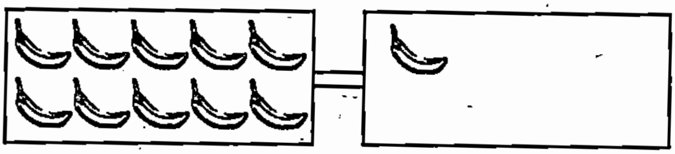
Count the object and encircle the correct number. First one is done for you.



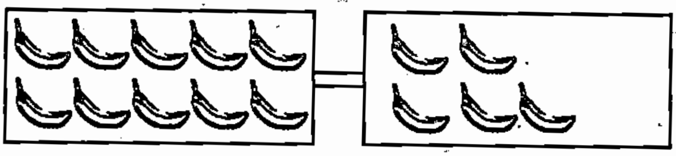
11, 12, 13, 14



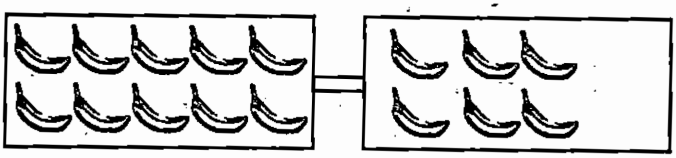
12, 13, 14, 15



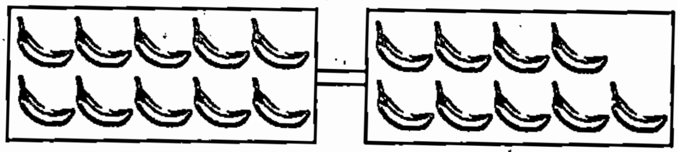
11, 12, 13, 14



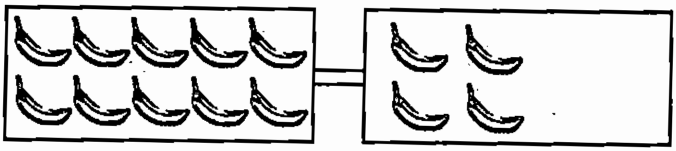
13, 14, 15, 16



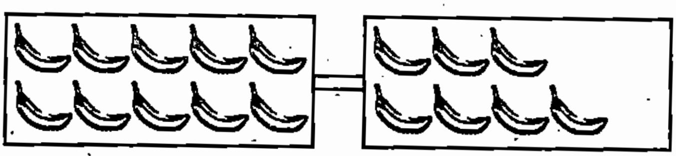
15, 16, 17, 18



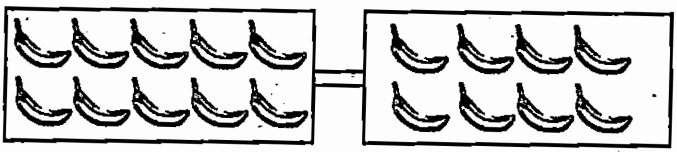
16, 17, 18, 19



13, 14, 15, 16



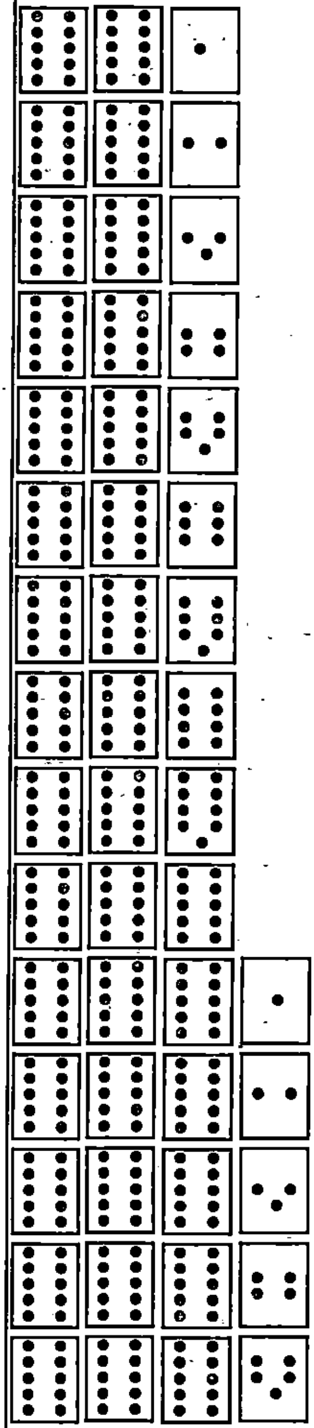
16, 17, 18, 19



15, 16, 17, 18

CHAPTER - 11

Reading and writing from 21 to 50



20 + 1 = 21

20 + 2 = 22

20 + 3 = 23

20 + 4 = 24

20 + 5 = 25

20 + 6 = 26

20 + 7 = 27

20 + 8 = 28

20 + 9 = 29

20 + 10 = 30

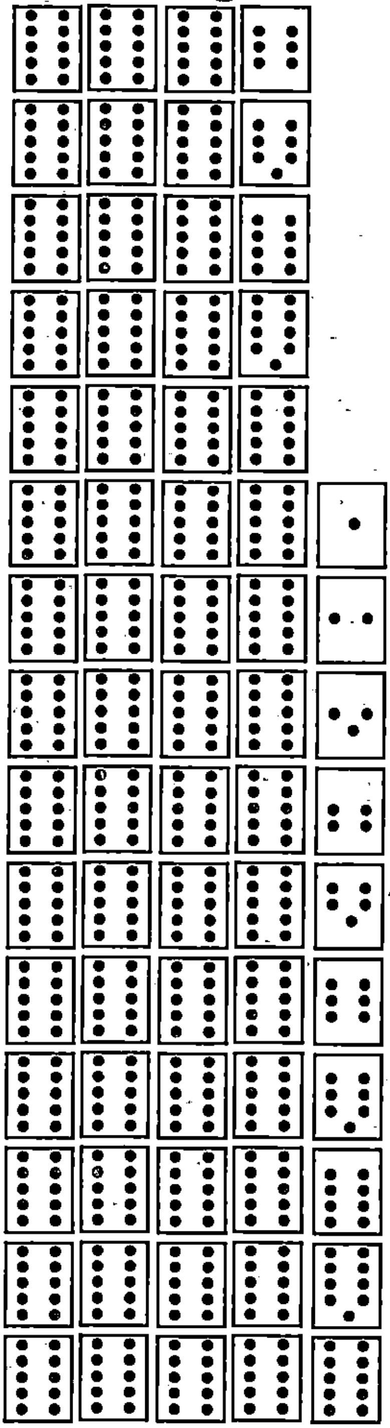
30 + 1 = 31

30 + 2 = 32

30 + 3 = 33

30 + 4 = 34

30 + 5 = 35



30 + 6 = 36

30 + 7 = 37

30 + 8 = 38

30 + 9 = 39

30 + 10 = 40

40 + 1 = 41

40 + 2 = 42

40 + 3 = 43

40 + 4 = 44

40 + 5 = 45

40 + 6 = 46

40 + 7 = 47

40 + 8 = 48

40 + 9 = 49

40 + 10 = 50

Twenty-one	21	Thirty-one	31	Forty-one	41
Twenty-two	22	Thirty-two	32	Forty-two	42
Twenty-three	23	Thirty-three	33	Forty-three	43
Twenty-four	24	Thirty-four	34	Forty-four	44
Twenty-five	25	Thirty-five	35	Forty-five	45
Twenty-six	26	Thirty-six	36	Forty-six	46
Twenty-seven	27	Thirty-seven	37	Forty-seven	47
Twenty-eight	28	Thirty-eight	38	Forty-eight	48
Twenty-nine	29	Thirty-nine	39	Forty-nine	49
Thirty	30	Forty	40	Fifty	50

Reading and writing from 1 to 50

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

Teach reading from left to write, up and down, right to left i.e. in every possible direction

Numbers from 51 to 100

Fifty-one	51	Sixty-one	61	Seventy-one	71
Fifty-two	52	Sixty-two	62	Seventy-two	72
Fifty-three	53	Sixty-three	63	Seventy-three	73
Fifty-four	54	Sixty-four	64	Seventy-four	74
Fifty-five	55	Sixty-five	65	Seventy-five	75
Fifty-six	56	Sixty-six	66	Seventy-six	76
Fifty-seven	57	Sixty-seven	67	Seventy-seven	77
Fifty-eight	58	Sixty-eight	68	Seventy-eight	78
Fifty-nine	59	Sixty-nine	69	Seventy-nine	79
Sixty	60	**Seventy**	70	**Eighty**	80

Eighty-one	81	Ninety-one	91	Ten	10
Eighty-two	82	Ninety-two	92	Twenty	20
Eighty-three	83	Ninety-three	93	Thirty	30
Eighty-four	84	Ninety-four	94	Forty	40
Eighty-five	85	Ninety-five	95	Fifty	50
Eighty-six	86	Ninety-six	96	Sixty	60
Eighty-seven	87	Ninety-seven	97	Seventy	70
Eighty-eight	88	Ninety-eight	98	Eighty	80
Eighty-nine	89	Ninety-nine	99	Ninety	90
Ninety	90	**Hundred**	100	Hundred	100

EXERCISE

(1) Fill in the missing numbers:

51									60
	62			65			68		
71		73			76			79	
	82					87			90
91			94						100

(2) Count in reverse order and fill in the missing numbers:

60		58			55				51
	69							62	
80			77				73		71
	89		87		85			82	
		98		96			93		

(3)

60			57		55		53		51
		68		66		64		62	
	79		77		75		73		71
		88		86		84		82	81
100		98			95		93		

(4)

100		98		96		94		92	
	89		87		85		83		81
80		78		76		74		72	
	69		67		65		63		61
60		58		56			53		

CHAPTER - 12

Concept of Ones and Tens

 $\boxed{1}$ This is 'One' or 'Unit'  $\boxed{10}$

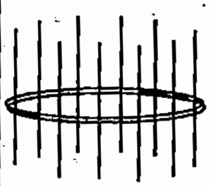
$\boxed{10}$ This is one 'Ten'

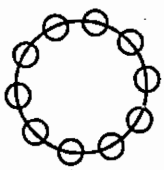
 One ten is equal to ten Ones or 10 units.

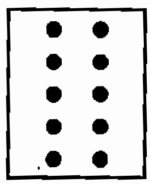
(A group of ten is called Tens. It has ten units or Ones)

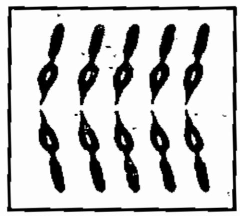
More examples can be given by showing a note of Rupees Ten and asking pupils how many one rupee notes will be there for one Ten-rupee note. Tie 10 sticks in one bundle and show this is Ten. When loosened or untied, it will give 10 sticks (each stick will represent one or unit)

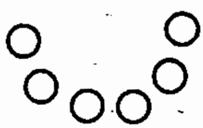
Also explain to the pupils that units are only from 1 to 9 i.e. 1, 2, 3, 4, 5, 6, 7, 8 and 9. After nine it becomes 10 (a collection or group or bundle of 10 is called one ten)

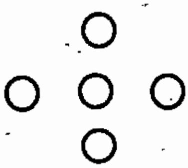

One Ten


One Ten

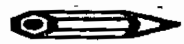

One Ten

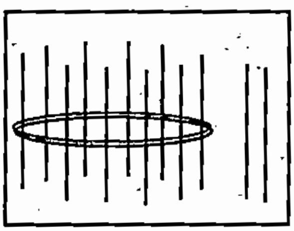

One Ten


6 ones

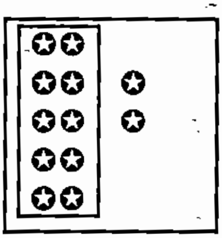

5 ones


3 ones

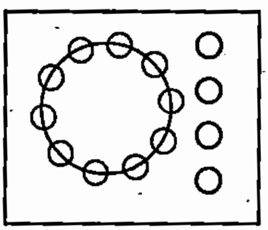

1 one


$\boxed{1}$ Ten and $\boxed{2}$ ones

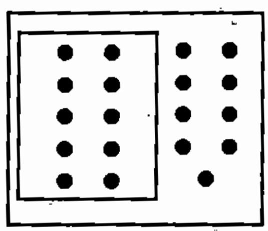
$\boxed{12}$


$\boxed{}$ Ten and $\boxed{}$ ones

$\boxed{}$


$\boxed{}$ Ten and $\boxed{}$ ones

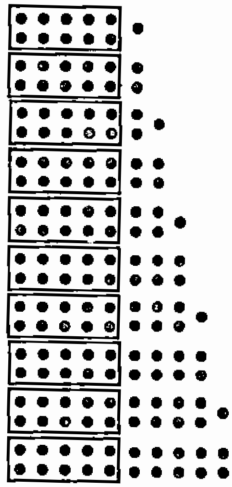
$\boxed{}$


$\boxed{}$ Ten and $\boxed{}$ ones

$\boxed{}$

More explanations of two-digit numbers

Eleven	11	=	10 + 1	One	Ten	and	One	One	=	
Twelve	12	=	10 + 2	1	Ten	and	2	Ones	=	
Thirteen	13	=	10 + 3	1	Ten	and	3	Ones	=	
Fourteen	14	=	10 + 4	1	Ten	and	4	Ones	=	
Fifteen	15	=	10 + 5	1	Ten	and	5	Ones	=	
Sixteen	16	=	10 + 6	1	Ten	and	6	Ones	=	
Seventeen	17	=	10 + 7	1	Ten	and	7	Ones	=	
Eighteen	18	=	10 + 8	1	Ten	and	8	Ones	=	
Nineteen	19	=	10 + 9	1	Ten	and	9	Ones	=	
Twenty	20	=	10 + 10	1	Ten	and	10	Ones	=	
				or	2 Tens	and	zero	One		



Numbers	Tens	Ones	Numbers	Tens	Ones	Numbers	Tens	Ones
21	2	1	41	4	1	61	6	1
22	2	2	42	4	2	62	6	2
23	2	3	43	4	3	63	6	3
24	2	4	44	4	4	64	6	4
25	2	5	45	4	5	65	6	5
26	2	6	46	4	6	66	6	6
27	2	7	47	4	7	67	6	7
28	2	8	48	4	8	68	6	8
29	2	9	49	4	9	69	6	9
30	3	0	50	5	0	70	7	0
31	3	1	51	5	1	71	7	1
32	3	2	52	5	2	72	7	2
33	3	3	53	5	3	73	7	3
34	3	4	54	5	4	74	7	4
35	3	5	55	5	5	75	7	5
36	3	6	56	5	6	76	7	6
37	3	7	57	5	7	77	7	7
38	3	8	58	5	8	78	7	8
39	3	9	59	5	9	79	7	9
40	4	0	60	6	0	80	8	0

Numbers	Tens	Ones	Numbers	Tens	Ones
81	8	1	91	9	1
82	8	2	92	9	2
83	8	3	93	9	3
84	8	4	94	9	4
85	8	5	95	9	5
86	8	6	96	9	6
87	8	7	97	9	7
88	8	8	98	9	8
89	8	9	99	9	9
90	8	0	100	10	0

EXERCISE

Write in numbers:

One Ten and 2 Ones = 12
2 Tens and 3 Ones =
3 Tens and 7 Ones =
4 Tens and 3 Ones =
3 Tens and 5 Ones =
5 Tens and 9 Ones =
6 Tens and 0 Ones =
9 Tens and 1 One =
7 Tens and 6 Ones =
8 Tens and 4 Ones =

Write Ones and Tens

Numbers	Tens	Ones
24		
52		
45		
40		
68		
44		
13		
37		
99		
30		

Write 'Ones' in each number as shown in the example:

Number	15	17	26	35	51	66	74	32	47	59
Ones	5									

Write 'Tens' in each number. First one is done for you.

Number	34	43	25	52	67	86	79	91	80	19
Tens	3									

Fill in the blanks:

(1) 3 Tens and 5 Ones = $\square$

(2) 8 Tens and 3 Ones = $\square$

(3) $\square$ Tens and 9 Ones = 79

(4) $\square$ Tens and 2 Ones = 92

(5) 2 Tens and $\square$ Ones = 26

(6) 5 Tens and $\square$ Ones = 51

(7) $\square$ Tens and $\square$ Ones = 43

(8) $\boxed{6}$ Tens and $\square$ Ones = 60

(9) $\square$ Tens and $\square$ Ones = 55

(10) $\square$ Tens and $\square$ Ones = 84

Reverse the order of Ones and Tens and ask the pupils to recognise the new number:

12	15	27	13	23	56	14	24	89	76	65
21	51									

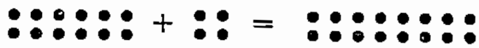
Addition of one-digit number to two-digit numbers without carrying any number.

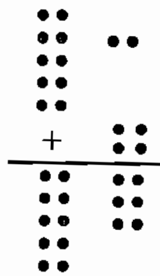
Example: (1) $5 + 3 = 8$ or

$$\begin{array}{r} 5 \\ +\,3 \\ \hline 8 \\ \hline \end{array}$$

(Vertically)

(2) $12 + 4 = 16$ (Horizontally)





$$\begin{array}{r} 12 \\ +\ 4 \\ \hline 16 \end{array}$$

While adding one-digit number to a two-digit number we add ones to ones and copy tens as such.

Example:

	Tens	Ones
	3	5
	+ 0	4
(35 + 4 =	3	9)

	Tens	Ones
	0	4
	+ 3	5
(4 + 35 =	3	9)

Add:

(1) 12 + 5 = ☐

(2) 25 + 3 = ☐

(3) 4 + 71 = ☐

(4) 92 + 6 = ☐

(5) 33 + 4 = ☐

(6) 5 + 41 = ☐

(7) 2 + 52 = ☐

(8) 9 + 80 = ☐

	Tens	Ones
(9)	3	8
	+	1
	☐	☐

	Tens	Ones
(10)	1	5
	+	3
	☐	☐

	Tens	Ones
(11)	1	0
	+	7
	☐	☐

	Tens	Ones
(12)	4	5
	+	3
	☐	☐

	Tens	Ones
(13)	1	2
	+	6
	☐	☐

	Tens	Ones
(14)	7	3
	+	4
	☐	☐

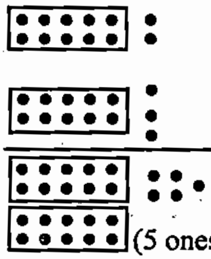
CHAPTER - 13

Addition of two two-digit numbers

Example:

12 + 13 = 25

$$\begin{array}{r} 12 \\ +\,13 \\ \hline 25 \end{array}$$



= 12

= 13

= 25

(5 ones)

(2-Tens)

add ones $2 + 3 = 5$
then
add tens $1 + 1 = 2$

While adding two two-digit numbers, first we add ones and then tens. (Write sum of ones under ones column and sum of tens under tens column.)

	Tens	Ones
	1	3
+	2	5
	3	8

	Tens	Ones
	3	4
+	2	3
	5	7

	Tens	Ones
	1	8
+	8	1
	9	9

EXERCISE

(1)

	Tens	Ones
	2	5
+	4	1

(2)

	Tens	Ones
	3	8
+	5	0

(3)

	Tens	Ones
	7	2
+	1	4

(4) 10 + 88 =

(5) 30 + 50 =

(6) 23 + 64 =

(7) 23 + 63 =

(8) 20 + 20 =

(9) 40 + 15 =

Add Orally:

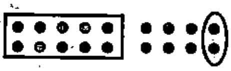
$$\begin{array}{r} 18 \\ +11 \\ \hline \end{array} \quad \begin{array}{r} 11 \\ +17 \\ \hline \end{array} \quad \begin{array}{r} 17 \\ +12 \\ \hline \end{array} \quad \begin{array}{r} 12 \\ +16 \\ \hline \end{array}$$

15 + 25 =
11 + 24 =
12 + 23 =
14 + 22 =
15 + 30 =

11 + 11 =
10 + 12 =
12 + 12 =
13 + 20 =
14 + 11 =

Subtraction of one-digit number from a two-digit number

Example:



18

Taking away 2 − 2

16

Tens	Ones
1	8
− 0	2

(Subtract Ones from Ones and copy Tens as such)

EXERCISE

Subtract:

(1)

Tens	Ones
5	9
− 0	6

(2)

Tens	Ones
7	6
− 1	0

(3)

Tens	Ones
3	8
− 0	5

(4)

1	4
− 0	2

(5)

1	5
	− 2

(6)

6	6
	− 6

(7)

5	8
	− 7

(8)

8	3
	− 1

(9)

8	9
	− 2

(10) 22 - 02 = ☐ (11) 19 - 04 = ☐ (12) 24 - 02 = ☐

(13) 77 - 05 = ☐ (14) 55 - 03 = ☐ (15) 99 - 06 = ☐

Subtracting two-digit number from a two-digit number

Example: (1) 38 – 25 =

$$\begin{array}{r} 38 \\ -25 \\ \hline 13 \\ \hline \end{array}$$

Subtract Ones from Ones & Tens from Tens

(2) 56 – 22 =

$$\begin{array}{r} 56 \\ -22 \\ \hline 34 \\ \hline \end{array}$$

(Subtract Ones from Ones and write below Ones column; again subtract Tens from Tens and write below Tens column)

2 4	2 Tens	4 Ones
– 1 3	– 1 Tens	3 Ones
1 1	1 Tens	1 Ones

EXERCISE

(1) T O: 4 6 – 3 2 = ____

(2) T O: 9 5 – 5 1 = ____

(3) T O: 7 4 – 7 2 = ____

(4) T O: 6 1 – 4 1 = ____

(5) T O: 1 9 – 1 2 = ____

(6) T O: 4 4 – 2 1 = ____

(7) T O: 6 0 – 3 0 = ____

(8) T O: 5 7 – 2 2 = ____

(9) T O: 4 9 – 1 0 = ____

(10) T O: 8 2 – 4 1 = ____

(11) 27 – 14 = ☐ (12) 29 – 11 = ☐

(13) 37 – 15 = ☐ (14) 88 – 53 = ☐

(15) 45 – 24 = ☐ (16) 95 – 35 = ☐

(17) 4 Tens 5 Ones [45] – 1 Tens 3 Ones [13] = [32]

(18) 6 Tens 6 Ones ☐ – 2 Tens 2 Ones ☐ = ☐

(19) 7 Tens 8 Ones ☐ – 2 Tens 3 Ones ☐ = ☐

(20) 8 Tens 9 Ones ☐ – 4 Tens 5 Ones ☐ = ☐

Mixed Exercise of Addition and Subtraction

(1) $\begin{array}{r} 23 \\ +\ 12 \\ \hline \\ \hline \end{array}$	(2) $\begin{array}{r} 73 \\ +\ 25 \\ \hline \\ \hline \end{array}$	(3) $\begin{array}{r} 75 \\ -\ 42 \\ \hline \\ \hline \end{array}$	(4) $\begin{array}{r} 67 \\ -\ 23 \\ \hline \\ \hline \end{array}$	(5) $\begin{array}{r} 53 \\ -\ 32 \\ \hline \\ \hline \end{array}$
(6) $\begin{array}{r} 74 \\ +\ 50 \\ \hline \\ \hline \end{array}$	(7) $\begin{array}{r} 30 \\ +\ 10 \\ \hline \\ \hline \end{array}$	(8) $\begin{array}{r} 29 \\ -\ 20 \\ \hline \\ \hline \end{array}$	(9) $\begin{array}{r} 24 \\ +\ 34 \\ \hline \\ \hline \end{array}$	(10) $\begin{array}{r} 87 \\ -\ 46 \\ \hline \\ \hline \end{array}$
(11) $\begin{array}{r} 18 \\ +\ 11 \\ \hline \\ \hline \end{array}$	(12) $\begin{array}{r} 37 \\ +\ 12 \\ \hline \\ \hline \end{array}$	(13) $\begin{array}{r} 80 \\ -\ 50 \\ \hline \\ \hline \end{array}$	(14) $\begin{array}{r} 27 \\ -\ 13 \\ \hline \\ \hline \end{array}$	(15) $\begin{array}{r} 42 \\ -\ 21 \\ \hline \\ \hline \end{array}$
(16) $\begin{array}{r} 24 \\ +\ 43 \\ \hline \\ \hline \end{array}$	(17) $\begin{array}{r} 54 \\ +\ 45 \\ \hline \\ \hline \end{array}$	(18) $\begin{array}{r} 58 \\ +\ 41 \\ \hline \\ \hline \end{array}$	(19) $\begin{array}{r} 74 \\ +\ 23 \\ \hline \\ \hline \end{array}$	(20) $\begin{array}{r} 66 \\ +\ 22 \\ \hline \\ \hline \end{array}$
(21) $\begin{array}{r} 96 \\ -\ 63 \\ \hline \\ \hline \end{array}$	(22) $\begin{array}{r} 99 \\ -\ 49 \\ \hline \\ \hline \end{array}$	(23) $\begin{array}{r} 68 \\ -\ 13 \\ \hline \\ \hline \end{array}$	(24) $\begin{array}{r} 78 \\ +\ 21 \\ \hline \\ \hline \end{array}$	(25) $\begin{array}{r} 11 \\ +\ 81 \\ \hline \\ \hline \end{array}$
(26) $\begin{array}{r} 74 \\ +\ 25 \\ \hline \\ \hline \end{array}$	(27) $\begin{array}{r} 65 \\ -\ 54 \\ \hline \\ \hline \end{array}$	(28) $\begin{array}{r} 33 \\ +\ 44 \\ \hline \\ \hline \end{array}$	(29) $\begin{array}{r} 44 \\ +\ 33 \\ \hline \\ \hline \end{array}$	(30) $\begin{array}{r} 99 \\ -\ 33 \\ \hline \\ \hline \end{array}$
(31) $\begin{array}{r} 83 \\ -\ 13 \\ \hline \\ \hline \end{array}$	(32) $\begin{array}{r} 67 \\ -\ 32 \\ \hline \\ \hline \end{array}$	(33) $\begin{array}{r} 18 \\ +\ 21 \\ \hline \\ \hline \end{array}$	(34) $\begin{array}{r} 44 \\ +\ 23 \\ \hline \\ \hline \end{array}$	(35) $\begin{array}{r} 44 \\ -\ 32 \\ \hline \\ \hline \end{array}$

(36) $12 - 10 = \boxed{}$ (37) $15 - 11 = \boxed{}$ (38) $13 + 15 = \boxed{}$

(39) $17 + 14 = \boxed{}$ (40) $19 - 11 = \boxed{}$

CHAPTER - 14

Statement Problems

Example: 1

Zaid has	3 flowers	
Sa'ad has	+ 4 flowers	
How many flowers they have? =	$\boxed{7}$	flowers in all

Example: 2

Maryam has	5 toffees	5
Afreen has	+ 2 toffees	+ 2
How many toffees they have together?		7

EXERCISE

1.

Safwan had	6 books	☐ books
His brother gave him	2 more books	+ ☐ books
Now Safwan has		☐ books

2.

There were	7 elephants in the zoo
	+ 3 more elephants were brought
Now there are	.... elephants in the zoo

3.

Zeeshan had	4 chickens	4 chickens
Zeeshan brought	5 more chickens	+ 5 chickens
Now Zeeshan has ☐	chickens in all	chickens

4.

Salim has	7 rupees	7 rupees
Father gave him	2 rupees	+ 2 rupees
Now he has	☐ rupees	rupees

5.

Sharif bought	4 pencils	4 pencils
His brother brought	2 pencils	+ 2 pencils
Both have	☐ pencils	pencils

Statement questions on Subtraction:

Example: 1 There were

$$\begin{array}{rl} & 7 \text{ birds on a wall} \\ - & 3 \text{ birds flew away} \\ \hline & 4 \text{ birds left} \end{array}$$

Now how many birds are left?

2. A story book has 8 stories. Fatima read 2 of them. How many did she not read yet?

Number of stories = 8

Fatima read = − 2

Fatima did not read = 6

EXERCISE

1. There were 5 loaves in a plate — 5

Amir ate 2 loaves — − 2

How many left in the plate? — ____

2. Danish and Tabish together planted = 7 Plants

Danish alone planted = − 5 Plants

How many did Tabish plant? = ☐ Plants

3. Father brought — 8 mangoes

We ate — − 3 mangoes

How many left? — ☐ mangoes

4. Mother baked — 24 cakes

We ate — − 3 cakes

How many left? — ☐ cakes

5. Fauzan is 9 years old — 9 Years

Ameer is 6 years old — − 6 Years

How much older is Fauzan? — ☐ Years

6. Akram and Aslam together scored — 8 runs

Aslam alone scored — − 3 runs

How many runs did Akram score? — ☐ runs

7. I had — 9 copies

I gave — − 5 copies

Now, I have — ☐ copies