PREFACE

Precise Mathematics is a series of text books specially prepared to meet the requirements of Primary School pupils as per the latest Mathematics curriculum prescribed by the Council for the ISC Examinations, New Delhi.

This series has adopted a learner-centred and lively approach to the teaching of Mathematics. All basic concepts have been clearly explained with the help of examples to lay a strong foundation for the subject. Numerous illustrations are given in each chapter to enhance the pupils' understanding of the Mathematical concepts. Stimulating questions and fun activities of the lessons challenge the pupils to think critically and creatively. The series endeavours to nurture the mathematical thinking and systematic reasoning of pupils and to arouse a child's interest and curiosity in the subject.

'Precise Mathematics' is a departure from conventional text books in as much as it attempts to develop in the student a fondness for the subject through a refreshing style of presentation of the fundamental concepts and their applications.

This is a text-cum-workbook. It will help the child to master Mathematical skills through continuous practice. It encourages the students to learn rather than to be taught; to think; to reason and to use simple mathematical language and symbols; and to understand, with the aid of extensive illustrations, the relationship that exists between the subject and everyday life.

Feedback from teachers for the further improvement of this series will be highly appreciated.

Editor

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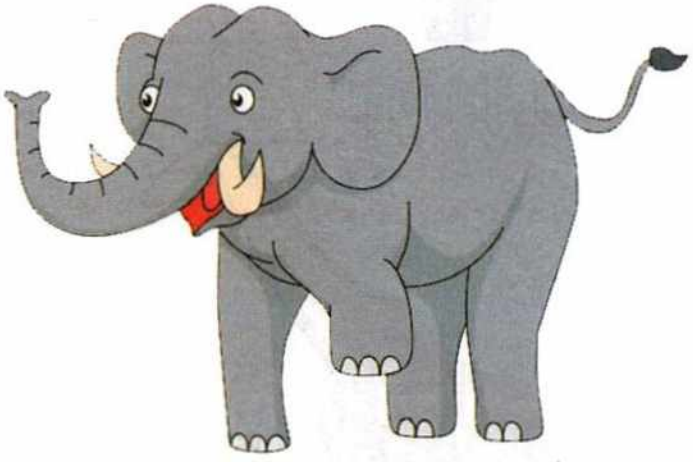
1 Let Us Learn

Big-Small

Small cat

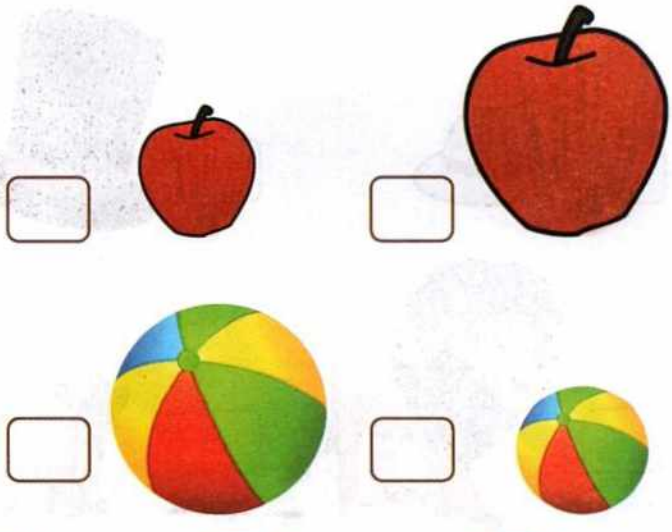


Big elephant

Big doll

Small teddy bear

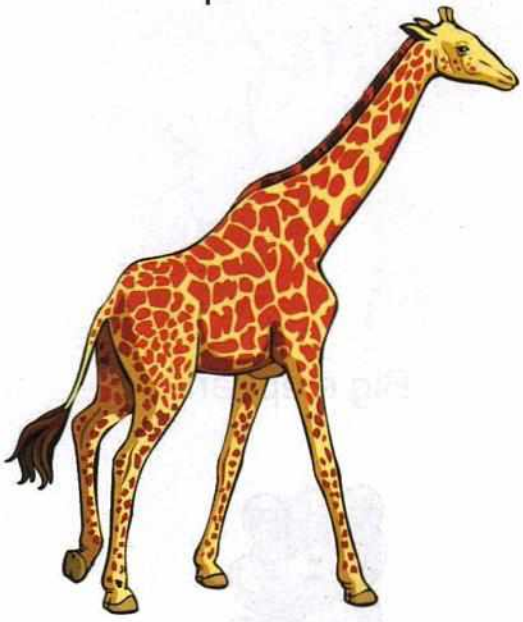
Tick (✓) the small thing in each case.



Tall-Short

Short plant

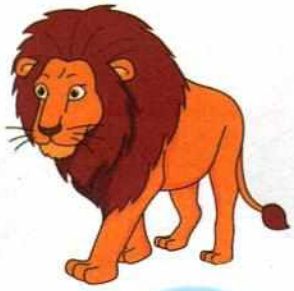
Tall tree



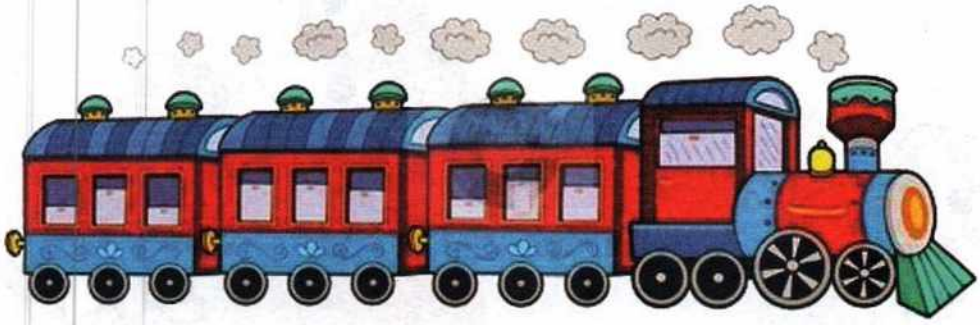
Tall giraffe

Short dog

Tick (✓) the short thing in each case.



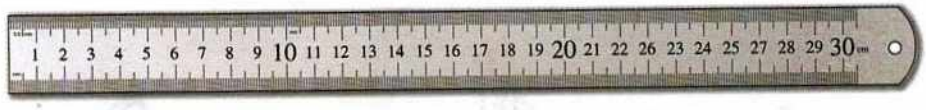
Long-Short



Long train

Short truck

Short ruler



Long ruler

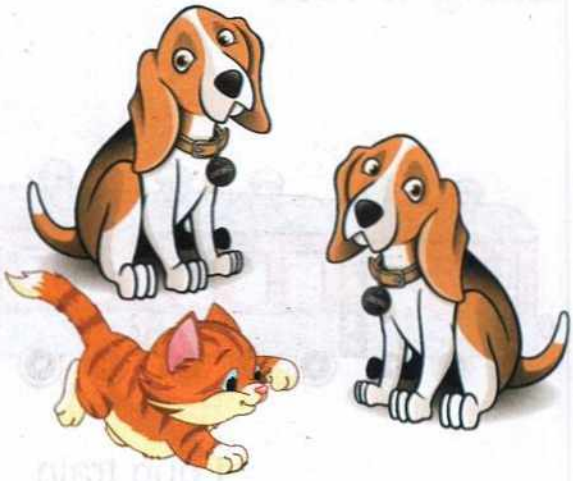
Tick (✓) the long object in each case.

Note for teacher :

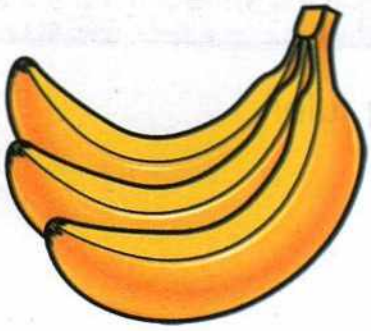
Please explain the concepts of "tall" and "long" to children giving examples from the surroundings. When we look up at things vertically, they are said to be tall/high or short. When we look at things across horizontally, they are said to be long or short.

Same-Different

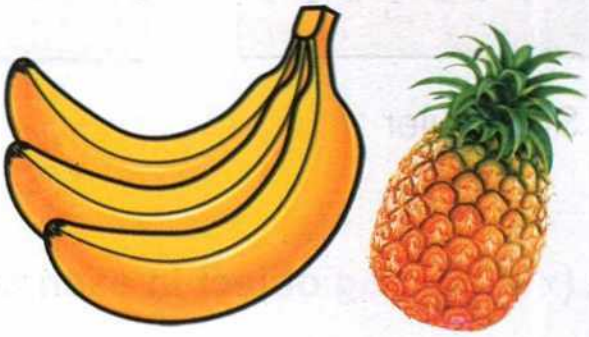
Same kind of pets



Different kinds of pets

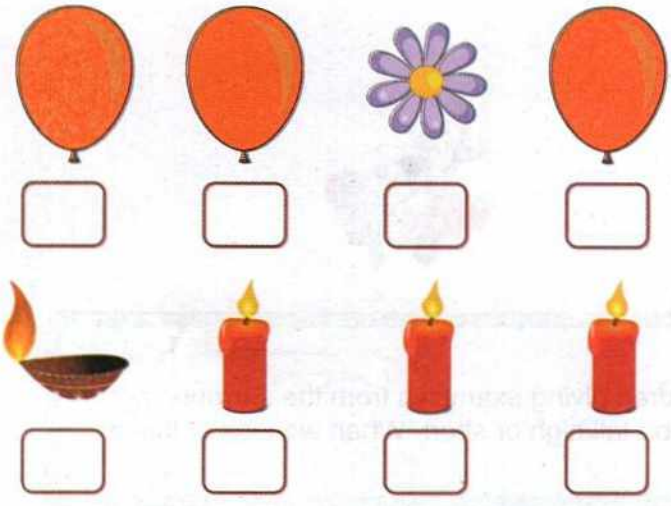


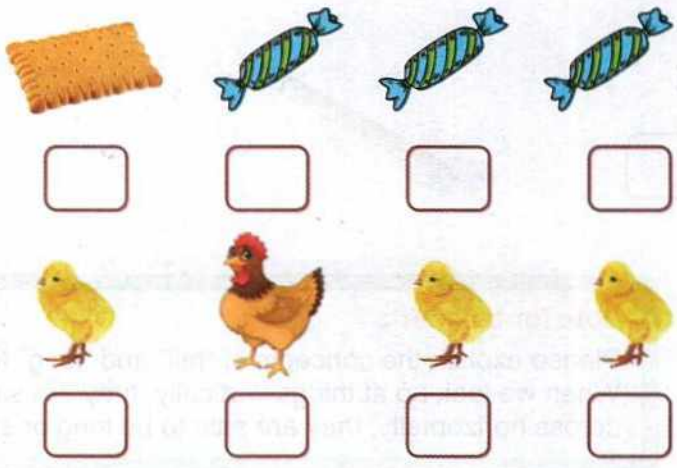
Same fruits



Different fruits

Tick (✓) the different thing in each case.





Before-Between-After

Orange

Blue

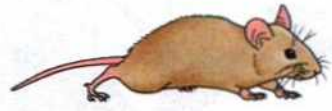
Green

— The orange ball is **before** the blue ball.

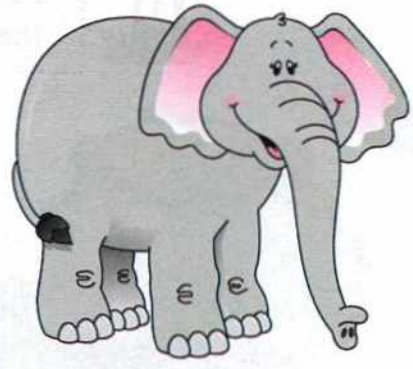
— The green ball is **after** the blue ball.

— The blue ball is **between** the orange and the green balls.

Circle the rat which is after the cat.



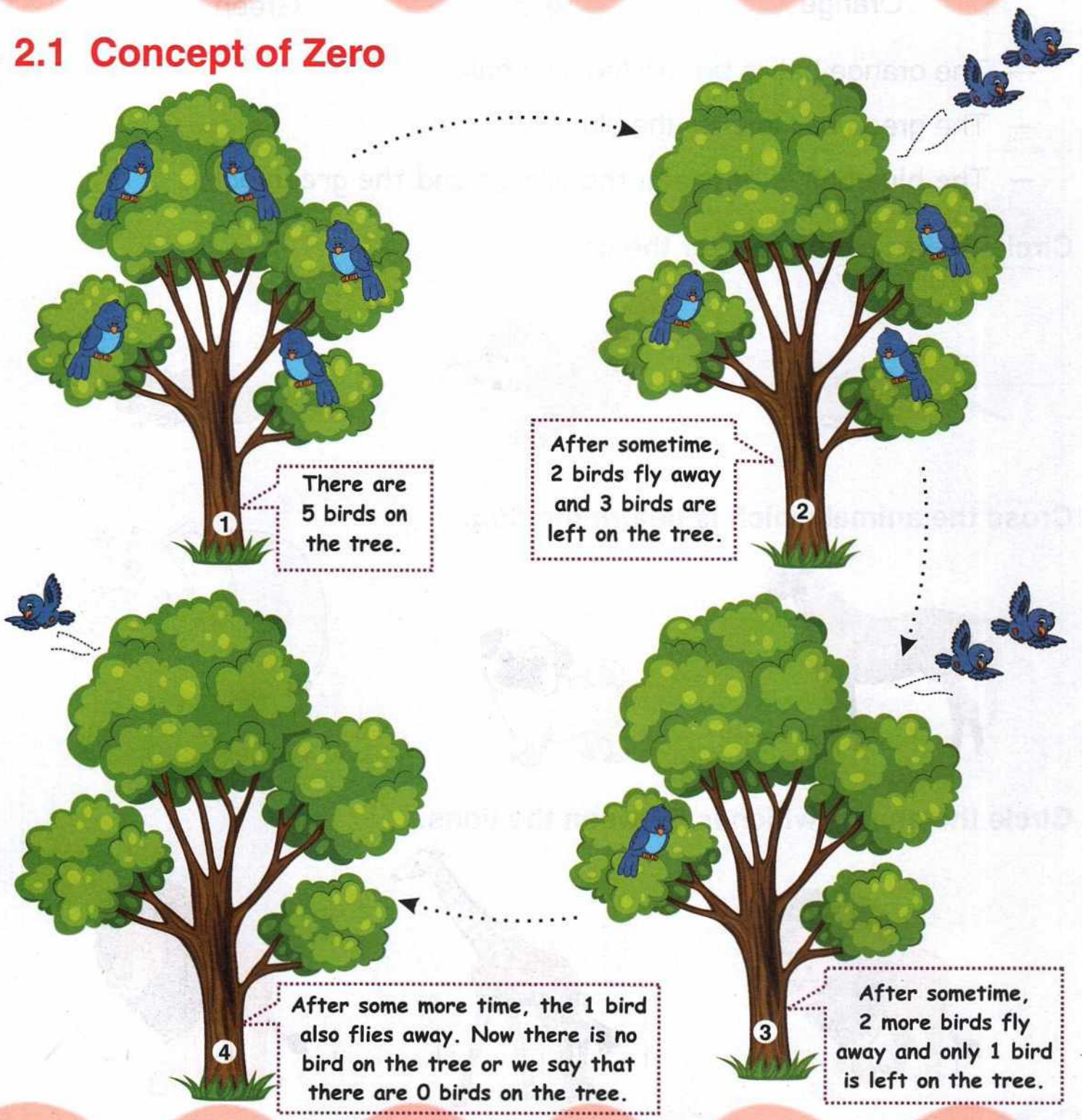
Cross the animal which is before the dog.



Circle the animal which is between the lions.

2 Revision of Numbers

2.1 Concept of Zero



2.2 Numbers from 1-99

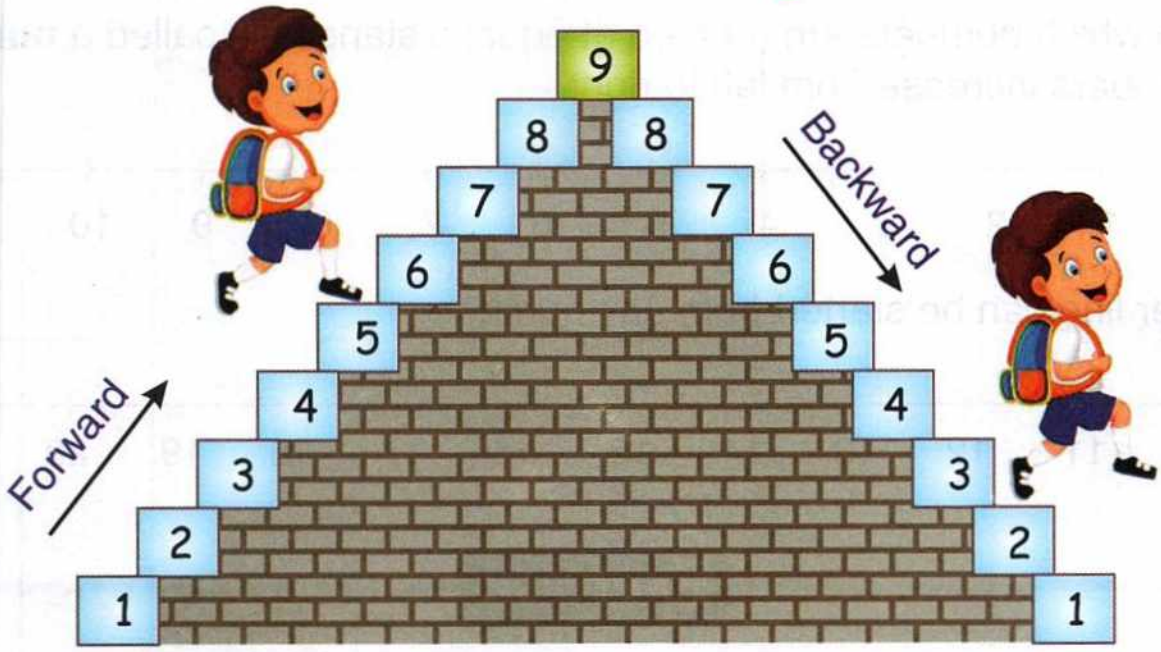
Let us revise and fill in the blanks.

1				5				9	
		13				17			20
21				25				29	
	32				36				
		43							50
			54				58		
61					66				
			74					79	
		83				87			
				95					

Complete the following counting backwards.

	99							92	
							83		
					75				
		68						62	
				56					
							43		
	39							32	
									21
								12	
10				6					1

2.3 Forward and Backward Counting



Exercise

1. Let us count forward.

37 to 46

37			40				44		

74 to 83

74				78			81		

2. Let us count backward.

91 to 82

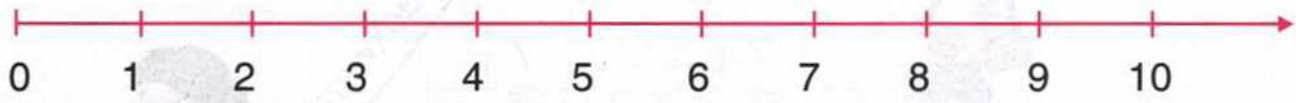
91				87					

65 to 56

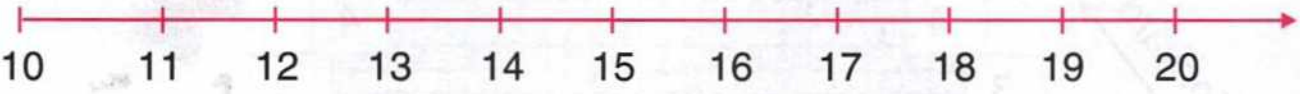
				61			58		

2.4 Number Line

A line on which numbers are marked at equal distances is called a **number line**. Numbers increase from left to right.

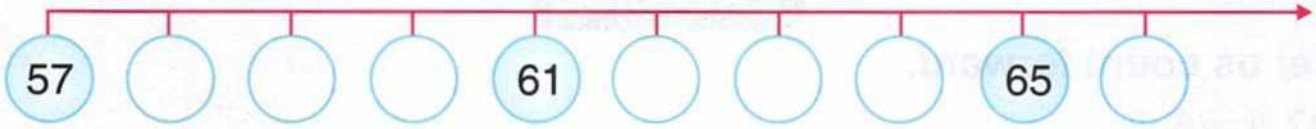


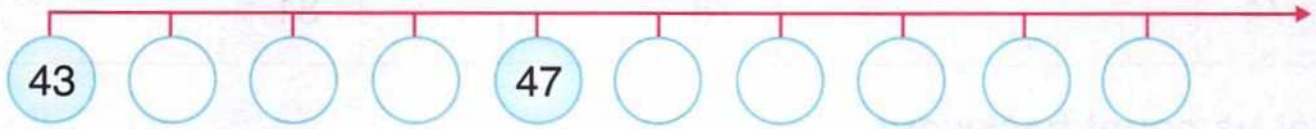
A number line can be started from any number.

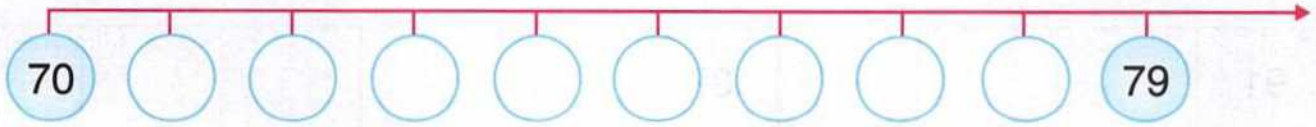


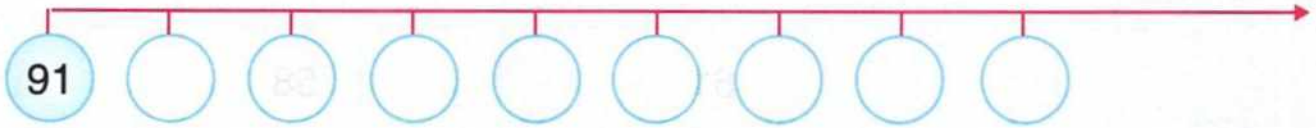
Exercise

1. Let us write the missing numbers on the number line.









2.5 Writing Numbers in Words

Example :

Numbers in figures	Numbers in words
22	Twenty two
76	Seventy six

Exercise

Write in words :

(a) 38 _____

(b) 45 _____

(c) 57 _____

(d) 62 _____

(e) 76 _____

(f) 85 _____

(g) 99 _____

(h) 55 _____

(i) 39 _____

(j) 11 _____

(k) 59 _____

(l) 54 _____

(m) 65 _____

(n) 73 _____

(o) 69 _____

(p) 78 _____

(q) 60 _____

(r) 87 _____

(s) 93 _____

(t) 81 _____

(u) 15 _____

(v) 20 _____

2.6 Writing Numbers in Figures

Example :

Numbers in words	Numbers in figures
Thirty five	35
Ninety eight	98

Exercise

Write in figures :

1. Seventy eight
2. Fifty
3. Sixty six
4. Eighty nine
5. Forty two
6. Eighty three
7. Eight
8. Forty eight
9. Ninety
10. Twenty nine
11. Fifty one
12. Thirty nine
13. Twenty three
14. Seventy four
15. Sixty seven
16. Ninety four
17. Forty six
18. Thirty one

3 Ordinals

In this week's class singing competition, Anand was the best singer. He was declared the **first**. Neetu was very close. She stood **second**. Roshan too sang well. He was declared as **third**. Mala stood **fourth**, Rihan was the **fifth**, Roshni was the **sixth** and Bhushan the **seventh**. Here, first, second, third, etc. are known as positions or ordinals. The ordinals have the following number order.

Number	Ordinal	Short form
1	First	1st
2	Second	2nd
3	Third	3rd
4	Fourth	4th
5	Fifth	5th

Number	Ordinal	Short Form
6	Sixth	6th
7	Seventh	7th
8	Eighth	8th
9	Ninth	9th
10	Tenth	10th

As you see from above, the short forms of the first three ordinals are formed by the numbers and the last two letters of their names : 1**st**–Fir**st**, 2**nd**–Seco**nd**, 3**rd**–Thi**rd**.

The short forms of the other ordinals are formed by the numbers and 'th' : fourth (4th), fifth (5th), sixth (6th) and so on.

Look at the spellings — fifth not fiveth; eighth not eightth; ninth not nineth.

Example 1 : Positions of 7 cars at the end of a race.

Look at the picture and observe the positions of the cars.

(a) The blue car is at the .....2nd..... position.

(b) The red car is at the .....3rd..... position.

(c) The .....pink..... car is at the first position.

(d) The .....green..... car is at the sixth position.

(e) The yellow car is at the .....4th..... position.

(f) The .....yellow..... car is just before the fifth car.

(g) The .....brown..... car is just after the sixth car.

Example 2 :

Positions of 5 children standing in a queue from left to right.

Look at the picture and observe the positions of children.

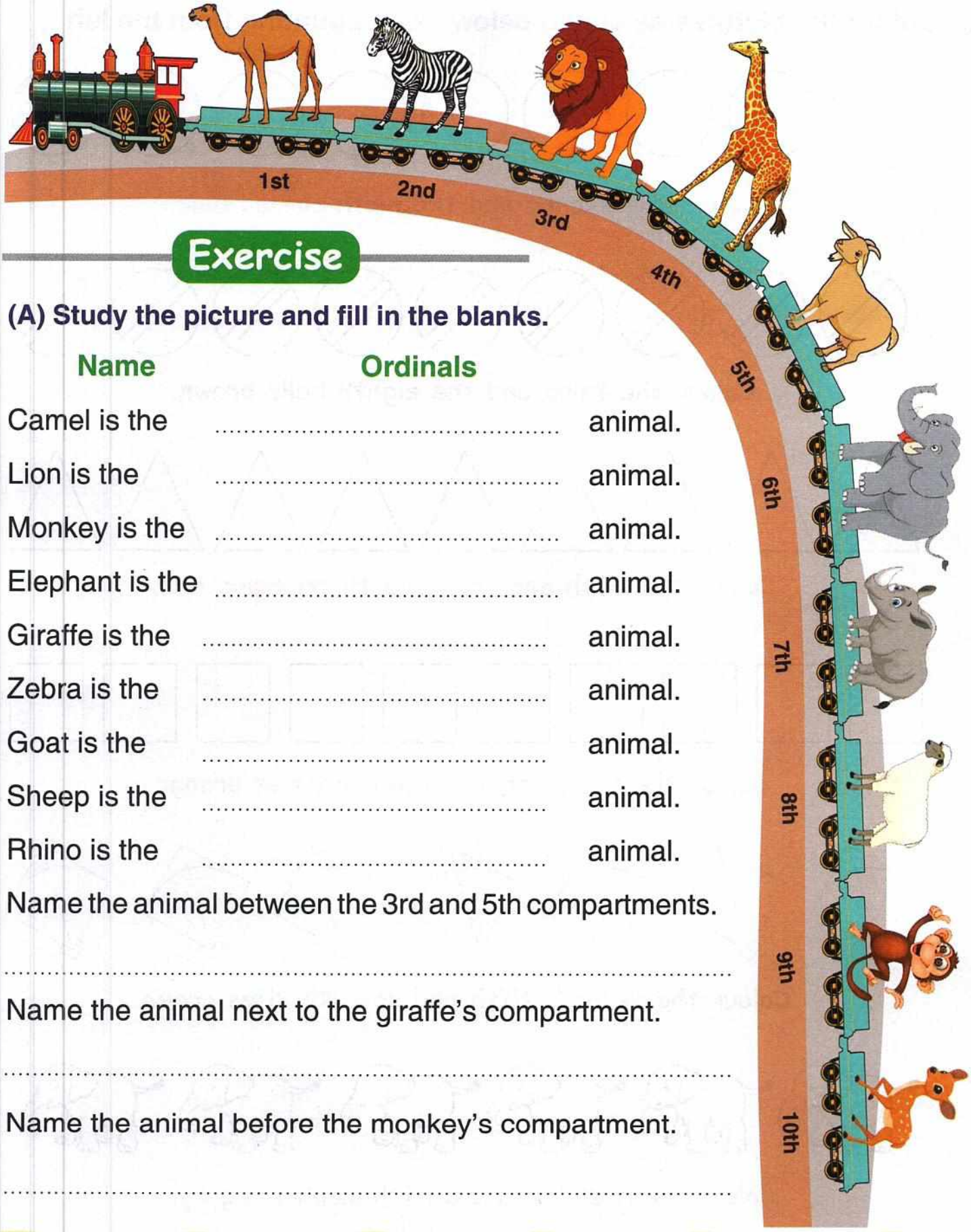
(a) .....Ravi..... is 1st in the queue.

(b) Sheetal is at the .....4th..... position in the queue.

(c) Vipul is at the .....3rd..... position in the queue.

(d) .....Ashish..... is at the 5th position in the queue.

(e) Komal is at the .....2nd..... position.



Exercise

(A) Study the picture and fill in the blanks.

Name	Ordinals	
Camel is the	.....	animal.
Lion is the	.....	animal.
Monkey is the	.....	animal.
Elephant is the	.....	animal.
Giraffe is the	.....	animal.
Zebra is the	.....	animal.
Goat is the	.....	animal.
Sheep is the	.....	animal.
Rhino is the	.....	animal.

Name the animal between the 3rd and 5th compartments.

.....

Name the animal next to the giraffe's compartment.

.....

Name the animal before the monkey's compartment.

.....

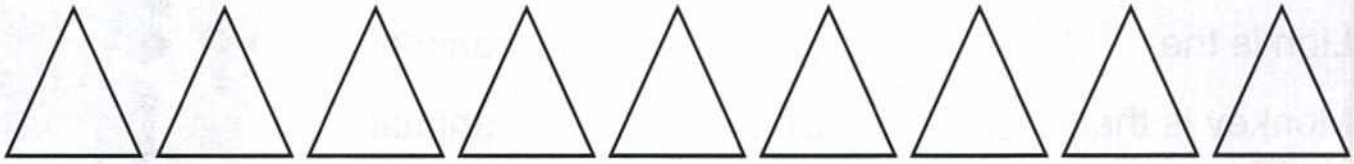
(B) Colour the pictures as stated below. Start counting from the left.

1. 

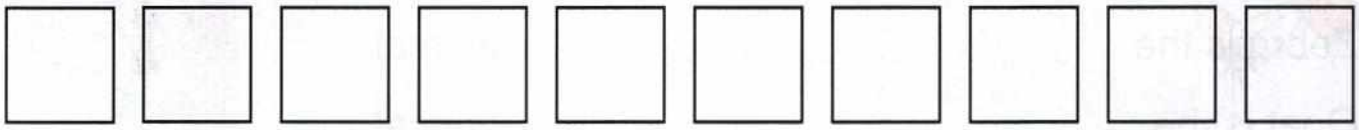
Colour the second and the ninth circles blue.

2. 

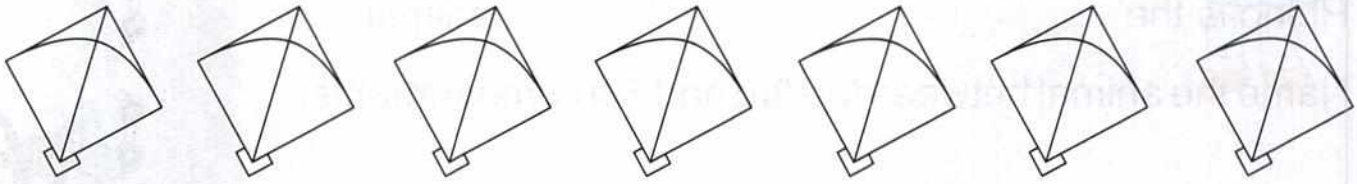
Colour the third and the eighth balls brown.

3. 

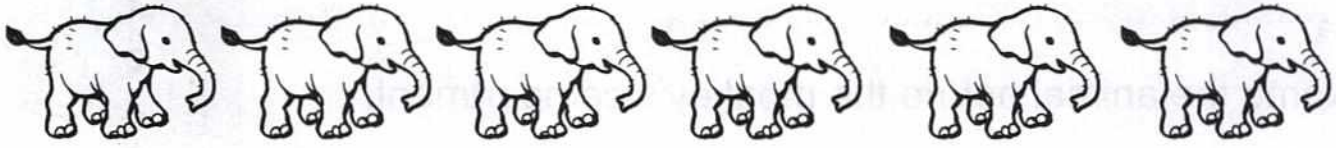
Colour the fifth and the seventh triangles red.

4. 

Colour the third and the tenth squares orange.

5. 

Colour the second, fifth and seventh kites green.

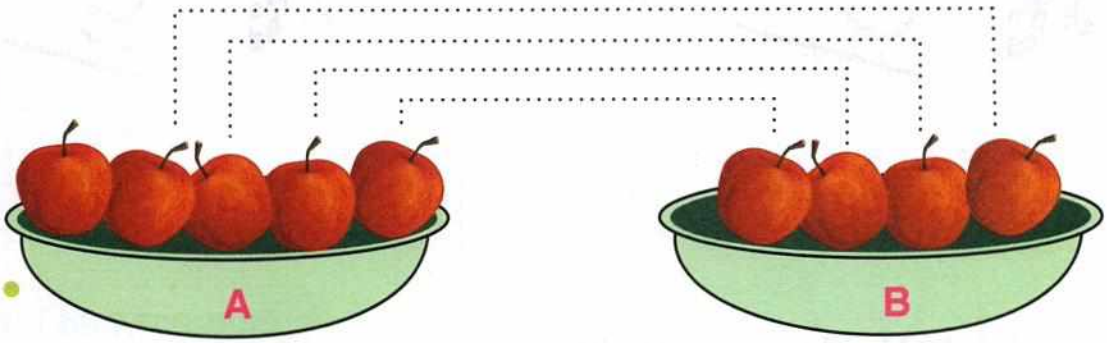
6. 

Colour the first, third and fifth elephants grey.

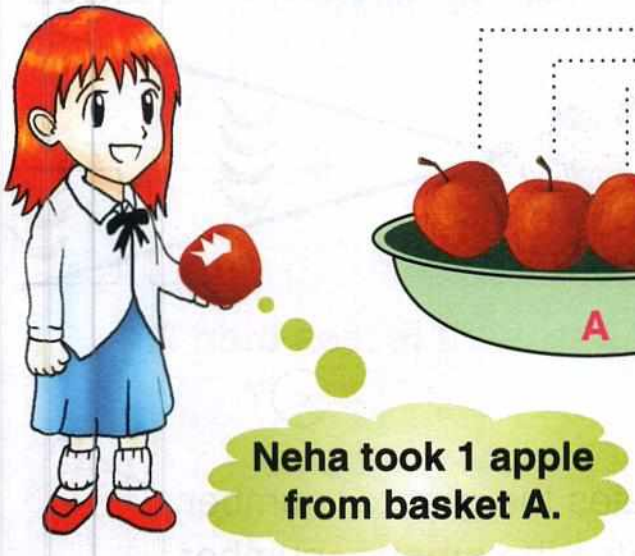
4 Comparison of Numbers

4.1 Equal and Unequal

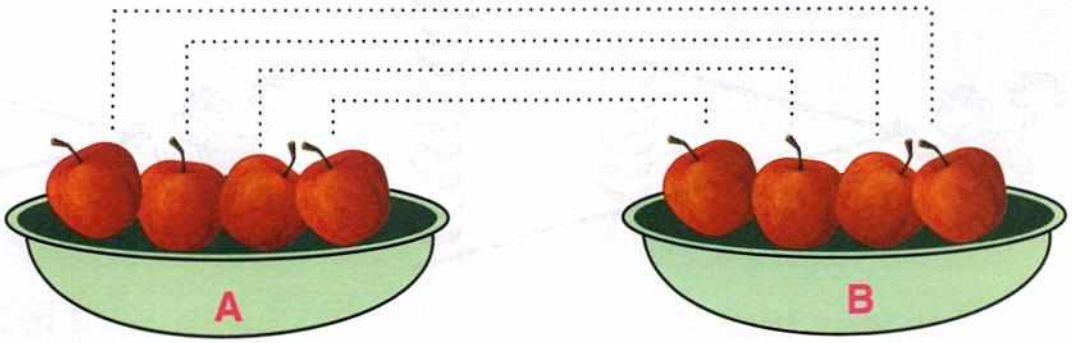
There is one extra apple in basket A.



So, we say that there are unequal number of apples in the two baskets.



Neha took 1 apple from basket A.



Now, there are equal number of apples in both the baskets. The symbol (=) means that the numbers on its either side are equal. e.g. 4 = 4

Exercise

Put the sign '=' or '≠'.

(a) 12 ☐ 17

(b) 33 ☐ 33

(c) 57 ☐ 51

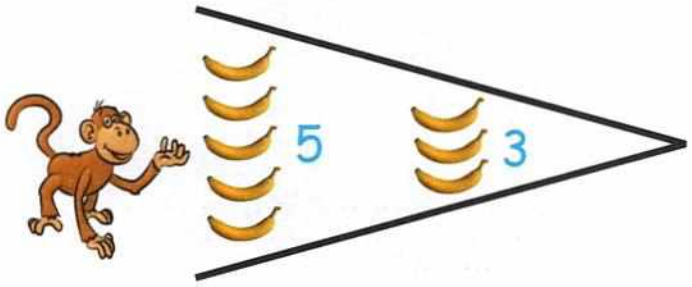
(d) 70 ☐ 80

(e) 64 ☐ 44

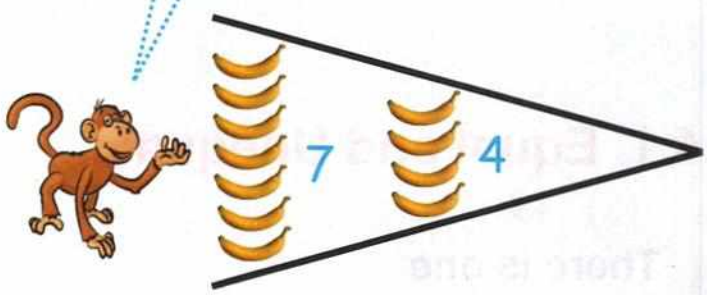
(f) 92 ☐ 92

4.2 Greater Than and Less Than

GREATER THAN : The symbol for 'is greater than' is >.

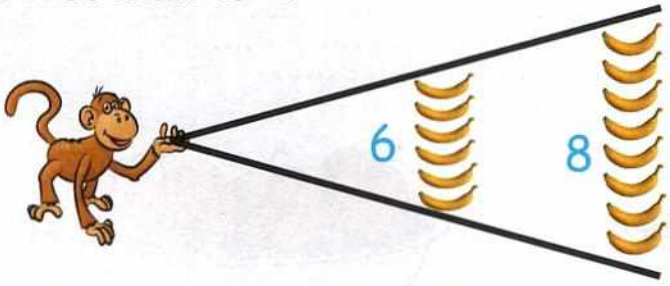


5 is greater than 3.
5 > 3

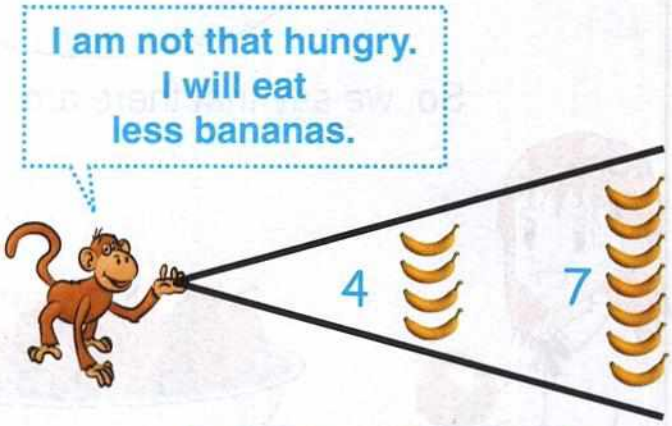


7 is greater than 4.
7 > 4

LESS THAN : The symbol for 'is less than' is <.



6 is less than 8.
6 < 8



4 is less than 7.
4 < 7

Remember! **Broader** side of the sign indicates the **greater** number.
Pointed side of the sign indicates the **smaller** number.

Exercise

1. Put the correct sign >, < or = (Greater than, less than or equal to)

(a) 11 ◯ 19

(b) 53 ◯ 53

(c) 12 ◯ 16

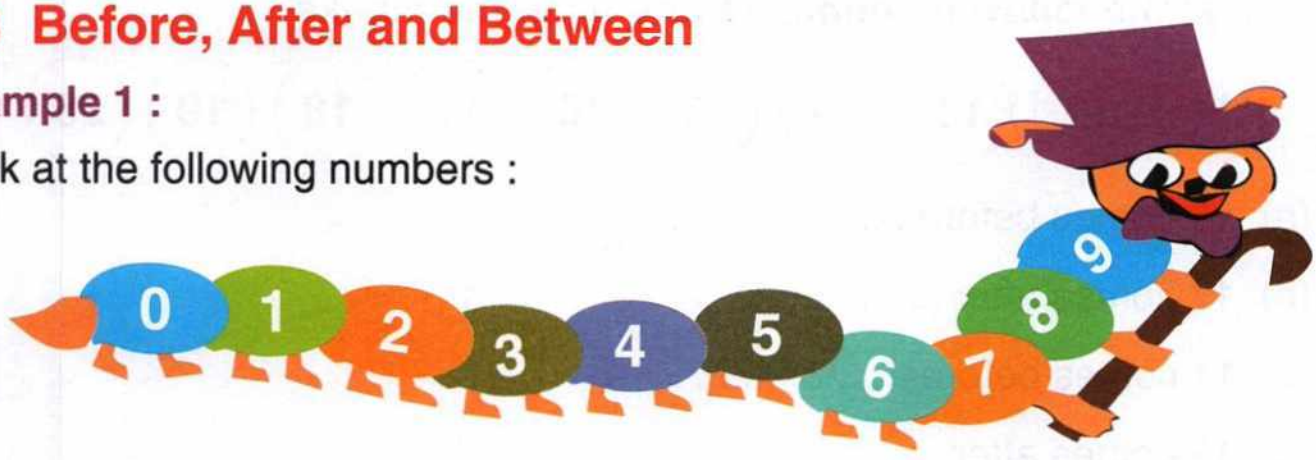
(d) 20 ◯ 12

(e) 71 ◯ 59	(f) 14 ◯ 18
(g) 17 ◯ 19	(h) 95 ◯ 63
(i) 15 ◯ 17	(j) 14 ◯ 12
(k) 49 ◯ 59	(l) 44 ◯ 78
(m) 33 ◯ 37	(n) 82 ◯ 19

4.3 Before, After and Between

Example 1 :

Look at the following numbers :



Before

(a) 0 is before 1.

(b) 0, 1 and 2 are before 3.

(c) 4, 7 and 8 are before 9.

After

(a) 1 is after 0.

(b) 3, 4 and 5 are after 2.

(c) 4, 6 and 9 are after 3.

Between

(a) 1 is between 0 and 2.

(b) 6 and 7 are between 5 and 8.

(c) 2, 3 and 4 are between 1 and 5.

Example 2 : Consider numbers from 53 to 57.

(a) 54 comes after 53

(b) 55 comes between 54 and 56.

(c) 54, 55 and 56 come between 53 and 57.

(d) 56 comes before 57.

(e) 54, 55, 56 and 57 come after 53.

(f) 53, 54, 55 and 56 are before 57.

Exercise

1. Look at the following numbers and fill in the blanks.

11 12 13 14 15 16 17 18 19 20

(a) 15 comes before ..... .

(b) 17 comes after ..... .

(c) 11 comes before ..... .

(d) 19 comes after ..... .

(e) 14 comes between ..... and ..... .

(f) ....., ... and ..... come between 11 and 15.

2. What comes just before :

(a) ◯ 24 (b) ◯ 73 (c) ◯ 11

(d) ◯ 49 (e) ◯ 10 (f) ◯ 57

(g) ◯ 60 (h) ◯ 35 (i) ◯ 62

3. What comes after ?

(a) 15 ( ) (b) 67 ( ) (c) 13 ( )

(d) 96 ( ) (e) 58 ( ) (f) 81 ( )

(g) 49 ( ) (h) 90 ( ) (i) 62 ( )

4. What comes in between ?

(a) 56 ( ) 58 (b) 21 ( ) 23 (c) 44 ( ) 46

(d) 63 ( ) 65 (e) 74 ( ) 76 (f) 12 ( ) 14

(g) 9 ( ) 11 (h) 97 ( ) 99 (i) 89 ( ) 91

5. Write the number that comes before, after or in between.

(a) ( ) 27 (b) 9 ( )

(c) 49 ( ) 51 (d) ( ) 78

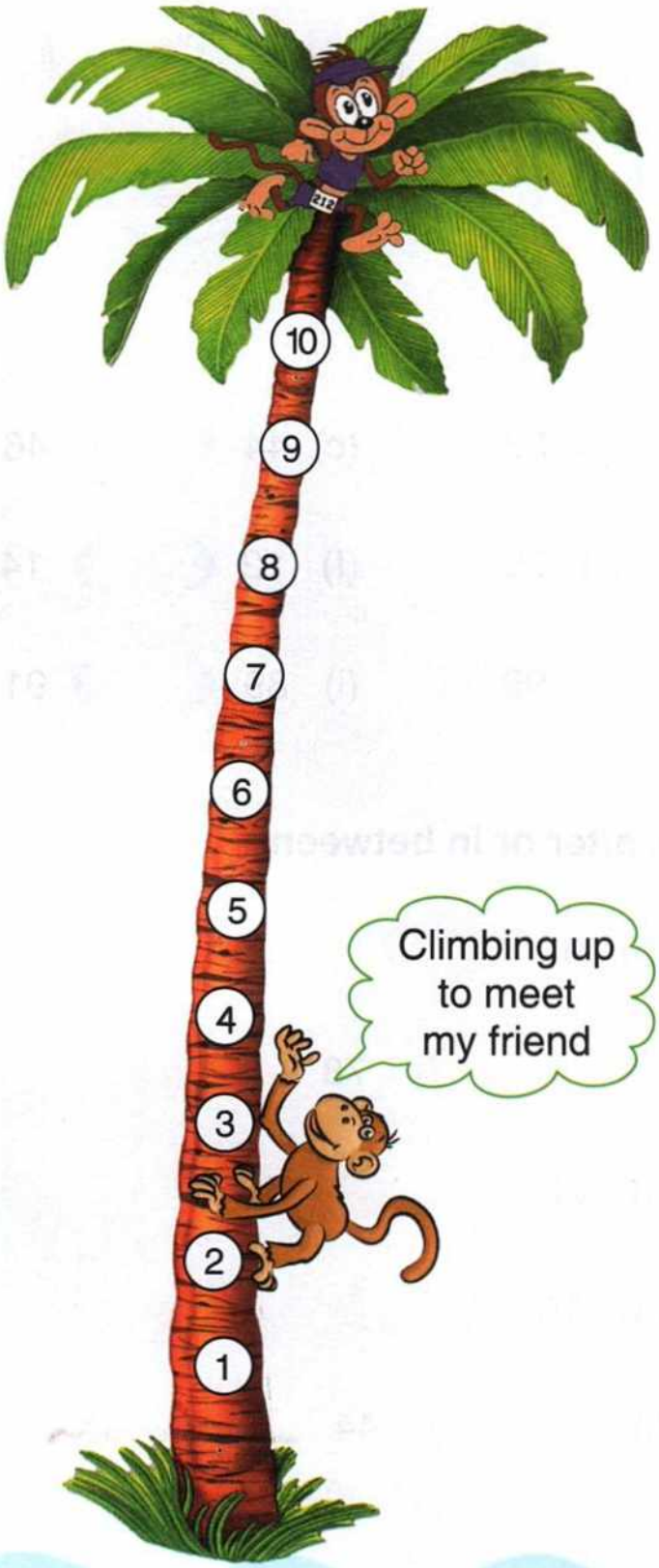
(e) 69 ( ) (f) 54 ( ) 56

(g) ( ) 99 (h) 15 ( )

(i) 71 ( ) 73 (j) ( ) 44

4.4 Ascending Order

(A) Arrangement of numbers from smaller to greater is called **Ascending (or increasing) order**.



Exercise

Arrange the following numbers in ascending (or increasing) order.

(a) 6 9 5 1 8

1 5 6 8 9

(b) 20 40 60 10 70

( ) ( ) ( ) ( ) ( )

(c) 93 61 85 26 49

( ) ( ) 61 ( ) ( )

(d) 13 20 18 31 15

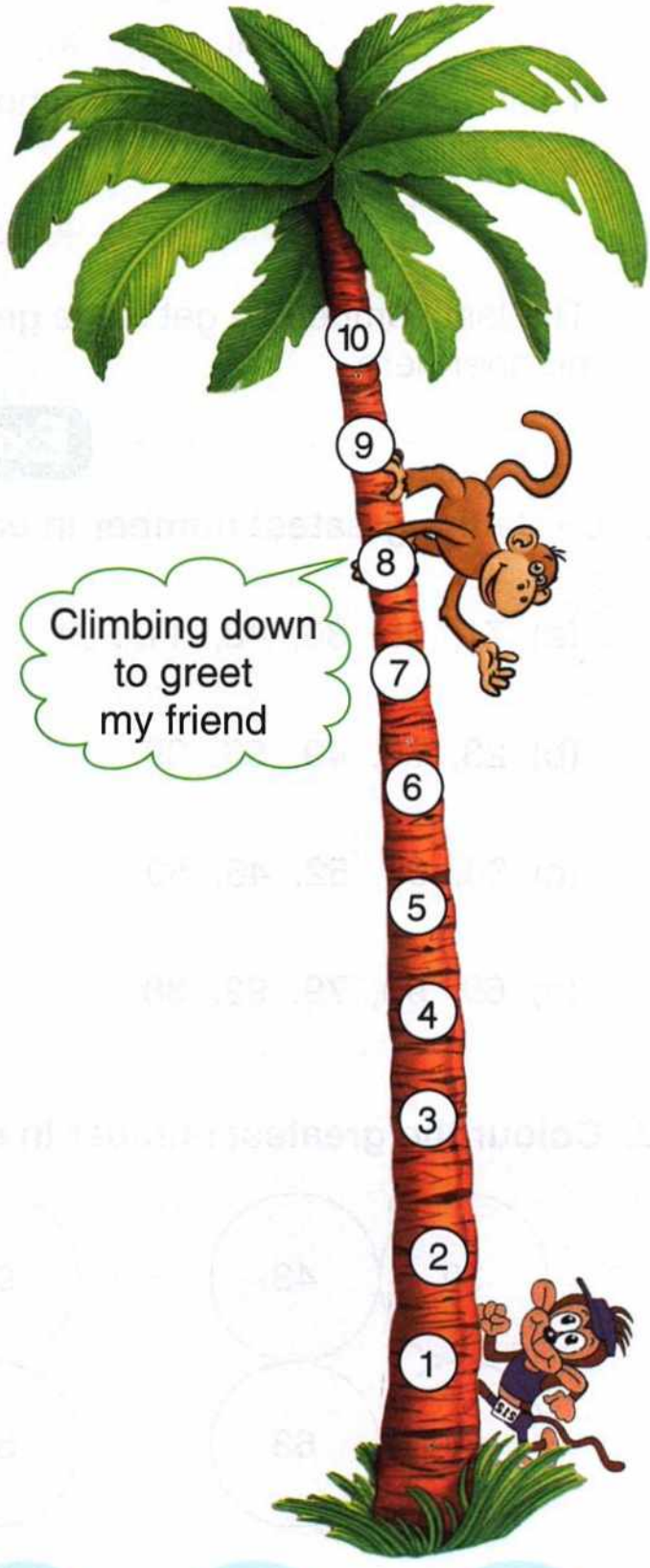
( ) ( ) ( ) ( ) ( )

(e) 42 54 37 40 31

( ) ( ) ( ) ( ) ( )

Descending Order

(B) Arrangement of numbers from greater to smaller is called **Descending (or decreasing) order**.



Exercise

Arrange the following numbers in descending (or decreasing) order.

(a) 7 2 9 5 3

(9) (7) (5) (3) (2)

(b) 30 40 60 10 50

( ) ( ) ( ) ( ) ( )

(c) 98 53 87 29 74

( ) (87) ( ) ( ) ( )

(d) 81 78 82 61 47

( ) ( ) ( ) ( ) ( )

(e) 93 50 97 74 68

( ) ( ) ( ) ( ) ( )

4.5 Greatest and Smallest Numbers

(a) Greatest number

Consider the numbers given below :

98, 95, 90, 76, 80

To find the greatest number among these, we will arrange them in ascending order.

$$76 < 80 < 90 < 95 < \textcircled{98}$$

The last number we get is the greatest number. So 98 is the greatest number here.

Exercise

1. Circle the greatest number in each group.

(a) 71, 98, 30, 42, 11

(b) 23, 70, 49, 53, 39

(c) 36, 63, 52, 46, 60

(d) 69, 90, 79, 92, 88

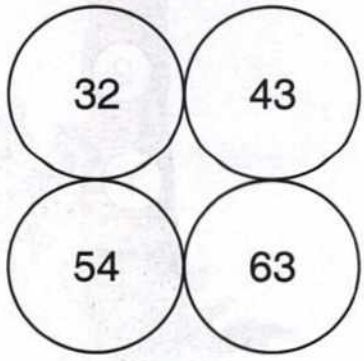
(e) 5, 35, 27, 59, 11

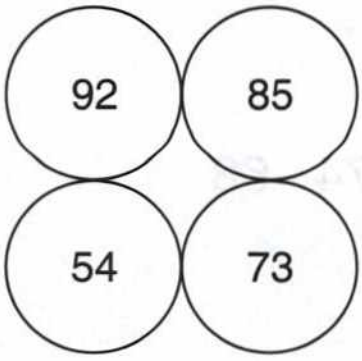
(f) 45, 25, 15, 35, 85

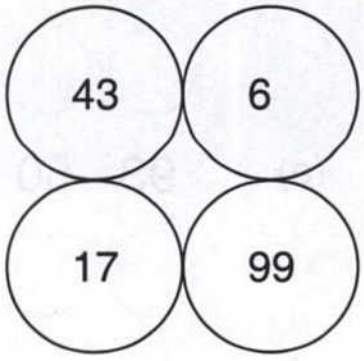
(g) 70, 80, 50, 60, 40

(h) 21, 34, 55, 18, 19

2. Colour the greatest number in each of the following collections.







(b) Smallest number

Consider the numbers given below :

48, 30, 42, 25, 50

To find the smallest number among these, we will arrange them in descending order.

50 > 48 > 42 > 30 > (25)

The last number we get is the smallest number. So 25 is the smallest number here.

Exercise

1. Circle the smallest number in each group.

(a) 9, 18, 57, 43, 69

(b) 11, 13, 21, 40, 2

(c) 90, 74, 61, 49, 89

(d) 78, 99, 90, 69, 89

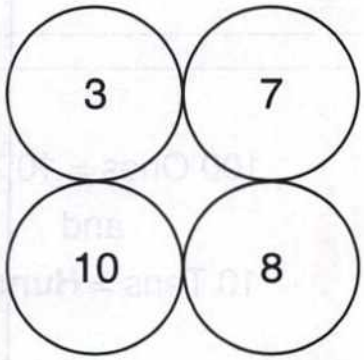
(e) 35, 11, 10, 29, 18

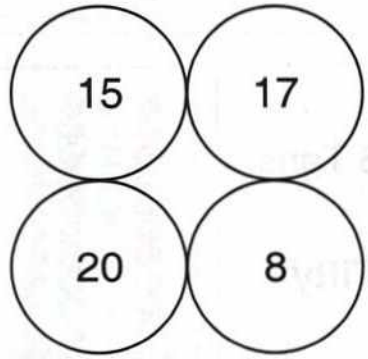
(f) 18, 48, 31, 58, 34

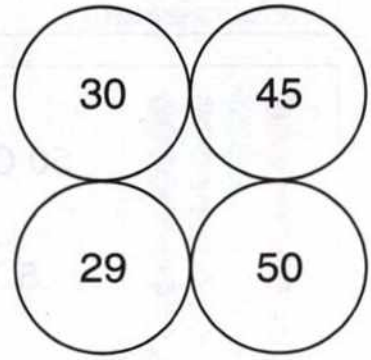
(g) 56, 37, 81, 74, 32

(h) 32, 45, 62, 41, 18

2. Colour the smallest number in each of the following collections.

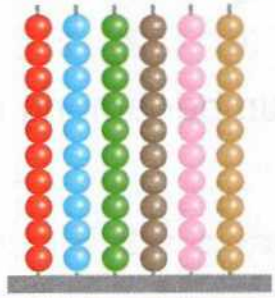






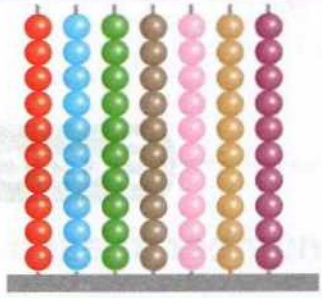
4.6 Numbers by Ten

10 Ones = **1 Ten**



60 Ones = 6 Tens
and
6 Tens = **Sixty**

20 Ones = 2 Tens
and
2 Tens = **Twenty**

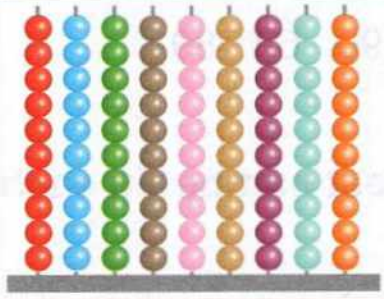


70 Ones = 7 Tens
and
7 Tens = **Seventy**

30 Ones = 3 Tens
and
3 Tens = **Thirty**

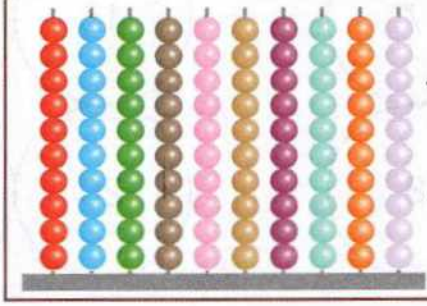
80 Ones = 8 Tens
and
8 Tens = **Eighty**

40 Ones = 4 Tens
and
4 Tens = **Forty**



90 Ones = 9 Tens
and
9 Tens = **Ninety**

50 Ones = 5 Tens
and
5 Tens = **Fifty**



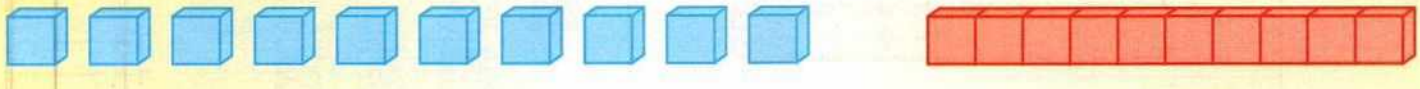
100 Ones = 10 Tens
and
10 Tens = **Hundred**

4.7 Counting in Tens and Ones

Look at the following.

There are 10 blocks.

If we form a single group of 10 blocks, then we can say —



10 ones = 1 ten

OR

10 = 1 ten + 0 ones

Number	Tens	Ones
10	1	0

Similarly,

20 ones = 2 tens

OR

20 = 2 tens + 0 ones

Number	Tens	Ones
20	2	0

Now let's try to count 18 ones in groups of 10.

18 ones = 10 ones + 8 ones

OR

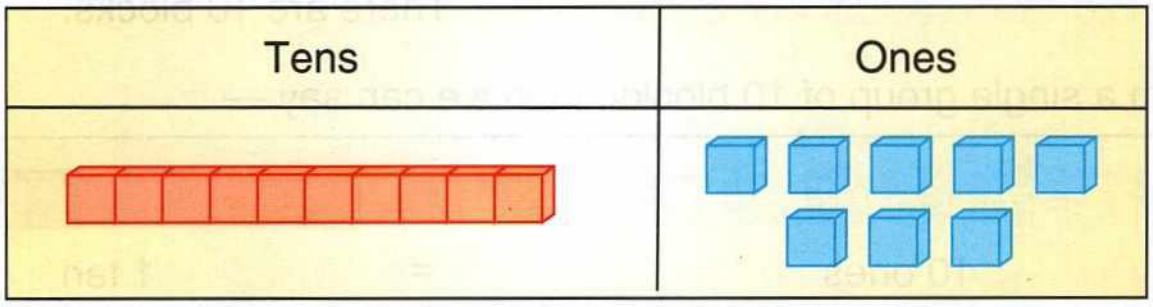
18 = 1 ten + 8 ones

Number	Tens	Ones
18	1	8

Exercise

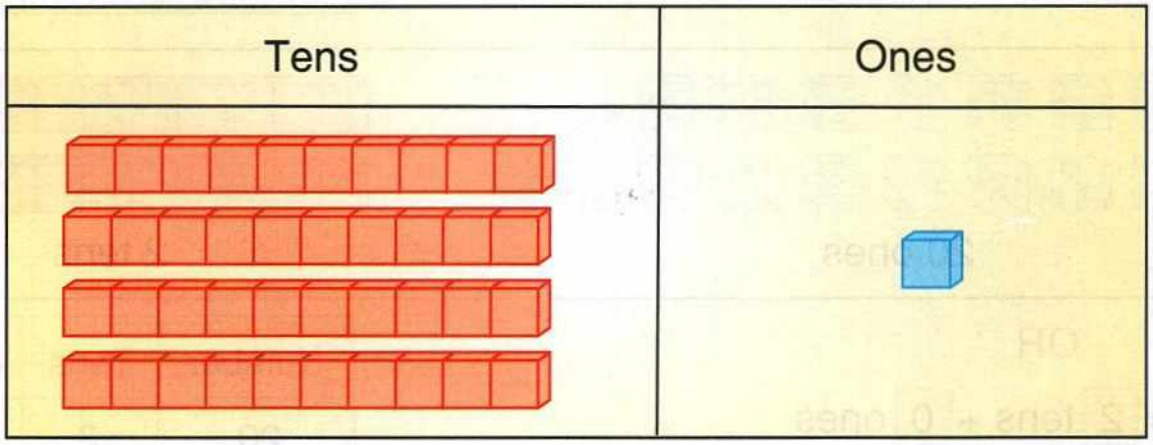
1. Count the following in tens and ones.

(a)



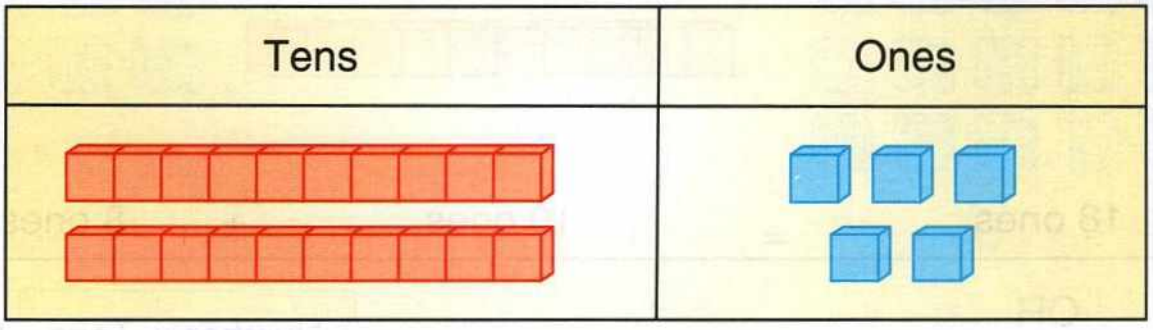
Tens + Ones =

(b)



Tens + One =

(c)



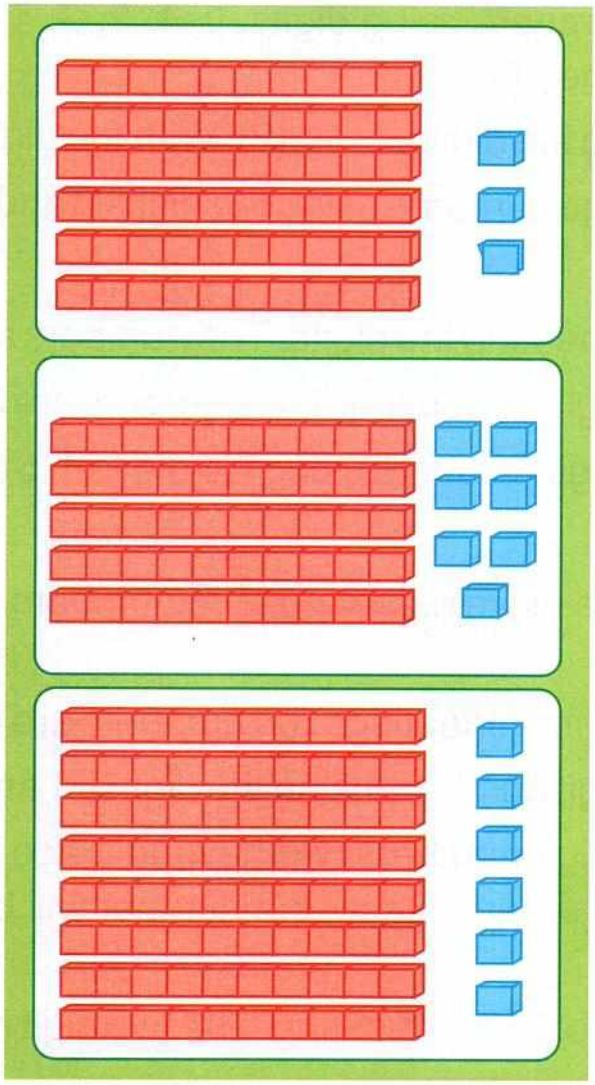
Tens + Ones =

2. Match the following :

86

63

57



Fifty seven

Eighty six

Sixty three

3. Represent in numeral form.

One ten and eight ones

Four tens and 1 one

Seven tens and four ones

Two tens and nine ones

Nine tens and nine ones

4.8 Forming Two Digit Numbers Using the Given Digits

We form two digit numbers using digits, 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. There are two cases : They are —

(1) Without repeating the digits. (2) With the digits repeating.

Example 1 : Form two digit numbers using the digits 2 and 3.

Answer :

Case (1) : Without repeating the digits. The numbers are 23 and 32.

Case (2) : With the digits repeating. The numbers are 22 and 33.

Example 2 : Form two digit numbers using the digits 4, 5 and 6.

Answer :

Case (1) : Without the digits repeating. The numbers are : 45, 46, 54, 56, 65 and 64.

Case (2) : With the digits repeating. The numbers are 44, 55 and 66.

Example 3 : Form two digit numbers using the digit 0, 1 and 2.

When we form two digit numbers, we have to place digit 0 at the ones place only. If we place 0 at tens place, the number will become a one digit number. e.g. 02, 01.

Case (1) : Without the digits repeating. The two digit numbers are : 10, 12, 21 and 20.

Case (2) : With the digits repeating. The two digit numbers are : 11 and 22.

Exercise

1. Form two digits numbers using the digits given below :

(a) 1, 3 (b) 6, 7 (c) 8, 9

(d) 1, 2, 3 (e) 5, 6, 7 (f) 6, 7, 8

2. Find the greatest and smallest number formed by the digits :

(a) 4, 5 (b) 3, 4, 5 (c) 1, 2, 3

(d) 5, 6, 7 (e) 7, 8, 9 (f) 3, 0, 5

Review

1. Write True or False for the following statements.

(a) 29 is lesser than 33. .....

(b) 45 comes after 46. .....

(c) 98 is greater than 89. .....

(d) 90 is the greatest 2-digit number. .....

(e) 55 comes just before 54. .....

(f) 8 comes between 9 and 10. .....

2. Fill in the blanks using suitable words/signs.

(a) 84 comes ..... 83 and 85.

(b) 31 is ..... 30.

(c) 1 comes just ..... 0.

(d) 98 comes just ..... 99.

(e) 79 is ..... 69.

(f) 10 is the ..... 2-digit number

3. Fill in the blanks using appropriate symbols or numbers.

(a) 91 ◯ 90

(b) 43 ◯ 45

(c) 27 ◯ 27

(d) 90 ◯ 91

(e) 39 ◯ 40

(f) 12 ◯ 12

(g) 8 tens ☐ 79.

(h) 1 ten 9 ones ☐ 2 tens 9 ones.

(I) 54 = ☐ tens + ☐ ones.

(j) 20 ☐ 43 ☐ 59 ☐ 70 ☐ 92

4. Arrange the numbers in descending order and write the greatest number of each group in the box.

(a) 99 61 21 36 85 .....

(b) 29 35 49 52 90 .....

(c) 37 57 47 27 97 .....

5. Arrange the numbers in ascending order and write the smallest number of each group in the box.

(a) 89 43 24 37 78 .....

(b) 11 90 65 57 22 .....

(c) 32 50 75 18 24 .....

Fun Activity

Match the correct answers. Then decode the hidden message.

H	2 tens 7 ones	34
O	3 tens 4 ones	40
E	7 tens 3 ones	55
A	6 tens 8 ones	27
M	1 ten 1 one	91
T	8 tens 0 ones	09
S	5 tens 5 ones	11
L	0 tens 9 ones	68
V	4 tens 0 ones	80
I	9 tens 1 one	73

.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
91	09	34	40	73	11	68	80	27	55

5 Place Value and Face Value

5.1 Place Value

The place value of a digit in a number is determined by its position in the number.

Example : Let us consider the number 78.

Here, there are 8 ones and 7 tens.

So place value of 8 ones is $8 \times 1 = 8$.

Place value of 7 tens is $7 \times 10 = 70$.

T	O
7	8
70	8

5.2 Face Value

The face value of a digit in a number is the digit itself. It is not determined by its position in the number.

Example : Consider 78 again.

Here, the face value of 8 ones = 8 and the face value of 7 tens = 7.

T	O
7	8
7	8

Note for teacher :

Please explain to the children that the concept of place value can be extended to 100 and beyond. In a three digit number, we have, ones place, tens place and hundreds place.

Let us consider another example : Number 90

T	O
9	0

0

9

Here face value of 0 ones is zero and the face value of 9 tens = 9.

Note : (i) For a digit in ones place, place value = face value.

(ii) Place value of a digit = face value × value of its place.

(iii) The place value and face value of zero is always zero.

Exercise

Write the face value and place value of the underlined digits in the following numbers.

Number	Face value	Place value	Number	Face value	Place value
3̲9			5̲2		
4̲1			2̲0		
3̲2			3̲5		
2̲6			6̲3		
2̲9			7̲6		
3̲4			6̲6		
3̲3			5̲4		
6̲2			1̲6		
4̲3			7̲5		

5.3 Place Value Using Abacus

An abacus has spikes which represent places of digits in a given number.

Spikes are named from right to left as **O, T, H** and so on. **O** stands for ones, **T** for tens and **H** for hundreds.

The place value of a digit in hundreds place = the digit × 100.

The place value of a digit at tens place = the digit × 10.

The place value of a digit at ones place = the digit × 1.

Example 1 :

Consider number 74.

7 is in the **TENS** place, we say the place value of 7 is $7 \times 10 = 70$.

4 is in the **ONES** place, we say the place value of 4 is $4 \times 1 = 4$.

We can represent **74** (given number) on an abacus by putting the number of beads in respective spikes **(O, T, H)** equal to the digits as shown.

Example 2 :

Consider number 243.

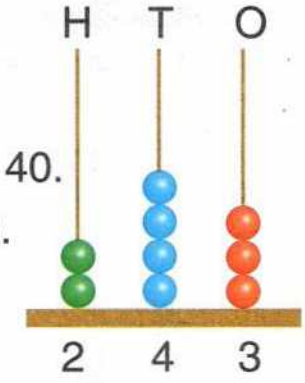
2 is in the **HUNDREDS** place,

we say the place value of $2 = 2 \times 100 = 200$.

4 is in the **TENS** place, we say the place value of 4 is $4 \times 10 = 40$.

3 is in the **ONES** place, we say the place value of 3 is $3 \times 1 = 3$.

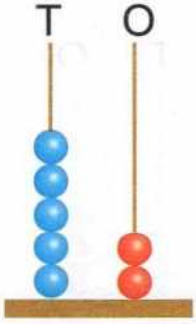
Representation of **243 on abacus** can be done as shown.



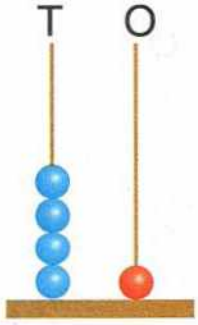
Example 3 :

Look at the abacuses below :

(a)



(b)



(c)

In abacus **(a)** above, spike **T** has **5** beads and spike **O** has **2** beads. Therefore, it represents the number **52**. Similarly, in abacus **(b)** spike **T** has **4** beads and **O** has one bead. Hence it represents **41**. In abacus **(c)**, spike **T** has **3** beads and **O** has **2** beads. Therefore, it represents **32**.

Note : 1. Please explain to the children that an abacus has spikes to represent numbers even beyond hundreds.

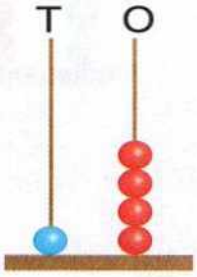
2. Each spike in an abacus can have **maximum** 9 beads only.

We know that one more than 9 is 10 and it is represented by 1 bead in spike **T**.

Also, one more than 99 is 100 and it is represented by 1 bead in spike H.

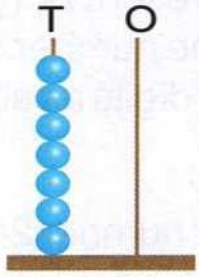
Exercise

Write the number that each abacus represents.

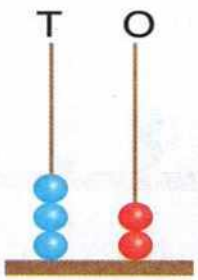


1 4 = 14

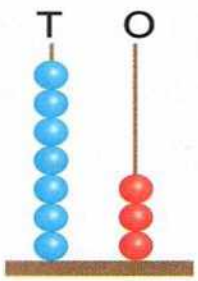
__ __ = ☐



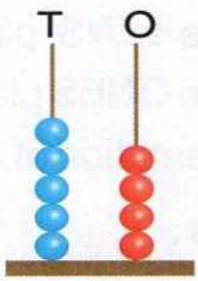
__ __ = ☐



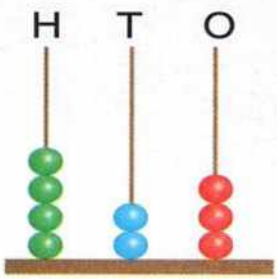
__ __ = ☐



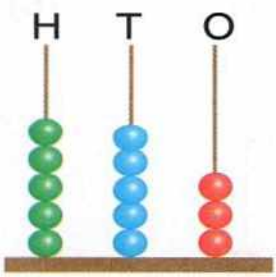
__ __ = ☐



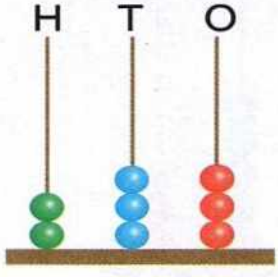
__ __ = ☐



__ __ __ = ☐



__ __ __ = ☐



__ __ __ = ☐

5.4 Numbers in Expanded Form

Expanded form of a number can be obtained by breaking it and using the place value of digits in the number.

Example 1 : Write the expanded form of number 48.

4 8

└ 8 ones ($8 \times 1 = 8$)

└ 4 tens ($4 \times 10 = 40$)

Expanded form of number $48 = 40 + 8$.

Example 2 : Write the expanded form of number 90.

9 0

└ 0 ones ($0 \times 1 = 0$)

└ 9 tens ($9 \times 10 = 90$)

Expanded form of number $90 = 90 + 0$.

Exercise

Write the numbers given below in expanded form :

1. 25 = 20 + 5
2. 32 = _____
3. 39 = _____
4. 66 = _____
5. 79 = _____
6. 82 = _____
7. 98 = _____
8. 56 = _____
9. 67 = _____
10. 19 = _____
11. 73 = _____
12. 55 = _____
13. 59 = 50 + 9
14. 97 = _____
15. 16 = _____
16. 89 = _____
17. 74 = _____
18. 24 = _____
19. 78 = _____
20. 86 = _____
21. 90 = _____
22. 72 = _____
23. 36 = _____
24. 99 = _____

5.5 Numbers in Compact Form

The compact form of a number is written using the digits 0-9 according to their place value.

Example 1 : Write 80 + 7 in compact form.

80 + 7

└ 7 ones

└ 8 tens

Compact form of 80 + 7 = 87

Example 2 : Write 40 + 0 in compact form.

40 + 0

└ 0 ones

└ 4 tens

Compact form of 40 + 0 = 40

Exercise

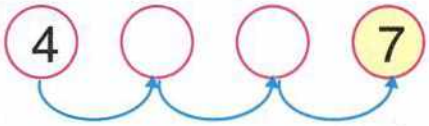
Write in compact form

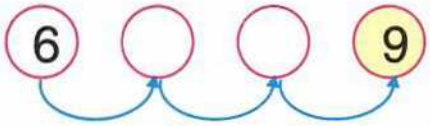
1. 20 + 6 =
2. 30 + 6 =
3. 60 + 8 =
4. 30 + 8 =
5. 20 + 3 =
6. 40 + 7 =
7. 50 + 0 =
8. 00 + 2 =
9. 10 + 7 =
10. 60 + 2 =
11. 80 + 8 =
12. 50 + 2 =
13. 70 + 6 =
14. 60 + 4 =
15. 00 + 8 =
16. 00 + 1 =
17. 20 + 2 =
18. 60 + 6 =
19. 50 + 7 =
20. 60 + 9 =
21. 40 + 4 =
22. 30 + 3 =
23. 20 + 7 =
24. 30 + 9 =

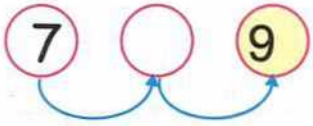
6 Addition

When we put things or numbers together, we do addition. The sign of addition is '+' (plus). The answer we get is known as **sum**.

1. Add by counting forward.

(a) 4 + 3 

(b) 6 + 3 

(c) 7 + 2 

(d) 5 + 4 

(e) 2 + 6 

2. Add the following.

(a) 5 + 4 = ☐

(b) 4 + 3 = ☐

(c) 5 + 1 = ☐

(d) 1 + 8 = ☐

(e) 4 + 0 = ☐

(f) 6 + 1 = ☐

(g) 6 + 2 = ☐

(h) 2 + 7 = ☐

(i) 6 + 3 = ☐

(j) 2 + 3 = ☐

3. Fill in the blanks.

(a) The sum of 3 and 2 is ..... .

(b) 4 added to 2 is ..... .

(b) 6 plus 3 equals ..... .

(d) 7 and 2 together make ..... .

(e) 4 increased by 5 is ..... .

4. Add the following.

(a) 2 + 1 + 4 = ○

(b) 4 + 2 + 2 = ○

(c) 5 + 2 + 1 = ○

(d) 4 + 2 + 3 = ○

(e) 1 + 5 + 3 = ○

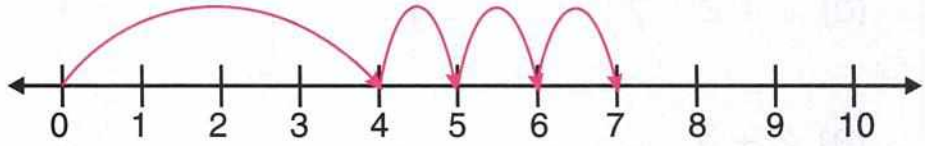
(f) 2 + 2 + 3 = ○

(g) 2 + 2 + 2 = ○

(h) 5 + 1 + 2 = ○

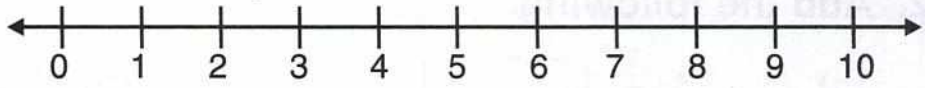
5. Add using number line and fill in the boxes.

(a) 4 + 3 = 7

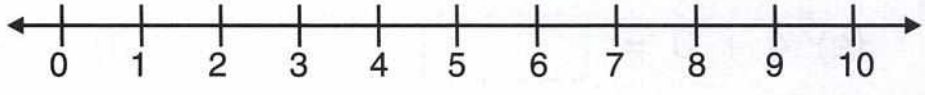


Method : Start from 0 and jump to 4. Again jump 3 places forward and you will arrive at 7.

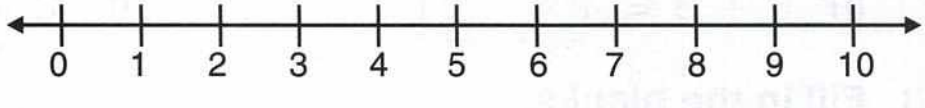
(b) 3 + 4 = ☐



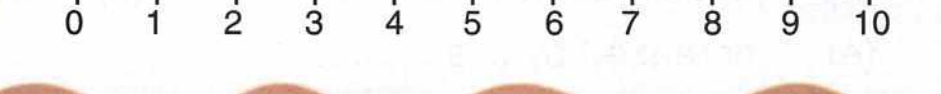
(c) 4 + 5 = ☐



(d) 6 + 2 + 1 = ☐

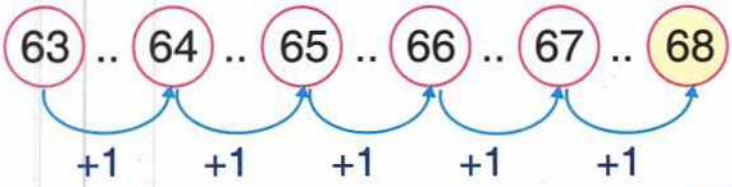


(e) 4 + 2 + 3 = ☐

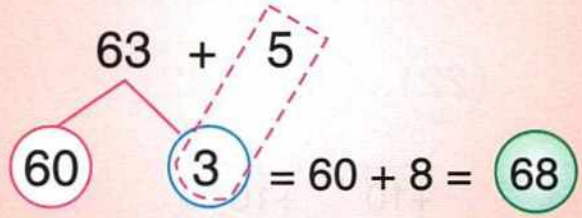


6.1 Addition of a 1-digit and a 2-digit Number (without carry over)

Example : Add 63 and 5.



We can also add mentally.

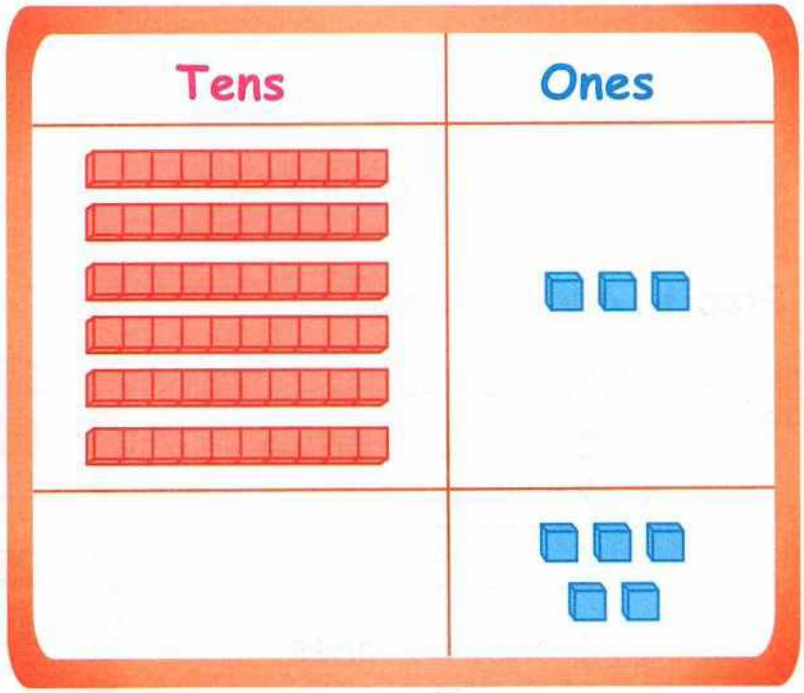


We can also add by the following method.

Step 1 : Add the ones.

Tens	Ones
6	3
+	5
	8

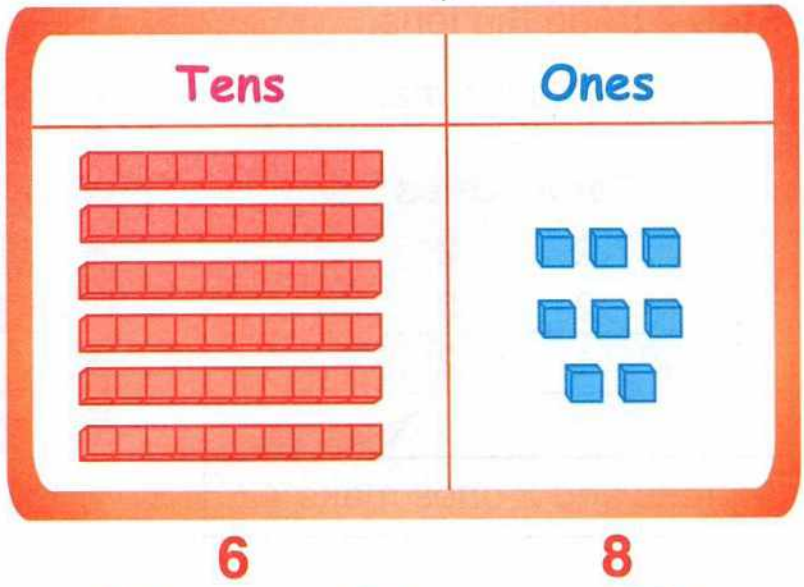
3 ones + 5 ones = 8 ones



Step 2 : As there is nothing to add in tens column, copy 6 as it is.

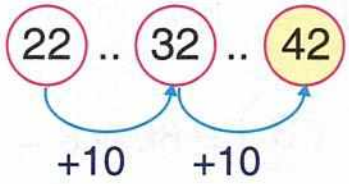
Tens	Ones
6	3
+	5
6	8

6 tens and 8 ones make 68.

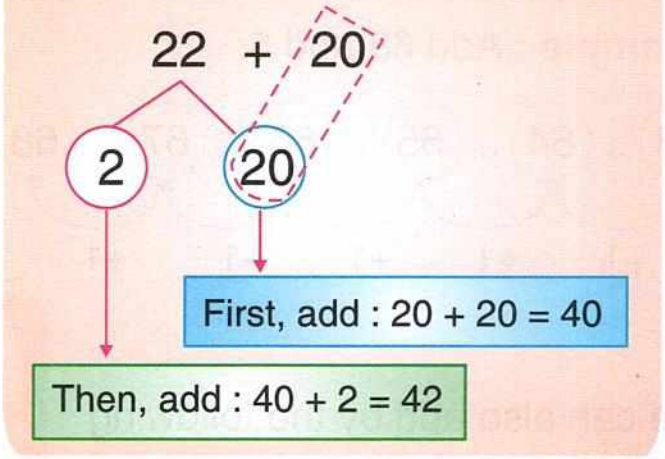


6.2 Addition of Two 2-digit Numbers (without carry over)

Example : Add 22 and 20.



We can also add mentally.

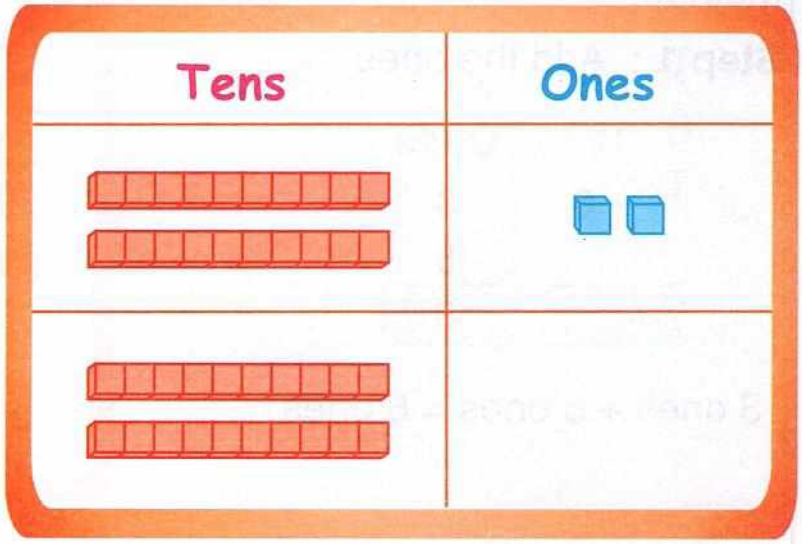


We can also add using the steps given below.

Step 1 : Add the ones.

Tens	Ones
2	2
+ 2	0
	2

2 ones + 0 ones = 2 ones

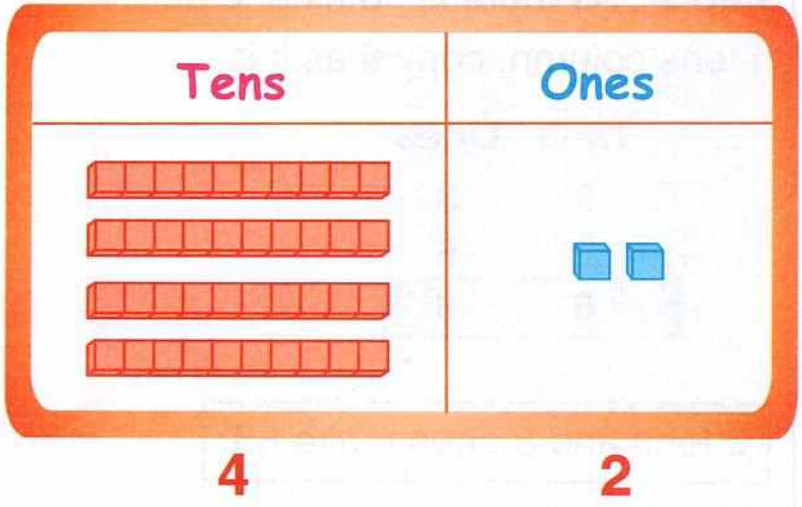


Step 2 : Add the tens.

2 tens and 2 tens make 4 tens.

Tens	Ones
2	2
+ 2	0
4	2

4 tens and 2 ones make 42.



Exercise

Add the following :

T	O
1	2
+ 2	7

T	O
3	6
+ 1	1

T	O
4	8
+ 3	1

T	O
5	3
+ 4	5

T	O
8	6
+ 1	2

T	O
3	9
+ 4	0

T	O
7	4
+ 2	4

T	O
1	3
+ 7	2

T	O
2	4
+ 4	2

T	O
4	2
+ 1	2

T	O
2	5
+ 5	0

T	O
8	7
+ 1	1

T	O
4	2
+ 2	5

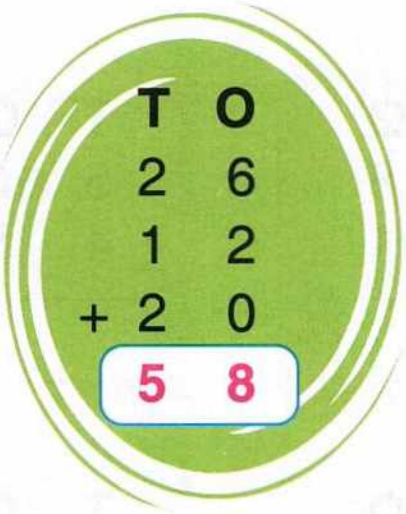
T	O
7	6
+ 2	3

T	O
2	3
+ 7	1

T	O
6	6
+ 2	0

6.3 Addition of Three, 2-digit Numbers (without carry over)

Example : Add : 26 + 12 + 20



	T	O
	2	6
	1	2
+	2	0
	5	8

Method :

Step 1 : Add the ones together.
6 ones + 2 ones + 0 ones = 8 ones.
Write 8 under ones column.

Step 2 : Add the tens together.
2 tens + 1 ten + 2 tens = 5 tens.
Write 5 under tens column.

Answer 58.

Exercise

Add the following :

	T	O
	1	1
	1	5
+	2	2

	T	O
	2	0
	1	5
+	1	4

	T	O
	3	1
	1	0
+	1	5

	T	O
	3	5
	4	0
+	1	1

	T	O
	2	2
	3	0
+	2	0

	T	O
	4	0
	2	2
+	2	1

	T	O
	7	0
	1	0
+	1	1

	T	O
	5	5
	2	0
+	1	3

T	O
2	2
3	4
+ 1	1

T	O
5	7
1	1
+ 2	1

T	O
5	1
2	1
+ 1	0

T	O
4	1
1	0
+ 2	1

T	O
3	3
1	0
+ 2	3

T	O
5	6
0	1
+ 1	1

T	O
1	3
7	1
+ 1	0

T	O
6	4
1	1
+ 0	2

T	O
3	2
2	1
+ 2	3

T	O
3	4
1	0
+ 2	1

T	O
4	2
1	0
+ 0	3

T	O
4	4
0	1
+ 5	0

T	O
3	3
0	3
+ 1	1

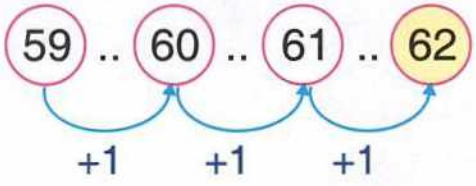
T	O
6	7
2	1
+ 0	1

T	O
5	0
2	1
+ 1	2

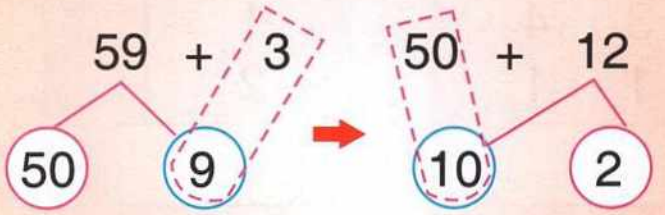
T	O
3	4
2	1
+ 2	1

6.4 Addition of a 1-digit and a 2-digit Number (with carry over)

Example : Add 59 and 3.



We can also add mentally.

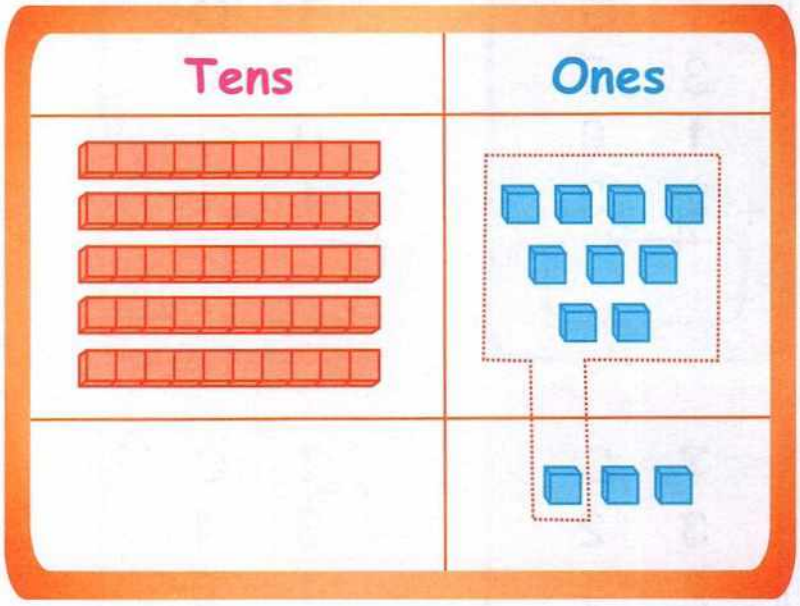


We can also add using the steps given below.

Step 1 : Add the ones.

Tens	Ones
5	9
+	3
	12

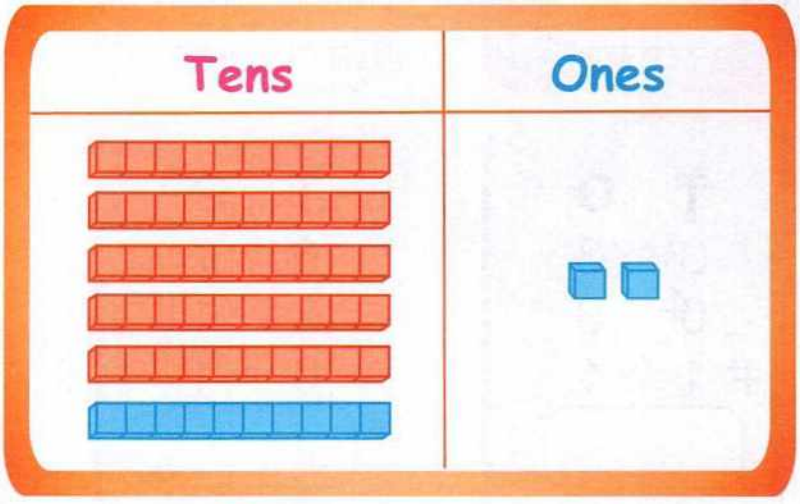
9 ones + 3 ones = 12 ones
= 1 ten + 2 ones



Step 2 : Carry 1 ten from ones place to tens place and write 2 at ones place. Add 1 ten and 5 tens to get 6 tens.

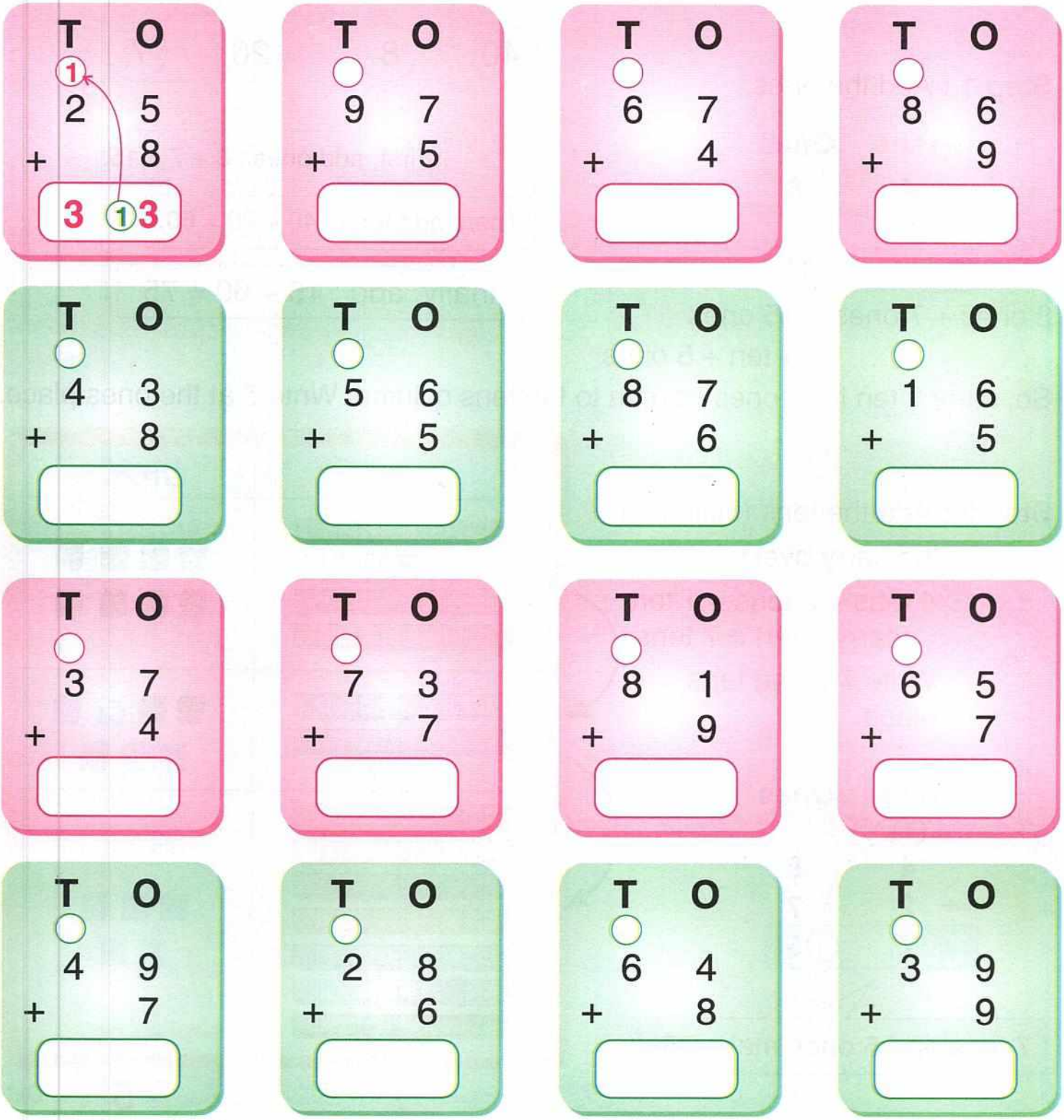
Tens	Ones
(1)	
5	9
+	3
6	(1) 2

6 tens and 2 ones make 62.



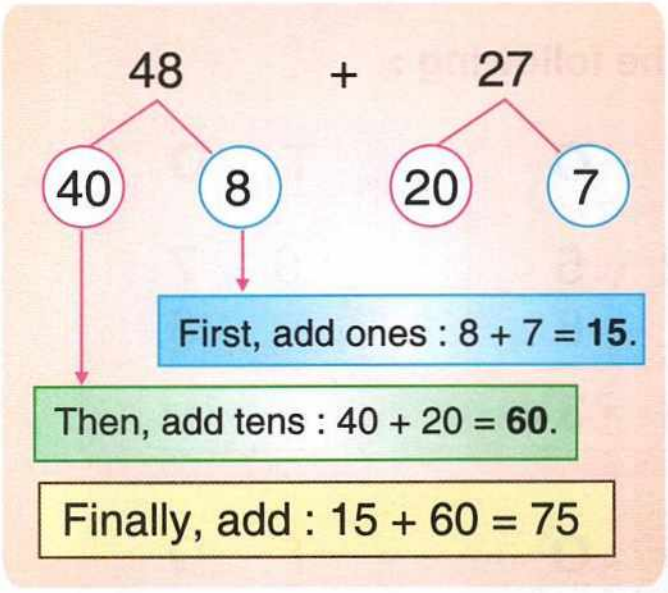
Exercise

Add the following :



6.5 Addition of Two 2-digit Numbers (with carry over)

Example : Add 48 and 27.



Step 1 : Add the ones.

	Tens	Ones
	4	8
+	2	7
		15

8 ones + 7 ones = 15 ones
= 1 ten + 5 ones

So, carry 1 ten from ones column to the tens column. Write 5 at the ones place.

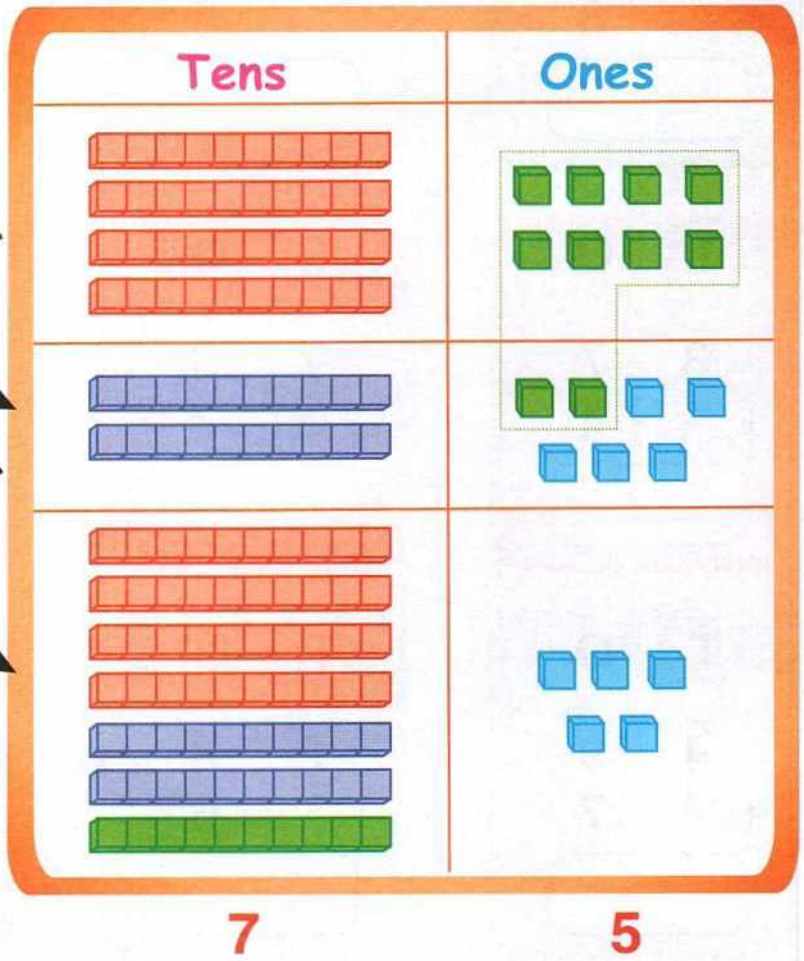
Step 2 : Add the tens (including the carry over).

4 tens + 2 tens + 1 ten (carry over) = 7 tens

Write 7 at the tens place.

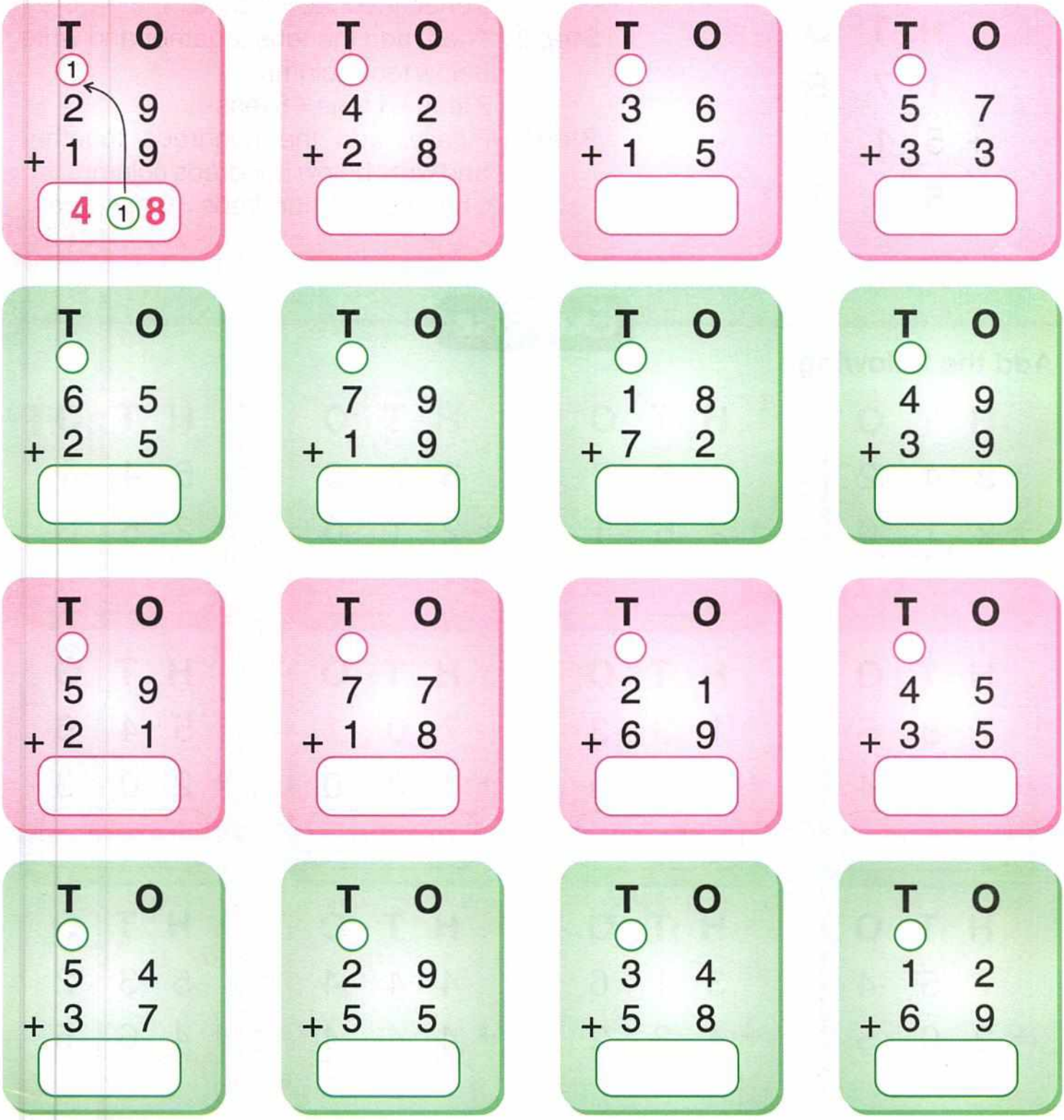
	Tens	Ones
	(1)	
	4	8
+	2	7
	7	(1) 5

7 tens and 5 ones make 75.



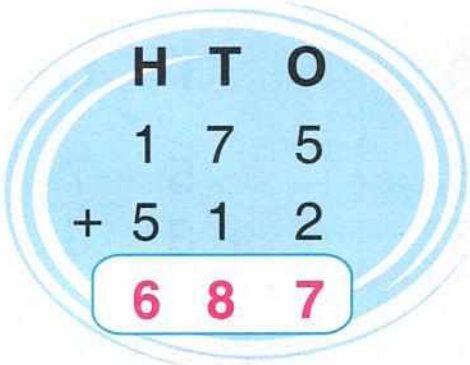
Exercise

Add the following :



6.6 Addition of Two 3-digit Numbers

Examples : Solve 175 + 512.



	H	T	O
	1	7	5
+	5	1	2
	6	8	7

Step 1 : First, add the ones together and write below ones column.
5 ones + 2 ones = 7 ones.

Step 2 : Then, add the tens together and write below tens column.
7 tens + 1 tens = 8 tens.

Step 3 : Finally, add the hundreds together and write below hundreds column.
1 hundred + 5 hundreds = 6 hundreds.

Answer 687.

Exercise

Add the following :

H	T	O
3	4	2
+ 2	1	0

H	T	O
4	3	7
+ 2	6	1

H	T	O
3	7	5
+ 2	1	0

H	T	O
6	4	1
+ 2	5	3

H	T	O
7	8	5
+ 2	1	4

H	T	O
1	3	3
+ 4	0	0

H	T	O
7	0	1
+ 1	2	0

H	T	O
5	4	6
+ 2	0	3

H	T	O
7	5	4
+ 2	0	5

H	T	O
3	1	6
+ 4	3	2

H	T	O
4	4	4
+ 4	4	4

H	T	O
5	3	2
+ 4	6	5

H	T	O
7	8	6
+ 1	1	1

H	T	O
7	0	0
+ 2	5	0

H	T	O
6	3	5
+ 1	4	3

H	T	O
4	2	0
+ 1	0	5

H	T	O
5	7	2
+ 1	1	2

H	T	O
8	4	6
+ 1	4	3

H	T	O
9	0	0
+ 0	9	9

H	T	O
1	6	9
+ 1	1	0

6.7 Add Orally and Write the Answer

1. Seven increased by three
2. Five and four make
3. One added to eight
4. Three when added to four
5. Ram had four sweets. His sister gave him two more. How many sweets does he have now ?
6. Seven cows were grazing in a field. Five more cows came over there. How many cows are there in total now ?
7. Preeti had five books. Priya gave her nine more. How many books are there with her now ?
8. There are four apples, nine oranges and six pears in a basket. How many fruits are there in the basket ?

6.8 Word Problems

1. A box contains 12 red balls and 10 green balls. How many balls are there altogether ?

	T	O
	1	2
+	1	0
	2	2

2. Deepu has 64 red colour balloons and 27 blue colour balloons. How many balloons does he have ?

	T	O
+		

3. Vicky has 72 flowers. Jyoti gave him 18 more flowers. How many flowers does Vicky have now ?

	T	O
+		

4. There are 40 birds on a tree and 21 birds on another tree. How many birds are there in all ?

	T	O
+		

5. There are 17 apples in a basket and 86 apples in another basket. How many apples are there altogether ?

	T	O
+		

6. Ashu has 53 toffees. Ritu has 22 toffees. How many toffees do they have altogether ?

	T	O
+		

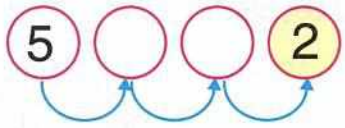
7. There are 18 books in a book shelf and 13 books in another book shelf. How many books are there altogether in both the shelves ?

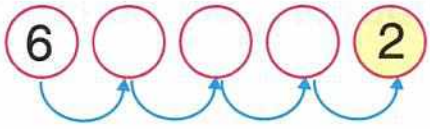
	T	O
+		

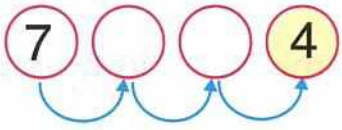
7 Subtraction

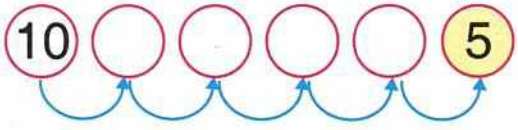
When we remove or take away few things or numbers from a group, we do **subtraction**. In subtraction we count what is left. The symbol of subtraction is '–' (minus).

Subtract by counting backward.

(a) 5 – 3 

(b) 6 – 4 

(c) 7 – 3 

(d) 10 – 5 

Example : Subtract 4 from 6.

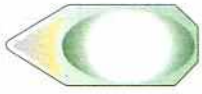
We write the digits as shown :

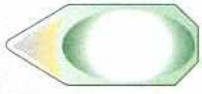
$$\begin{array}{r} 6 \\ -\ 4 \\ \hline \boxed{2} \end{array}$$

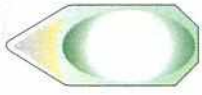
The difference between 6 and 4 is 2. ∴ 6 – 4 = 2.

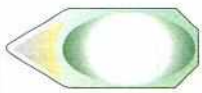
Exercise

1. Fill in the blanks.

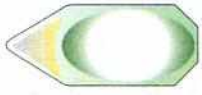
(a) 3 – 2 = 

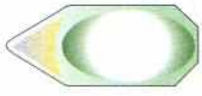
(b) 4 – 1 = 

(c) 7 – 5 = 

(d) 4 – 3 = 

(f) 9 – 4 = 

(g) 8 – 7 = 

(h) 6 – 2 = 

(i) 8 – 4 = 

2. Subtract and answer.

(a) 9 – 3 = ◯

(b) 5 – 2 = ◯

(c) 5 – 4 = ◯

(d) 8 – 6 = ◯

(e) 9 minus 4 equals ☐

(f) 7 reduced by 5 is ☐

(g) 3 decreased from 6 equals ☐

(h) 6 less than 8 is ☐

(i) 5 subtracted from 9 gives ☐

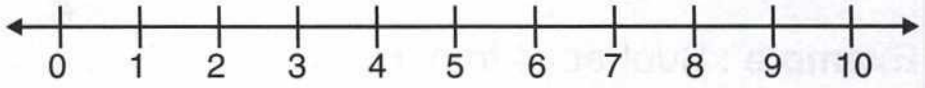
(j) The difference between 6 and 2 is ☐

3. Subtract using number line and fill in the boxes.

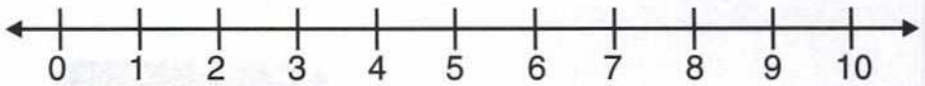
(a) 7 – 4 = ☐

Method : Start from 0 and jump to 7. Jump back 4 places and you will reach 3.

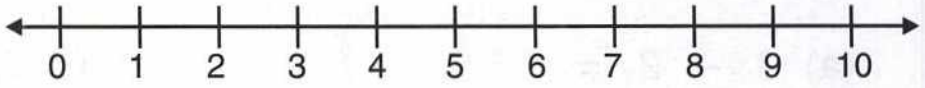
(b) 9 – 5 = ☐



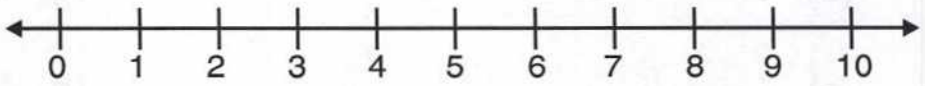
(c) 5 – 2 = ☐



(d) 8 – 6 = ☐



(e) 8 – 3 = ☐

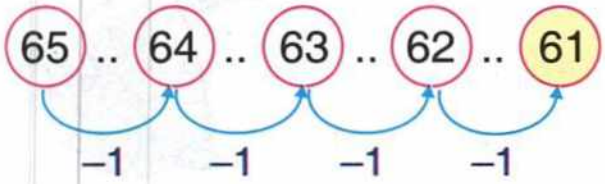


(f) 7 – 5 = ☐

7.1 Subtraction of a 1-digit Number from a 2-digit Number

Example 1 : Subtract 4 from 65.

We can subtract by counting backwards.



We can also subtract using the steps given below.

Step 1 : Subtract the ones digits.

Tens	Ones
6	5
–	4
	1

5 ones – 4 ones = 1 one

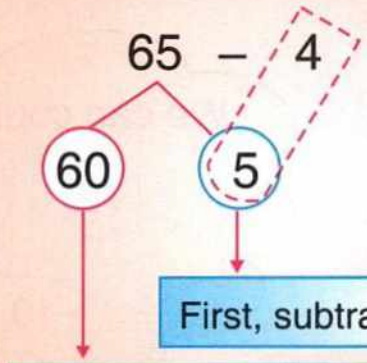
Write 1 under ones column.

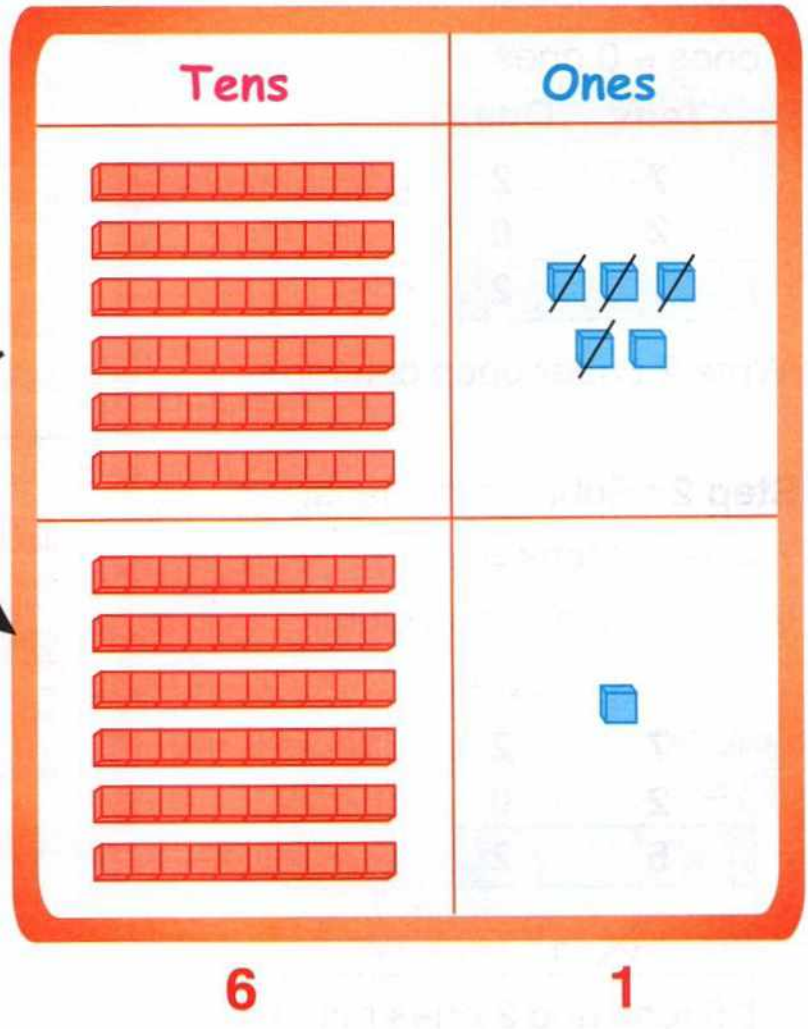
Step 2 : As there is nothing to be subtracted from tens column,copy 6 as it is in tens column.

Tens	Ones
6	5
–	4
6	1

6 tens and 1 one make 61.

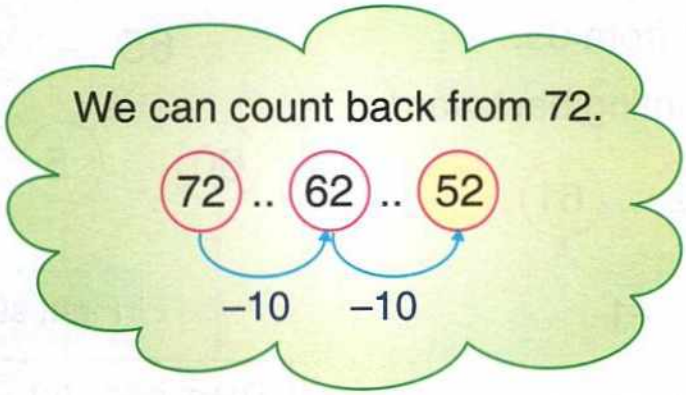
We can also subtract mentally.





7.2 Subtraction of 2-digit Numbers (without borrowing)

Example : Subtract 20 from 72.



We can also subtract by using the steps given below.

Step 1 : Subtract the ones.

2 ones – 0 ones = 2 ones

Tens	Ones
7	2
– 2	0
	2

Write 2 under ones column.

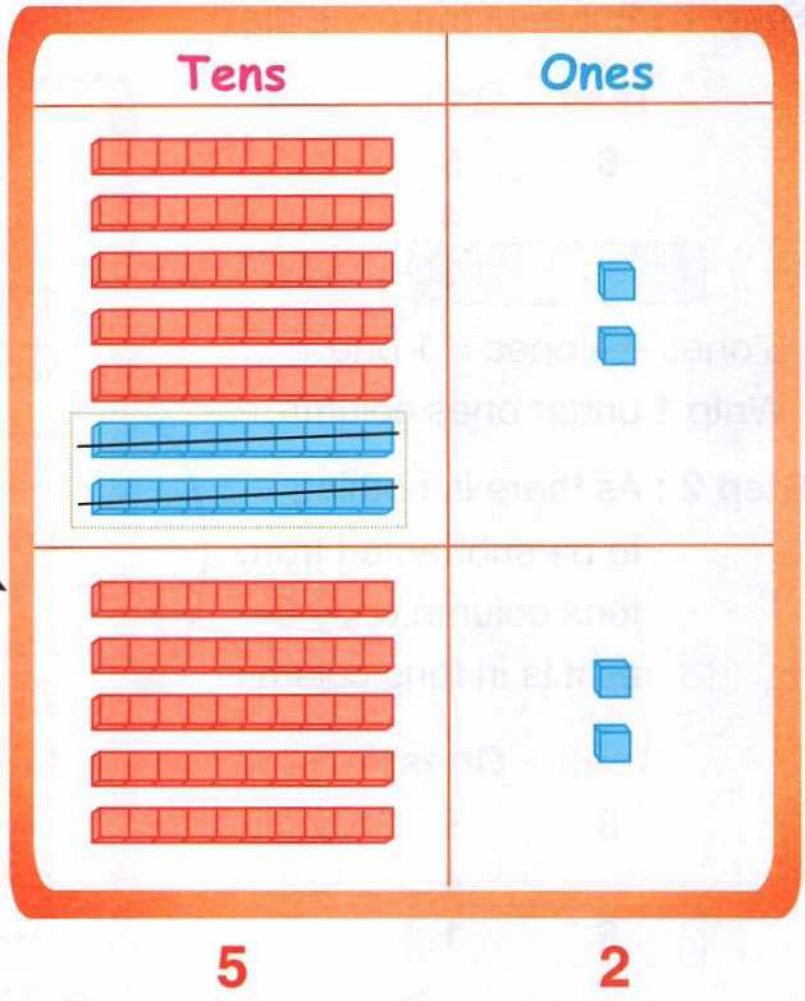
Step 2 : Subtract the tens.

7 tens – 2 tens = 5 tens

Write 5 under tens column.

Tens	Ones
7	2
– 2	0
5	2

5 tens and 2 ones make 52.



Exercise

Subtract the following :

T	O
7	3
– 5	2

T	O
8	5
– 2	3

T	O
7	4
– 4	2

T	O
5	6
– 2	4

T	O
2	7
– 1	6

T	O
9	6
– 8	4

T	O
3	7
– 1	6

T	O
9	3
– 8	3

T	O
7	1
– 6	0

T	O
3	0
– 1	0

T	O
2	8
– 1	0

T	O
4	7
–	2

T	O
2	8
–	3

T	O
5	0
– 3	0

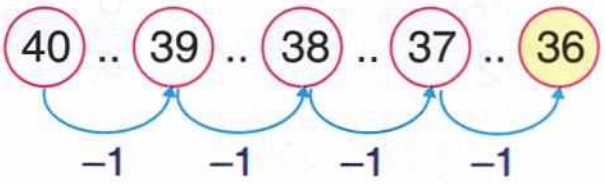
T	O
4	6
–	4

T	O
7	1
– 2	1

7.3 Subtraction of a 1-digit Number from a 2-digit Number (with borrowing)

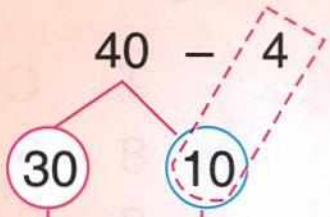
Example 1 : Subtract 4 from 40.

We can subtract by counting backwards.



We can also subtract using the steps given below.

We can also subtract mentally.



First, subtract ones : 10 – 4 = 6

Then, add : 30 + 6 = 36

Step 1 : Subtract the ones. As 4 > 0, we borrow 1 ten from the tens column.

Now instead of 4 tens and 0 ones, we have 3 tens and 10 ones.

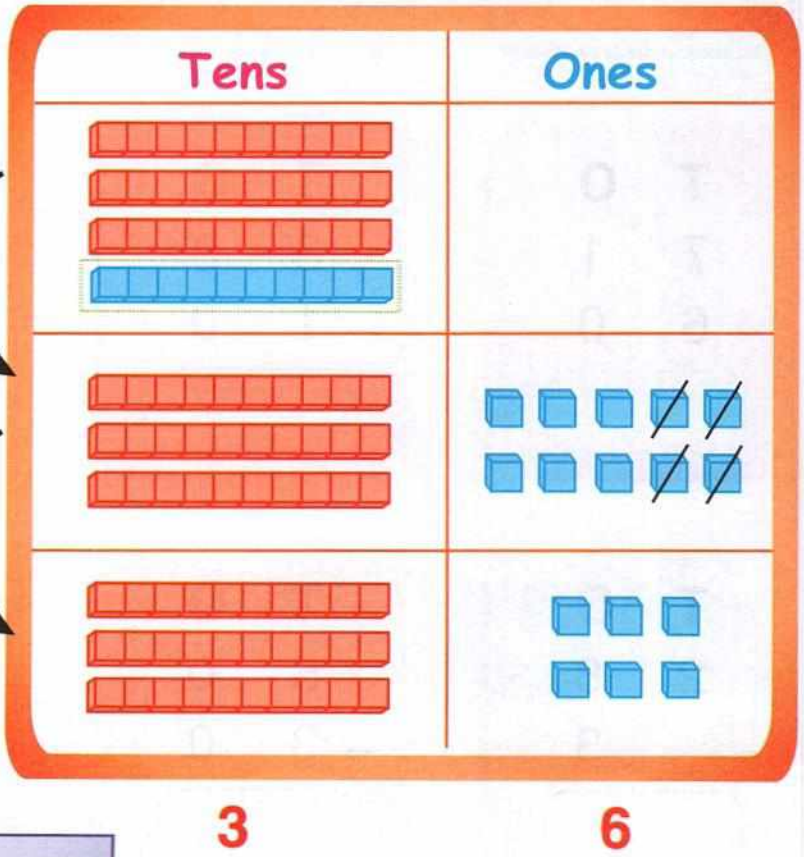
10 ones – 4 ones = 6 ones. Write 6 under ones column.

Tens	Ones
~~4~~ 3	~~0~~ 10
–	4
	6

Step 2 : As there is nothing to be subtracted from tens column, copy 3 as it is under the tens column.

Tens	Ones
~~4~~ 3	~~0~~ 10
–	4
3	6

3 tens and 6 ones make 36.



Exercise

Subtract the following :

	T	O
	4	7
–		8

	T	O
	5	3
–		5

	T	O
	9	2
–		3

	T	O
	7	8
–		9

	T	O
	2	4
–		5

	T	O
	6	3
–		5

	T	O
	1	6
–		7

	T	O
	8	4
–		5

	T	O
	3	4
–		7

	T	O
	9	5
–		8

	T	O
	7	8
–		9

	T	O
	8	1
–		7

	T	O
	6	4
–		7

	T	O
	3	0
–		6

	T	O
	5	6
–		8

	T	O
	7	3
–		9

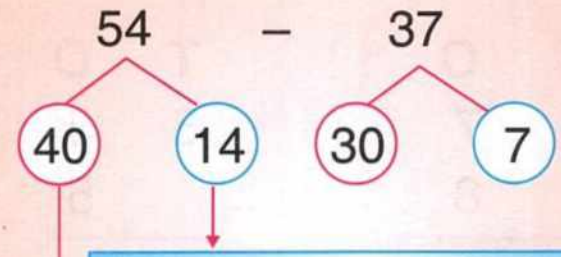
7.4 Subtraction of Two 2-digit Numbers (with borrowing)

Example 1 : Subtract 37 from 54.

Step 1 : Subtract the ones. As 7 > 4, we borrow 1 ten from tens column.
Now instead of 5 tens and 4 ones, we have 4 tens and 14 ones.
14 ones – 7 ones = 7 ones.
Write 7 under ones column.

Tens	Ones
(4)	(14)
~~5~~	~~4~~
– 3	7
	7

We can also subtract mentally.



First, subtract ones : 14 – 7 = **7**

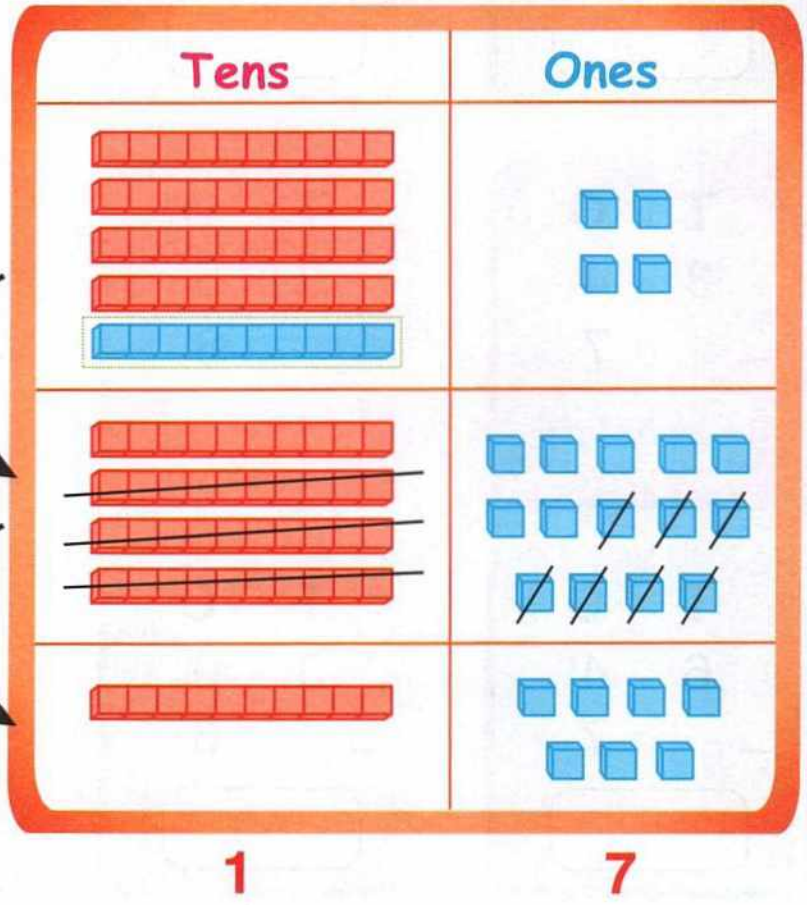
Then, subtract : 40 – 30 = **10**

Finally, add 10 + 7 = **17**.

Step 2 : Subtract tens digits and write the answer under tens coloumn.
4 tens – 3 tens = 1 ten
Write 1 under tens column.

Tens	Ones
(4)	(14)
~~5~~	~~4~~
– 3	7
1	7

1 ten and 7 ones make 17.



Exercise

Subtract the following :

T	O
7	14
~~8~~	~~4~~
– 4	5
3	9

T	O
9	2
– 6	4

T	O
7	3
– 2	6

T	O
8	4
– 3	7

T	O
7	5
– 4	6

T	O
6	4
– 2	5

T	O
8	8
– 2	9

T	O
6	0
– 3	5

T	O
4	0
– 1	2

T	O
8	6
– 2	9

T	O
9	5
– 2	8

T	O
7	5
– 2	7

T	O
9	8
– 5	9

T	O
4	2
– 1	5

T	O
9	5
– 7	6

T	O
9	0
– 2	5

7.5 Word Problems

1. Misha has a book of 92 pages to read. She has already read 68 pages so far. How many more pages does she need to read to complete the book ?

	T	O
	9	2
−	6	8
	2	4

2. There are 14 butterflies. 7 of them fly away. How many butterflies are left ?

	T	O
−		

3. Raju has 27 toffees. He distributes 6 toffees to his friends. How many toffees does he have now ?

	T	O
−		

4. Ritu has 11 pairs of jeans. She gives 2 pairs to a poor child. How many pairs of jeans does she have now ?

	T	O
−		

5. There are 56 books in an almirah. 35 books are taken out. How many books are left in the almirah ?

	T	O
−		

6. There are 22 balls in a box A. 14 balls are transferred from box A to another box B. How many balls are left in box A?

	T	O
−		

7. Virat has made 72 runs in a cricket match. How many more runs does he need to make 90 runs ?

	T	O
−		

8 Skip Counting

Numbers 1 to 99 are given below. Circle every second number. Begin with 2 as shown.

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
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	

Write the circled numbers here.

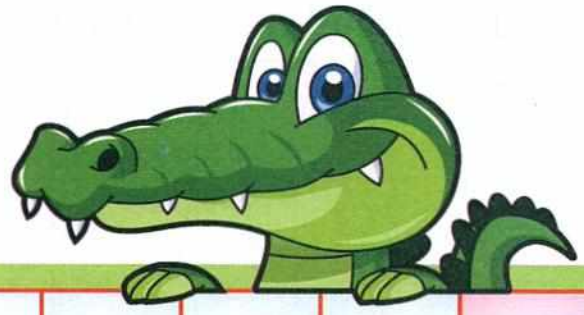
You have just counted in twos.
All numbers that end with 2, 4, 6, 8 or 0 are EVEN NUMBERS. So, 2, 4, 6, 8, 10, 12, 14, etc., are known as **EVEN NUMBERS**.

Exercise

Circle the even numbers in the chart below.

1	2	5	9	8	72	19	39	22	75
10	11	13	92	39	85	21	89	71	7
34	47	80	91	10	67	84	30	15	48
18	26	14	79	75	25	60	16	55	29
86	17	12	87	75	83	31	82	51	59

Numbers 1 to 99 are given below. Circle every second number. Begin with 1 as shown.



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
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	

Write the circled numbers here.

All numbers that end with 1, 3, 5, 7 or 9 are ODD NUMBERS. Numbers 1, 3, 5, 7, 9, 11, 13, etc., are known as **ODD NUMBERS**.

Exercise

Circle the odd numbers in the chart below.

2	85	89	42	17	3	75	66	7	5
82	45	15	11	83	50	86	39	53	56
14	24	65	77	37	47	98	21	48	65
16	84	41	88	60	10	21	79	35	100
69	9	30	49	74	62	99	57	81	78

Note for teacher :

Please tell the students that number 0 is considered neither as an even number nor as an odd number.

Written below are numbers 1 to 99. Circle every fifth number. Begin with 5.

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
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	

Write below the numbers circled above.

You have just counted in fives.

Exercise

What number is 2 more than :

16	18
23	
48	
31	
20	
89	
12	
46	
77	

What number is 2 less than :

40	42
	36
	96
	70
	57
	91
	27
	15
	39

9 Multiplication

9.1 Multiplication is Repeated Addition

'×' is the symbol of multiplication.

(a) There are 2 baskets. Each basket has 4 apples.

4 + 4 = 8 **OR** 2 times 4 equals 8 **OR** 2 × 4 = 8.

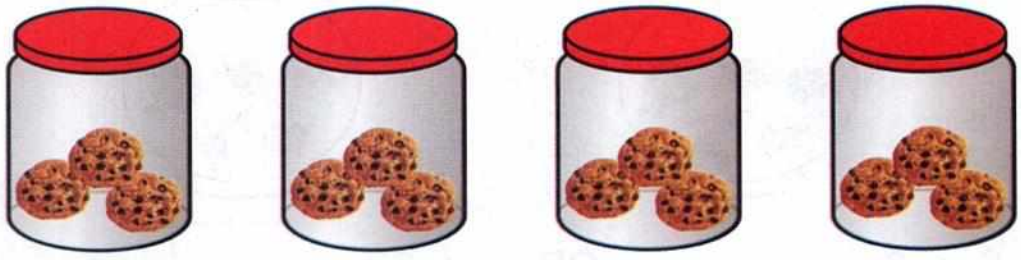
There are 8 apples altogether.

(b) There are 3 trays. Each tray has 2 milkshakes.

2 + 2 + 2 = 6 **OR** 3 times 2 equals 6 **OR** 3 × 2 = 6.

There are 6 milkshakes altogether.

(c) There are 4 jars. Each jar has 3 cookies in it.

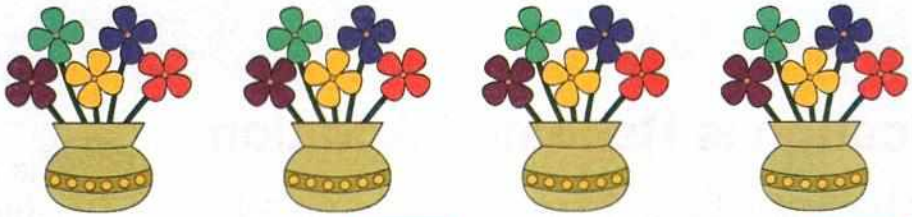


3 + 3 + 3 + 3 = 12 **OR** 4 times 3 equals 12 **OR** 4 × 3 = 12.

There are 12 cookies altogether.

Exercise

1. There are 4 vases. Each vase has 5 flowers. How many flowers are there in all ?



5 + 5 + 5 + 5 = ☐ **OR** 4 × 5 = ☐

There are ☐ flowers in all.

2. There are 2 bunches of bananas. Each bunch has 10 bananas. How many bananas are there altogether ?

10 + 10 = ☐ **OR** 2 × 10 = ☐

There are ☐ bananas in all.

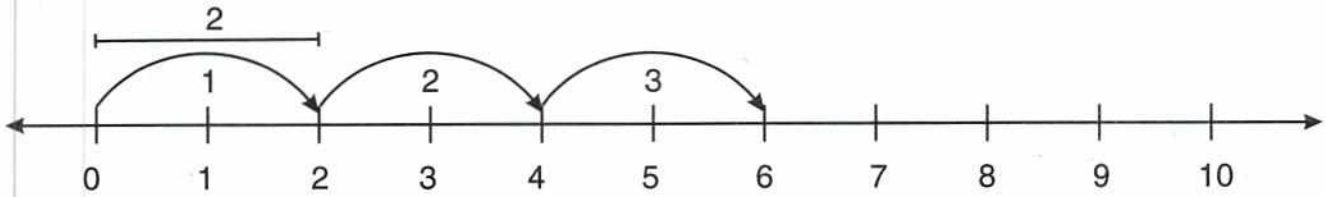
3. There are 2 fish tanks. Each fish tank has 6 fishes. How many fishes are there in all ?

6 + 6 = ☐ **OR** 2 × 6 = ☐

There are ☐ fishes in all.

9.2 Multiplication on a Number Line

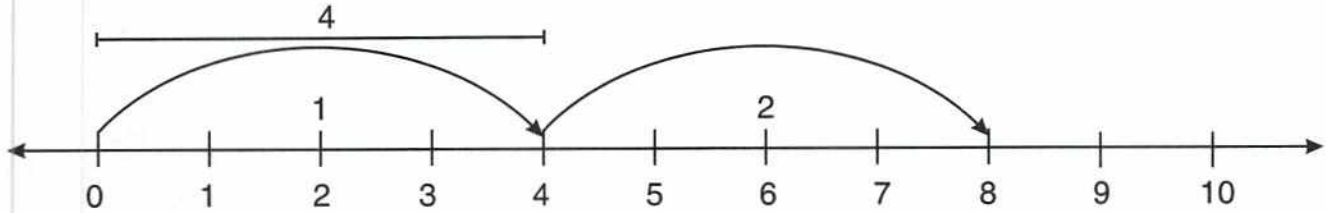
Example 1 : Multiply 2 by 3.



Method : Start from 0. Jump 2 places three times.

$2 + 2 + 2 = 6$ **OR** 3 times 2 equals 6 **OR** $3 \times 2 = 6$

Example 2 : Multiply 4 by 2.



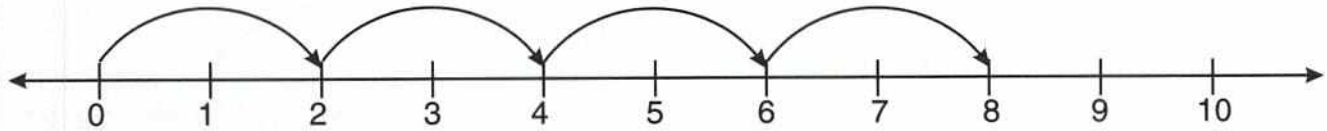
Method : Start from 0. Jump 4 places twice.

$4 + 4 = 8$ **OR** 2 times 4 equals 8 **OR** $2 \times 4 = 8$

Exercise

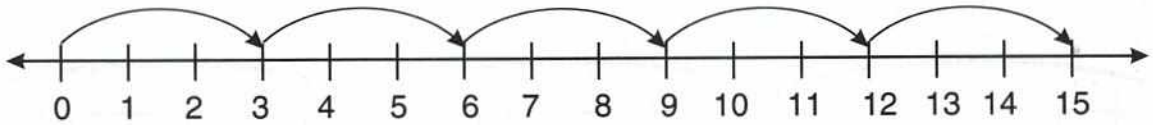
Write the multiplication fact for each. First one has been done for you.

1.

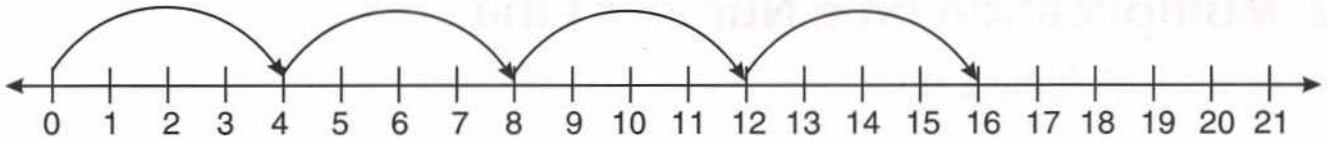


4 × 2 = 8

2.

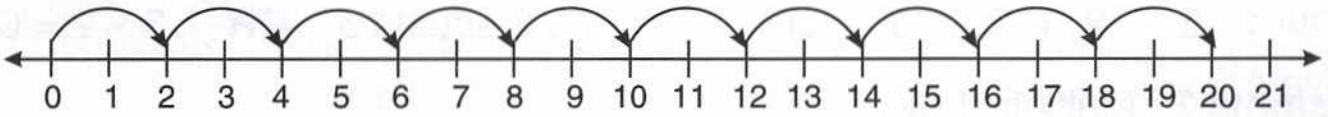


3.


0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

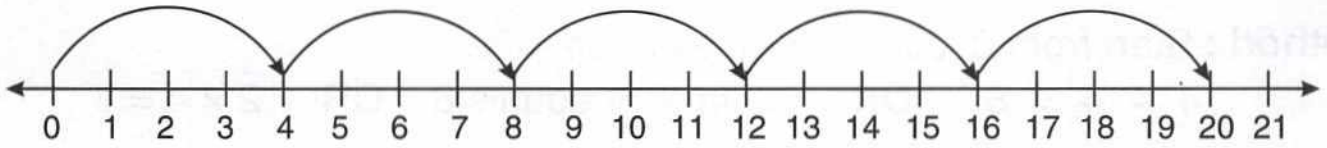

×
=

4.


0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

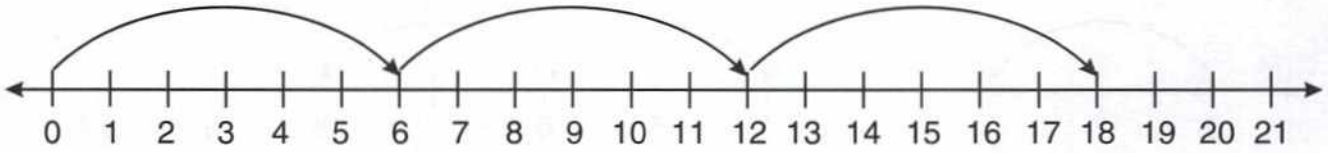

×
=

5.


0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

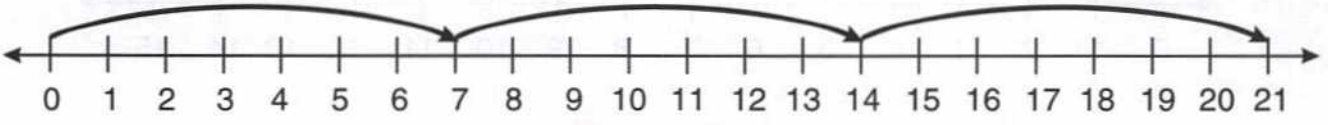

×
=

6.


0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21


×
=

7.


0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21


×
=

9.3 Multiplication Tables

TABLE OF 1

One one is one.	$1 \times 1 = 1$
Two ones are two.	$1 \times 2 = 2$
Three ones are three.	$1 \times 3 = 3$
Four ones are four.	$1 \times 4 = 4$
Five ones are five.	$1 \times 5 = 5$
Six ones are six.	$1 \times 6 = 6$
Seven ones are seven.	$1 \times 7 = 7$
Eight ones are eight.	$1 \times 8 = 8$
Nine ones are nine.	$1 \times 9 = 9$
Ten ones are ten.	$1 \times 10 = 10$

TABLE OF 2

One two is two.	$2 \times 1 = 2$
Two twos are four.	$2 \times 2 = 4$
Three twos are six.	$2 \times 3 = 6$
Four twos are eight.	$2 \times 4 = 8$
Five twos are ten.	$2 \times 5 = 10$
Six twos are twelve.	$2 \times 6 = 12$
Seven twos are fourteen.	$2 \times 7 = 14$
Eight twos are sixteen.	$2 \times 8 = 16$
Nine twos are eighteen.	$2 \times 9 = 18$
Ten twos are twenty.	$2 \times 10 = 20$

TABLE OF 3

One three is three.	3	×	1	= 3
Two threes are six.	3	×	2	= 6
Three threes are nine.	3	×	3	= 9
Four threes are twelve.	3	×	4	= 12
Five threes are fifteen.	3	×	5	= 15
Six threes are eighteen.	3	×	6	= 18
Seven threes are twenty-one.	3	×	7	= 21
Eight threes are twenty-four.	3	×	8	= 24
Nine threes are twenty-seven.	3	×	9	= 27
Ten threes are thirty.	3	×	10	= 30

TABLE OF 4

One four is four.	4	×	1	= 4
Two fours are eight.	4	×	2	= 8
Three fours are twelve.	4	×	3	= 12
Four fours are sixteen.	4	×	4	= 16
Five fours are twenty.	4	×	5	= 20
Six fours are twenty-four.	4	×	6	= 24
Seven fours are twenty-eight.	4	×	7	= 28
Eight fours are thirty-two.	4	×	8	= 32
Nine fours are thirty-six.	4	×	9	= 36
Ten fours are forty.	4	×	10	= 40

TABLE OF 5

One five is five.	5	×	1	= 5
Two fives are ten.	5	×	2	= 10
Three fives are fifteen.	5	×	3	= 15
Four fives are twenty.	5	×	4	= 20
Five fives are twenty-five.	5	×	5	= 25
Six fives are thirty.	5	×	6	= 30
Seven fives are thirty-five.	5	×	7	= 35
Eight fives are forty.	5	×	8	= 40
Nine fives are forty-five.	5	×	9	= 45
Ten fives are fifty.	5	×	10	= 50

TABLE OF 10

One ten is ten.	10	×	1	= 10
Two tens are twenty.	10	×	2	= 20
Three tens are thirty.	10	×	3	= 30
Four tens are forty.	10	×	4	= 40
Five tens are fifty.	10	×	5	= 50
Six tens are sixty.	10	×	6	= 60
Seven tens are seventy.	10	×	7	= 70
Eight tens are eighty.	10	×	8	= 80
Nine tens are ninety.	10	×	9	= 90
Ten tens are hundred.	10	×	10	= 100

Exercise

(a) Multiply and write in the boxes.

A boy has 2 eyes.

5 boys have 5×2 eyes = 10 eyes.

A table has 4 legs.

3 tables have ☐ × ☐ legs = 12 legs

A flower has 5 petals.

4 flowers have ☐ × ☐ petals = 20 petals.

A hand has 5 fingers.

2 hands have ☐ × ☐ fingers = 10 fingers.

A clock has 3 needles.

6 clocks have ☐ × ☐ needles = 18 needles.

(b) Fill in the blanks.

2 taken 4 times is ☐

3 taken 6 times is ☐

4 taken 5 times is ☐

10 taken 4 times is ☐

10 taken 5 times is ☐

4 taken 2 times is ☐

3 taken 3 times is ☐

5 taken 4 times is ☐

4 taken 6 times is ☐

5 taken 6 times is ☐

(c) Multiply the following.

$2 \times 4 =$	$3 \times 2 =$	$2 \times 9 =$
$3 \times 6 =$	$4 \times 10 =$	$10 \times 9 =$
$1 \times 9 =$	$5 \times 6 =$	$4 \times 5 =$
$2 \times 10 =$	$3 \times 4 =$	$3 \times 10 =$
$4 \times 1 =$	$10 \times 8 =$	$4 \times 9 =$
$5 \times 5 =$	$4 \times 2 =$	$5 \times 10 =$
$1 \times 8 =$	$5 \times 2 =$	$2 \times 1 =$
$10 \times 2 =$	$3 \times 9 =$	$10 \times 6 =$
$3 \times 7 =$	$4 \times 7 =$	$5 \times 1 =$
$5 \times 3 =$	$2 \times 3 =$	$5 \times 4 =$
$2 \times 6 =$	$3 \times 1 =$	$10 \times 8 =$
$5 \times 9 =$	$4 \times 8 =$	$5 \times 8 =$
$10 \times 4 =$	$2 \times 2 =$	$10 \times 5 =$
$2 \times 5 =$	$2 \times 8 =$	$3 \times 3 =$
$3 \times 8 =$	$4 \times 4 =$	$2 \times 7 =$

9.4 Simple Multiplication

Example 1 :

$$\begin{array}{r} 6 \\ \times\ 4 \\ \hline 24 \end{array}$$

6 times 4 equals 24.

Example 2 :

$$\begin{array}{r} 9 \\ \times\ 5 \\ \hline 45 \end{array}$$

9 times 5 equals 45.

Exercise

Multiply the following.

$\begin{array}{r} 2 \\ \times\ 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times\ 3 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times\ 2 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times\ 2 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times\ 2 \\ \hline \end{array}$
$\begin{array}{r} 9 \\ \times\ 3 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times\ 4 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times\ 4 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times\ 2 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times\ 5 \\ \hline \end{array}$
$\begin{array}{r} 4 \\ \times\ 3 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times\ 5 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times\ 4 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times\ 4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times\ 5 \\ \hline \end{array}$
$\begin{array}{r} 7 \\ \times\ 10 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times\ 5 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times\ 5 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times\ 3 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times\ 3 \\ \hline \end{array}$
$\begin{array}{r} 5 \\ \times\ 7 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times\ 5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times\ 4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times\ 3 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times\ 4 \\ \hline \end{array}$

9.5 Multiplication : A 2-digit Number by a 1-digit Number

Example : Multiply 22 by 3.

T	O
2	2
×	3
6	6

Method :

Step 1 : Start with the ones.
Multiply the ones by 3.
2 ones × 3 ones = 6 ones.
Write 6 under ones column.

Step 2 : Multiply the tens by 3.
2 tens × 3 ones = 6 tens.
Write 6 under tens column.

Exercise

Multiply the following.

T	O
1	1
×	2

T	O
1	2
×	2

T	O
1	3
×	2

T	O
1	4
×	2

T	O
4	4
×	2

T	O
3	3
×	2

T	O
3	2
×	3

T	O
2	2
×	3

T	O
1	1
×	3

T	O
2	3
×	3

T	O
2	4
×	2

T	O
3	3
×	3

T	O
3	2
×	4

T	O
3	1
×	2

T	O
4	3
×	2

T	O
1	3
×	3

T	O
4	1
×	2

T	O
3	1
×	3

T	O
5	2
×	1

T	O
4	1
×	2

9.6 Multiplication : A 2-digit Number by a 1-digit Number (with carry over)

Example : Multiply 18 by 4.

T	O
(3)	
1	8
×	4
7	2

Method :

Step 1 : Multiply the ones by 4.
8 ones × 4 ones = 32 = 3 tens and 2 ones.
Write 2 under ones column and carry over 3 tens to the tens column.

Step 2 : Multiply the tens by 4.
1 ten × 4 = 4 tens. Add the tens
4 tens + 3 tens (carry over) = 7 tens.
Write 7 under tens column. **Ans.** 72

Exercise

Multiply the following.

T	O
○	
2	6
×	2

T	O
○	
2	8
×	2

T	O
○	
2	9
×	4

T	O
○	
3	7
×	2

T	O
○	
4	6
×	5

T	O
○	
1	8
×	3

T	O
○	
1	7
×	4

T	O
○	
2	8
×	3

T	O
○	
2	9
×	5

T	O
○	
1	9
×	4

T	O
○	
1	5
×	4

T	O
○	
1	9
×	3

T	O
○	
3	6
×	4

T	O
○	
3	8
×	2

T	O
○	
4	3
×	4

9.7 Multiplication : A 3-digit Number by a 1-digit Number

Example : Multiply 234 by 2.

H	T	O
2	3	4
×		2
4	6	8

Method :

Step 1 : Multiply the ones by 2. $4 \times 2 = 8$

Step 2 : Multiply the tens by 2. $3 \times 2 = 6$

Step 3 : Multiply the hundreds by 2. $2 \times 2 = 4$

Write the respective numbers in their respective places. **Ans.** 468

Exercise

Multiply the following.

H	T	O
3	2	4
×		2

H	T	O
3	2	2
×		2

H	T	O
4	1	3
×		2

H	T	O
5	1	3
×		3

H	T	O
2	3	3
×		3

H	T	O
2	1	2
×		4

H	T	O
1	4	4
×		2

H	T	O
1	1	1
×		5

H	T	O
1	0	1
×		5

H	T	O
2	2	1
×		3

H	T	O
1	3	3
×		3

H	T	O
1	3	2
×		3

H	T	O
1	3	1
×		3

H	T	O
3	2	1
×		3

H	T	O
2	0	3
×		2

H	T	O
1	0	2
×		4

9.8 Multiply Orally and Write the Answer

1. Four multiplied by four

2. 12 times 5 equals

3. Two sevens are

4. One room has five fans in it. How many fans are there in four rooms ?

5. Seven boys are standing in a row. Each boy is holding two flags in his hands. How many flags are there in all ?

6. There are four plates on a dining table. Each plate is having ten cupcakes in it. How many cupcakes are there in all ?

7. A shirt has seven buttons. How many buttons do we need for four such shirts ?

8. One notebook costs Rs 25. What will be the cost of three such notebooks ?

9. A jug can hold three litres of water. How much water can eight such jugs hold ?

10. There were two bookshelves with 45 books each. How many books are there in all ?

10 Division

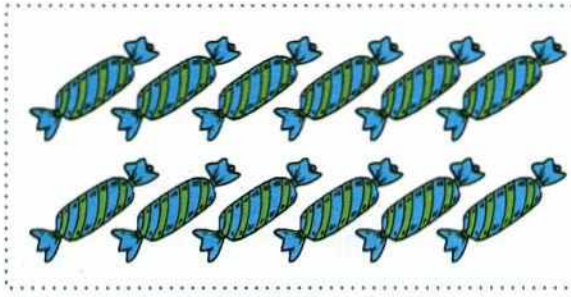
Division is repeated subtraction. It makes equal groups of things or numbers.

'÷' is the symbol of division.

Example 1 :

John has 12 candies. He wants to distribute the candies equally among his four friends. Let us see how many candies each friend will get ?

T	O	
1	2	
−	4	← 1
	8	
−	4	← 2
	4	
−	4	← 3
	0	

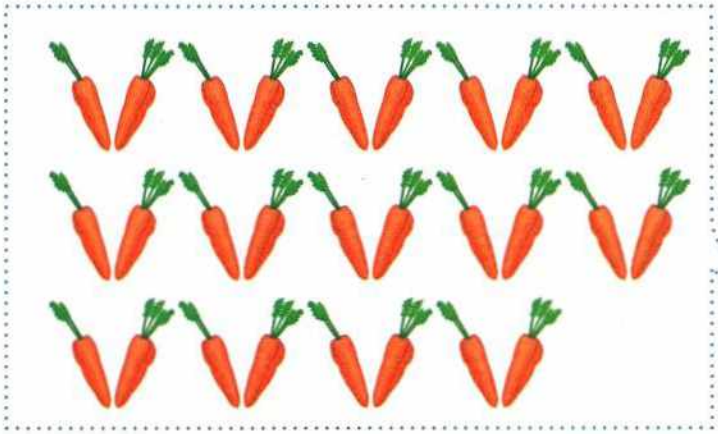


Each friend gets 3 candies.

Example 2 :

7 rabbits shared 28 carrots equally. How many carrots did each rabbit get ?

T	O	
2	8	
−	7	← 1
2	1	
−	7	← 2
1	4	
−	7	← 3
	7	
	7	← 4
	0	

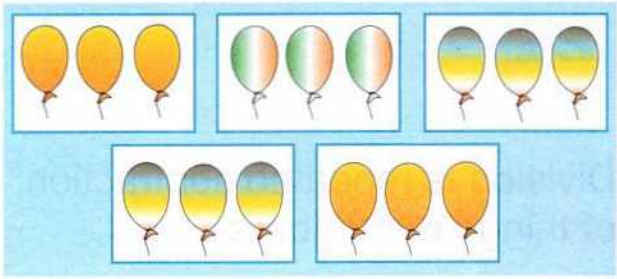


Each rabbit got 4 carrots.

Exercise

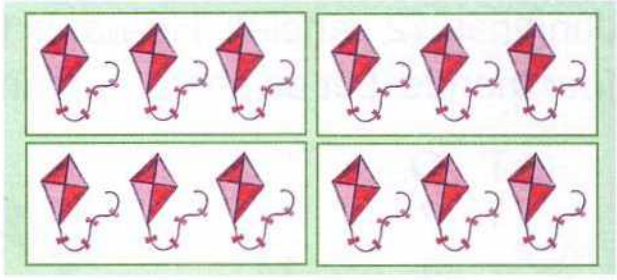
(a) 5 girls share 15 balloons. The facts are:

1. $15 \div 5 = 3$ balloons.
2. Each girl gets 3 balloons.
3. $3 \times 5 = 15$.



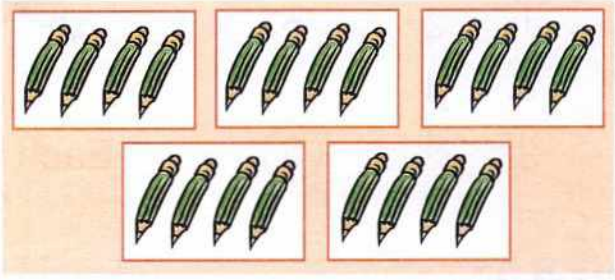
(b) 4 boys share 12 kites. The facts are:

1. $12 \div 4 =$ ..... kites.
2. $3 \times 4 =$ ..... kites.
3. Each boy gets ..... kites.



(c) 5 children share 20 pencils. The facts are:

1. $20 \div 5 =$ ..... pencils.
2. $4 \times 5 =$ ..... pencils..
3. Each child gets ..... pencils.

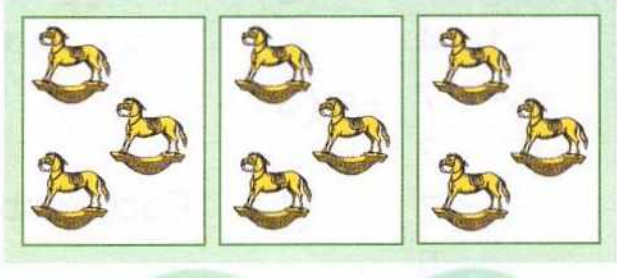


(d) 3 girls share 12 cakes. The facts are:

1. $12 \div 3 =$ ..... cakes.
2. $4 \times 3 =$ ..... cakes.
3. Each girl gets ..... cakes.

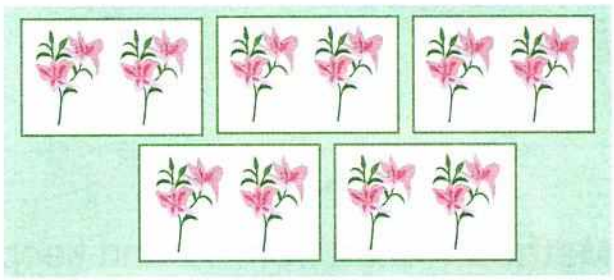
(e) 3 babies share 9 toys. The facts are:

1. $9 \div 3 =$ ..... .
2. $3 \times 3 =$ ..... .
3. Each baby gets .....toys.



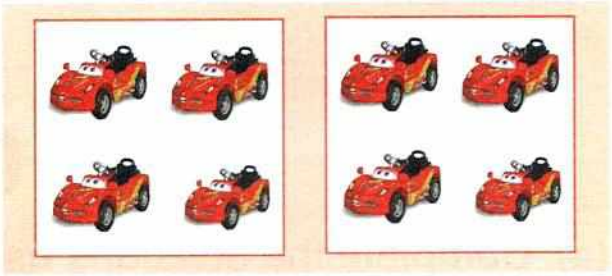
(f) 5 girls share 10 flowers. The facts are:

1. 10 ÷ 5 = ... flowers.
2. 2 × 5 = ... flowers.
3. Each girl gets ..... flowers.



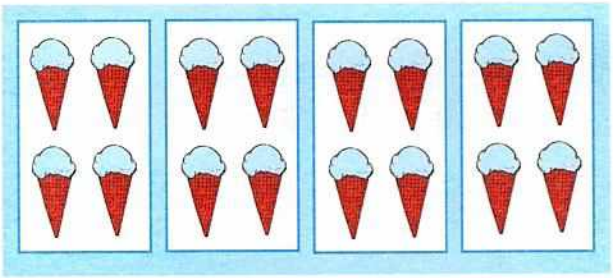
(g) 2 boys share 8 toy cars. The facts are:

1. 8 ÷ 4 = ... toy cars.
2. 4 × 2 = ... toy cars.
3. Each boy gets ..... toy cars.



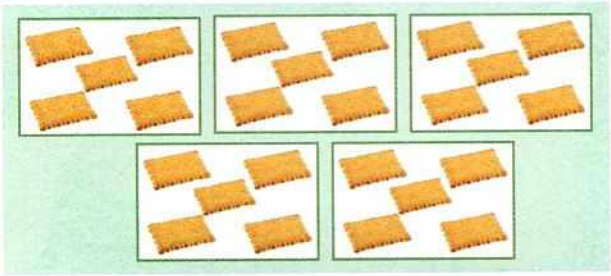
(h) 4 children share 16 ice-creams. The facts are:

1. 16 ÷ 4 = ... ice-creams.
2. 4 × 4 = ... ice-creams.
3. Each child gets ..... ice-creams.



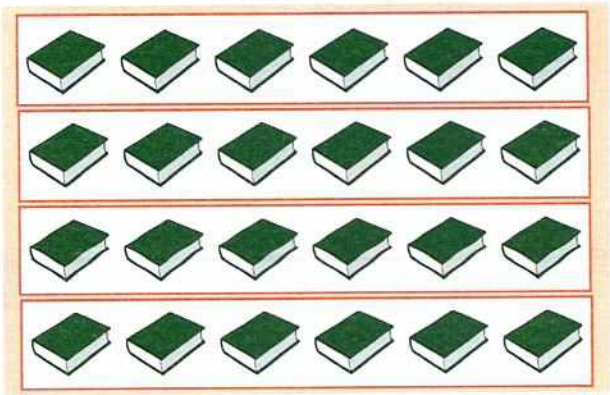
(I) 5 boys share 25 biscuits. The facts are:

1. 25 ÷ 5 = ... biscuits.
2. 5 × 5 = ... biscuits.
3. Each boy gets ..... biscuits.



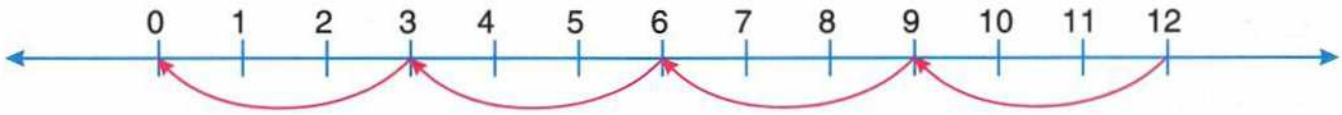
(j) 4 girls share 24 books. The facts are:

1. 24 ÷ 4 = ... books.
2. 4 × 6 = ... books..
3. Each girl gets ..... books.



Division on a number line.

Example : Divide 12 by 3.



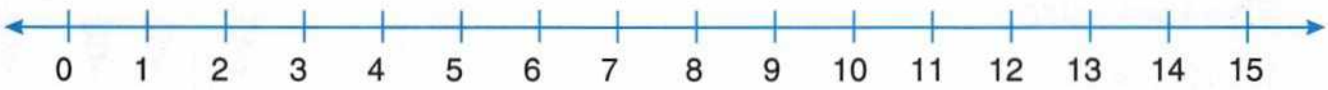
Method : Start from 12 and keep on jumping 3 places backwards, till you reach 0. Count how many times you have jumped back. Answer is **4** times.

$12 \div 3 = 4$

Exercise

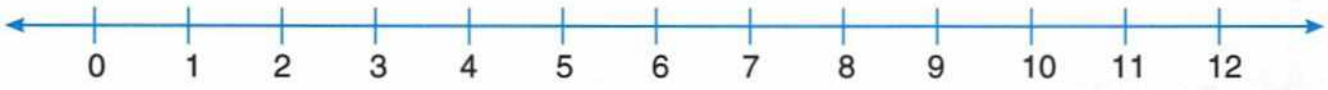
(a) Complete the divisions using the number line.

1.



$15 \div 5 =$ ☐

2.

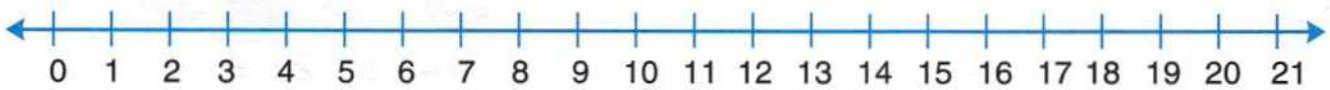


$12 \div 4 =$ ☐

3.

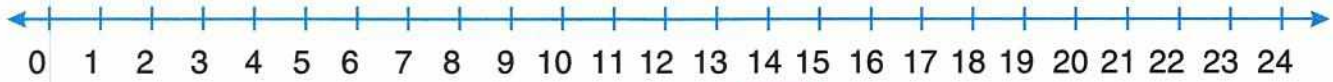
$18 \div 3 =$ ☐

4.



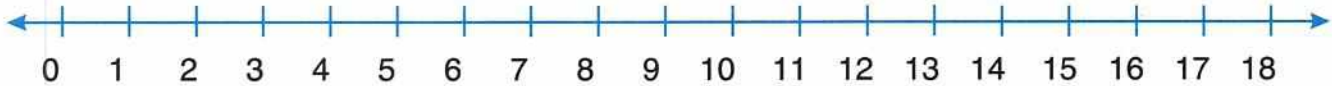
$21 \div 3 =$ ☐

5.



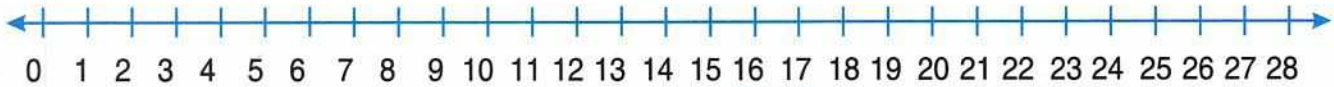
$24 \div 4 =$ ☐

6.



$15 \div 3 =$ ☐

7.



$28 \div 4 =$ ☐

(b) Complete the divisions:

1. $8 \div 2 =$
2. $6 \div 3 =$
3. $4 \div 4 =$
4. $10 \div 2 =$
5. $10 \div 5 =$
6. $16 \div 2 =$
7. $32 \div 4 =$
8. $16 \div 4 =$
9. $4 \div 2 =$
10. $8 \div 4 =$
11. $12 \div 4 =$
12. $6 \div 2 =$
13. $18 \div 3 =$
14. $15 \div 5 =$
15. $12 \div 3 =$
16. $14 \div 2 =$

Word Problems

1. There are 16 stamps to be put in 4 envelopes equally. How many stamps will each envelope have ?

2. Amit has 30 chocolates. If 1 box can carry 15 chocolates, how many boxes does Amit need to put all of the chocolates ?

3. 5 children share 20 lollipops equally. How many lollipops does each child get ?

4. 3 monkeys share 27 bananas equally. How many bananas does each monkey get ?

5. 50 books have to be kept in 5 bookshelves equally. How many books will be there in each bookshelf ?

6. 60 glasses of orange juice are to be kept in 10 serving trays. How many glasses are there in each tray ?

7. Amrit wants to put 32 crayons in 4 boxes. How many crayons are in each box ?

8. Sunil puts 45 apples in 5 packets. How many apples are there in a packet ?

11 Measurement

Length

Tall, Taller, Tallest

A

B

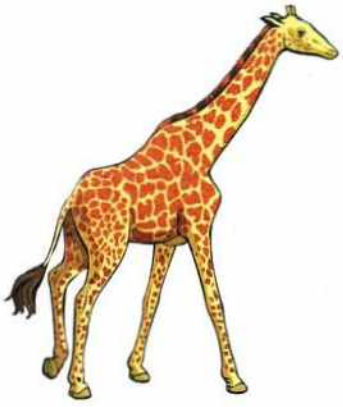
C

- Girl B is taller than girl A.
- Girl C is taller than girl B.
- Girl C is also taller than girl A.

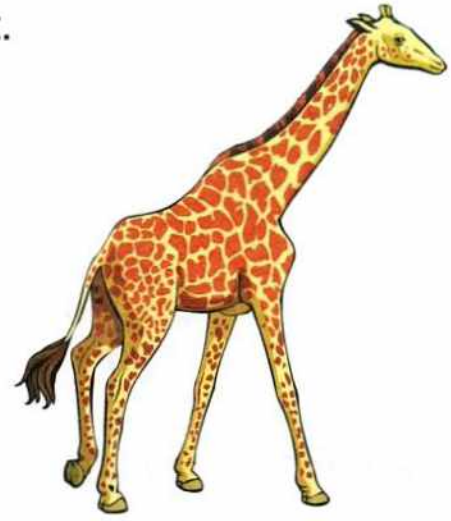
Girl C is taller than all the girls, so girl C is the tallest.

Example :

Tall



Taller



Tallest

Note for teacher :

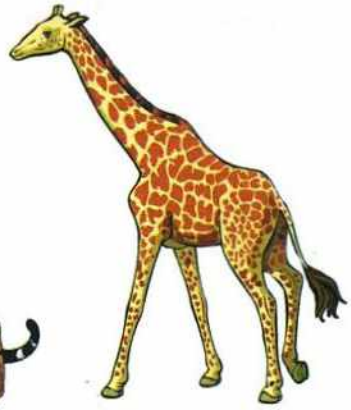
Teachers are requested to explain the concept of "height" and "length" to children giving examples form their surroundings. Please tell them that when we look up vertically, we see objects as high, tall or short. Similarly when we look around horizontally, they look long or short.

Tall/Short

Example 1 :

Dog

Tiger



Giraffe

- The giraffe is taller than the tiger.
- The dog is shorter than the tiger and giraffe.
- The giraffe is the tallest.

Example 2 :

When we compare lengths or heights of groups of things or people, we use the term short, shorter or shortest.

In the picture, Neha is the **shortest** and Gopal is the **tallest**.

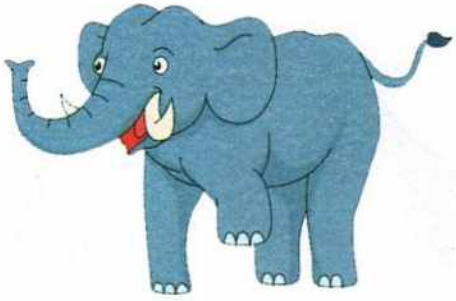
Neha

Ram

Gopal

Exercise

1. Look at the animals and answer the following questions.



(a) Which animal is the tallest ? .....

(b) Which animal is the shortest ? .....

(c) Which animal is taller than the monkey ? .....

2. Name the tallest person in your family. Also name the shortest person in your family.

Tallest person : ..... Shortest person : .....

High, Higher, Highest

A

B

C

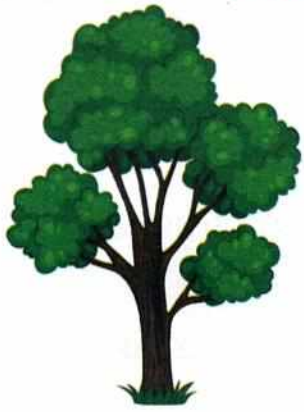
- Building B is higher than building A.
- Building C is higher than building B.
- Building C is higher than buildings B and C.

Building C is higher than all the remaining buildings, so it is the **highest**.

Example :

High

Higher



Highest

Short, Shorter, Shortest

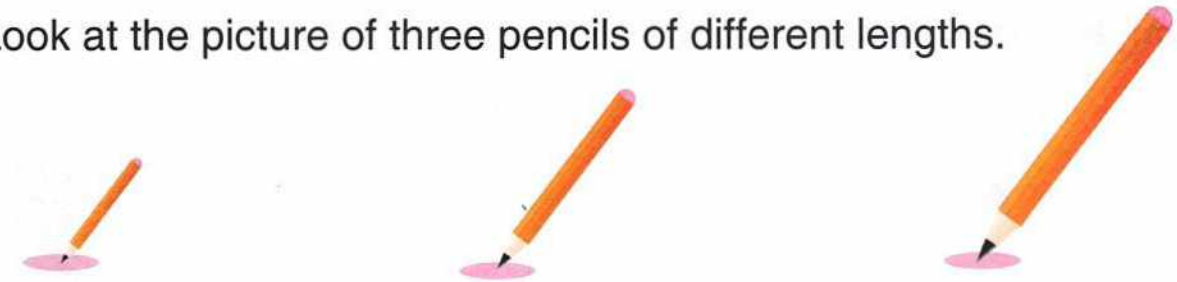
- Sharpner is shorter than the crayon.

- Crayon is shorter than the pencil.

- Pencil is longer than the sharpner.

The sharpner is shorter than both crayon and pencil, so it is the **shortest**.
The pencil is longer than both the sharpner and crayon, so it is the **longest**.

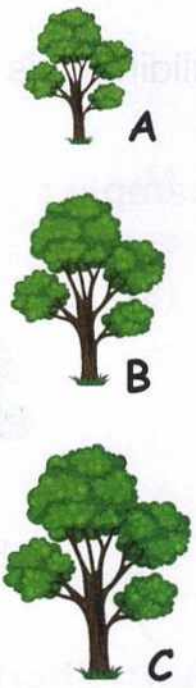
Example : Look at the picture of three pencils of different lengths.



Long Longer Longest

Exercise

1. Give the correct answer.



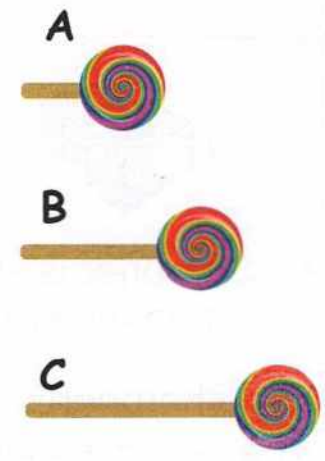
(a) Which tree is higher than B ?

(b) Which tree is shorter than B ?

(c) Which tree is the shortest ?

(d) Which tree is the highest ?

2. Look at the image carefully and answer.



(a) Which lollipop is the shortest ?

(b) Which lollipop is longer than B ?

(c) Which lollipop is longer than A and B ?

(d) Lollipop B is shorter than which one ?

3. Arrange the following from the shortest to the longest.

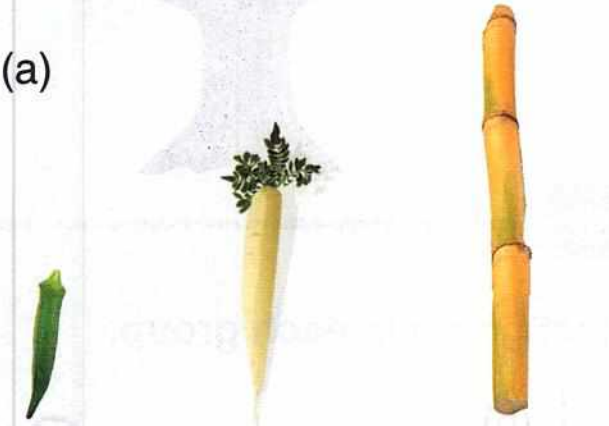
A B C D E

Answer :

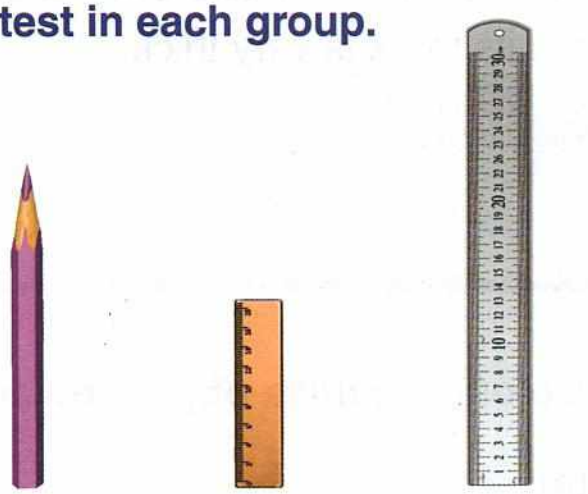
Shortest Longest

4. Mark (✓) the longest and circle the shortest in each group.

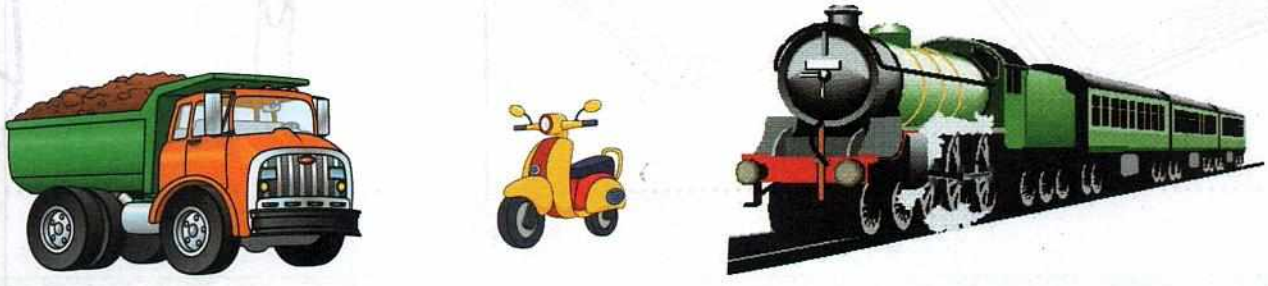
(a)



(b)



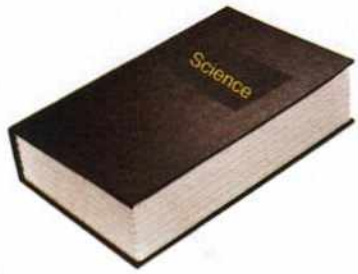
(c)



Thin and Thick

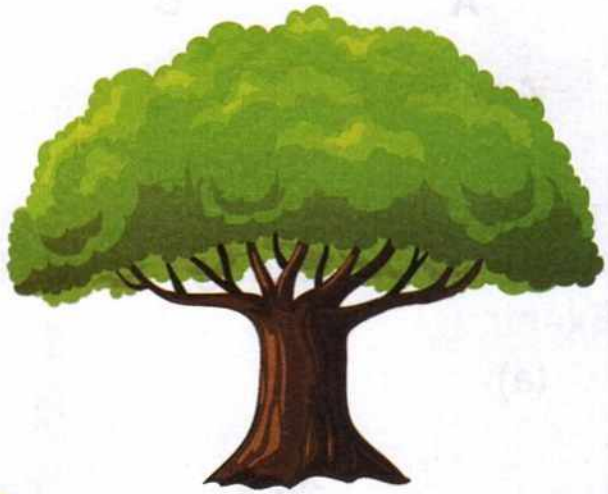
Example 1 :

Notebook



Textbook

The notebook is thin. The textbook is thick.



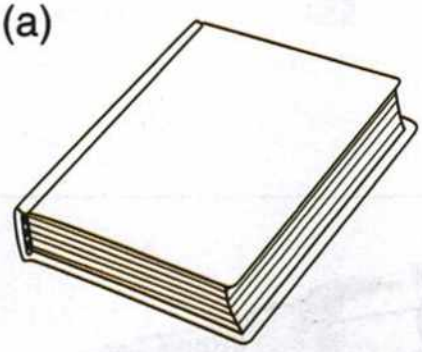
Example 2 :

Look at the tree. Its branches are thin, but its trunk is very thick.

Exercise

Colour the thick object red and thin object green in each group.

(a)



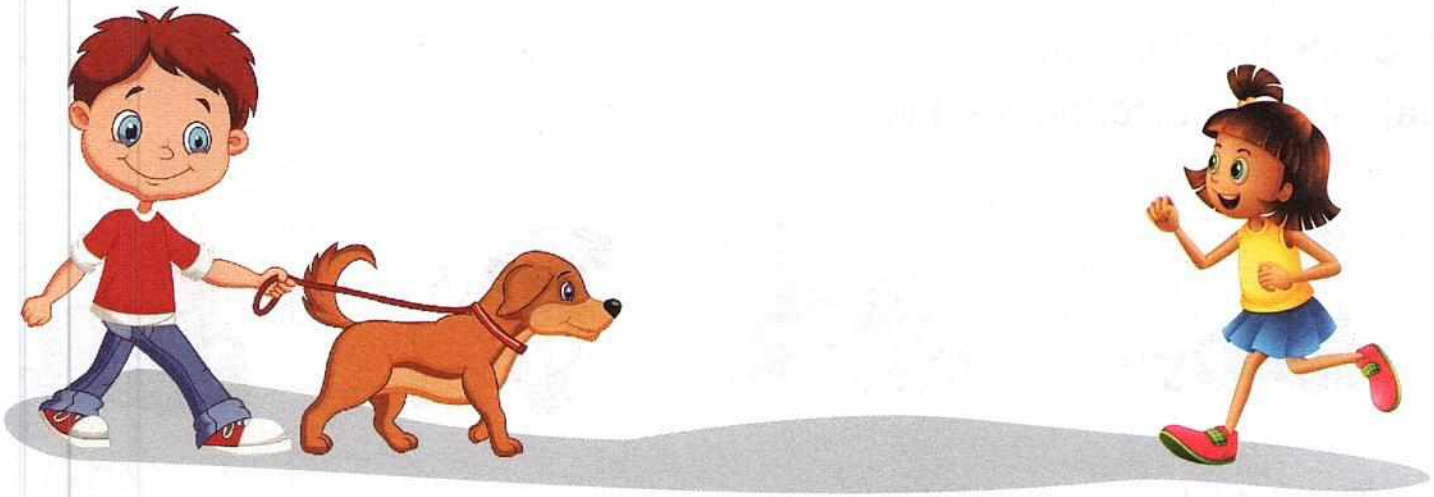
....

(b)

....

Note for teacher :
Please explain the concept of thin and thick to the students giving examples from the surroundings.

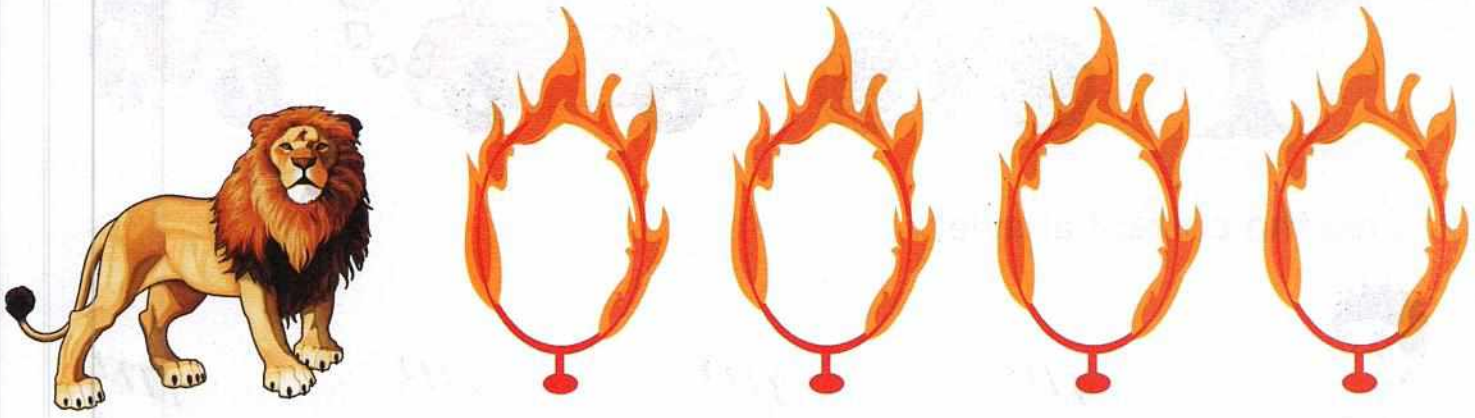
Near and Far



The boy is near to the dog.

The girl is far from the dog.

Example : Look at the given picture and observe the answers to the questions.



Circus Lion Ring 1 Ring 2 Ring 3 Ring 4

(a) Which ring is nearest to ring 1 ? Ring 2

(b) Which ring is farthest to ring 2 ? Ring 4

(c) Which ring is nearest to the lion ? Ring 1

(d) Which ring is nearest to ring 4 ? Ring 3

(d) Which ring is farthest to ring 3 ? Ring 1

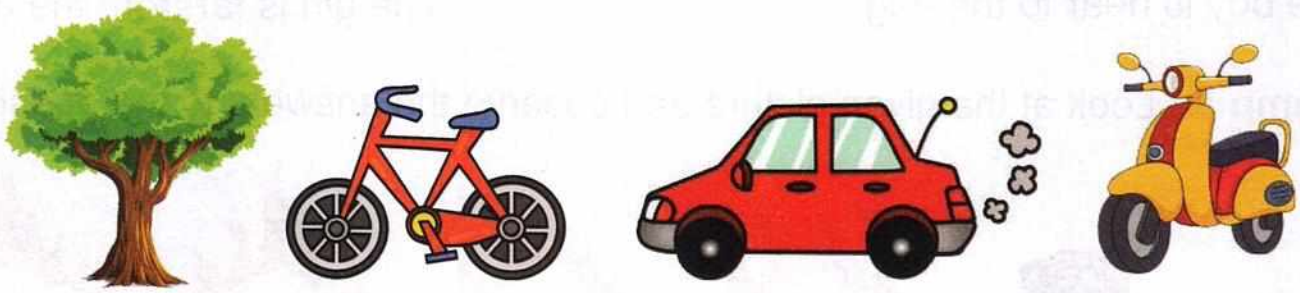
(f) Which ring is farthest to the lion ? Ring 4

Exercise

1. Circle the following :

(a) The animal farthest to the rat.

(b) The vehicle nearest to the tree.



2. Give the correct answer.

Pole 1 Pole 2 Pole 3 Pole 4

(a) Which pole is nearest to the boy ? ..... .

(b) Which pole is farthest to the boy ? ..... .

(c) Which pole is farther than pole 2 ? ..... .

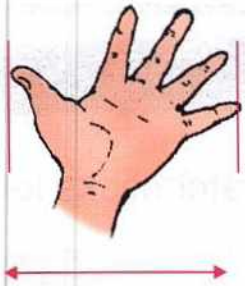
(d) Which pole is farthest to pole 1 ? ..... .

(e) Which pole is nearest to pole 4 ? ..... .

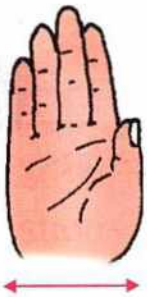
(f) Which pole is nearest to pole 1 ? ..... .

Measuring Length

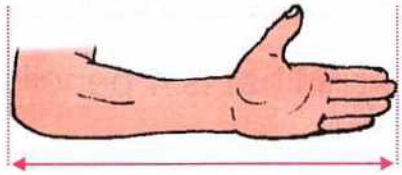
By our body parts.



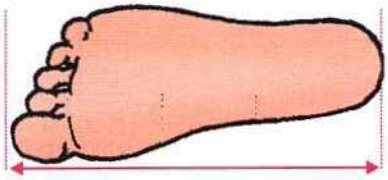
Hand span



Palm



Cubit



Foot span

Arm span

Exercise

Fill in the blanks.

(a) My desk is ..... palms long.

(b) The teacher's table is ..... hand spans long.

(c) My room's length is ..... foot spans long.

(d) Length of my pencil is ..... palms long.

(e) Length of my tie is ..... palms long.

(f) Width of the door is ..... cubits long.

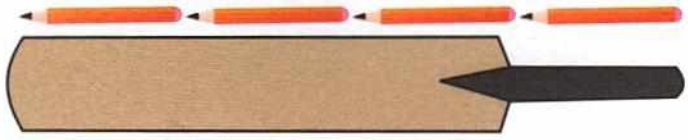
(g) Length of my pencil box is ..... hand spans long.

(h) Height of my chair is ..... cubits long.

Note for teacher :

Please explain to the students that while measuring lengths using body parts, their answers may vary from student to student since the lengths of their body parts are different.

By Using Different Objects

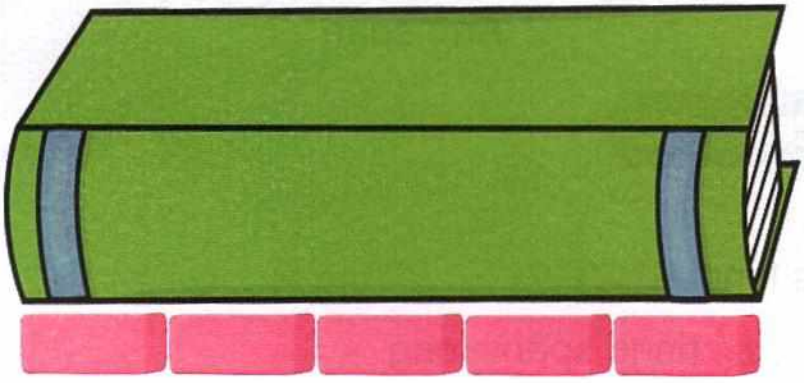


This bat is 4 pencils long.

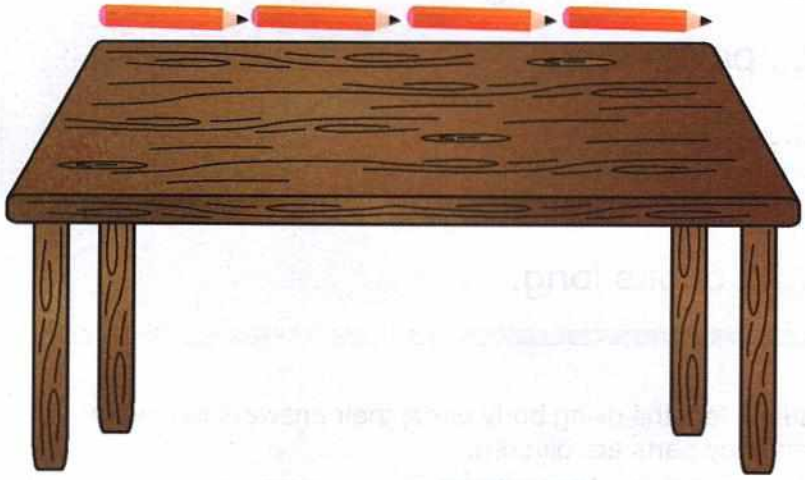
This comb is 6 matchsticks long.

Exercise

Look at the picture and answer carefully.



This book is ..... erasers long.



This table is ..... pencils long.

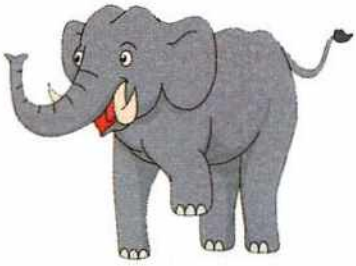
Weight

Light Lighter Lightest



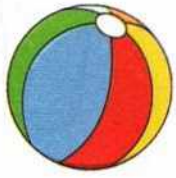
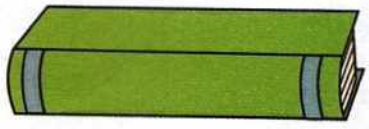
Heavy Heavier Heaviest





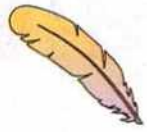
Exercise

1. Tick (✓) the lightest object and circle the heaviest object.


2. Tick (✓) the correct choice in each case.

(a) The heavier object.

(b) The lighter object.


(c) The lighter object.


(d) The heavier animal.

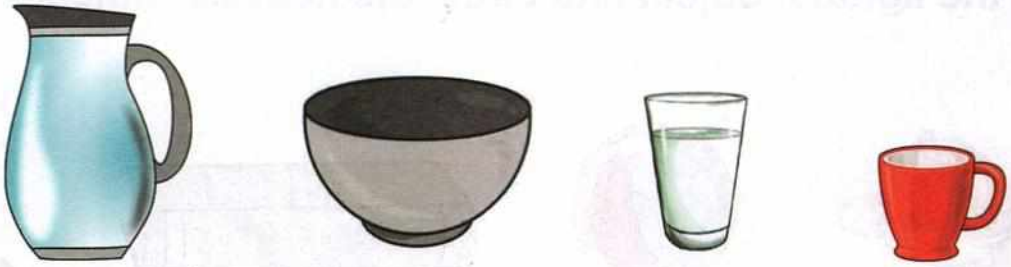

Measuring Capacity

Jug

Cup

Capacity of a vessel tells us how much it can hold/contain.

Bigger vessels hold more. Smaller vessels contain less.



Look at the pictures and fill up the blanks.

(a) 

3 cups fill up 1 glass

(b) 

☐ glasses fill up 1 jug

(c) 

☐ bottles fill up 1 bucket

(d) 

☐ glasses fill up 1 bowl

Exercise

1. Tick (✓) the object which has more capacity in each group.

(a)

(b)

(c)

(d)

2. Consider the following :

1

2

3

4

5

6

(a) Arrange the above in the order of their increasing capacity, by putting their numbers in boxes.

☐ ☐ ☐ ☐ ☐ ☐

(b) Which vessel has the greatest capacity ?

(c) Which vessel has the least capacity ?

Time

Weeks and Months

Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday

Month	Days
January	31
February	28/29
March	31
April	30
May	31
June	30
July	31
August	31
September	30
October	31
November	30
December	31

There are 7 days in a week.
4 weeks make a month.
52 weeks make a year.
A year has 12 months.
There are 365 days in a year.

January, March, May, July, August, October and December have 31 days.

April, June, September and November have 30 days.

February has **28** days except in the leap year. In a leap year, February has **29** days. So there are 366 days in a leap year. The year divisible by four is a **LEAP YEAR**.

Exercise

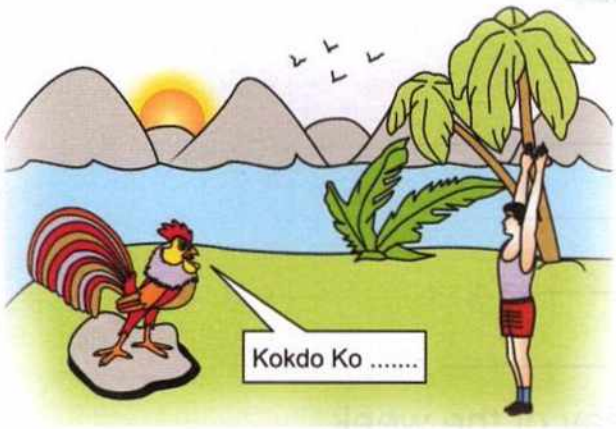
(a) Fill in the blanks.

1. The second day of the week is _____ .
2. The fifth day of the week is _____ .
3. The middle of the week is _____ .
4. The beginning of the week is _____ .
5. Wednesday is the _____ day of the week.
6. The last day of the week is _____ .
7. There are _____ days in a week.
8. The weekend is made up of _____ and _____ .
9. We go to school for _____ days in a week.
10. The first day of the week is _____ .

(b) Fill in the blanks.

1. The first month of the year is _____ .
2. The fifth month of the year is _____ .
3. The sixth month of the year is _____ .
4. February is the _____ month of the year.
5. A year has _____ weeks.
6. The months with maximum number of days are _____ .
7. The month with minimum days is _____ .
8. The months with 30 days are _____ .
9. A leap year has _____ days.
10. An ordinary year has _____ days.

Time and Clock



The sun rises in the **morning**.
A new day begins.

It is very hot at **noon**.

The sun sets in the **evening**.

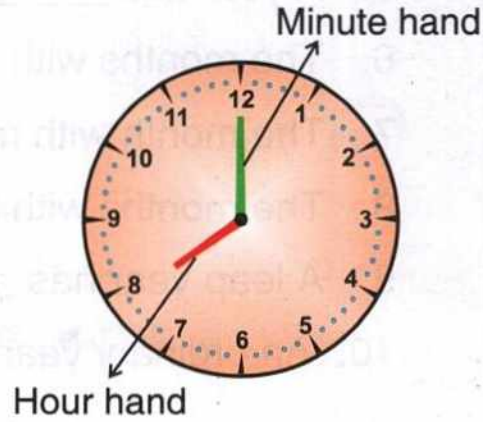
It is dark at **night** and the moon and stars shine.

A day has 24 hours

We read the time by looking at a watch or clock. A watch or clock has numbers 1 to 12 written on it.

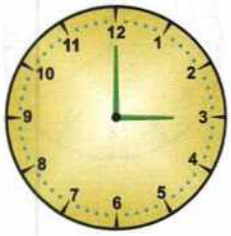
There are 2 hands that move, a long hand and a short hand, fixed to the centre of the clock or watch.

The long hand is the minute hand and the short hand is the hour hand. The long hand is at 12. The short hand is at 8. It is 8 o'clock. It is written as 8:00.



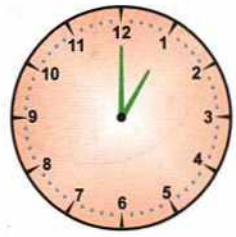
Exercise

(A) Write the time shown in the clocks.

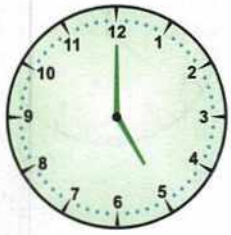


_____ o'clock

_____ o'clock

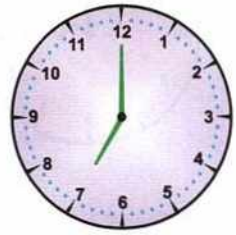


_____ o'clock



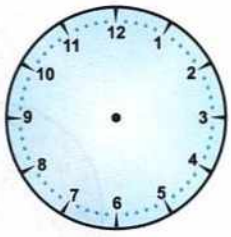
_____ o'clock

_____ o'clock

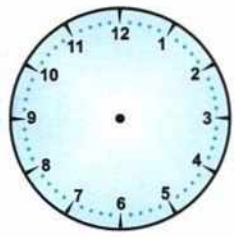


_____ o'clock

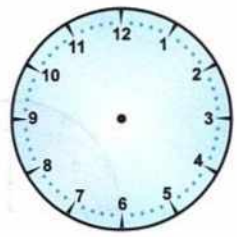
(B) Draw the hands of the clocks to tell the given time.



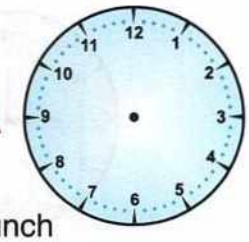
We get up at 6 o'clock.



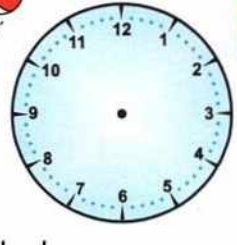
We go to school at 7 o'clock.



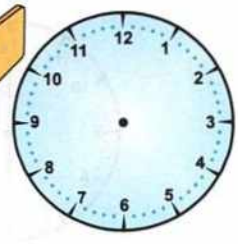
Father goes to office at 9 o'clock.



We eat our lunch at 2 o'clock.

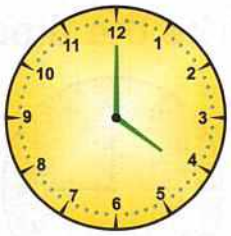


We play at 4 o'clock.



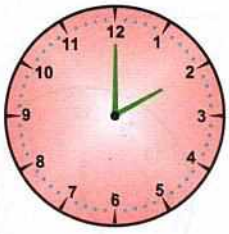
We go to bed at 9 o'clock.

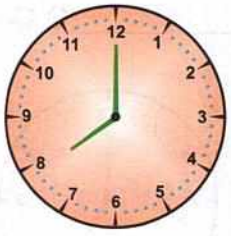
(C) Match the time with the watch showing that time.



3 o'clock

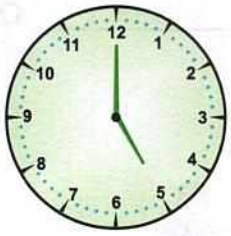
8 o'clock





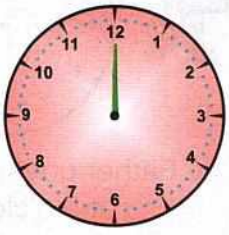
10 o'clock

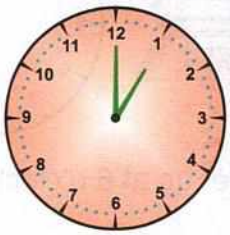
1 o'clock



5 o'clock

2 o'clock

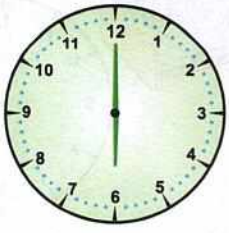


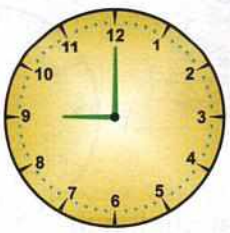


12 o'clock

6 o'clock

9 o'clock





4 o'clock

Long and Short Duration Events

During the day, we do different activities. Some of them are for a short duration while others are for a longer period.

Example : We go to bed at night and get up in the morning. Our sleep is for a long duration. In the morning, we have our breakfast. It takes only a short duration. Also taking breakfast is an earlier activity of the day while going to bed is a later activity.

Exercise

1. Classify the daily activities of Rohit as short or long duration events.

(a) Rohit wakes up at 6 o'clock.
(c) Rohit has his breakfast at 7 o'clock.
(c) Rohit has classes from 9 o'clock to 2 o'clock in the afternoon.
(d) Rohit returns from school at 3 o'clock.
(e) Rohit plays from 4 o'clock to 6 o'clock in the evening.
(f) Rohit studies from 6 o'clock to 8 o'clock.
(g) Rohit watches T.V. from 8 o'clock to 9 o'clock.
(h) Rohit has dinner at 9 o'clock.
(i) Rohit goes to bed at 10 o'clock.

Short duration events	Long duration events

2. Write two earlier activities of Rohit in the day.

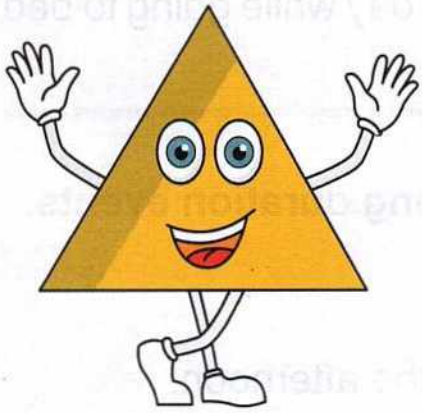
3. Mention any three later activities of Rohit.

4. Write any three activities which take you longer duration to do.

5. Mention any 3 activities you do within a short duration.

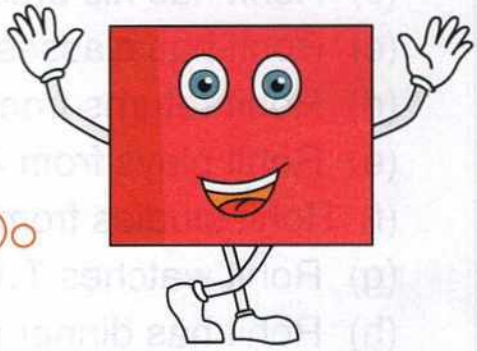
Note for teacher :
Please explain the concepts of "earlier", "later", "short duration" and "long duration" with suitable examples from the activities of children both at home and school during the day.

12 Geometry

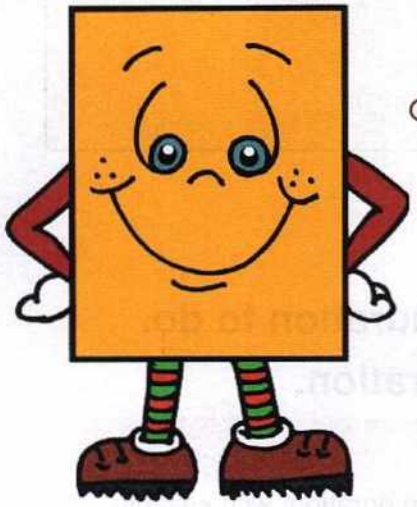


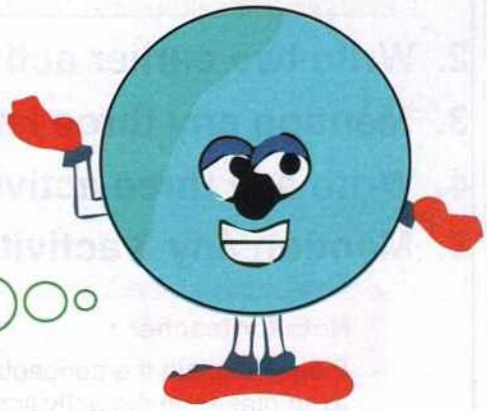
I am a triangle. I have three sides.

I am a square. I have four sides. All my sides are equal.



I am a rectangle. I have four sides, two long and two short.

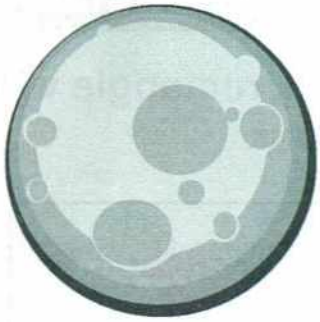




I am a circle. I am round in shape. I have no sides.

Circle

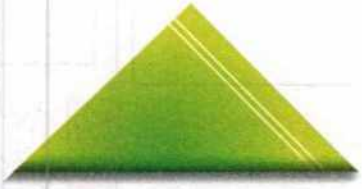
Clock



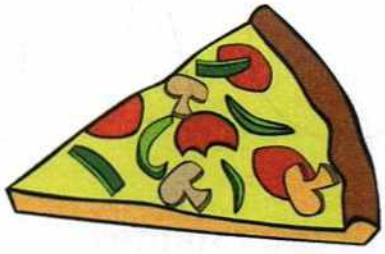
Moon

Orange slice

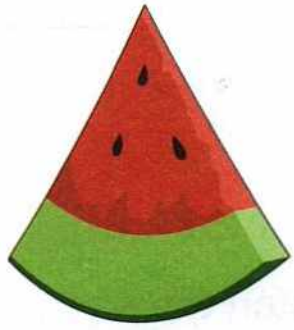
Triangle



Napkin

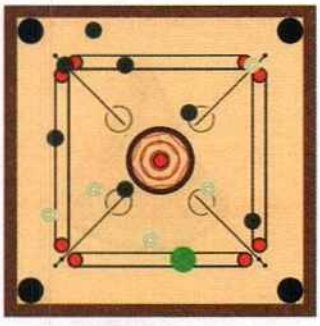


Pizza slice

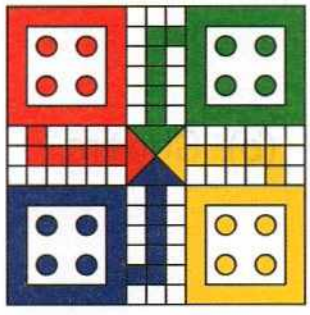


Watermelon slice

Square



Carrom board



Ludo board

Chess

Rectangle

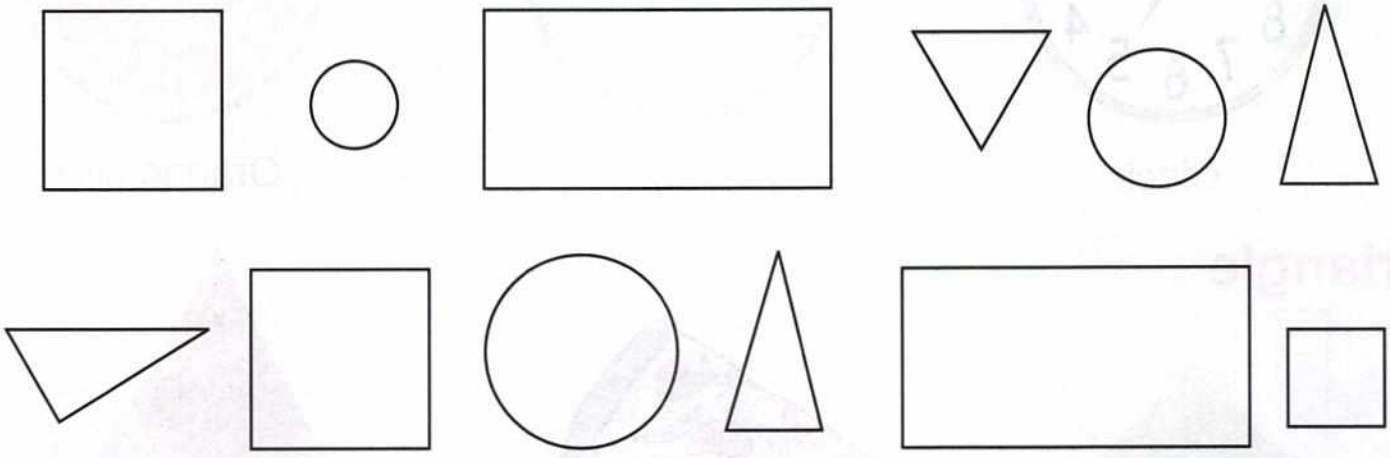
Chocolate

Mirror

Biscuit

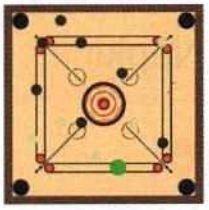
Exercise

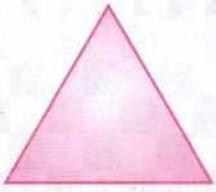
1. Colour the square with red, rectangle with blue, circle with green and triangle with pink colour.



2. Match the same shapes with their names.

(a) Triangle





(b) Square

(c) Circle

(d) Rectangle

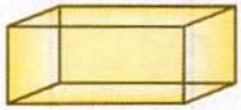
3. Colour the pictures according to the code.

Solid Shapes

Anything that has a shape and takes up space is called a **solid**. A solid has length, breadth and height.

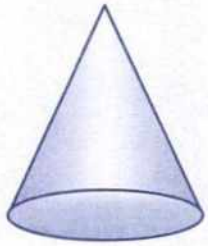
A dice-shaped object is called a cube. It has all sides equal. It has six equal faces.

A book is called a cuboid. It has its opposite sides equal. It also has six faces.



A candle is cylindrical in shape. It has three faces.

An object having both circular and triangular shapes is called a cone. It has two faces.



A ball - like shape is called a sphere. It has only one face. It has no edges or corners.

Exercise

1. Name the shapes of the following solids.

....

....

2. Give two examples of each of the following solids.

A cube .....

A sphere .....

A cone .....

A cuboid .....

A cylinder .....

13 Data Handling

In daily life, we require information about different things.

The information we collect about things is called **data**.

Data handling helps us to understand all the information we get.

1. The following picture shows different kinds of vehicles. We can write the number of each kind of vehicle in the circle as shown below.

(a) There are (3) bicycles.

(b) There are (3) cars.

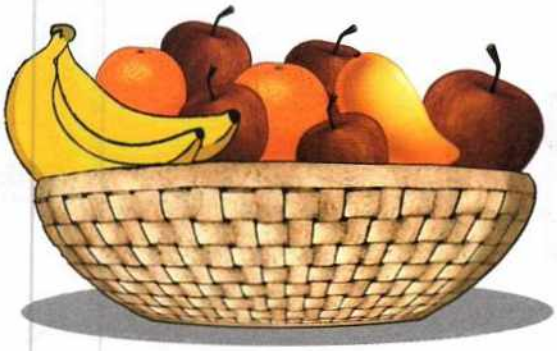
(c) There is (1) scooter.

(d) There is (1) bus.

(e) There are (8) vehicles in all.

Exercise

1. See the picture carefully and fill the circles.



(a) There are ( ) apples.

(b) There are ( ) oranges.

(c) There are ( ) bananas.

(d) There is ( ) mango.

2. The following picture shows different kinds of animals. Write the number of each kind of animal in the circles.

(a) There is ( ) giraffe.

(b) There are ( ) elephants.

(c) There are ( ) rabbits.

(d) There are ( ) lions.

(e) There are ( ) lion cubs.

Fun Page

(a) Count the following objects at your home and write their number in the circle.

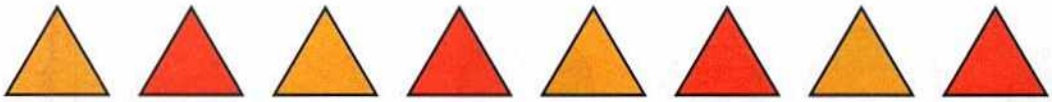
(b) Look at the picture and answer.

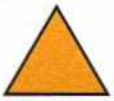
1. How many students are standing ? .....
2. How many students are sitting ? .....
3. How many chairs are in the class ? .....
4. How many girls are there in the class ? .....
5. How many students are there in the class ? .....

14 Patterns

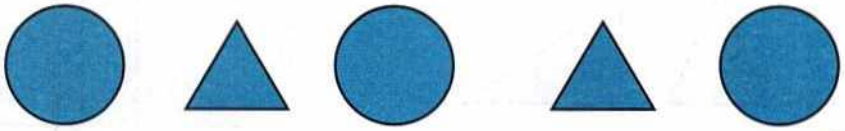
We often see patterns in the clothes that we wear. We can make beautiful patterns by the repeated use of shapes, numbers or alphabets.

1. We form patterns using shapes of different colours.



The next colour will be 

2. We form patterns using different shapes.



The next shape will be 

3. We form patterns using shapes of different sizes.

The next shape will be 

4. We form patterns using different numbers.

4, 9, 4, 9, 4, 9, ?

The next number will be 4

5. We form patterns using different alphabets.

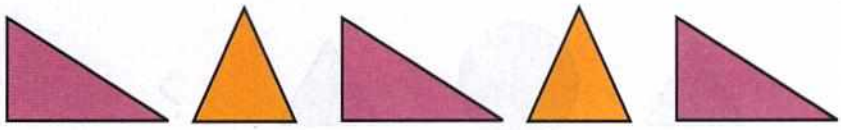
AB, CD, AB, CD, ?

The next shape will be AB

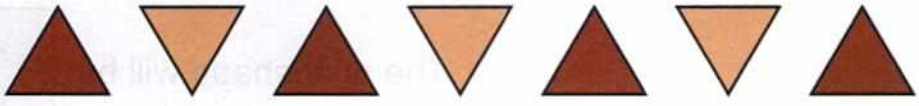
Exercise

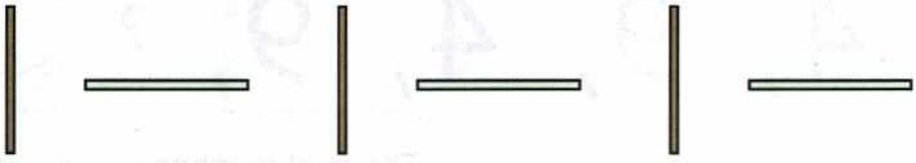
(a) What are the next two units of the following patterns ?

1. 

2. 

3. 5, 7, 5, 7, 5

4. 

5. 

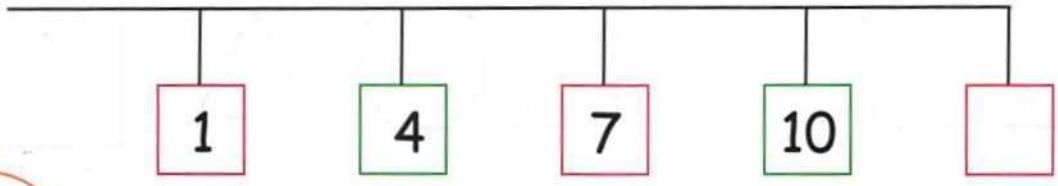
6. 0, 2, 4, 6, 8 ☐ ☐

7. ABC, ABC, ABC, ☐ ☐

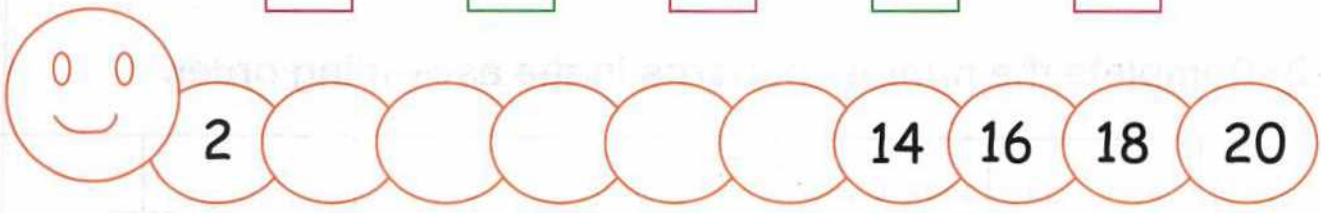
8. A, C, E, G, I, ? ☐ ☐

(b) Study the pattern of numbers given below and fill up the blanks.

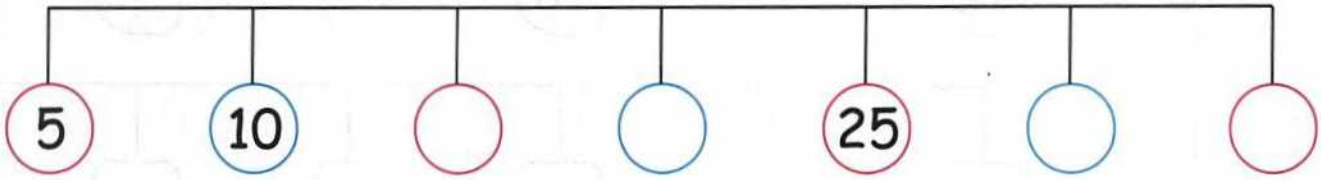
1.



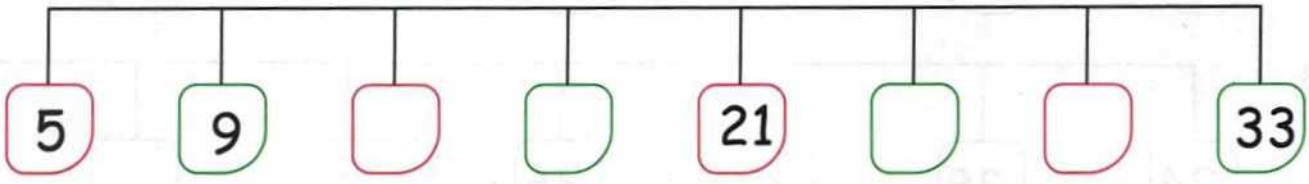
2.



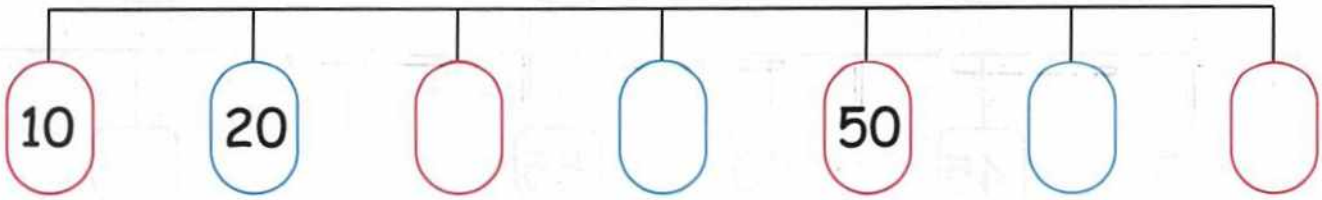
3.



4.

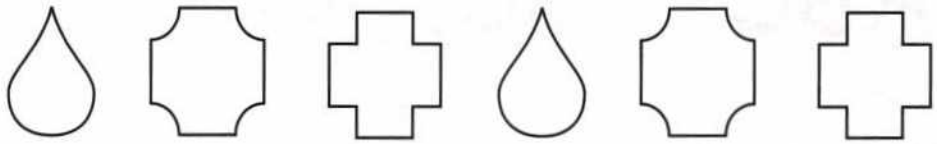


5.



(c) Colour and complete the patterns.

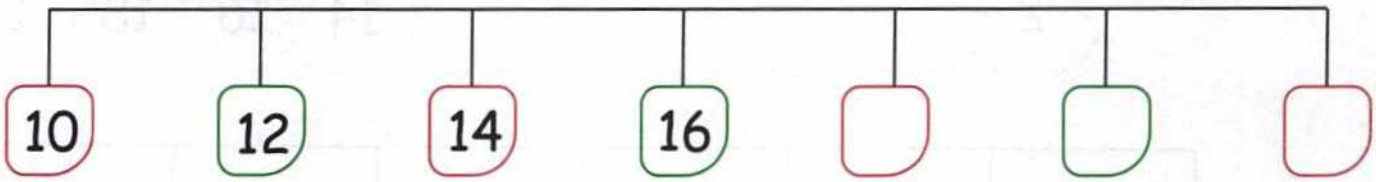
1. 

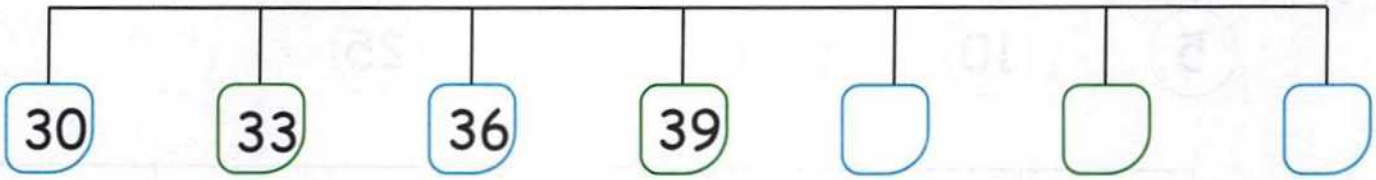
2. 

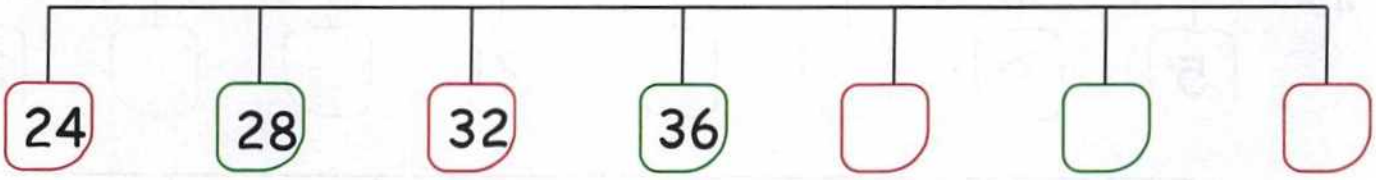
3. 

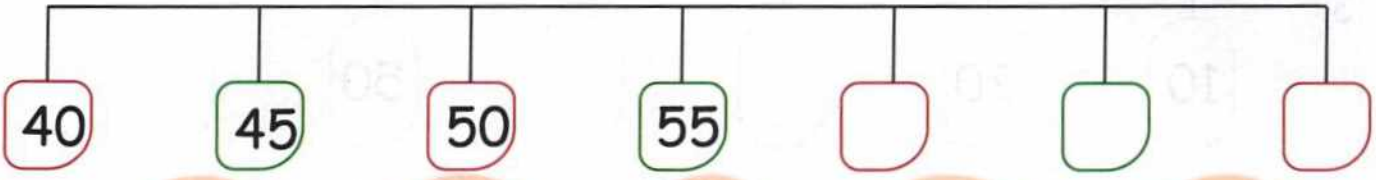
4. 

(d) Complete the number patterns in the ascending order.

1. 

2. 

3. 

4. 

15 Money

We all love our parents/family. Don't you ? We want to give them a gift on their birthdays. You need to buy a card or flowers to gift them. To buy these, you need money.

Your parents need money to buy you books or pay your school fees. You also need money to buy sweets, pencils, balls, etc.

Money is in the form of coins or currency notes. Coins are made of metals and currency notes are made of paper.

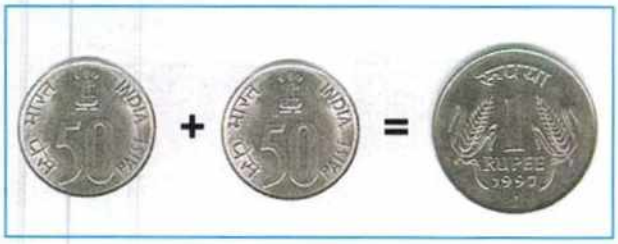
Coins

Coins worth 1p, 2p, 3p, 5p, 10p, 20p and 25p were available but are no more in use now. Only coins worth 50p, ₹ 1, ₹ 2, ₹ 5 and ₹10 are in use now.

Currency Notes

Conversion of Paise to Rupees (₹)

The symbol for rupee is ₹.



50p + 50p = 100p

100p = ₹ 1

Two 50p coins are worth ₹ 1

50p + 50p = 100p = ₹ 1

50p + 50p + ₹ 1 = ₹ 2

Exercise

(A) Find the total value of coins.

1.  = ☐

2.  = ☐

3.  = ☐

4.  = ☐

5.  = ☐

(B) Choose coins and currency notes to make the given amount. Tick the proper coins and currency notes.

₹ 70




☑ ☐ ☑ ☐

₹ 82




☐ ☐ ☐ ☐

₹ 31




☐ ☐ ☐ ☐

₹ 92




☐ ☐ ☐ ☐

₹ 35




☐ ☐ ☐ ☐

₹ 90




☐ ☐ ☐ ☐

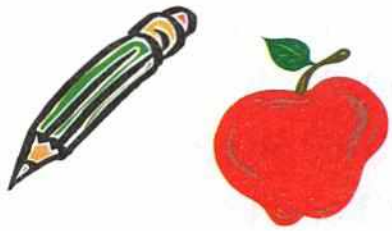
Shopping

Given below are some objects along with their prices.

			
₹ 1	₹ 50	₹ 25	₹ 5
			
₹ 20	₹ 50	₹ 10	₹ 1

Write the price of the two items shown and calculate their total amount.

₹ 20
+ ₹ 50
₹ 70



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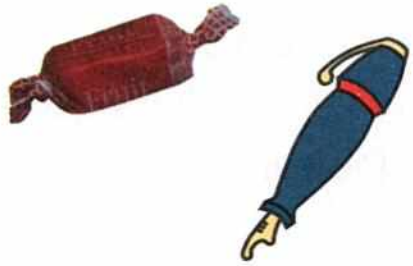

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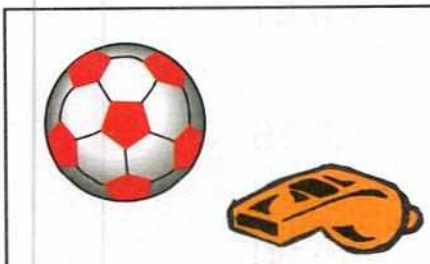

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+

Play with Numbers

A. Multiple choice questions. Choose the correct answer.

1. The number that comes before 25 is :
   (a) 26 (b) 24 (c) 23 (d) 27
2. The number that comes after 37 is :
   (a) 39 (b) 36 (c) 38 (d) 39
3. The number that comes between 48 and 50 is :
   (a) 49 (b) 51 (c) 52 (d) 47
4. When we arrange 48, 17, 81, 95, 10, in ascending order, the answer is :
   (a) 95, 17, 48, 8, 10 (b) 10, 48, 17, 81, 95
   (c) 17, 10, 68, 95 (d) 10, 17, 48, 81, 95
5. When we arrange 3, 90, 60, 75, 40, in descending order, the answer is :
   (a) 90, 60, 75, 40, 3 (b) 90, 75, 40, 60, 3
   (c) 90, 75, 60, 40, 3 (d) 90, 75, 60, 3, 40
6. The number name for 57 is :
   (a) Fiffty seven (b) Fifty seven
   (c) Fifty seventh (d) Fifty sevn
7. What is the sum of 5 and 4 ?
   (a) 1 (b) 3 (c) 9 (d) 10
8. What is the sum of 43 and 9 ?
   (a) 42 (b) 62 (c) 52 (d) 51
9. What is the sum of 49 and 23 ?
   (a) 62 (b) 72 (c) 60 (d) 61
10. When we subtract 6 from 9, we get :
    (a) 7 (b) 8 (c) 3 (d) 15
11. When we subtract 43 from 82, we get :
    (a) 29 (b) 39 (c) 49 (d) 30

12. There were 48 chocolates. 32 chocolates were distributed among pupils. How many chocolates are left ?
    (a) 12 (b) 13 (c) 16 (d) 18
13. Our body parts can measure :
    (a) Length (b) Volume (c) Area (d) Capacity
14. A shape that has three sides is a :
    (a) Square (b) Triangle (c) Rectangle (d) Circle
15. A shape that has four equal sides is :
    (a) Rectangle (b) Circle (c) Square (d) Cone
16. The shape of a carpet is :
    (a) Square (b) Rectangle (c) Cone (d) Circle
17. Compared to a rabbit, an elephant is :
    (a) Lighter (b) Heavier
    (c) Both (d) Can not be compared
18. The shape of a football is that of a :
    (a) Circle (b) Triangle (c) Cone (d) Square
19. The two digit number formed by the digit 1 and 0 is :
    (a) 20 (b) 10 (c) 01 (d) 12
20. A cube has :
    (a) 8 faces (b) 6 faces (c) 10 faces (d) 4 faces

B. Fill in the blanks :

1. When we add 12 and 13, we get ..... .
2. When 48 is added to 35, we get ..... .
3. The number that is between 49 and 51 is ..... .
4. The number before 60 is ..... .
5. The number 89 written in words is :
    (a) Eighty-nine (b) Eighty and nine
    (c) Eighty nine (d) Eighte-nine

6. 93 ..... 73. (Use the correct symbol).
   (a) < (b) = (c) > (d) ÷
7. the numeral for ninety five is :
   (a) 65 (b) 75 (c) 85 (d) 95
8. The number we get when we subtract 18 from 37 is ..... .
9. There are 27 birds on a tree. 18 of them fly away. The remaining number of birds is ..... .
10. Multiplication is ..... addition.
11. $4 \times 5 =$ ..... .
12. $7 \times 10 =$ ..... .
13. Division is ..... subtraction.
14. If we divide 25 balloons among 5 children, each child will get ..... balloons.
15. The answer we get in addition is called ..... .
16. The two digit numbers formed by the digits 4 and 5 without repetition are : ..... .
17. The two digit numbers formed by the digits 2, 3, 4 without repeating the digits are : ..... .
18. The two digit numbers formed by the digits 3, 0, 9 without repeating the digits are : ..... .
19. The information we get about things is called ..... .
20. A year has ..... months.

C. Answer the following :

1. Arrange 21, 89, 32, 45, 11, 22 in ascending order. Find the largest and the smallest numbers.
2. Arrange 8, 31, 83, 41, 27, 88 in descending order. Also find the smallest and largest numbers.
3. Add numbers 3, 4 and 2 on the number line.

4. Subtract 4 from 7 on the number line.
5. Draw an abacus to represent number 78 and 27.
6. Add number 35 and 47.
7. Subtract 48 from 82.
8. Multiply 24 by 4.
9. Multiply 39 by 2.
10. Multiply 6 by 10.
11. Divide 30 balloons equally among 6 children. How many balloons will each child get ?
12. In a group of 15 children each child gets 3 balloons. How many balloons are there in all ?
13. Write the forward counting from 53 to 63.
14. Write the backward counting from 49 to 38.
15. Write the following numbers in expanded form :
    (a) 68 (b) 79 (c) 57 (d) 31 (e) 20
16. Write the following numbers in compact form :
    (a) 50 + 6 (b) 20 + 9 (c) 80 + 9 (d) 90 + 7
17. Draw the following figures and colour them
    (a) Circle (b) Cylinder (c) Triangle
18. Collect the birthdays of your classmates. Make a chart as shown below :

Date	Month	Number of students

    Find out the month in which most of the students were born.
19. Complete the following number patterns :
    (a) 25, 30, 35 ....., ..., ... (b) 15, 25, 35 ....., ..., ...
20. Draw the solids sphere, cone and cylinder. Colour them red, blue and green respectively.

(D) 1. Suman has 12 chocolates. Her mother gave her 9 more chocolates. How many chocolates does she have now ?

2. For a party, 48 ice-creams were bought. When 8 more guests came, 8 more ice-creas were bought. How many ice-creams were bought altogether ?
3. Anu had 17 sweets. She gave 9 sweets to her friends. How many sweets are left with her now ?
4. In a class there are 42 students. 15 of them were absent on Monday. How many students were present on Monday ?
5. A packet of crayons contains 12 crayons. How many crayons are there in 4 such packets ?
6. Mother gives five sweets each to her four children. How many sweets were with her altogether ?
7. Aman divides 20 marbles among his 4 friends. How many marbles does each one get ?
8. Consider the picture of animals given below :

Circle the (a) the tallest animal (b) the smallest animal
(c) the heaviest animal

9. Measure the heights of 5 of your friends and make a chart. Answer the questions given below :
   (a) Who is the tallest in the group ?
   (b) Who is the shortest in the group ?
   (c) What is your height ?
10. Name the months of a year. How many days does a leap year have ?

Fun Activities

1. Starting from 4, circle all the numbers 4 more than it and colour the pattern.

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

2. Find the weights of six of your friends in the class. Tabulate your findings as follows :

Name of Students	Weight of each Student
1. Aman	.....
2. Vikash	.....
3. Suresh	.....
4. Mohan	.....
5. Deepak	.....
6. Rajesh	.....

The heaviest student is .....

The lightest student is .....

3. Arrange the following in the ascending order of their capacities.

(a)

(b)

4. Look at the calender you have at home/school and answer the following :

(a) How many months are there in a year ? .....

(b) Is the present year a leap year or an ordinary year ? .....

(c) Which is your birthday ? .....

(d) Which month has only 28/ 29 days ? .....

(e) How many days are there in December ? .....

5. In the following figure, colour the rectangles red, squares green, circles brown and triangles blue.