New COMPOSITE MATHEMATICS

Class

2

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School

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Cover image represents Mathematics in real life

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Preface

In response to the tremendous response and numerous feedbacks received from teachers and students, we feel great pleasure to bring out this new edition titled **New Composite Mathematics** for LKG to Class 5.

As you are well aware, the primary classes form the foundation of a student's knowledge. It is at this very level that a child grasps the fundamental concepts of mathematics, which he/she goes on to apply to all sorts of fields in higher classes. It, therefore, becomes essential to make him/her understand these concepts very clearly.

The latest syllabus prescribed by NCERT stresses on practical approach to studies, so that the child can learn the basic concepts from things around him/her. Further, the concept of CCE (Continuous and Comprehensive Evaluation) introduced by CBSE seeks to test the knowledge of basic concepts of a child through objective type, very short answer and short answer questions supported by 'fill in the blanks' and 'true/false type' questions.

This new edition of the book is fully in accordance with the principle of CCE.

The salient features of the book are:

- Completely redesigned and re-illustrated.
- The theory is presented in a very simple language and supported with examples from everyday life.
- Adequate number of questions for practice have been given in exercises to enable child to have sufficient drill on each topic.
- The section called **'Activity Time'** in each chapter contains relevant Maths Lab Activities, Fun Activities and Projects.
- A section called **'CCE Drill'** with two parts has been added to each chapter.
  (a) **Question Bag 1** consisting of Multiple Choice Questions.
  (b) **Question Bag 2** consisting of a Self Assessment Test in which short answer questions, true/false questions and fill in the blanks have been given.

Suggestions for any improvement in the book are always welcome.

Contents

1 Revision (Numbers 1 to 100)

Fill in the missing numbers.

1						7			
				15					
								29	
			34						
							48		
									60
					66				
	72								
						87			
		93							

Fill in the missing numbers by counting forward or backward.

51 → 52 → ◯ → ◯ → ◯ → ◯ → 57 → ◯ → ◯ → ◯

24 → 25 → 26 → ◯ → ◯ → ◯ → ◯ → ◯ → ◯ → ◯

19 → 18 → ◯ → ◯ → ◯ → ◯ → ◯ → ◯ → ◯ → 10

70 → 71 → ◯ → ◯ → ◯ → 75 → ◯ → ◯ → ◯ → ◯

35 → 36 → ◯ → ◯ → ◯ → ◯ → ◯ → ◯ → 43 → ◯

96 → 95 → ◯ → ◯ → ◯ → ◯ → ◯ → ◯ → ◯ → 87

Numbers and Number Names

Write the numerals for the given number names.

Sixteen		Nineteen	
Sixty-three		Thirty-seven	
Forty-one		Twenty-eight	
Fifty-eight		Forty-four	
Seventy-nine		Ninety-five	
Fifty-four		Eighty-two	
Thirty		One hundred	

Write the number names for the given numerals.

11		98	
35		44	
56		63	
72		27	
49		31	
18		59	
96		86	

Before – After – Between

Fill in the placeholders.

◯ is just before 60	91 is just after ◯
◯ is just before 71	60 is just after ◯
◯ is just before 89	49 is just after ◯
◯ is just before 96	57 is just after ◯
◯ is just before 32	83 is just after ◯
46 is just before ◯	◯ is just after 30
69 is just before ◯	◯ is just after 93
81 is just before ◯	◯ is just after 79
50 is just before ◯	◯ is just after 58
99 is just before ◯	◯ is just after 71

The number which comes between 81 and 83 is ◯

56 comes between ◯ and ◯

◯ comes between 39 and 41

99 comes between ◯ and ◯

Comparison of Numbers

Encircle the smallest number in each row.

5	19	26	41	(2)
78	7	47	96	62
54	21	85	32	93
20	39	27	11	75
66	99	31	78	49

Encircle the greatest number in each row.

(92)	33	1	45	29
21	52	34	59	68
36	13	91	9	10
37	87	60	57	17
43	28	79	56	72

Ascending and Descending Orders

Arrange the numbers in ascending order.

63, 81, 29, 13, 75 ⇒ _____

39, 45, 92, 24, 53 ⇒ _____

17, 88, 37, 66, 99 ⇒ _____

46, 61, 68, 70, 48 ⇒ _____

Arrange the numbers in descending order.

28, 81, 57, 95, 70 ⇒ _____

40, 14, 58, 8, 36 ⇒ _____

77, 33, 22, 11, 55 ⇒ _____

5, 49, 23, 72, 87 ⇒ _____

Expanded Form and Short Form

Write the numbers in the expanded form.

67	=	6	tens	and	7	ones	=	60	+	7
59	=		tens	and		ones	=		+	
73	=		tens	and		ones	=		+	
89	=		tens	and		ones	=		+	
94	=		tens	and		ones	=		+	
18	=		ten	and		ones	=		+	
36	=		tens	and		ones	=		+	

Write in short form.

5 tens and 3 ones	=	50	+	3	=	53
0 tens and 9 ones	=		+		=	
1 ten and 7 ones	=		+		=	
2 tens and 4 ones	=		+		=	
9 tens and 6 ones	=		+		=	
7 tens and 8 ones	=		+		=	
3 tens and 9 ones	=		+		=	

Addition

Add:

T	O
	2
+	3

T	O
	3
+	5

T	O
	4
+	5

T	O
	2
+	6

T	O
	5
+	6

T	O
	7
+	9

T	O
	9
+	3

T	O
	8
+	4

Solve the following.

1. Kunal has 3 sweets. Anju gives him 6 sweets more. How many sweets does Kunal have now?

2. There are 4 apples and 3 mangoes in a basket. How many fruits in all are there in the basket?

3. Renu had 7 pencils. She bought 5 more pencils. How many pencils does Renu have now?

4. There are 9 boys and 8 girls in a class. How many students are there in the class?

Add:

T	O
3	6
+ 4	2

T	O
2	0
+ 3	0

T	O
4	1
+ 3	5

T	O
1	7
+ 4	2

T	O
3	3
+ 5	6

T	O
6	0
+ 2	6

T	O
5	4
+ 2	5

T	O
7	8
+ 2	1

T	O
2	3
+ 3	5

Solve the following.

1. There are 43 mango trees and 21 apple trees in a park. How many trees in all are there in the park?

2. A farmer has 26 cows and 33 buffaloes on his farm. How many cattle are there on the farm?

3. Anil had 14 stamps. His friend gives him 52 stamps more. How many stamps has he now?

Subtraction

Subtract:

T	O
	9
−	4

T	O
	8
−	6

T	O
1	7
−	5

T	O
1	9
−	7

T	O
6	7
− 4	2

T	O
7	9
− 4	3

T	O
9	7
− 6	4

T	O
7	6
− 6	0

Solve the following.

1. Kapil had 16 eggs. 3 eggs were broken. How many eggs does Kapil have now?

2. Gopal had 37 balloons. He sold 15 balloons. How many balloons are left with Gopal?

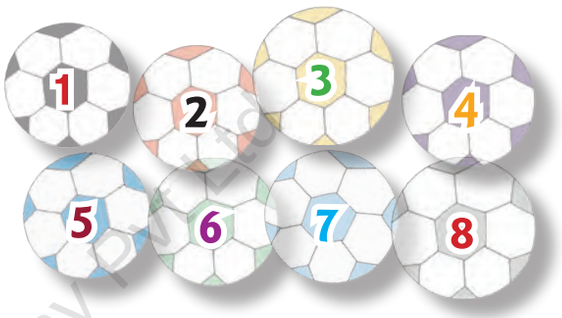
3. Rahul bought 79 toffees on his birthday. He gives 56 toffees to his friends. How many toffees does Rahul have now?

4. There are 48 pupils in a class. Out of these, 34 are boys. How many girls are there in the class?

2 Ordinal Numbers

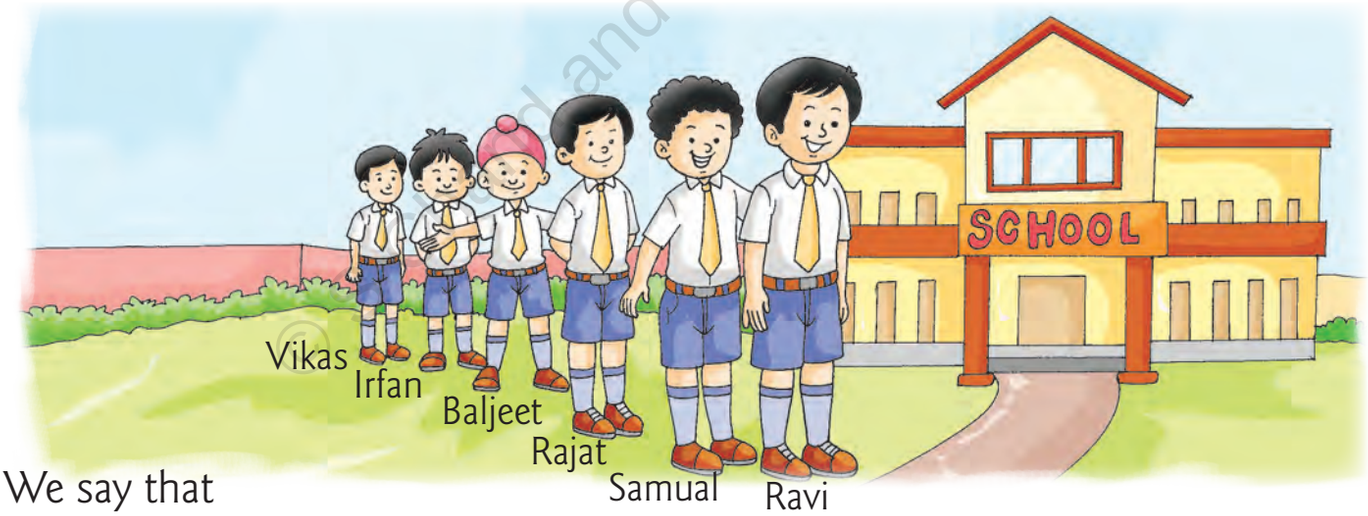
We count the number of objects like this.
One, Two, Three,...
The number on which our counting ends, tells us the number of objects.

Suppose we have a collection of footballs. We may count these footballs by labelling them as 1, 2, 3,...
Our counting ends at 8.
So, there are 8 footballs in the collection.



The numbers one, two, three,... which tell us the number of objects or items are called Cardinal Numbers.

Now, suppose six boys are standing in a queue in the school.

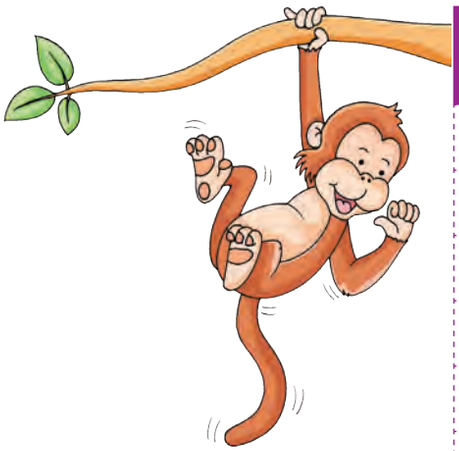


We say that
Ravi is the first boy in the queue;
Samual is the second in the queue;
Rajat is the third in the queue;
Baljeet is the fourth in the queue;
Irfan is the fifth in the queue; and
Vikas is the sixth in the queue.

The numbers such as first, second, third,... which tell us the position of an object in a collection, are called Ordinal Numbers.

How to Represent Ordinal Numbers?

In figures, the ordinal numbers are indicated by counting numbers but we add two letters every time. The first, second and third are shown by adding the letters 'st', 'nd' and 'rd'. All the others are shown by adding the letters 'th'.



Ordinal Numbers	Representation
First	1st
Second	2nd
Third	3rd
Fourth	4th
Fifth	5th
Sixth	6th
Seventh	7th
Eighth	8th
Ninth	9th
Tenth	10th
Eleventh	11th
Twelfth	12th
.	.
.	.
.	.
Twentieth	20th
.	.
.	.
.	.

There are 26 letters in the English alphabet. These are given below.

A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z

A is the first (1st) letter.

B is the second (2nd) letter.

C is the third (3rd) letter.

D is the fourth (4th) letter.

E is the fifth (5th) letter.

F is the sixth (6th) letter.

G is the seventh (7th) letter.

H is the eighth (8th) letter.

I is the ninth (9th) letter.

J is the tenth (10th) letter.

K is the eleventh (11th) letter.

L is the twelfth (12th) letter.

M is the thirteenth (13th) letter.

N is the fourteenth (14th) letter.

O is the fifteenth (15th) letter.

P is the sixteenth (16th) letter.

Q is the seventeenth (17th) letter.

R is the eighteenth (18th) letter.

S is the nineteenth (19th) letter.

T is the twentieth (20th) letter.

U is the twenty-first (21st) letter.

V is the twenty-second (22nd) letter.

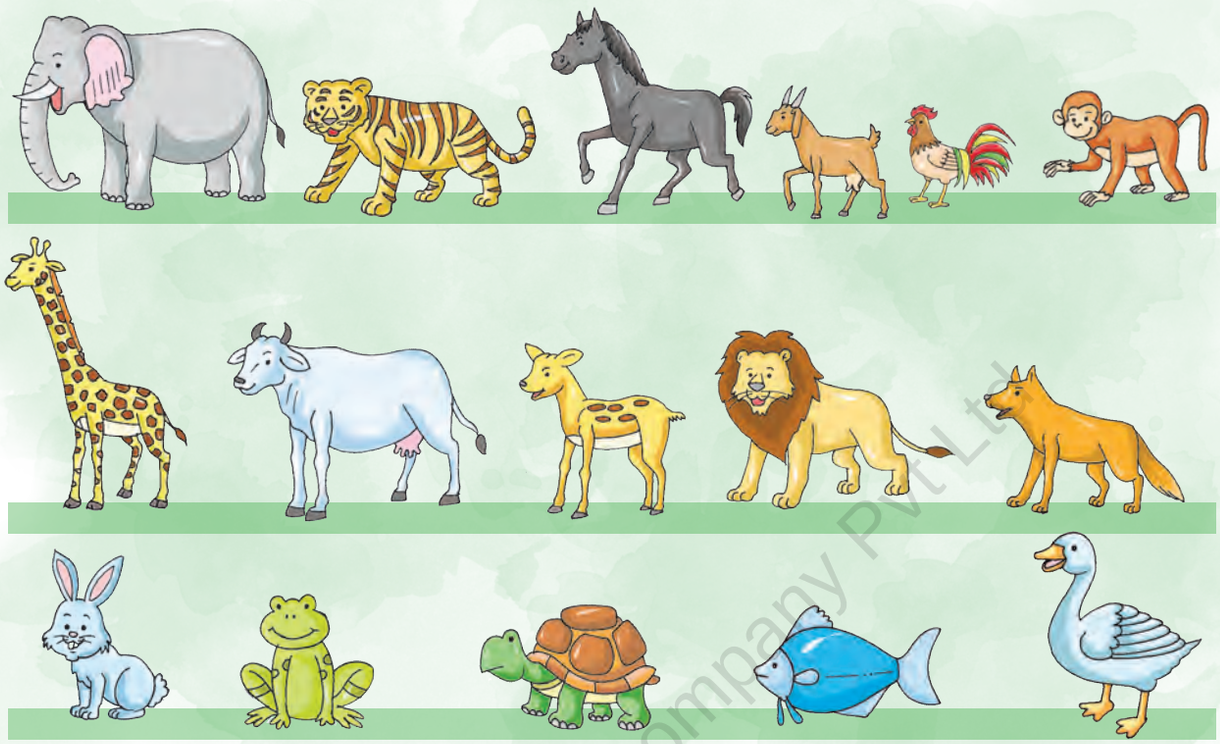
W is the twenty-third (23rd) letter.

X is the twenty-fourth (24th) letter.

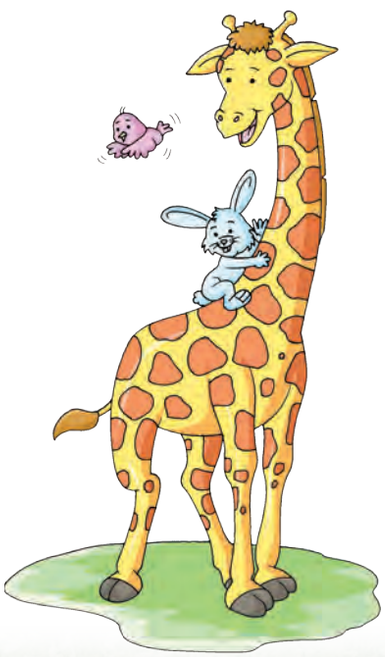
Y is the twenty-fifth (25th) letter.

Z is the twenty-sixth (26th) letter.

Look at the row-wise order in which pictures of animals and birds have been placed and fill in the blanks given below.



The cow is at ..... eighth ..... place.
The ..... is at fifteenth place.
The tortoise is at ..... place.
The rabbit is at ..... place.
The ..... is at thirteenth place.
The cock is at ..... place.
The horse is at ..... place.
The ..... is at sixth place.
The deer is at ..... place.
The ..... is at first place.
The dog is at ..... place.
The goat is at ..... place.
The giraffe is at ..... place.
The duck is at ..... place.



Fill in the blanks with correct ordinal numbers.

K is the ..... letter in the word CRICKET.

A is the ..... letter in the word ELEPHANT.

R is the ..... letter in the word DAUGHTER.

D is the ..... letter in the word BLACKBOARD.

I is the ..... letter in the word CROCODILE.

C is the ..... letter in the word GYMNASTICS.

S is the ..... letter in the word MATHEMATICS.

The vowels in the word BUNGALOW occupy the ....., ... and ..... places.

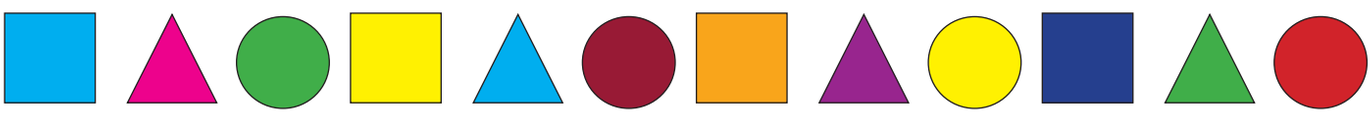
There are seven days in a week. Monday is taken as the first day of the week. Write the position of:

Tuesday	Thursday	Sunday

There are twelve months in a year. January is taken as the first month of the year. Write the position of:

May	August	November

Observe the following pattern.



The fifth figure in the pattern is a .....

The twelfth figure in the above pattern is a .....

3 Three-Digit Numbers

In Class 1, we have read about numbers upto 99. We know how to read and write 2-digit numbers. We also know that:

The smallest 2-digit number is 10.

The greatest 2-digit number is 99.

Let us add 1 to 99.

99 + 1 = 9 tens + 9 ones + 1 one

= 9 tens + 10 ones

= 9 tens + 1 ten = 10 tens

We call 10 tens as one hundred and write it as 100.

The smallest 3-digit number is 100.

In a 3-digit number:
The first place from the right is the one's place.
The second place from the right is the ten's place.
The third place from the right is the hundred's place.

Thus, we have the following chart as shown below.

Hundreds	Tens	Ones
H	T	O

3-digit numbers start with 100 and proceed as follows.

Number	Numeral
One hundred one	101
One hundred two	102
One hundred three	103 and so on.

Number	Numeral
One hundred ten	110
One hundred eleven	111
One hundred twelve	112
One hundred thirteen	113 and so on.
One hundred twenty	120
One hundred twenty-one	121
One hundred twenty-two	122 and so on.
One hundred ninety-one	191
One hundred ninety-two	192
One hundred ninety-three	193 and so on.
One hundred ninety-nine	199
Two hundred	200
Further, we have:	
Two hundred one	201
Two hundred two	202
⋮	⋮
Two hundred ten	210
Two hundred eleven	211
Two hundred twelve	212
⋮	⋮
Two hundred twenty	220
⋮	⋮
Two hundred thirty	230
⋮	⋮
Two hundred ninety-nine	299
Three hundred	300
⋮	⋮

This process of counting goes on till 999.

The greatest 3-digit number is 999.

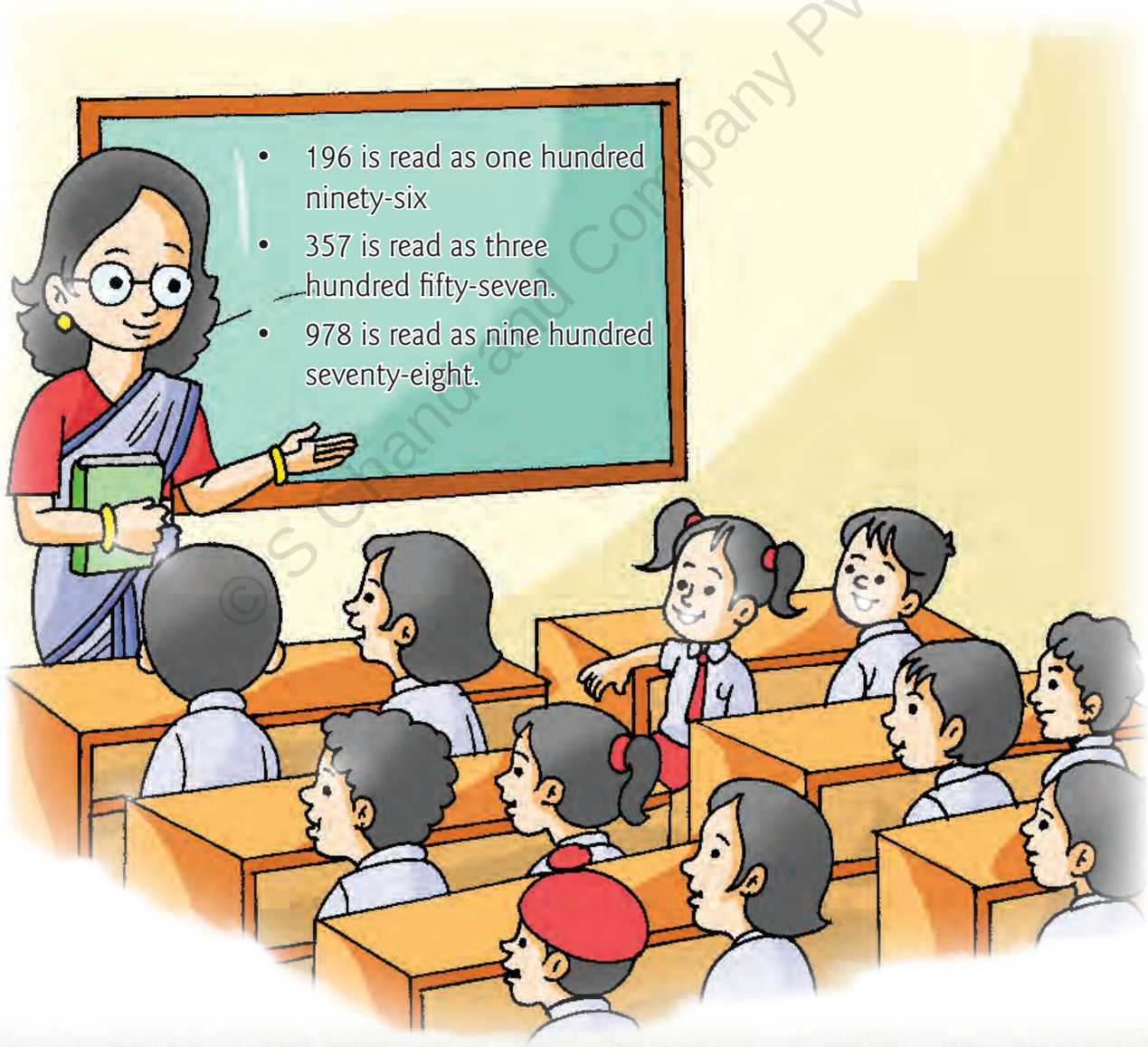
So, 3-digit numbers start with 100 and end at 999.

Thus, there are 900 three-digit numbers in all.

Number Names

A number name denotes how we read out a numeral.

To read a 3-digit number, we first read the hundred's place, followed by the number formed by the last two digits.



Write the missing numbers.

Numbers from 101 to 200

101	102					107			110
				115					
121							128		
	132								140
					146				
		153						159	
			164				168		
171						177			
				185					190
					196				200

Numbers from 201 to 300

201				205					210
		213						219	
			224						230
231					236				
	242						248		
		253						259	
				265					270
			274				278		
				285					
							298		

Write the missing numbers.

Numbers from 301 to 400

301			304				308		
	312								320
				325					
		333							340
	342					347			
					356				
			364					369	
371							378		
				385					
	392							400	

Numbers from 401 to 500

401							408		
		413						419	
				425					
431						437			
	442								450
			454						
		463					468		
471					476				
							488		
		493							500

Write the missing numbers.

Numbers from 501 to 600

501			504					509	
	512			515					520
521							528		
	532			535				539	
					546				
		553					558		
561						567			
				575					
			584						
	592							599	

Numbers from 601 to 700

601					606				610
		613						619	
	622					627			
				635					
			644						
							658		
661									
				675					
					686				
								699	

Write the missing numbers.

Numbers from 701 to 800

701							708		
		713							720
				725				729	
			734						740
					746				
751							758		
	762					767			
				775					780
								789	
			794						

Numbers from 801 to 900

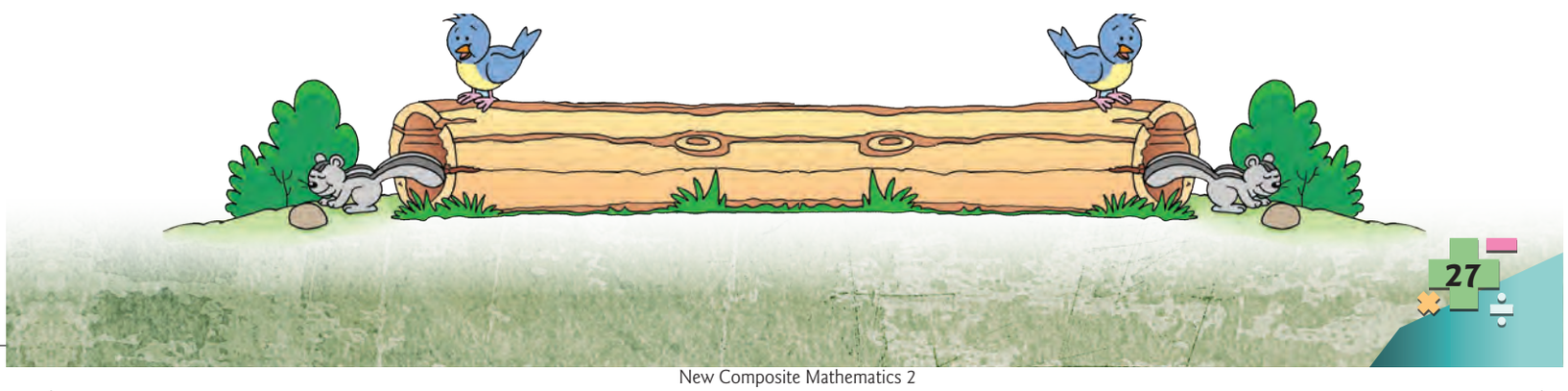
801							808		
				815					
		823							830
					836				
							848		
			854						
	862								
				875					
		883							890
						897			

Numbers from 901 to 1000

Write all the numbers from 901 to 999 in the squares.

See what comes after 999.

901					906				
			914					919	
						927			
	932								940
				945					
951							958		
		963							970
			974					979	
	982				986				
				995				999	1000



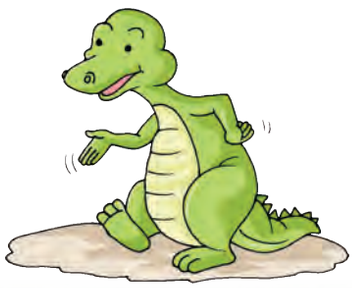
Numbers and Number Names

Write the numeral for each of the following. One has been done for you.

Two hundred seventy-eight	278
Nine hundred twenty	
Seven hundred seventeen	
Five hundred fifty-five	
One hundred sixty-six	
Four hundred forty	

Three hundred ninety-two	
Six hundred eighty-three	
Nine hundred fifty-nine	
Seven hundred sixty-four	
Nine hundred eight	
Eight hundred one	
Four hundred fifty	

One hundred one	
Five hundred eighty-eight	
Six hundred seven	
Seven hundred ten	
Four hundred nineteen	



Write the number name for each of the following. One has been done for you.

105 One hundred five

168

419

346

293

921

679

802

715

467

250

303

758

513

589

900

244

637

375

999

Counting – Breaks

Fill in the missing numbers and complete each pattern.

95	96				100				104
211	212								220
625	626					631			
904	905							912	
551				555					
372									381
128		130					135		
407									416
791									800
196									205
833							840		
499						505			

Before – After – Between

Write the number which comes just before:

172	173		400		610		909
	319		876		213		390
	100		411		530		778
	927		199		701		252

Write the number which comes just after:

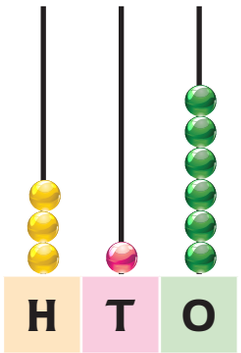
309	310	190		599		902	
414		269		801		144	
471		547		300		710	
989		665		237		999	

Write the number which comes in between:

399	400	401	715		717	630		632
833		835	444		446	257		259
136		138	590		592	109		111
701		703	655		657	900		902
777		779	122		124	311		313
508		510	239		241	997		999

3-digit Numbers on the Abacus

Look at the abacus shown here.
It has three spikes showing Ones (O), Tens (T) and Hundreds (H) respectively, each having some beads.

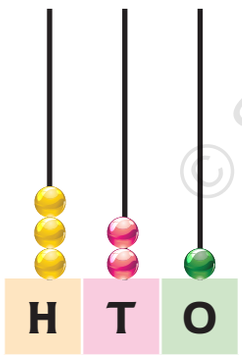


How to Read a Number from an Abacus?

The number of beads in the hundred's spike shows the number of hundreds.
The number of beads in the ten's spike shows the number of tens.
The number of beads in the one's spike shows the number of ones.

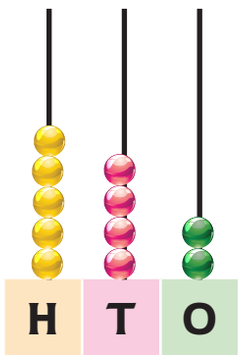
In the abacus shown above, there are 3 beads in the hundred's spike, 1 bead in the ten's spike and 6 beads in the one's spike.
So, the number has 3 hundreds, 1 ten and 6 ones.
Thus, the number shown on the abacus is 316.

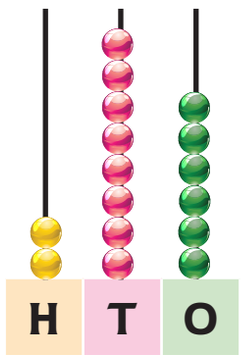
Read the numbers shown on the abacus and fill in the placeholders. One has been done for you.

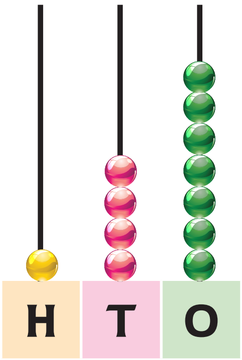


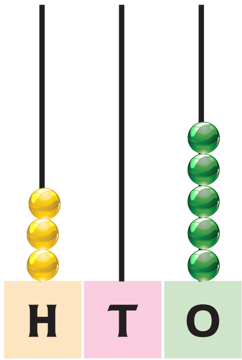
321

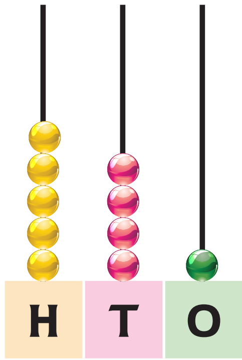
Three hundred twenty-one

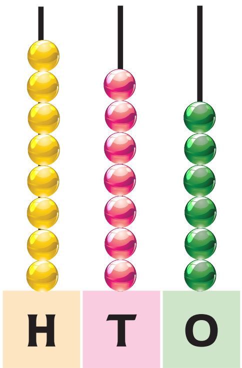


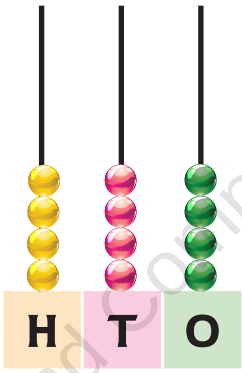


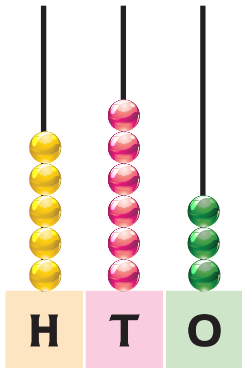


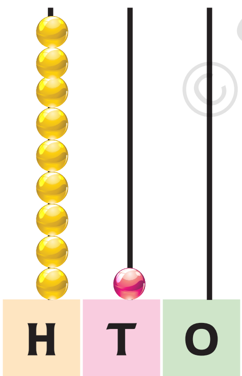


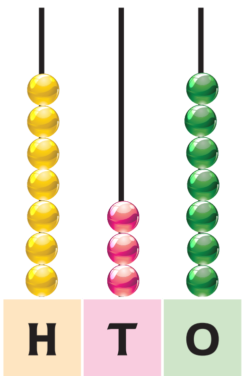


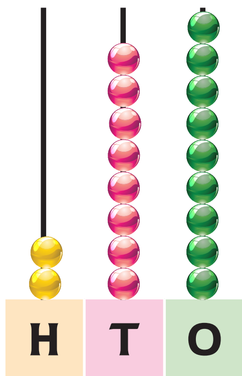




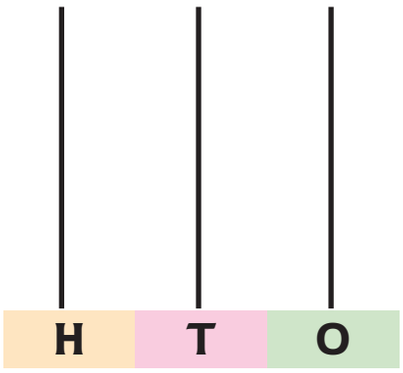




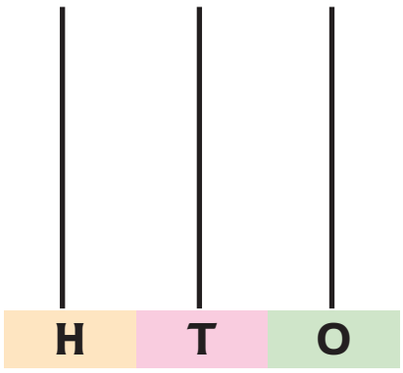




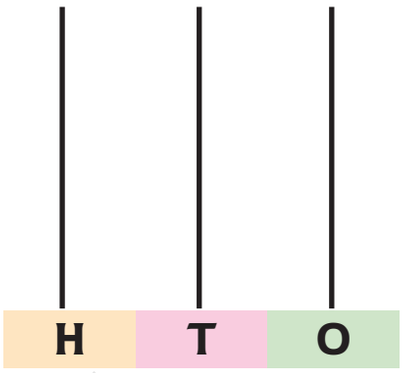
Draw and colour the beads in each abacus to represent the given number.



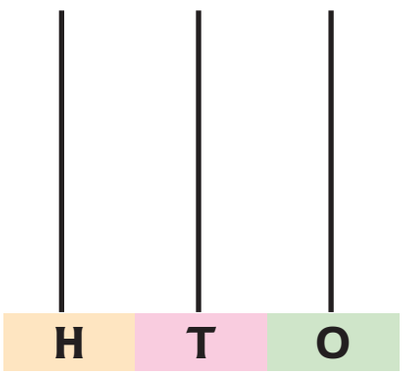
700



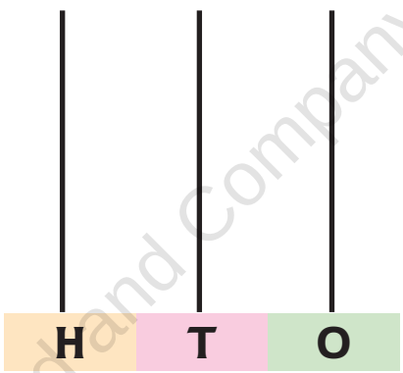
610



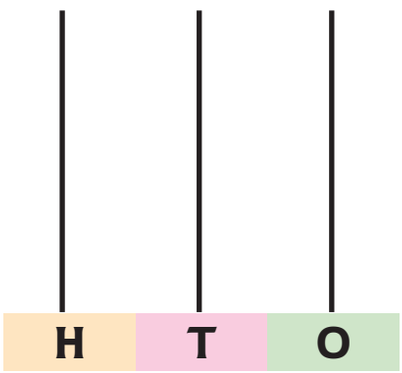
436



564



807



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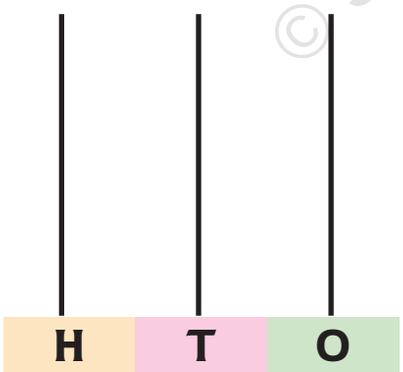
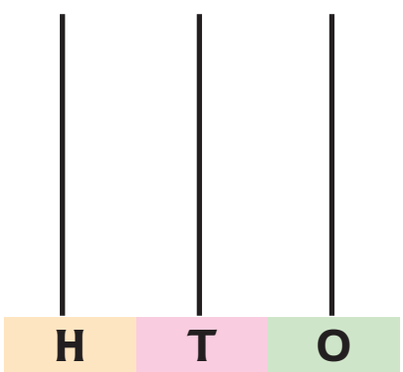
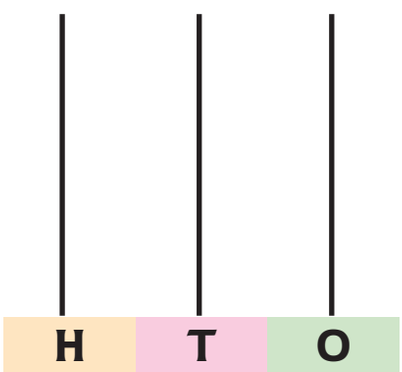


189



333



504

Face Value and Place Value

Face Value

The face value of a digit in a number is the actual value of the digit, at whatever place it may be.

Thus, in the number 456,

the face value of 6 is 6,

the face value of 5 is 5,

the face value of 4 is 4.

Place Value

The value of a digit based on its place in a number is called its place value.

Consider the number 632 in the place value chart as shown below.

H	T	O
6	3	2

Here,

the place value of 2 in 632 = 2 ones = 2,

the place value of 3 in 632 = 3 tens = 30 and

the place value of 6 in 632 = 6 hundreds = 600.

The place value of a digit changes, if its place changes.

So, in the number 263,

H	T	O
2	6	3

the place value of 3 = 3 ones = 3,

the place value of 6 = 6 tens = 60 and

the place value of 2 = 2 hundreds = 200.

Fill in the placeholders.

In 329, 3 is at the hundred's place. Its place value is 300.

In 537, 7 is at the _____ place. Its place value is _____.

In 916, 9 is at the _____ place. Its place value is _____.

In 973, 7 is at the _____ place. Its place value is _____.

In 825, 8 is at the _____ place. Its place value is _____.

Place value of 2 in 725 is _____.

Place value of 7 in 679 is _____.

Place value of 3 in 613 is _____.

Place value of 1 in 471 is _____.

Place value of 1 in 198 is _____.

Place value of 5 in 532 is _____.

In the number 948:

Place value of 9 is _____.

Place value of 4 is _____.

Place value of 8 is _____.

In the number 375:

Place value of 3 is _____.

Place value of 7 is _____.

Place value of 5 is _____.

In the number 106:

Place value of 1 is _____.

Place value of 0 is _____.

Place value of 6 is _____.

In the number 624:

Place value of 6 is _____.

Place value of 2 is _____.

Place value of 4 is _____.

Expanded Form and Short Form

Consider a number 759.

We know that: 759 = 7 hundreds + 5 tens + 9 ones

= 700 + 50 + 9

700 + 50 + 9 is the expanded form of 759.

759 is the short form of 700 + 50 + 9.

Write each of the following in expanded form.

658 = 600 + 50 + 8	525 = ◯ + ◯ + ◯
796 = ◯ + ◯ + ◯	333 = ◯ + ◯ + ◯
563 = ◯ + ◯ + ◯	487 = ◯ + ◯ + ◯
820 = ◯ + ◯ + ◯	704 = ◯ + ◯ + ◯
901 = ◯ + ◯ + ◯	629 = ◯ + ◯ + ◯

Write each of the following in short form.

200 + 70 + 3 = 273	800 + 10 + 7 = ◯
100 + 80 + 6 = ◯	400 + 20 + 4 = ◯
900 + 0 + 9 = ◯	700 + 70 + 7 = ◯
600 + 70 + 0 = ◯	900 + 80 + 5 = ◯
500 + 90 + 1 = ◯	300 + 40 + 9 = ◯

Comparison of Numbers

To compare two given numbers means to find which of the two numbers is greater or less than the other.

Rule 1:

If a number has more digits than the other, it is the greater of the two.

Let us compare 98 and 201.

98 has 2 digits while 201 has 3 digits.

So, 201 > 98.

Rule 2:

If two numbers have the same numbers of digits, then

1. compare the digits on the extreme left (one's digit in 1-digit numbers, ten's digit in 2-digit numbers and hundred's digit in 3-digit numbers). The number with greater such digit is the greater of the two.
2. if the extreme left digits are same, compare the next digits to its right, and so on.

Let us compare 612 and 485.

Both the numbers have 3 digits.

At the hundred's place 6 > 4.

So, 612 > 485.

Next, let us compare 547 and 574.

Both the numbers have 3 digits.

The hundred's digit is 5 in both the numbers. So, we compare their ten's digits – 4 in 547 and 7 in 574.

And, 4 < 7. So, 547 < 574.

Finally, let us compare 638 and 632.

Both the numbers have 3 digits.

The digit at the hundred's place is 6 in both the numbers. So, we compare their ten's digits.

The digit at the ten's place is 3 in both the numbers.

So, we compare their one's digits – 8 in 638 and 2 in 632.

And, 8 > 2. So, 638 > 632.

Compare the numbers and put the symbol >, = or < in the placeholder.

86 ◯ 103	200 ◯ 198	637 ◯ 673
340 ◯ 344	420 ◯ 402	793 ◯ 800
756 ◯ 765	681 ◯ 718	498 ◯ 510
585 ◯ 885	829 ◯ 928	370 ◯ 307
657 ◯ 649	830 ◯ 880	99 ◯ 999
946 ◯ 964	261 ◯ 181	340 ◯ 348
703 ◯ 699	325 ◯ 353	738 ◯ 738
577 ◯ 755	482 ◯ 468	393 ◯ 339
840 ◯ 839	909 ◯ 990	506 ◯ 509
538 ◯ 583	613 ◯ 630	482 ◯ 468

Put a ring around the smallest number in each row.

439	394	493	349	419
706	670	607	760	577
856	658	685	586	568
617	716	176	96	167
937	973	793	379	739
564	654	456	546	465
440	404	517	751	375
719	801	910	917	791
650	405	456	560	465
382	279	728	189	602
593	539	359	395	319
630	429	392	293	360
531	315	351	153	135
735	588	219	375	587

Put a ring around the greatest number in each row.

316	613	631	361	711
495	549	945	594	954
786	678	687	768	759
469	694	496	946	964
123	321	231	412	402
754	457	547	745	750
903	815	851	930	913
664	461	616	641	646
392	294	403	340	923
567	657	576	675	756
766	676	776	767	770
291	129	219	229	279
727	772	713	731	723
639	963	946	936	693
118	289	567	481	962

Ascending and Descending Orders

Rearrange in ascending (increasing) order.

259, 648, 175, 312, 840, 468 ⇒ 175 | 259 | 312 | 468 | 648 | 840

385, 712, 456, 721, 654, 465 ⇒ | | | | | |

685, 568, 658, 865, 586, 675 ⇒ | | | | | |

821, 218, 720, 481, 690, 270 ⇒ | | | | | |

384, 438, 348, 483, 843, 834 ⇒ | | | | | |

222, 307, 703, 370, 422, 242 ⇒ | | | | | |

796, 976, 679, 697, 769, 967 ⇒ | | | | | |

421, 241, 124, 412, 441, 414 ⇒ | | | | | |

635, 563, 653, 356, 365, 568 ⇒ | | | | | |

974, 794, 947, 749, 779, 977 ⇒ | | | | | |

495, 945, 549, 594, 954, 459 ⇒ | | | | | |

Rearrange in descending (decreasing) order.

520, 479, 602, 398, 501, 497 ⇒ 602 | 520 | 501 | 497 | 479 | 398

367, 419, 276, 637, 941, 206 ⇒ | | | | | |

234, 423, 324, 196, 269, 342 ⇒ | | | | | |

635, 536, 356, 563, 653, 538 ⇒ | | | | | |

159, 519, 345, 256, 451, 591 ⇒ | | | | | |

240, 360, 180, 290, 345, 202 ⇒ | | | | | |

678, 768, 876, 687, 786, 867 ⇒ | | | | | |

710, 695, 170, 569, 471, 147 ⇒ | | | | | |

179, 719, 397, 591, 419, 951 ⇒ | | | | | |

210, 120, 220, 122, 202, 102 ⇒ | | | | | |

546, 456, 645, 654, 465, 564 ⇒ | | | | | |

4 Even and Odd Numbers

Even Numbers

Suppose we have a collection of 8 toys.

Group these toys into pairs,that is sets of 2 toys each.

Is there any single toy left? No

So, 8 can be fully grouped into pairs.

Such numbers which can be fully grouped into pairs are called even numbers.

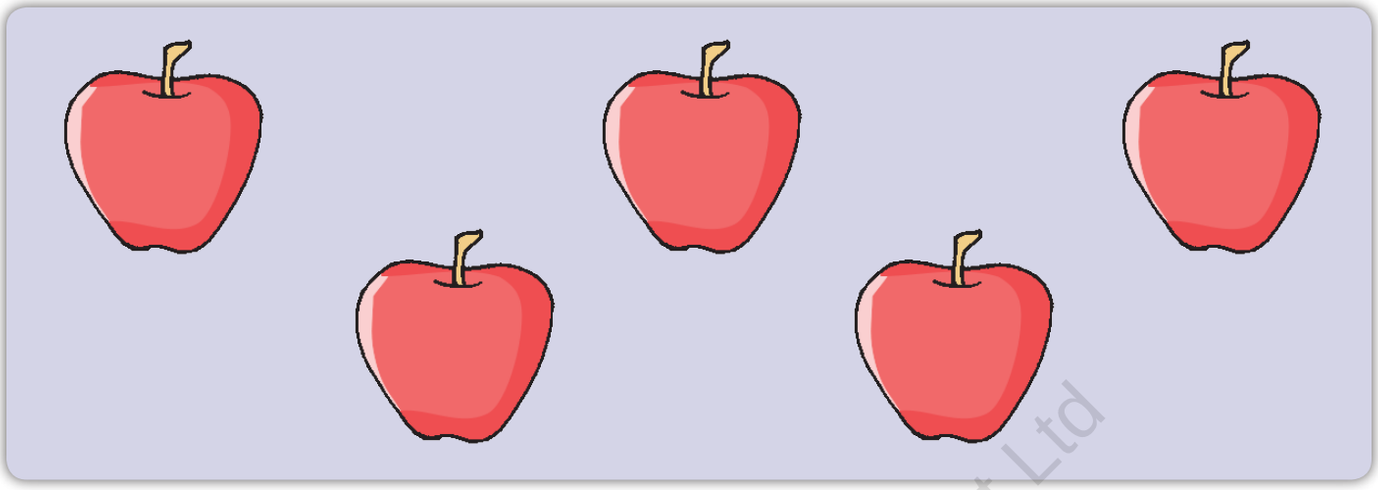
0, 2, 4, 6 and 8 are even numbers.

Numbers ending in 0, 2, 4, 6 and 8 are even numbers.

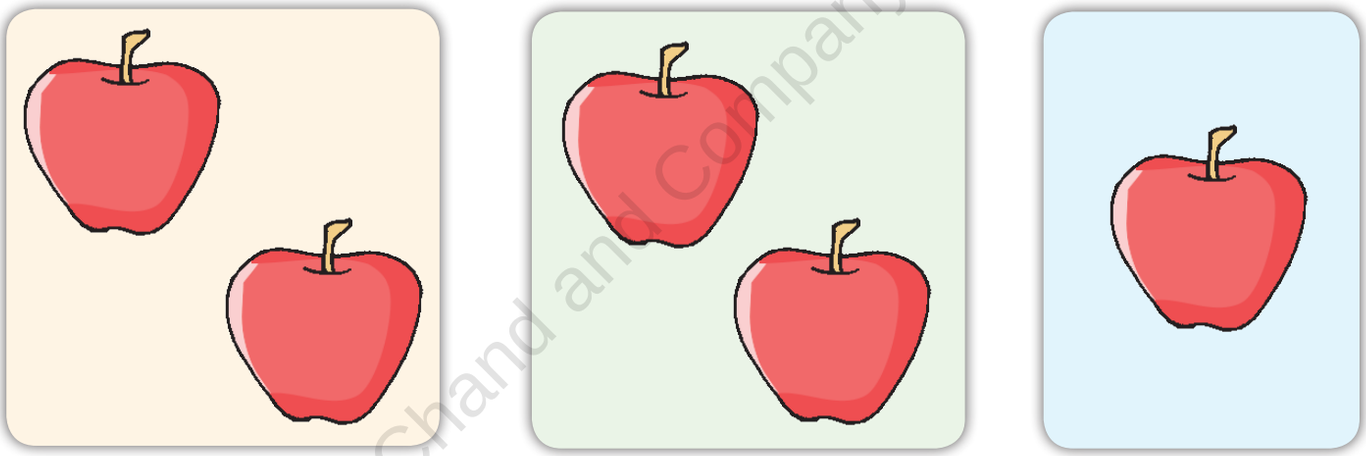
Thus, 10, 12, 24, 36 and 48 are all even numbers.

Odd Numbers

Suppose we have a collection of 5 apples.



Group these apples into pairs, that is sets of 2 apples each.



Is there any single apple left? *Yes, one*

So, 5 cannot be fully grouped into pairs.

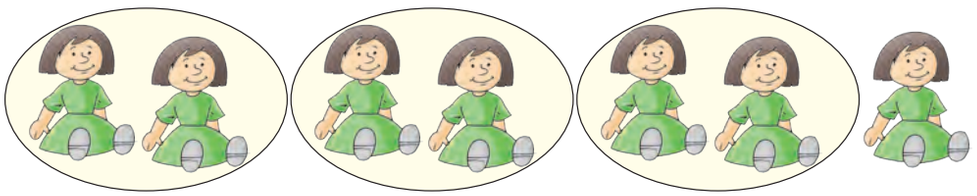
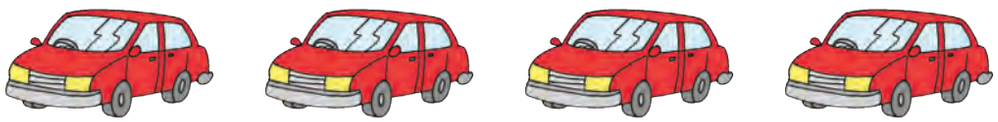
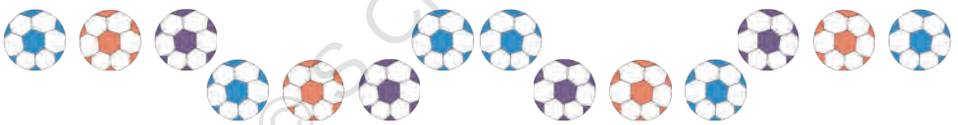
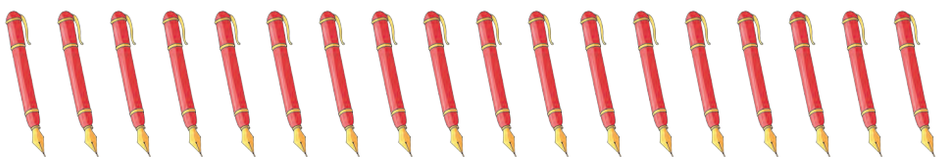
Such numbers which cannot be fully grouped into pairs are called odd numbers.

1, 3, 5, 7 and 9 are odd numbers.

Numbers ending in 1, 3, 5, 7 and 9 are odd numbers.

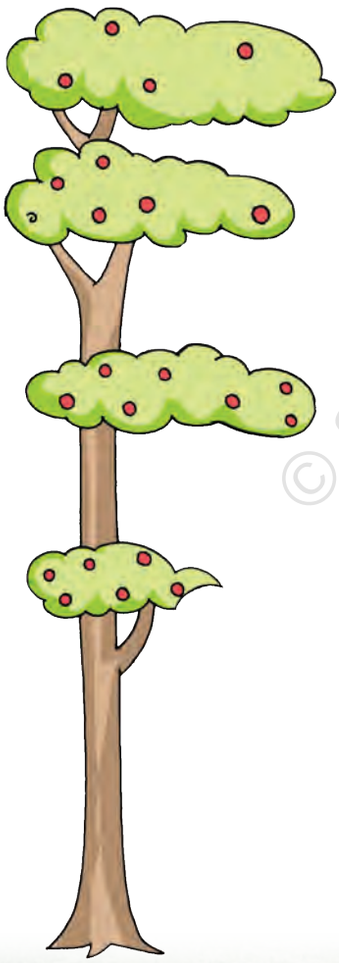
Thus, 11, 13, 25, 37 and 49 are all odd numbers.

Ring the objects in pairs to find whether they are even or odd. Then count and write the number in the correct column. One has been done for you.

	Even	Odd
		7
		
		
		
		
		
		
		

Encircle the odd numbers in each row.

11	26	33	48	52	91
7	3	22	65	50	83
74	56	17	9	68	39
95	78	54	24	43	82
40	1	18	19	26	87
97	49	10	72	88	95



Encircle the even numbers in each row.

20	33	8	47	16	94
9	14	17	2	63	38
51	4	55	27	70	11
19	66	26	49	59	84
44	34	25	83	42	6
73	50	29	92	77	41

Write the next five even numbers.

62, 64, ☐, ☐, ☐, ☐, ☐,

10, 12, ☐, ☐, ☐, ☐, ☐,

86, 88, ☐, ☐, ☐, ☐, ☐,

28, 30, ☐, ☐, ☐, ☐, ☐,

44, 46, ☐, ☐, ☐, ☐, ☐,

Write the next five odd numbers.

13, 15, ☐, ☐, ☐, ☐, ☐,

71, 73, ☐, ☐, ☐, ☐, ☐,

89, 91, ☐, ☐, ☐, ☐, ☐,

55, 57, ☐, ☐, ☐, ☐, ☐,

27, 29, ☐, ☐, ☐, ☐, ☐,

Write all odd numbers between 20 and 50.

Write all even numbers between 60 and 90.

Observe the following number chart.

101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

Clearly, all the numbers in the coloured boxes end in 2, 4, 6, 8 or 0. So, they are all even numbers.

The numbers in white boxes end in 1, 3, 5, 7 or 9. So, they are all odd numbers.

In each row colour the boxes containing the even numbers.

196	623	255	661	544	702	994	109	48	231
333	708	901	36	669	872	390	400	799	556
557	96	736	935	877	300	248	65	601	138
90	405	573	629	586	54	867	344	518	334
506	58	278	750	31	235	476	117	902	681
101	859	434	88	744	920	73	788	205	807
754	166	92	775	808	351	485	316	60	732
373	504	702	613	666	937	584	990	224	100

5 Addition

Addition of 1-digit Numbers

In Class I, we have learnt the simple addition of 1-digit and 2-digit numbers. Let us review what we learnt.

Count on your fingers and add.

T	O
	3
+	6

T	O
	4
+	7

T	O
	6
+	5

T	O
	8
+	4

Add by drawing lines.

T	O
	4
+	9

T	O
	7
+	8

T	O
	6
+	7

T	O
	8
+	7

Simple Addition of 2-digit Numbers

Let us add 26 and 33.

Method:

Step 1: Write in column form.

T	O
2	6
+ 3	3

Step 2: Add the ones.

T	O
2	6
+ 3	3
	9

Step 3: Add the tens.

T	O
2	6
+ 3	3
5	9

We may also add 3 numbers by the same method.

Let us add 42, 23 and 14.

Step 1: Write in column form.

	T	O
	4	2
	2	3
+	1	4

Step 2: Add the ones.

	T	O
	4	2
	2	3
+	1	4
		9

Step 3: Add the tens.

	T	O
	4	2
	2	3
+	1	4
	7	9

Add:

T	O
2	6
+ 6	2

T	O
3	5
+ 5	4

T	O
6	1
+ 1	8

T	O
7	3
+	6

T	O
9	1
+	8

T	O
1	7
+ 7	1

T	O
3	5
+ 6	3

T	O
4	7
+ 5	1

T	O
6	5
+ 2	4

T	O
8	3
+ 1	5

T	O
3	8
+ 2	1

T	O
7	2
+ 1	7

T	O
1	8
3	1
+ 4	0

T	O
2	5
5	3
+ 1	1

T	O
4	2
5	3
+	3

T	O
3	0
2	2
+ 4	4

Addition using a 10 × 10 Grid

Adding Tens

To add tens to a number on a 10 × 10 grid, we move downwards from that number.

To add 10 (1 ten), we move 1 step downward.

To add 20 (2 tens), we move 2 steps downward.

To add 30 (3 tens), we move 3 steps downward and so on.

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	100

See the arrows and read the following additions.

45 + 10 = 55

22 + 20 = 42

54 + 30 = 84

26 + 40 = 66

49 + 50 = 99

18 + 60 = 78

Add using 10 × 10 grid.

T	O
2	3
+ 4	0

T	O
3	1
+ 6	0

T	O
2	0
+ 7	0

T	O
4	7
+ 3	0

Adding Ones

To add ones to a number on a 10 × 10 grid, we move to the right and downwards from that number.

To add 1 to a number, we move 1 step to the right from that number; to add 2, we move 2 steps to the right, and so on.

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	100

See the arrows and read the following additions.

55 + 3 = 58

78 + 7 = 85

14 + 9 = 23

Add using 10 × 10 grid.

T	O
7	1
+	6

T	O
3	4
+	8

T	O
8	9
+	9

T	O
2	8
+	4

T	O
4	4
+	5

Adding Tens and Ones

To add a 2-digit number to another number on a 10 × 10 grid, we

1. split the 2-digit number into tens and ones;
2. move as many steps downward as is the number of tens; and
3. move as many steps to the right as is the number of ones.

Let us add 16 and 23.

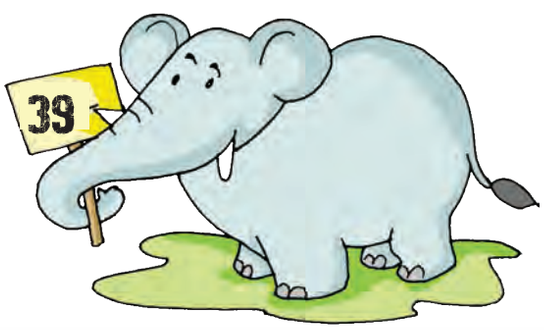
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

We have to add 23 to 16.

Step 1: 23 = 20 + 3 = 2 tens + 3 ones

Step 2: Start from 16 and move 2 steps downward to add 2 tens.
We get: 16 + 20 = 36.

Step 3: From 36, move 3 steps to the right to add 3 ones.
We get: 36 + 3 = 39



The above sum can be shown as:

$16 + 23 = \underbrace{16 + 20} + 3$

$= \quad 36 \quad + 3 = 39$

Similarly,

$43 + 18 = \underbrace{43 + 10} + 8$

$= \quad 53 \quad + 8 = 61$

$65 + 32 = \underbrace{65 + 30} + 2$

$= \quad 95 \quad + 2 = 97$

Using a 10 × 10 grid, add the given numbers and fill in the placeholders.

33 + 22 = ◯

21 + 39 = ◯

43 + 37 = ◯

57 + 25 = ◯

73 + 24 = ◯

63 + 36 = ◯

46 + 16 = ◯

13 + 52 = ◯

81 + 11 = ◯

Addition of 2-digit Numbers (with Carrying)

Suppose we have to add 59 and 37.

We proceed stepwise as shown below.

Step 1: Write the given numbers in column form.

T	O
5	9
+ 3	7

Step 2: Add the ones.

9 ones + 7 ones = 16 ones

T	O
5	9
+ 3	7
	1 6

Step 3: Regroup the sum in the ones column.

16 ones = 10 ones + 6 ones

= 1 ten + 6 ones

Write 6 under the ones column.

Carry over 1 ten to the tens column.

T	O
(1) ← Carry	
5	9
+ 3	7
	6

Step 4: Add the tens.

1 ten (carried over) + 5 tens + 3 tens = 9 tens

Write 9 under the tens column.

T	O
(1) ← Carry	
5	9
+ 3	7
9	6

Hence, 59 + 37 = 96.

Now, let us add 48 and 25.

We may add them by the above steps as shown below.

Step 1:

T	O
4	8
+ 2	5

Step 2:

T	O
4	8
+ 2	5
(1)	3

Step 3:

T	O
(1) ← Carry	
4	8
+ 2	5
	3

Step 4:

T	O
(1) ← Carry	
4	8
+ 2	5
7	3

Hence, 48 + 25 = 73.

Addition by Short Method

Let us add 37 and 48.

We write the given numbers in column form and add columnwise.

T	O	
(1)		← Carry
3	7	
+ 4	8	
8	5	

Hence, 37 + 48 = 85.

Addition of Three Numbers

We can add 3 numbers also by the same method.

Let us add 37, 24 and 19.

We write the given numbers in column form and add columnwise.

T	O	
(2)		← Carry
3	7	
2	4	
+ 1	9	
8	0	

Hence, 37 + 24 + 19 = 80.

Add:

T	O
4	7
+ 3	6

T	O
5	9
+ 3	8

T	O
6	5
+ 2	7

T	O
4	3
+ 4	8

T	O
3	4
+ 5	6

T	O
6	9
+ 2	8

T	O
4	9
+ 3	9

T	O
6	3
+ 2	8

T	O
6	7
+ 2	5

T	O
5	5
+ 3	7

T	O
7	6
+ 1	9

T	O
5	1
+ 2	9

T	O
3	7
2	6
+ 1	9

T	O
3	5
2	7
+ 3	6

T	O
4	6
1	9
+ 2	8

T	O
5	8
2	4
+ 1	7

T	O
6	7
1	8
+ 1	4

T	O
4	3
2	8
+ 1	9

T	O
4	5
3	6
+ 1	8

T	O
3	7
3	6
+ 1	6

T	O
2	6
2	7
+ 2	8

T	O
3	2
2	4
+ 2	7

Addition of Bigger 2-digit Numbers

Let us add 79 and 56.

Step 1: Write the given number in column form.

	H	T	O
		7	9
+		5	6

Step 2: Add the ones.

9 ones + 6 ones = 15 ones.

	H	T	O
		7	9
+		5	6
			(1) 5

Step 3: Regroup the sum in the ones column.

15 ones = 10 ones + 5 ones

= 1 ten + 5 ones.

Write 5 under the ones column.

Carry over 1 ten to the tens column.

	H	T	O
		(1) ← Carry	
		7	9
+		5	6
			5

Step 4: Add the tens.

1 ten (carried over) + 7 tens + 5 tens

= 13 tens.

	H	T	O
		(1)	
		7	9
+		5	6
	(1)	3	5

Step 5: Regroup the sum in the tens column.

13 tens = 10 tens + 3 tens

= 1 hundred + 3 tens.

Write 3 under the tens column and carry over 1 hundred to the hundreds column.

	H	T	O
	(1)	(1) ← Carry	
		7	9
+		5	6
		3	5

Step 6: Write the carried over digit under the hundreds column.

So, 79 + 56 = 135.

H	T	O	
(1)	(1)		← Carry
	7	9	
+	5	6	
1	3	5	

Short Method

Step 1:

H	T	O
	7	9
+	5	6

Step 2:

H	T	O
	7	9
+	5	6
	(1)	5

Step 3:

H	T	O
	(1) 7	9
+	5	6
(1)	3	5

Step 4:

H	T	O
(1)	(1)	
	7	9
+	5	6
1	3	5

Now, let us add 34, 52 and 97.

Step 1:

H	T	O
	3	4
	5	2
+	9	7

Step 2:

H	T	O
	3	4
	5	2
+	9	7
	(1)	3

Step 3:

H	T	O
	(1) 3	4
	5	2
+	9	7
(1)	8	3

Step 4:

H	T	O
(1)	(1)	
	3	4
	5	2
+	9	7
1	8	3

Add:

H	T	O
	7	3
+	4	7

H	T	O
	8	7
+	5	4

H	T	O
	9	4
+	5	8

H	T	O
	7	9
+	5	6

H	T	O
	7	7
+	9	6

H	T	O
	8	3
+	3	9

H	T	O
	9	2
+	4	9

H	T	O
	5	6
+	6	5

H	T	O
	7	4
+	4	7

H	T	O
	6	8
+	8	6

H	T	O
	9	9
+	9	8

H	T	O
	7	9
+	4	3

H	T	O
	5	8
	3	4
+	2	9

H	T	O
	6	1
	1	9
+	8	3

H	T	O
	5	1
	2	9
+	2	1

H	T	O
	5	8
	3	4
+	2	9

H	T	O
	4	5
	2	5
+	3	8

H	T	O
	5	6
	5	7
+	4	8

H	T	O
	6	5
	5	6
+	4	3

H	T	O
	2	9
	8	7
+	9	2

H	T	O
	8	4
	3	5
+	1	9

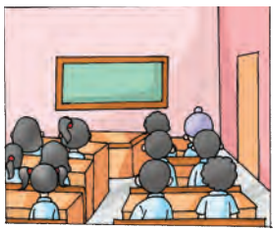
H	T	O
	4	0
	9	6
+	2	9

H	T	O
	7	8
	8	7
+	3	3

H	T	O
	4	4
	5	5
+	6	6

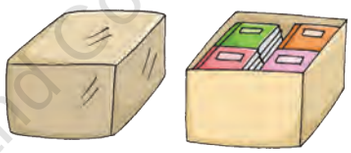
Word Problems

1. There are 38 boys and 27 girls in a class. How many pupils are there in the class?



2. An ice cream vendor sold 29 ice creams on Monday and 58 on Tuesday. How many ice creams did he sell in two days?

3. One parcel has 66 notebooks and another parcel has 89. How many notebooks are there in both the parcels?



4. Class 2A has 28 children, class 2B has 33 and class 2C has 34. How many children in all are there in the three sections?

5. Rohit collected 68 flowers in one basket, 55 in the second basket and 72 in the third basket. How many flowers did he collect altogether?

Addition of 3-digit Numbers (without Carrying)

Let us add 523 and 246.
We follow the steps shown below.

Step 1:
Write in column form.

	H	T	O
	5	2	3
+	2	4	6

Step 2:
Add the ones.

	H	T	O
	5	2	3
+	2	4	6
			9

Step 3:
Add the tens.

	H	T	O
	5	2	3
+	2	4	6
		6	9

Step 4:
Add the hundreds.

	H	T	O
	5	2	3
+	2	4	6
	7	6	9

So, 523 + 246 = 769.

Now, let us add 101, 256 and 421.
We proceed stepwise as shown below.

Step 1:
Write in column form.

	H	T	O
	1	0	1
	2	5	6
+	4	2	1

Step 2:
Add the ones.

	H	T	O
	1	0	1
	2	5	6
+	4	2	1
			8

Step 3:
Add the tens.

	H	T	O
	1	0	1
	2	5	6
+	4	2	1
		7	8

Step 4:
Add the hundreds.

	H	T	O
	1	0	1
	2	5	6
+	4	2	1
	7	7	8

So, 101 + 256 + 421 = 778.

Add:

H	T	O
3	5	1
+ 2	4	8

H	T	O
6	1	3
+ 2	4	6

H	T	O
8	1	6
+ 1	8	2

H	T	O
4	2	1
+ 2	7	3

H	T	O
6	7	0
+ 3	1	5

H	T	O
4	7	2
+ 3	1	7

H	T	O
6	3	5
+ 2	5	4

H	T	O
1	3	0
+ 7	0	5

H	T	O
7	2	4
+ 1	5	2

H	T	O
2	8	3
+ 5	0	6

H	T	O
7	0	8
+ 1	7	1

H	T	O
4	6	6
+ 5	2	3

H	T	O
1	4	6
3	2	1
+ 4	1	2

H	T	O
2	5	7
3	2	0
+ 4	1	1

H	T	O
5	1	4
2	5	1
+ 1	2	3

H	T	O
5	4	3
1	3	4
+ 3	1	2

H	T	O
3	4	5
4	3	2
+ 1	2	1

H	T	O
3	0	5
4	7	0
+ 2	1	3

H	T	O
6	5	0
2	0	8
+ 1	4	1

H	T	O
6	1	0
2	6	5
+	2	4

H	T	O
3	6	5
	3	0
+		4

H	T	O
9	1	6
	7	0
+	1	3

H	T	O
8	2	3
	5	4
+ 1	0	2

H	T	O
3	4	0
2	0	6
+	5	3

Addition of 3-digit Numbers (with Carrying)

Let us add 567 and 378.
We follow the steps shown below.

Step 1: Write the given numbers in column form.

H	T	O
5	6	7
+ 3	7	8

Step 2: Add the ones.

7 ones + 8 ones = 15 ones.

H	T	O
5	6	7
+ 3	7	8
		(1) 5

Step 3: Regroup the sum in the ones column.

15 ones = 10 ones + 5 ones
= 1 ten + 5 ones

Write 5 under the ones column.

Carry over 1 ten to the tens column.

H	T	O
	(1) ← Carry	
5	6	7
+ 3	7	8
		5

Step 4: Add the tens.

1 ten (carried over) + 6 tens + 7 tens
= 14 tens

H	T	O
	(1)	
5	6	7
+ 3	7	8
(1)	4	5

Step 5: Regroup the sum in the tens column.

14 tens = 10 tens + 4 tens

= 1 hundred + 4 tens.

Write 4 under the tens column.

Carry over 1 hundred to the hundreds column.

H	T	O	
(1)	(1)		← Carry
5	6	7	
+ 3	7	8	
	4	5	

Step 6: Add the hundreds.

1 hundred (carried over) + 5 hundreds + 3 hundreds = 9 hundreds.

Write 9 under the hundreds column.

So, 567 + 378 = 945.

H	T	O
(1)	(1)	
5	6	7
+ 3	7	8
9	4	5

Short Method

Step 1:

H	T	O
5	6	7
+ 3	7	8

Step 2:

H	T	O
5	6	7
+ 3	7	8
		(1) 5

Step 3:

H	T	O
	(1)	
5	6	7
+ 3	7	8
(1)	4	5

Step 4:

H	T	O
(1)	(1)	
5	6	7
+ 3	7	8
9	4	5

Now, let us add 521, 208 and 197.

Step 1:

H	T	O
5	2	1
2	0	8
+ 1	9	7

Step 2:

H	T	O
5	2	1
2	0	8
+ 1	9	7
		(1) 6

Step 3:

H	T	O
	(1)	
5	2	1
2	0	8
+ 1	9	7
(1)	2	6

Step 4:

H	T	O
(1)	(1)	
5	2	1
2	0	8
+ 1	9	7
9	2	6

Add:

H	T	O
4	6	8
+ 2	5	6

H	T	O
6	7	5
+ 1	4	8

H	T	O
5	8	4
+ 3	2	7

H	T	O
7	3	6
+ 1	6	7

H	T	O
3	7	2
+ 4	6	9

H	T	O
5	4	7
+ 3	6	5

H	T	O
6	3	9
+ 2	7	8

H	T	O
2	9	8
+ 4	8	5

H	T	O
5	9	3
+ 3	1	7

H	T	O
8	2	6
+ 1	6	9

H	T	O
7	0	9
+ 1	9	9

H	T	O
5	8	4
+ 3	9	6

H	T	O
6	8	5
+ 1	8	9

H	T	O
1	7	6
+ 5	2	4

H	T	O
2	1	9
+ 6	8	4

H	T	O
3	8	7
+ 4	9	8

H	T	O
7	2	9
+ 1	7	4

H	T	O
3	9	5
+ 4	5	9

H	T	O
5	6	3
+ 3	4	8

H	T	O
7	6	5
+ 1	3	5

H	T	O
4	5	7
+ 3	6	9

H	T	O
4	6	8
+ 4	5	6

H	T	O
3	7	6
+ 2	9	7

H	T	O
5	2	9
+ 3	7	4

Add:

H	T	O
3	4	7
1	5	4
+ 4	3	6

H	T	O
5	6	8
2	4	6
+ 1	2	5

H	T	O
4	3	9
3	7	5
+	8	7

H	T	O
3	8	5
1	7	9
+	8	4

H	T	O
4	1	7
1	8	5
+	7	6

H	T	O
5	4	6
2	7	5
+	8	9

H	T	O
6	7	8
1	4	5
+	7	7

H	T	O
8	6	3
	3	9
+	9	7

H	T	O
4	8	9
1	1	5
+	9	6

H	T	O
5	7	1
1	2	9
+	6	8

H	T	O
6	0	5
1	9	9
+	7	9

H	T	O
7	6	2
1	4	9
+	7	4

H	T	O
8	3	4
	6	5
+		9

H	T	O
6	2	3
1	6	7
+	8	4

H	T	O
5	7	6
1	4	5
+	3	9

H	T	O
6	1	7
2	7	6
+	3	5

H	T	O
7	0	8
1	9	5
+	4	9

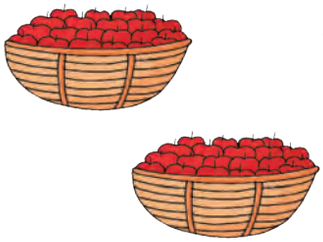
H	T	O
8	5	6
	6	7
+		9

H	T	O
9	1	3
	6	9
+		8

Word Problems

1. In an examination, 584 students passed and 178 failed. How many students appeared?

$$\begin{array}{r} {\scriptstyle 1\ 1\ \ } \\ 584 \\ +\ 178 \\ \hline 762 \end{array}$$



2. There are 288 apples in one basket and 174 in another basket. How many apples in all are there in the two baskets?

3. Rahul needs 475 rupees to pay his school fees and 187 rupees to buy exercise books. How many rupees does he need altogether?

4. A number is 256 more than 594. What is the number?

5. In an election, there were two candidates. One candidate got 319 votes and the other got 387 votes. How many votes were polled in all?

6. In a village, there are 456 men, 348 women and 175 children. How many people are there in all?

7. There are 169 mango trees, 243 guava trees and 56 jamun trees in an orchard. How many trees in all are there in the garden?

8. A fruit seller had 248 apples, 168 bananas and 394 oranges. How many fruits did he have in all?

9. In a library, there are 294 books in Hindi, 468 in English and 179 in Tamil. How many books in all are there in the library?

10. At a fair there were 378 visitors on the first day, 185 on the second day and 367 on the third day. How many visitors came to the fair during these three days?

Order Property of Addition

Let us find the values of 45 + 23 and 23 + 45.

T	O
4	5
+ 2	3
6	8

T	O
2	3
+ 4	5
6	8

What do you observe?

45 + 23 = 68 and 23 + 45 = 68

So, 45 + 23 = 23 + 45

Now, let us find 68 + 57 and 57 + 68.

H	T	O
	6	8
+	5	7
1	2	5

H	T	O
	5	7
+	6	8
1	2	5

Again, we find that: 68 + 57 = 57 + 68. Thus, we can say:

Two numbers may be added in any order. The sum remains the same. This is the order property or commutative property of addition.

Fill in the placeholders.

7 + 5 = 5 + ◯	11 + 12 = 12 + ◯	24 + 36 = 36 + ◯
52 + 47 = 47 + ◯	80 + 66 = ◯ + 80	9 + 18 = ◯ + 9
17 + ◯ = 39 + 17	25 + ◯ = 78 + 25	88 + ◯ = 4 + 88
◯ + 15 = 15 + 98	◯ + 52 = 52 + 7	◯ + 27 = 27+ 73

6 Subtraction

In Class 1, we have learnt the subtraction of 1-digit and 2-digit numbers. Let us review the idea.

Let us subtract 32 from 79.

Step 1:

Write in column form.

T	O
7	9
– 3	2

Step 2:

Subtract the ones.

T	O
7	9
– 3	2
	7

Step 3:

Subtract the tens.

T	O
7	9
– 3	2
4	7

So, 79 – 32 = 47.

Subtract:

T	O
	8
–	5

T	O
	9
–	3

T	O
2	7
–	2

T	O
1	5
–	1

T	O
9	6
– 1	1

T	O
8	8
– 2	4

T	O
3	6
– 2	3

T	O
5	7
– 3	1

T	O
6	2
– 4	0

T	O
7	5
– 5	4

T	O
9	3
– 2	2

T	O
3	9
– 2	7

T	O
4	6
– 1	5

T	O
7	9
– 4	3

T	O
6	7
– 3	5

Subtraction using a 10 × 10 Grid

Subtracting Tens

To subtract the tens from a number in a 10 × 10 grid, we move upwards from that number.

To subtract 10 (1 ten), we move 1 step upward.

To subtract 20 (2 tens), we move 2 steps upward.

To subtract 30 (3 tens), we move 3 steps upward and so on.

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	100

See the arrows and read the following subtractions.

34 − 10 = 24

78 − 20 = 58

42 − 30 = 12

81 − 40 = 41

60 − 50 = 10

93 − 60 = 33

Subtract using a 10 × 10 grid.

T	O
8	2
− 2	0

T	O
5	9
− 4	0

T	O
8	5
− 7	0

T	O
6	6
− 3	0

T	O
9	7
− 8	0

Subtracting Ones

To subtract the ones from a number on a 10 × 10 grid, we move to the left and upwards from that number.

To subtract 1 from a number, we move 1 step to the left from that number; to subtract 2, we move 2 steps to the left and so on.

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	100

See the arrows and read the following subtractions.

56 − 3 = 53

74 − 8 = 66

27 − 9 = 18

Subtract using a 10 × 10 grid.

T	O
5	2
−	6

T	O
4	3
−	5

T	O
9	9
−	7

T	O
3	7
−	8

T	O
7	9
−	4

Subtracting Tens and Ones

To subtract a 2-digit number from another number on a 10×10 grid.

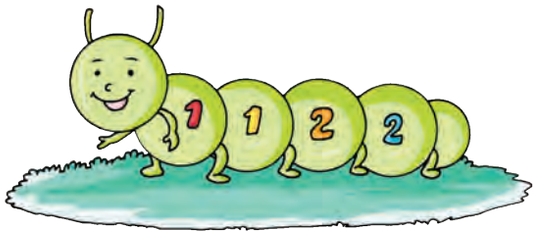
1. Split the 2-digit number into tens and ones.
2. Now, move as many steps upward as is the number of tens.
3. Then, move as many steps to the left as is the number of ones.

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	100

Let us subtract 21 from 53.

Step 1: 21 = 20 + 1 = 2 tens + 1 one.

Step 2: Start from 53 and move 2 steps upwards to subtract 2 tens.
We get: 53 – 20 = 33.



Step 3: From 33, move 1 step to the left to subtract 1 one.

We get: 33 – 1 = 32.

The above working can be shown as:

53 – 21 = 53 – 20 – 1

= 33 – 1 = 32

Similarly,

35 – 18 = 35 – 10 – 8

= 25 – 8 = 17

97 – 35 = 97 – 30 – 5

= 67 – 5 = 62

Using a 10 × 10 grid, subtract one number from the other and fill in the placeholder.

96 – 22 =

34 – 12 =

79 – 25 =

45 – 11 =

49 – 16 =

27 – 14 =

68 – 33 =

85 – 13 =

82 – 28 =

57 – 28 =

39 – 31 =

Subtraction of 2-digit Numbers (with Borrowing)

To subtract 46 from 93, we follow the steps shown below.

Step 1: Write the given numbers in column form.

T	O
9	3
− 4	6

Step 2: Subtract the ones.

6 > 3. So, we cannot subtract 6 ones from 3 ones.

Borrow 1 ten, so that 8 tens are left.

1 ten + 3 ones = 10 ones + 3 ones = 13 ones.

13 ones − 6 ones = 7 ones. Write 7 under the ones column.

T	O
8	13
~~9~~	~~3~~
− 4	6
	7

Step 3: Subtract the tens.

8 tens − 4 tens = 4 tens.

Write 4 under the tens column.

T	O
8	13
~~9~~	~~3~~
− 4	6
4	7

So, 93 − 46 = 47.

Short Method

Let us subtract 39 from 81.

Step 1:

T	O
8	1
− 3	9

Step 2:

T	O
7	11
~~8~~	~~1~~
− 3	9
	2

Step 3:

T	O
7	11
~~8~~	~~1~~
− 3	9
4	2

So, 81 − 39 = 42.

Subtract. One has been done for you.

T	O
~~5~~ 4	~~3~~ 13
− 2	8
2	5

T	O
4	1
− 1	7

T	O
6	5
− 4	9

T	O
7	2
− 5	3

T	O
8	4
− 4	6

T	O
9	0
− 5	8

T	O
5	2
− 2	9

T	O
8	1
− 6	5

T	O
6	3
− 4	4

T	O
7	7
− 6	9

T	O
7	0
− 5	6

T	O
4	6
− 2	7

T	O
8	0
− 6	3

T	O
5	4
− 2	5

T	O
4	3
− 1	9

T	O
6	2
− 3	3

T	O
7	1
− 3	4

T	O
6	5
− 2	9

T	O
8	7
− 7	8

T	O
9	1
− 1	9

T	O
4	0
− 2	7

T	O
5	5
− 3	7

T	O
9	3
− 3	9

T	O
7	5
− 5	7

Word Problems

1. There are 55 students in a class. Of these, 36 are boys. How many are girls?

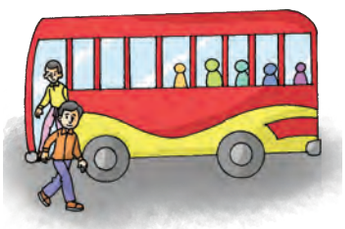
$$\begin{array}{r} {\scriptstyle 4}\ {\scriptstyle 15} \\ \not{5}\ \not{5} \\ -\ 3\ 6 \\ \hline 1\ 9 \end{array}$$

2. A fruit seller bought a basket having 94 apples. Out of these, 25 were found rotten. How many apples were good?

3. Pratham had 60 balloons. 26 of them blew away. How many balloons were left with him?

4. 90 students appeared in an examination. Out of these, 23 failed. How many students passed?

5. There were 57 passengers in a bus. 19 of them got down at a stop. How many passengers are left in the bus?

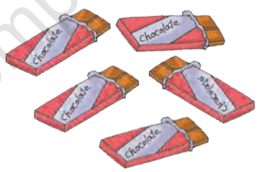


6. Divya had 80 rupees. She gave 54 rupees to her brother. How many rupees are left with her?

7. Rehman has 82 cattle in his dairy farm. Of these, 56 are buffaloes and the remaining are cows. How many cows are there in his dairy farm?

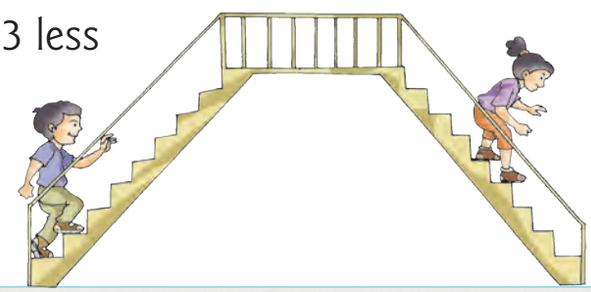
8. In a class, there are 61 students. On a rainy day, 24 remained absent. How many students were present on that day?

9. Renu bought 70 chocolates on her birthday. She distributed 46 to her friends. How many chocolates were left with her?



10. There are 64 workers in an office. 29 of them are women. How many men work in that office?

11. How much is 43 less than 91?



Subtraction of 3-digit Numbers (without Borrowing)

Let us subtract 265 from 697.

Step 1:

Write the numbers in column form.

H	T	O
6	9	7
− 2	6	5

Step 2:

Subtract the ones.

H	T	O
6	9	7
− 2	6	5
		2

Step 3:

Subtract the tens.

H	T	O
6	9	7
− 2	6	5
	3	2

Step 4:

Subtract the hundreds.

H	T	O
6	9	7
− 2	6	5
4	3	2

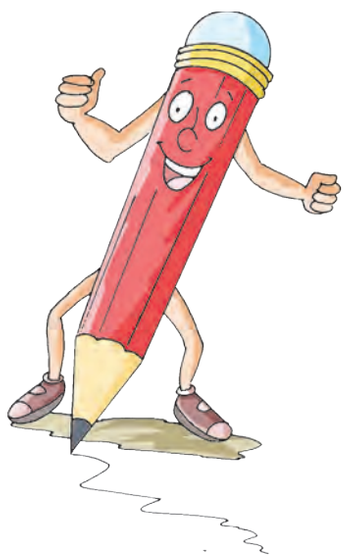
So, 697 − 265 = 432.

Now, let us subtract 538 from 879.

We write the numbers in column form.

First, we subtract the ones, then the tens and finally the hundreds.

H	T	O
8	7	9
− 5	3	8
3	4	1



So, 879 − 538 = 341.

Subtract:

H	T	O
9	5	4
−3	4	1

H	T	O
6	7	8
−5	3	6

H	T	O
9	8	7
−6	1	2

H	T	O
2	4	5
−1	2	3

H	T	O
7	2	5
−4	0	2

H	T	O
6	5	6
−4	3	2

H	T	O
7	8	5
−6	5	0

H	T	O
3	7	6
−2	3	6

H	T	O
8	2	4
−3	1	0

H	T	O
5	3	9
−4	3	6

H	T	O
4	7	5
−1	6	2

H	T	O
5	9	4
−2	5	0

H	T	O
6	0	9
−4	0	5

H	T	O
7	6	0
−3	4	0

H	T	O
4	8	6
−1	8	3

H	T	O
6	8	7
−4	3	2

H	T	O
3	5	6
−	2	4

H	T	O
4	8	3
−	7	1

H	T	O
4	7	8
−	7	5

H	T	O
6	1	9
−3	0	9

Subtraction of 3-digit Numbers (with Borrowing)

Let us subtract 368 from 514.

Step 1: Write the numbers in column form.

	H	T	O
	5	1	4
−	3	6	8

Step 2: Subtract the ones.

8 > 4. So, we cannot subtract 8 ones from 4 ones.
Borrow 1 ten, so that 0 tens are left.
1 ten + 4 ones = 10 ones + 4 ones = 14 ones.
And, 14 ones − 8 ones = 6 ones
Write 6 under the ones column.

After borrowing

	H	T	O
		0	14
	5	~~1~~	~~4~~
−	3	6	8
			6

Step 3: Subtract the tens.

6 > 0. So, we cannot subtract 6 tens from 0 tens.
Borrow 1 hundred, so that 4 hundreds are left.
1 hundred + 0 tens = 10 tens + 0 tens = 10 tens.
And, 10 tens − 6 tens = 4 tens.
Write 4 under the tens column.

After borrowing

	H	T	O
	4	10	14
		~~0~~	
	~~5~~	~~1~~	~~4~~
−	3	6	8
		4	6

Step 4: Subtract the hundreds.

4 hundreds − 3 hundreds = 1 hundred.
Write 1 under the hundreds column.

So, 514 − 368 = 146.

After borrowing

	H	T	O
	4	10	14
		~~0~~	
	~~5~~	~~1~~	~~4~~
−	3	6	8
	1	4	6

Short Method

Let us subtract 598 from 782.

Step 1:

	H	T	O
	7	8	2
−	5	9	8

Step 2:

	H	T	O
		(7)	(12)
	7	~~8~~	~~2~~
−	5	9	8
			4

Step 3:

	H	T	O
	(6)	(17)	(12)
		(7)	
	~~7~~	~~8~~	~~2~~
−	5	9	8
		8	4

Step 4:

	H	T	O
	(6)	(17)	(12)
		(7)	
	~~7~~	~~8~~	~~2~~
−	5	9	8
	1	8	4

So, 782 − 598 = 184

Now, let us subtract 267 from 600.

We cannot subtract 7 ones from 0 ones.
We also cannot borrow a ten from 0 tens.
So, first we borrow 1 hundred, leaving 5 hundreds.
1 hundred = 10 tens
We now borrow 1 ten from these 10 tens, leaving behind 9 tens. 1 ten = 10 ones
Now, 10 ones − 7 ones = 3 ones
9 tens − 6 tens = 3 tens
5 hundreds − 2 hundreds = 3 hundreds
So, 600 − 267 = 333

	H	T	O
	(5)	(9)	(10)
	~~6~~	~~10~~	~~0~~
		~~0~~	~~0~~
−	2	6	7
	3	3	3

Subtract:

H	T	O
6	4	0
−3	7	5

H	T	O
6	2	5
−4	3	6

H	T	O
9	0	0
−5	7	3

H	T	O
8	1	1
−6	5	4

H	T	O
5	1	1
−3	7	7

H	T	O
6	7	0
−4	8	8

H	T	O
7	2	3
−4	2	9

H	T	O
8	2	0
−6	6	4

H	T	O
7	2	2
−6	6	6

H	T	O
8	3	4
−5	3	9

H	T	O
9	5	0
−7	6	2

H	T	O
6	1	7
−4	3	9

H	T	O
9	0	2
−7	7	7

H	T	O
7	0	4
−5	9	9

H	T	O
8	0	1
−4	1	2

H	T	O
6	0	7
−4	9	8

H	T	O
4	0	3
−1	8	5

H	T	O
9	0	0
−3	5	2

H	T	O
8	0	0
−5	6	4

H	T	O
7	0	0
−4	8	8

Word Problems

1. A shopkeeper had 364 kites. He sold 187 kites. How many kites are still left?

2. A carpenter had 735 nails. He has used 348 nails. How many nails are left unused?

3. Sonia has 126 apples. 37 of them are rotten. How many of them are good?

4. Manav had 960 rupees with him. He spent 785 rupees to buy a radio. How many rupees are left with Manav?

5. In a school, there are 650 pupils. Of these, 265 are girls. How many boys are there in the school?

6. There were 615 hens in a farm. 196 hens died. How many hens are left in the farm?

7. There are 365 days in a year. A school has 168 holidays. How many days does the school open during the year?

8. Rahul bought a cricket bat for 376 rupees. He gave a 500-rupee note to the shopkeeper. How many rupees did he get back?

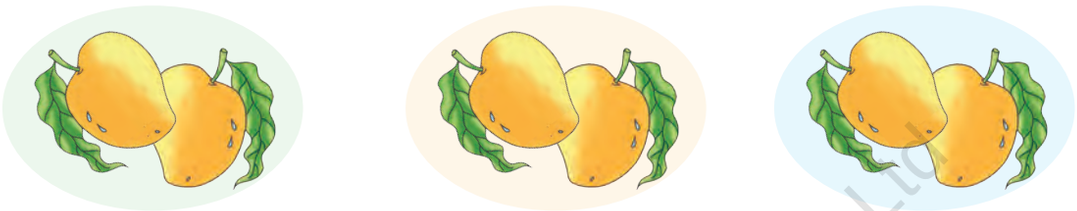
9. Manayata bought 514 sweets on her birthday. She distributed 387 sweets among her friends. How many sweets are left with her?

10. How much is 324 greater than 189?

7 Multiplication

Multiplication as Repeated Addition

Consider 3 groups of 2 mangoes each.



How many mangoes are there in all?

$2 + 2 + 2 = 6$

So, 2 taken 3 times is equal to 6 or 3 times 2 equal to 6.

We write it as, $2 \times 3 = 6$.

We say that 2 multiplied by 3 is equal to 6.

In short, we say that 2 into 3 is equal to 6.

We also say that the product of 2 and 3 is 6.

$2 \times 3 = 6$ is called a multiplication fact.

Now, consider 4 groups of 3 boys each.

How many boys are there in all?

$3 + 3 + 3 + 3 = 12$

So, 3 taken 4 times is equal to 12

or 4 times 3 equal to 12.

We write it as, $3 \times 4 = 12$.

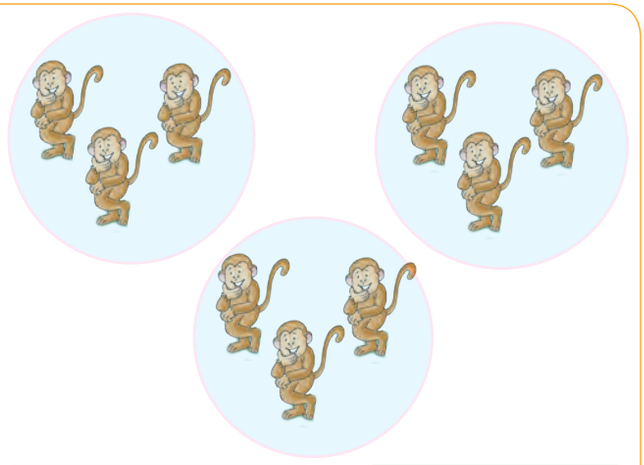
We say that 3 multiplied by 4 is equal to 12.

In short, we say that 3 into 4 is equal to 12.

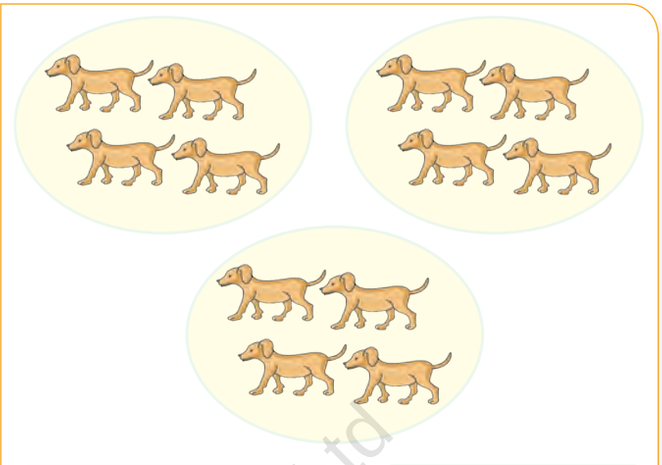
We also say that the product of 3 and 4 is 12.

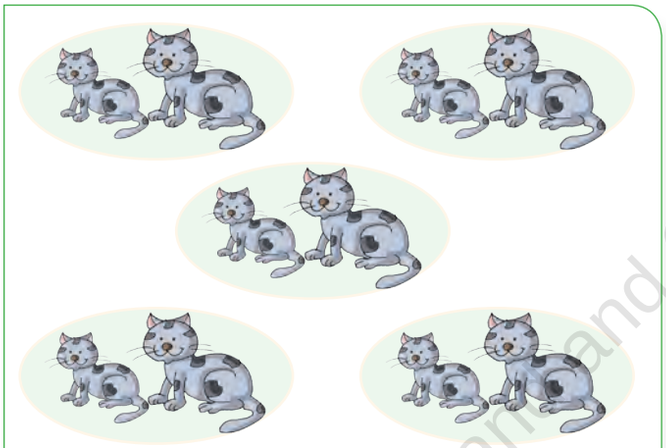
$3 \times 4 = 12$ is called a multiplication fact.

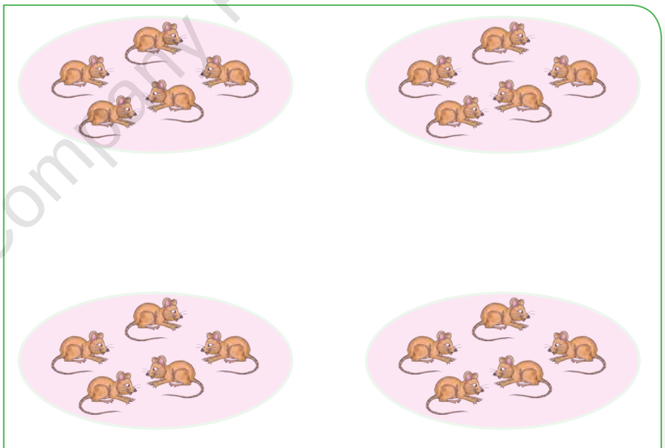
Fill in the placeholders as shown. One has been done for you.

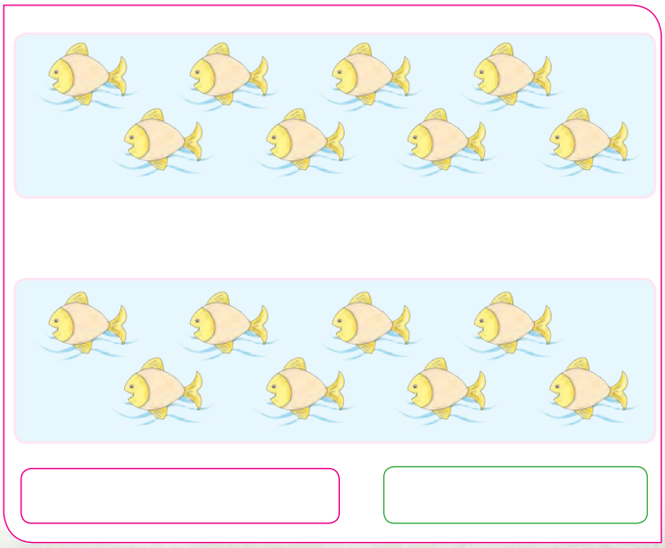


3 + 3 + 3 = 9 | 3 × 3 = 9



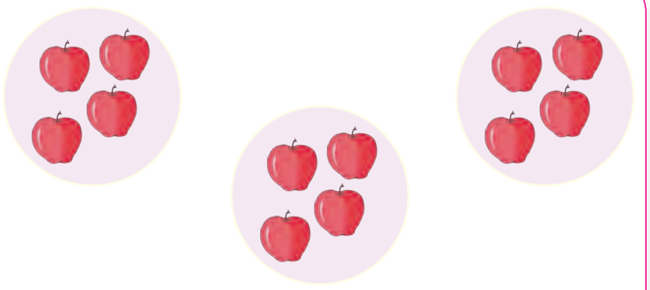


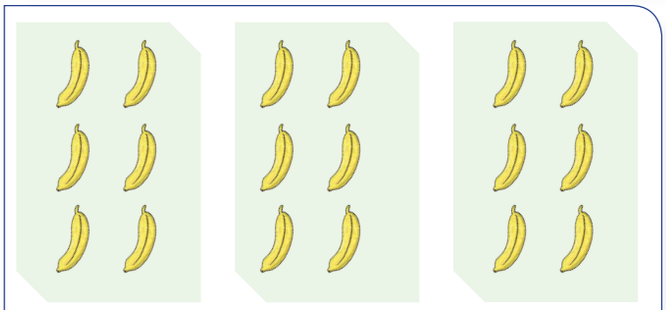


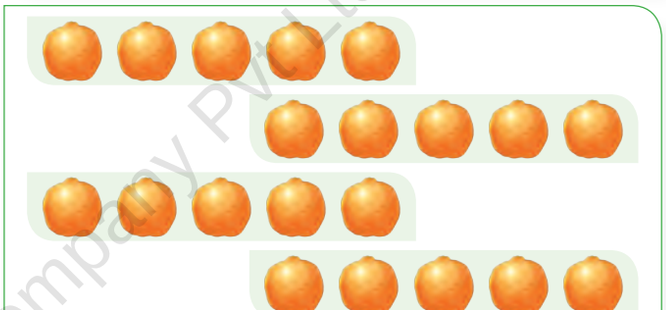


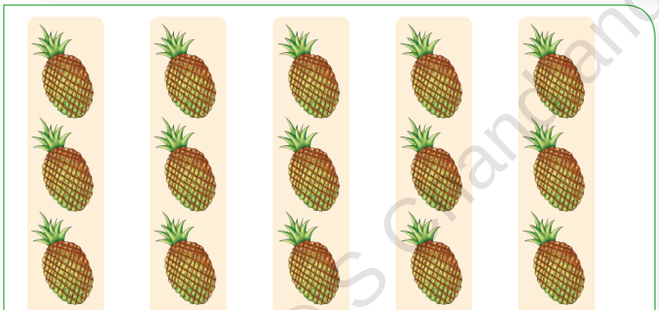
Write the multiplication fact for each of the following. One has been done for you.

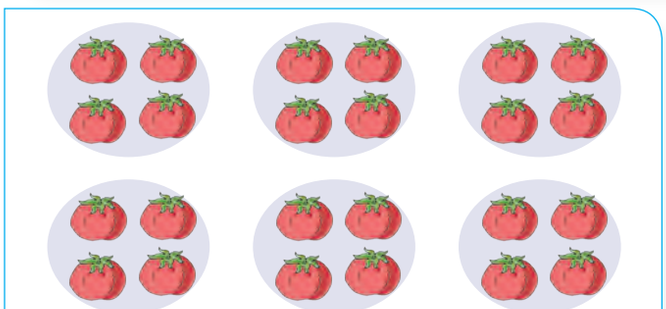
$3 \times 2 = 6$











Write the multiplication fact for each of following. One has been done for you.

2 + 2 + 2 + 2 + 2 + 2 = 12

$2 \times 6 = 12$

3 + 3 + 3 + 3 + 3 + 3 + 3 = 21

4 + 4 + 4 + 4 + 4 = 20

6 + 6 + 6 + 6 = 24

5 + 5 + 5 + 5 + 5 + 5 = 30

7 + 7 + 7 + 7 + 7 = 35

8 + 8 + 8 = 24

4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 = 32

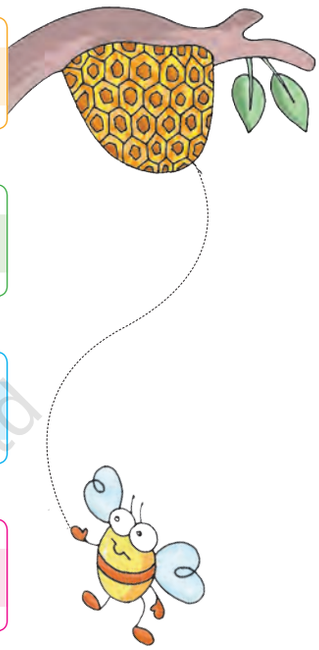
9 + 9 + 9 + 9 = 36

10 + 10 + 10 = 30

8 + 8 + 8 + 8 + 8 = 40

6 + 6 + 6 + 6 + 6 + 6 = 36

Find the product using multiplication as repeated addition. One has been done for you.



4 × 5 = 4 + 4 + 4 + 4 + 4 = 20

5 × 3 = ____ = ____

3 × 6 = ____ = ____

7 × 4 = ____ = ____

4 × 8 = ____ = ____

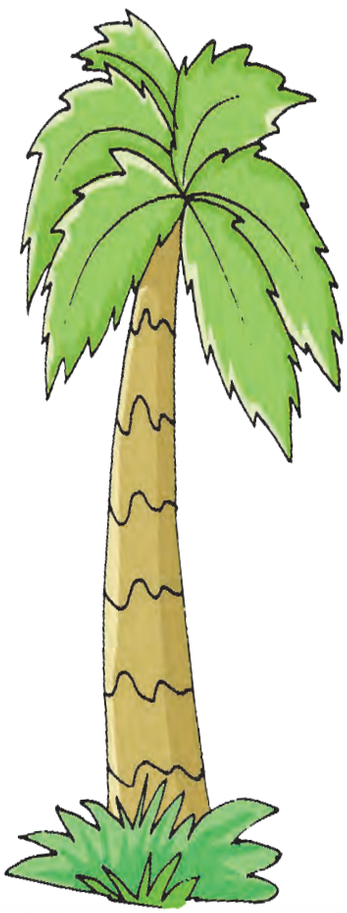
8 × 4 = ____ = ____

9 × 5 = ____ = ____

6 × 7 = ____ = ____

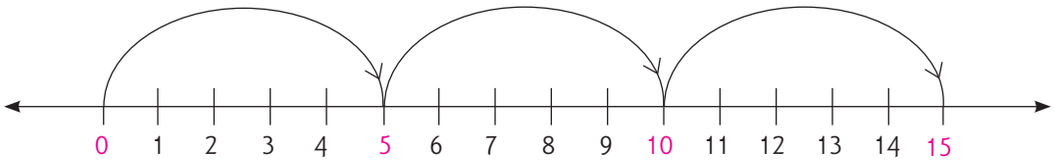
8 × 7 = ____ = ____

6 × 8 = ____ = ____



Multiplication on the Number Line

Let us find 5 × 3 using a number line.



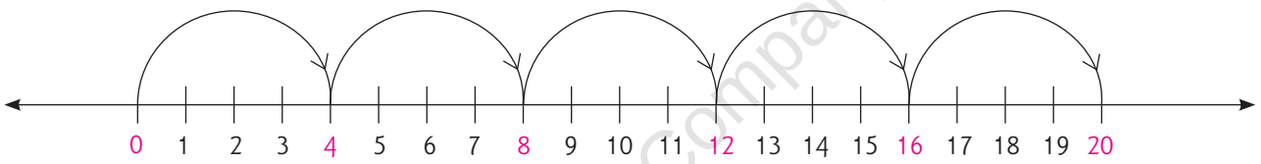
Starting with 0, we mark 3 groups of 5 each.

We make 3 moves of 5 each as shown above.

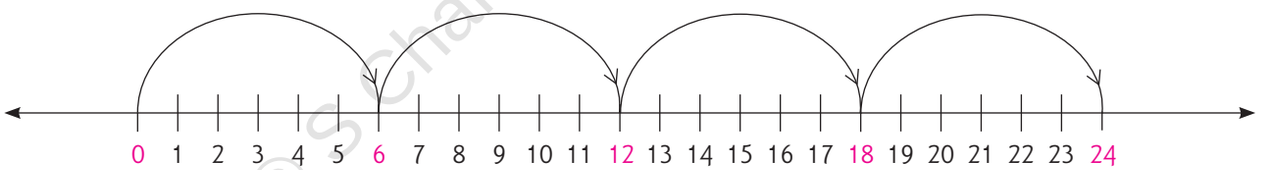
We reach 15.

So, 5 × 3 = 5 + 5 + 5 = 15.

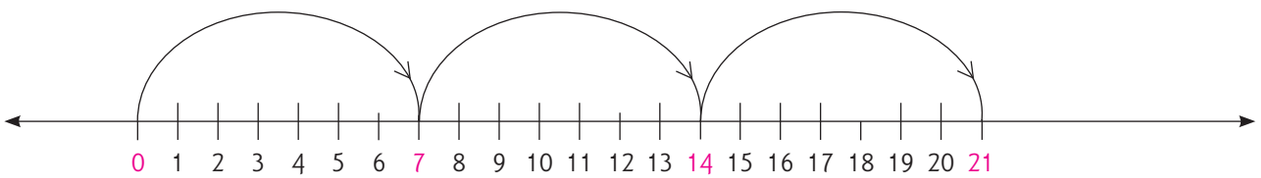
Use the number line for multiplication and fill in the placeholders.



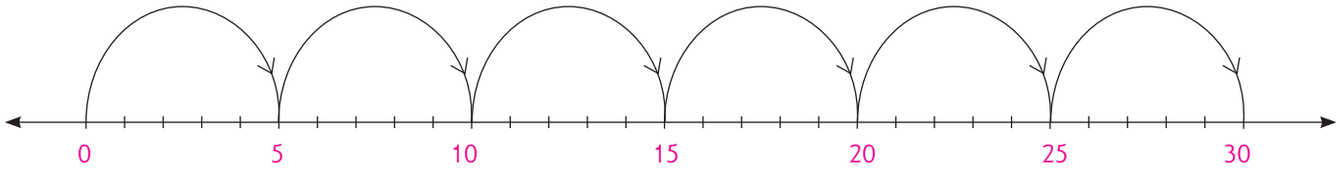
4 × 5 = ☐ = ☐



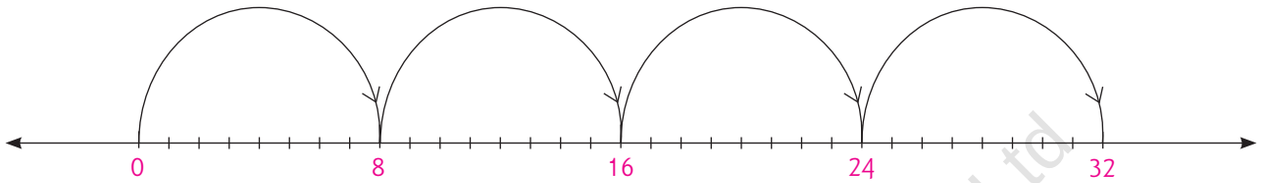
6 × 4 = ☐ = ☐



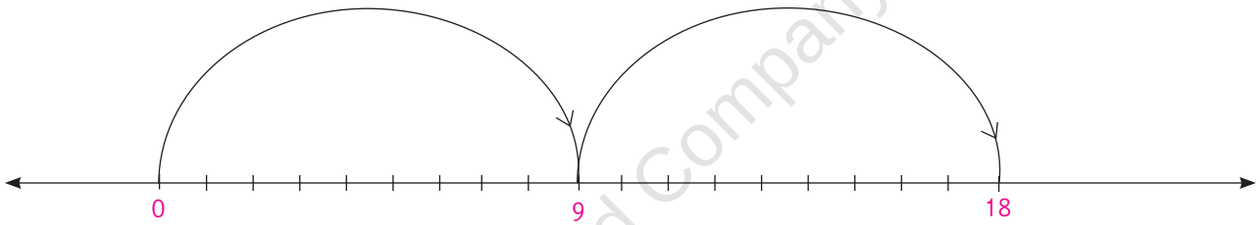
7 × 3 = ☐ = ☐



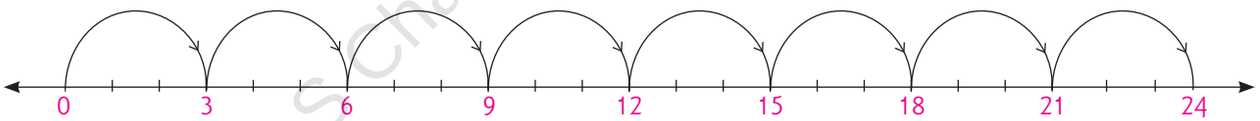
$5 \times 6 =$ ☐ = ☐



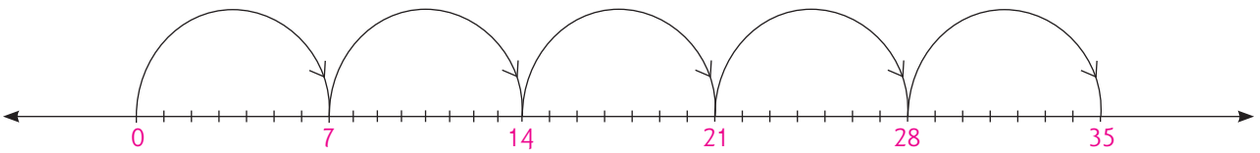
$8 \times 4 =$ ☐ = ☐



$9 \times 2 =$ ☐ = ☐



$3 \times 8 =$ ☐ = ☐



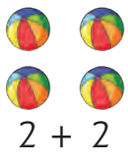
$7 \times 5 =$ ☐ = ☐

Multiplication Tables

Multiplication Table of 2

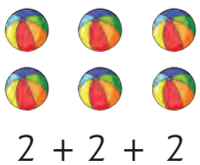
2

2 taken 1 time | $2 \times 1 = 2$



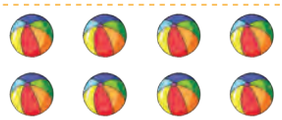
2 + 2

2 taken 2 times | $2 \times 2 = 4$



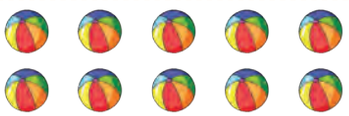
2 + 2 + 2

2 taken 3 times | $2 \times 3 = 6$



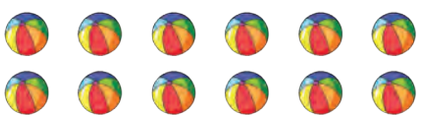
2 + 2 + 2 + 2

2 taken 4 times | $2 \times 4 = 8$



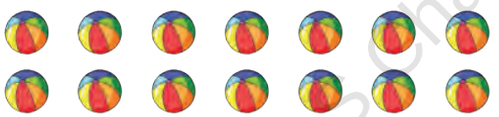
2 + 2 + 2 + 2 + 2

2 taken 5 times | $2 \times 5 = 10$



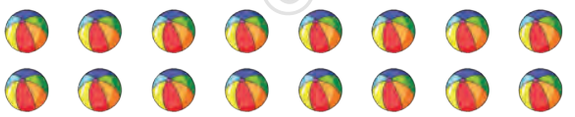
2 + 2 + 2 + 2 + 2 + 2

2 taken 6 times | $2 \times 6 = 12$



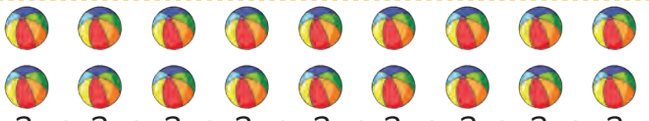
2 + 2 + 2 + 2 + 2 + 2 + 2

2 taken 7 times | $2 \times 7 = 14$



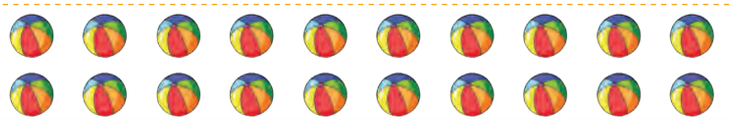
2 + 2 + 2 + 2 + 2 + 2 + 2 + 2

2 taken 8 times | $2 \times 8 = 16$



2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2

2 taken 9 times | $2 \times 9 = 18$



2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2

2 taken 10 times | $2 \times 10 = 20$

Multiplication Table of 3

3

3 taken 1 time	3 × 1 = 3

3 + 3

3 taken 2 times	3 × 2 = 6

3 + 3 + 3

3 taken 3 times	3 × 3 = 9

3 + 3 + 3 + 3

3 taken 4 times	3 × 4 = 12

3 + 3 + 3 + 3 + 3

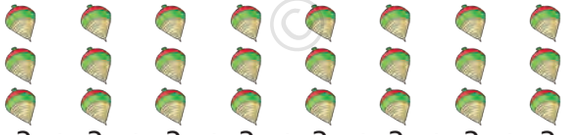
3 taken 5 times	3 × 5 = 15

3 + 3 + 3 + 3 + 3 + 3

3 taken 6 times	3 × 6 = 18

3 + 3 + 3 + 3 + 3 + 3 + 3

3 taken 7 times	3 × 7 = 21



3 + 3 + 3 + 3 + 3 + 3 + 3 + 3

3 taken 8 times	3 × 8 = 24

3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3

3 taken 9 times	3 × 9 = 27

3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3

3 taken 10 times	3 × 10 = 30

Multiplication Table of 4

4

4 taken 1 time	4 × 1 = 4

4 + 4

4 taken 2 times	4 × 2 = 8

4 + 4 + 4

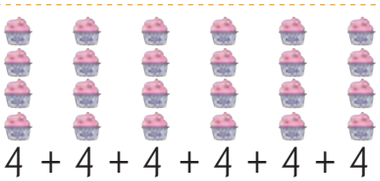
4 taken 3 times	4 × 3 = 12

4 + 4 + 4 + 4

4 taken 4 times	4 × 4 = 16

4 + 4 + 4 + 4 + 4

4 taken 5 times	4 × 5 = 20



4 + 4 + 4 + 4 + 4 + 4

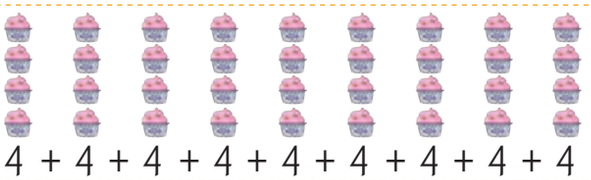
4 taken 6 times	4 × 6 = 24

4 + 4 + 4 + 4 + 4 + 4 + 4

4 taken 7 times	4 × 7 = 28

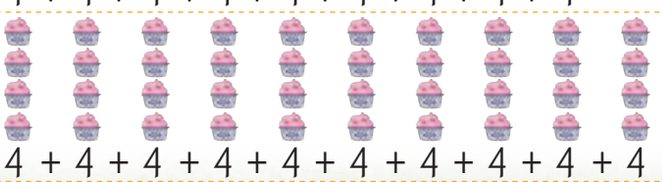
4 + 4 + 4 + 4 + 4 + 4 + 4 + 4

4 taken 8 times	4 × 8 = 32



4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4

4 taken 9 times	4 × 9 = 36



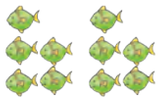
4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4

4 taken 10 times	4 × 10 = 40

Multiplication Table of 5

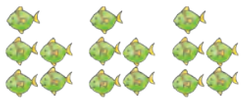
5

5 taken 1 time | 5 × 1 = 5



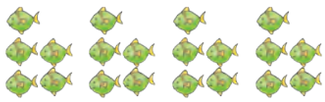
5 + 5

5 taken 2 times | 5 × 2 = 10



5 + 5 + 5

5 taken 3 times | 5 × 3 = 15

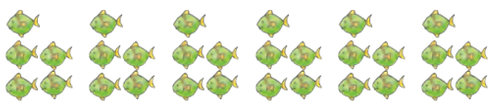


5 + 5 + 5 + 5

5 taken 4 times | 5 × 4 = 20

5 + 5 + 5 + 5 + 5

5 taken 5 times | 5 × 5 = 25



5 + 5 + 5 + 5 + 5 + 5

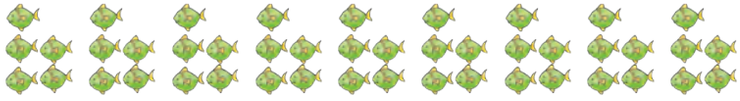
5 taken 6 times | 5 × 6 = 30

5 + 5 + 5 + 5 + 5 + 5 + 5

5 taken 7 times | 5 × 7 = 35

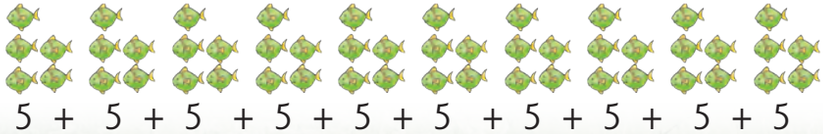
5 + 5 + 5 + 5 + 5 + 5 + 5 + 5

5 taken 8 times | 5 × 8 = 40



5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5

5 taken 9 times | 5 × 9 = 45



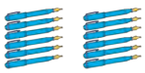
5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5

5 taken 10 times | 5 × 10 = 50

Multiplication Table of 6

6

6 taken 1 time | 6 × 1 = 6

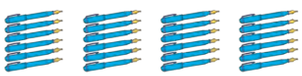


6 + 6

6 taken 2 times | 6 × 2 = 12

6 + 6 + 6

6 taken 3 times | 6 × 3 = 18

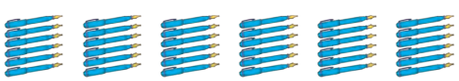


6 + 6 + 6 + 6

6 taken 4 times | 6 × 4 = 24

6 + 6 + 6 + 6 + 6

6 taken 5 times | 6 × 5 = 30

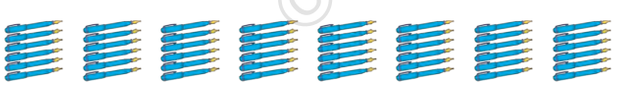


6 + 6 + 6 + 6 + 6 + 6

6 taken 6 times | 6 × 6 = 36

6 + 6 + 6 + 6 + 6 + 6 + 6

6 taken 7 times | 6 × 7 = 42

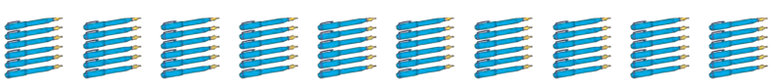


6 + 6 + 6 + 6 + 6 + 6 + 6 + 6

6 taken 8 times | 6 × 8 = 48

6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 + 6

6 taken 9 times | 6 × 9 = 54



6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 + 6

6 taken 10 times | 6 × 10 = 60

Multiplication Table of 7

7

7 taken 1 time | $7 \times 1 = 7$

7 + 7

7 taken 2 times | $7 \times 2 = 14$

7 + 7 + 7

7 taken 3 times | $7 \times 3 = 21$

7 + 7 + 7 + 7

7 taken 4 times | $7 \times 4 = 28$

7 + 7 + 7 + 7 + 7

7 taken 5 times | $7 \times 5 = 35$

7 + 7 + 7 + 7 + 7 + 7

7 taken 6 times | $7 \times 6 = 42$

7 + 7 + 7 + 7 + 7 + 7 + 7

7 taken 7 times | $7 \times 7 = 49$

7 + 7 + 7 + 7 + 7 + 7 + 7 + 7

7 taken 8 times | $7 \times 8 = 56$

7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7

7 taken 9 times | $7 \times 9 = 63$

7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7

7 taken 10 times | $7 \times 10 = 70$

Multiplication Table of 8

8

8 taken 1 time | 8 × 1 = 8

8 + 8

8 taken 2 times | 8 × 2 = 16

8 + 8 + 8

8 taken 3 times | 8 × 3 = 24

8 + 8 + 8 + 8

8 taken 4 times | 8 × 4 = 32

8 + 8 + 8 + 8 + 8

8 taken 5 times | 8 × 5 = 40

8 + 8 + 8 + 8 + 8 + 8

8 taken 6 times | 8 × 6 = 48

8 + 8 + 8 + 8 + 8 + 8 + 8

8 taken 7 times | 8 × 7 = 56

8 + 8 + 8 + 8 + 8 + 8 + 8 + 8

8 taken 8 times | 8 × 8 = 64

8 + 8 + 8 + 8 + 8 + 8 + 8 + 8 + 8

8 taken 9 times | 8 × 9 = 72

8 + 8 + 8 + 8 + 8 + 8 + 8 + 8 + 8 + 8

8 taken 10 times | 8 × 10 = 80

Multiplication Table of 9

9

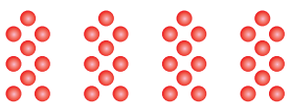
9 taken 1 time | $9 \times 1 = 9$

9 + 9

9 taken 2 times | $9 \times 2 = 18$

9 + 9 + 9

9 taken 3 times | $9 \times 3 = 27$



9 + 9 + 9 + 9

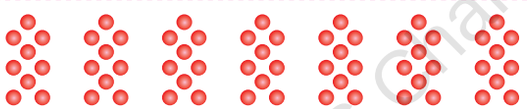
9 taken 4 times | $9 \times 4 = 36$

9 + 9 + 9 + 9 + 9

9 taken 5 times | $9 \times 5 = 45$

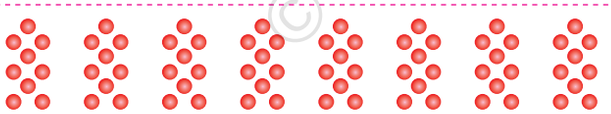
9 + 9 + 9 + 9 + 9 + 9

9 taken 6 times | $9 \times 6 = 54$



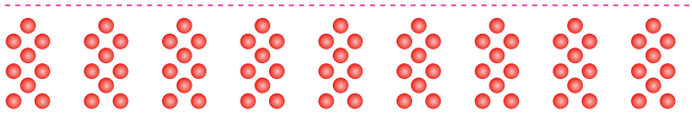
9 + 9 + 9 + 9 + 9 + 9 + 9

9 taken 7 times | $9 \times 7 = 63$



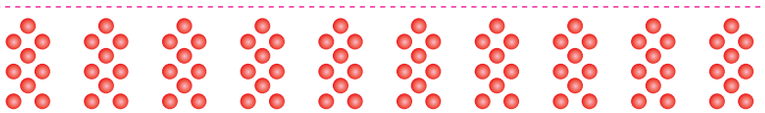
9 + 9 + 9 + 9 + 9 + 9 + 9 + 9

9 taken 8 times | $9 \times 8 = 72$



9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9

9 taken 9 times | $9 \times 9 = 81$



9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9

9 taken 10 times | $9 \times 10 = 90$

Multiplication Table of 10

10

10 taken 1 time | $10 \times 1 = 10$

10 + 10

10 taken 2 times | $10 \times 2 = 20$

10 + 10 + 10

10 taken 3 times | $10 \times 3 = 30$

10 + 10 + 10 + 10

10 taken 4 times | $10 \times 4 = 40$

10 + 10 + 10 + 10 + 10

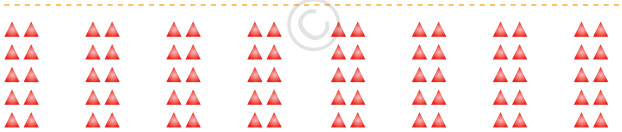
10 taken 5 times | $10 \times 5 = 50$

10 + 10 + 10 + 10 + 10 + 10

10 taken 6 times | $10 \times 6 = 60$

10 + 10 + 10 + 10 + 10 + 10 + 10

10 taken 7 times | $10 \times 7 = 70$



10 + 10 + 10 + 10 + 10 + 10 + 10 + 10

10 taken 8 times | $10 \times 8 = 80$

10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10

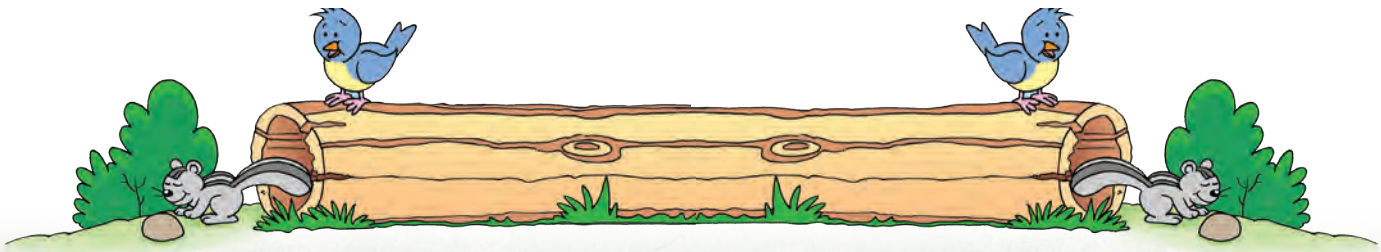
10 taken 9 times | $10 \times 9 = 90$

10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10

10 taken 10 times | $10 \times 10 = 100$

Multiplication Table (Combined)

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

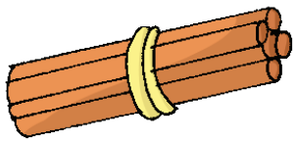


Fill in the placeholders with the help of multiplication tables. One has been done for you.

$3 \times 5 = 15$	$4 \times 6 =$	$5 \times 4 =$
$6 \times 7 =$	$3 \times 8 =$	$9 \times 5 =$
$7 \times 6 =$	$8 \times 4 =$	$6 \times 8 =$
$5 \times 8 =$	$4 \times 9 =$	$7 \times 7 =$
$6 \times 9 =$	$5 \times 7 =$	$8 \times 6 =$
$7 \times 8 =$	$8 \times 9 =$	$2 \times 7 =$
$5 \times 9 =$	$6 \times 5 =$	$7 \times 9 =$
$9 \times 6 =$	$8 \times 7 =$	$9 \times 8 =$
$8 \times 8 =$	$9 \times 9 =$	$6 \times 6 =$
$3 \times 9 =$	$4 \times 7 =$	$10 \times 7 =$

Word Problems

1. A bundle has 5 sticks. How many sticks are there in 6 bundles?



$5 \times 6 = 30$ sticks

2. One tricycle has 3 wheels. How many wheels are there in 5 tricycles?

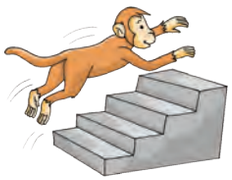
3. One man has 2 hands. How many hands do 4 men have?

4. A table has 4 legs. How many legs do 5 tables have?

5. There are packets of 10 crayons each. How many crayons are there in 4 packets?

6. 3 toffees are given to each child. How many toffees do 8 children get?

7. One box contains 5 balls. How many balls do 7 boxes contain?



8. A monkey jumps 4 stairs at a time. How many stairs does it climb in 6 jumps?

Multiplication of a 2-digit Number by a 1-digit Number (without Carrying)

Let us multiply 32 by 3.
We proceed as follows:

Step 1: Arrange the numbers in column form as shown.

T	O
3	2
×	3

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

T	O
3	2
×	3
	6

Step 3: Multiply the tens.
3 tens × 3 = 9 tens.
Write 9 under the tens column.
So, 32 × 3 = 96.

T	O
3	2
×	3
9	6

Let us now multiply 43 by 2.

Step 1:

T	O
4	3
×	2

Step 2:

T	O
4	3
×	2
	6

Step 3:

T	O
4	3
×	2
8	6

Multiply:

T	O
1	2
×	2

T	O
2	1
×	3

T	O
1	3
×	3

T	O
2	4
×	2

T	O
1	1
×	8

T	O
2	2
×	4

T	O
3	3
×	2

T	O
1	2
×	4

T	O
4	3
×	2

T	O
1	4
×	2

T	O
2	1
×	4

T	O
3	1
×	3

T	O
3	4
×	2

T	O
4	2
×	2

T	O
3	2
×	2

T	O
1	3
×	2

T	O
3	1
×	2

T	O
3	3
×	3

T	O
2	2
×	3

T	O
4	4
×	2

Multiplication of a 2-digit Number by a 1-digit Number (with Carrying)

Let us multiply 27 by 2.
We proceed as follows.

Step 1: Write the numbers in column form as shown.

T	O
2	7
×	2

Step 2: Multiply the ones.
7 ones × 2 = 14 ones

T	O
2	7
×	2
	1 4

Step 3: Regroup the product in ones column.
14 ones = 1 ten + 4 ones
Write 4 under the ones column and carry over 1 to the tens column.

T	O
2	7
×	2
(1)	4

Step 4: Multiply the tens.
2 tens × 2 = 4 tens
Add the carried over tens.
4 tens + 1 ten (carried over) = 5 tens
Write 5 under the tens column.
So, 27 × 2 = 54.

T	O
(1) ← Carry over	
2	7
×	2
5	4

Multiply:

T	O
○	
1	3
×	4

T	O
○	
1	6
×	3

T	O
○	
2	3
×	4

T	O
○	
1	4
×	4

T	O
○	
1	6
×	6

T	O
○	
1	5
×	5

T	O
○	
1	7
×	3

T	O
○	
2	4
×	3

T	O
○	
2	5
×	2

T	O
○	
1	9
×	3

T	O
○	
1	6
×	5

T	O
○	
1	8
×	4

T	O
○	
1	5
×	6

T	O
○	
1	7
×	5

T	O
○	
1	4
×	7

T	O
○	
2	5
×	3

T	O
○	
1	7
×	4

T	O
○	
2	4
×	4

T	O
○	
1	6
×	4

T	O
○	
1	9
×	5

More Multiplication with Carrying

Let us multiply 57 by 3.

We proceed as follows.

Step 1: Write the numbers in column form as shown.

H	T	O
	5	7
	×	3

Step 2: Multiply the ones.

7 ones × 3 = 21 ones

= 2 tens + 1 one

Write 1 under the ones column and carry over 2 to tens column.

H	T	O
	5	7
	×	3
	(2)	1

Step 3: Multiply the tens.

5 tens × 3 = 15 tens

15 tens + 2 tens (carried over)

= 17 tens

= 1 hundred + 7 tens.

Write 7 under the tens column and 1 under the hundreds column.

So, 57 × 3 = 171

H	T	O
	(2)	
	5	7
	×	3
1	7	1

Let us now multiply 67 by 4.

Step 1:

H	T	O
	6	7
	×	4

Step 2:

H	T	O
	6	7
	×	4
	(2)	8

Step 3:

H	T	O
	(2)	
	6	7
	×	4
2	6	8

Multiply:

H	T	O
	◯	
	2	6
	×	6

H	T	O
	◯	
	3	4
	×	6

H	T	O
	◯	
	4	6
	×	5

H	T	O
	◯	
	5	5
	×	6

H	T	O
	◯	
	7	5
	×	3

H	T	O
	◯	
	8	4
	×	3

H	T	O
	◯	
	9	6
	×	4

H	T	O
	◯	
	2	8
	×	6

H	T	O
	◯	
	3	9
	×	5

H	T	O
	◯	
	6	8
	×	4

H	T	O
	◯	
	7	3
	×	6

H	T	O
	◯	
	8	6
	×	7

H	T	O
	◯	
	7	2
	×	5

H	T	O
	◯	
	5	8
	×	8

H	T	O
	◯	
	9	2
	×	7

H	T	O
	◯	
	8	7
	×	8

H	T	O
	◯	
	7	8
	×	9

H	T	O
	◯	
	5	9
	×	6

H	T	O
	◯	
	3	7
	×	9

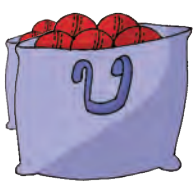
H	T	O
	◯	
	4	6
	×	9

Word Problems

1. There are 21 students in a class. How many students are there in 3 classes?

2. An almirah has 7 shelves. 23 books are kept on each shelf. How many books are there in the almirah?

3. There are 12 players in a team. 8 teams took part in a contest. How many players participated in the contest?

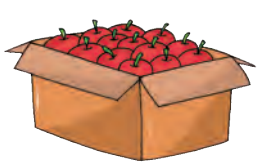


4. There are 16 balls in a bag. How many balls are there in 9 bags?

5. There are 7 days in a week. How many days are there in 24 weeks?

NOVEMBER

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			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		



6. There are 84 apples in a carton. How many apples are there in 5 such cartons?

7. In a stadium, there are 38 chairs in each row. How many chairs are there in 8 rows?

Order Property of Multiplication

Look at the figures given below.

$2 + 2 + 2 = 6$

Thus, 2 taken 3 times = 6

So, $2 \times 3 = 6$

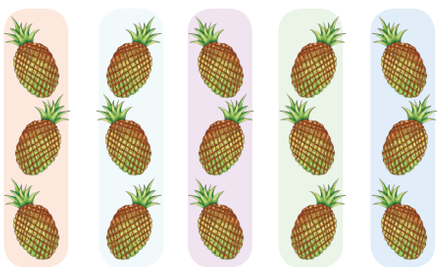
$3 + 3 = 6$

Thus, 3 taken 2 times = 6

So, $3 \times 2 = 6$

Hence, $2 \times 3 = 3 \times 2 = 6$

Now, look at the figures given below.



$3 + 3 + 3 + 3 + 3 = 15$

Thus, 3 taken 5 times = 15

So, $3 \times 5 = 15$

$5 + 5 + 5 = 15$

Thus, 5 taken 3 times = 15

So, $5 \times 3 = 15$

Hence, $3 \times 5 = 5 \times 3 = 15$

When two numbers are multiplied they may be taken in any order. The result remains the same. This is called the order property of multiplication.

Fill in the placeholders.

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

Multiplicative Property of 1

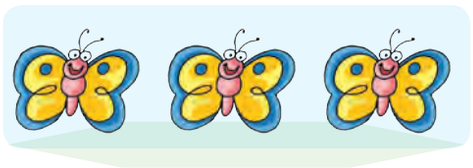
Look at the figures given below.

1 + 1 + 1 = 3

1 + 1 + 1 = 3

Thus, 1 taken 3 times = 3

So, $1 \times 3 = 3$



Clearly, 3 taken 1 time = 3

So, $3 \times 1 = 3$

Hence, $1 \times 3 = 3 \times 1 = 3$

By multiplying any number with 1, we get the same number.

Thus, $1 \times 2 = 2 \times 1 = 2$; $1 \times 3 = 3 \times 1 = 3$;

$1 \times 4 = 4 \times 1 = 4$; $1 \times 5 = 5 \times 1 = 5$;

$1 \times 6 = 6 \times 1 = 6$; $1 \times 7 = 7 \times 1 = 7$ and so on.

Fill in the placeholders. One has been done for you.

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

Multiplicative Property of Zero

We know that: 0 + 0 = 0

Thus, 0 taken 2 times = 0

So, 0 × 2 = 0

By order property: 0 × 2 = 2 × 0

Hence, 0 × 2 = 2 × 0 = 0

Similarly, 0 + 0 + 0 + 0 + 0 = 0

Thus, 0 taken 5 times = 0

So, 0 × 5 = 0

But, 0 × 5 = 5 × 0

Hence, 0 × 5 = 5 × 0 = 0

Any number multiplied by 0 is 0.

Fill in the placeholders. One has been done for you.

1 × 0 = 0	0 × 2 = ◯	4 × 0 = ◯
0 × 6 = ◯	9 × 0 = ◯	0 × 7 = ◯
5 × 0 = ◯	0 × 1 = ◯	6 × 0 = ◯
0 × 10 = ◯	8 × 0 = ◯	10 × 0 = ◯

8 Division

'Division' means 'equal sharing'.

Activity 1

Rohan's mother bought a packet of 12 chocolates for her 4 children.

She gives 1 chocolate to each of the 4 children.

She then gives 1 chocolate more to each of the 4 children.

She again gives 1 chocolate more to each of the 4 children.

Now, the mother is left with no chocolates. This means that all the 12 chocolates have been divided equally among 4 children and each child gets 3 chocolates.

We say that: 12 divided by 4 is equal to 3.

We write it as: $12 \div 4 = 3$.

The symbol '÷' stands for division.

$12 \div 4 = 3$ is a division fact.

Activity 2

1. Suppose we have 9 cups.

Divide them equally into 3 groups.

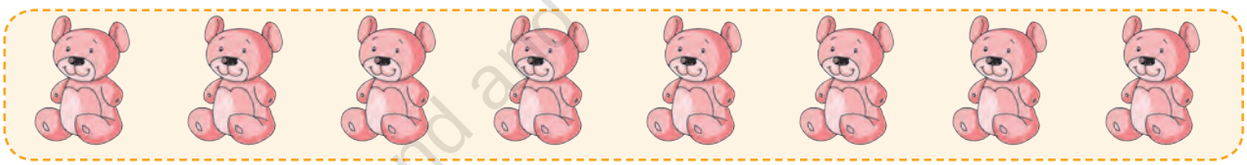
Each group contains 3 cups.

We write: $9 \div 3 = 3$.

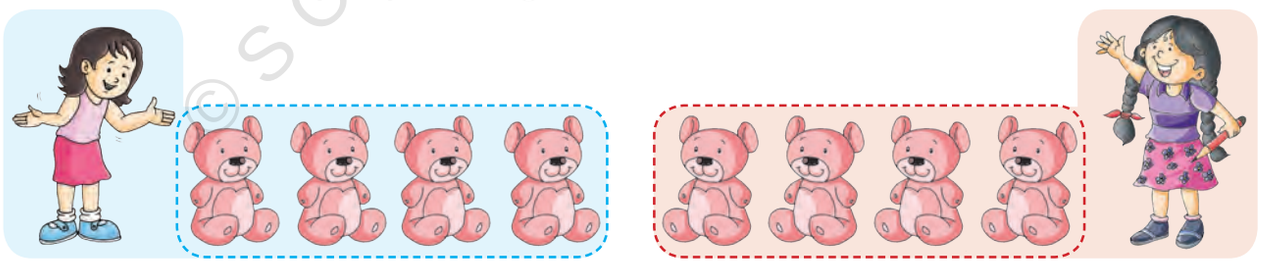
We say that, 9 divided by 3 is equal to 3.

$9 \div 3 = 3$ is called a division fact.

2. Suppose we have a collection of 8 toys.



Distribute them equally among 2 children.



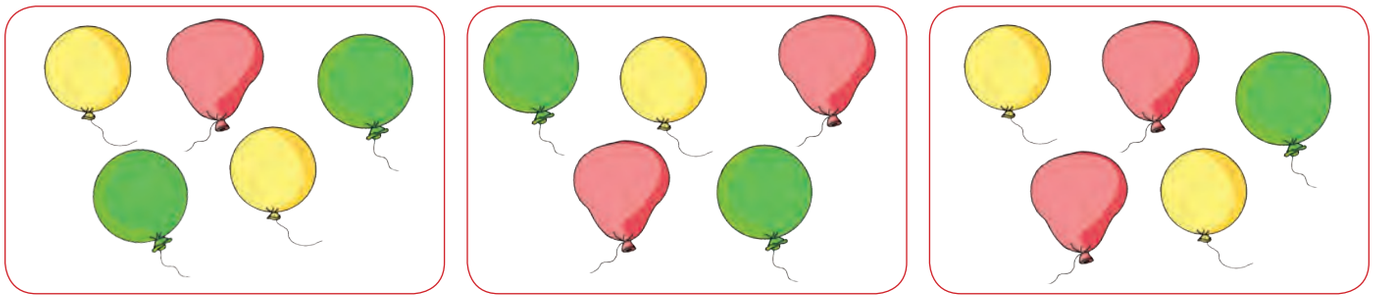
Each child gets 4 toys.

So, $8 \div 2 = 4$.

Thus, 8 divided by 2 is equal to 4.

$8 \div 2 = 4$ is a division fact.

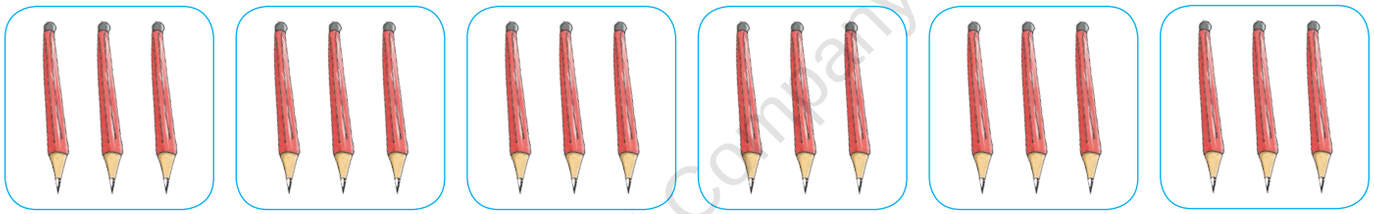
Fill in the placeholders.



15 balloons have been divided equally into ☐ groups.

Each group contains ☐ balloons.

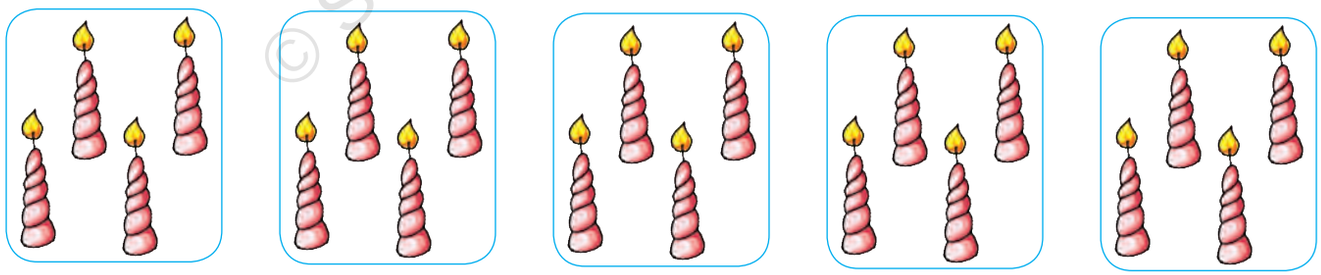
Division fact is 15 ÷ 3 = ☐.



18 pencils have been divided equally into ☐ groups.

Each group contains ☐ pencils.

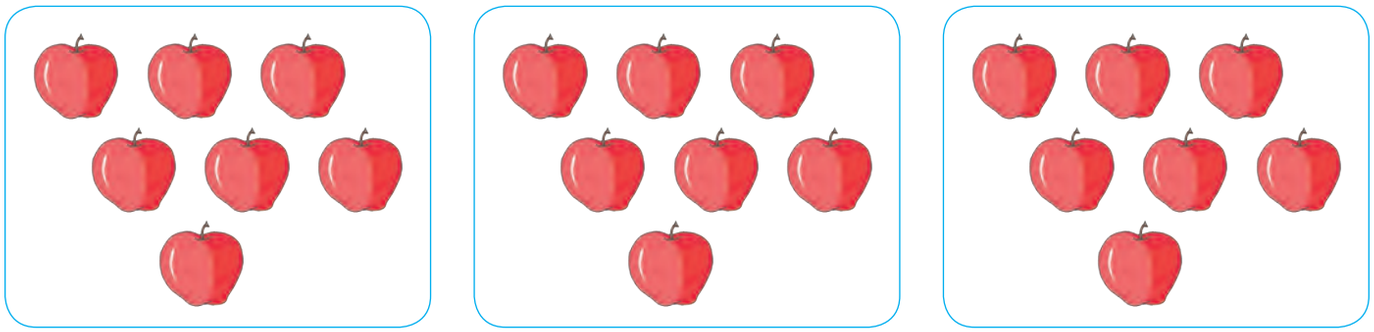
Division fact is 18 ÷ 6 = ☐.



20 candles have been divided equally into ☐ groups.

Each group contains ☐ candles.

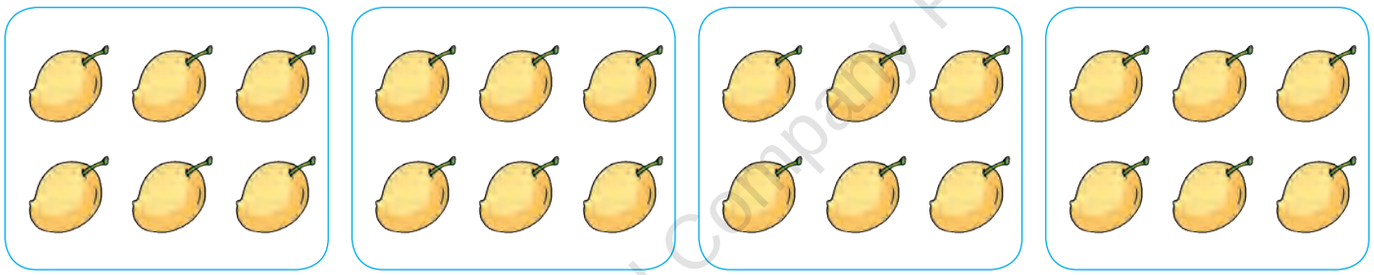
Division fact is 20 ÷ 5 = ☐.



21 apples have been divided equally into ☐ groups.

Each group contains ☐ apples.

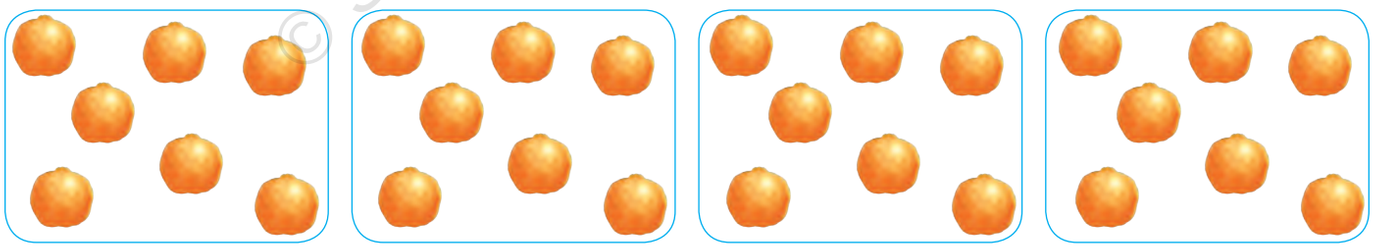
Division fact is ☐ ÷ ☐ = ☐.



24 mangoes have been divided equally into ☐ groups.

Each group contains ☐ mangoes.

Division fact is ☐ ÷ ☐ = ☐.

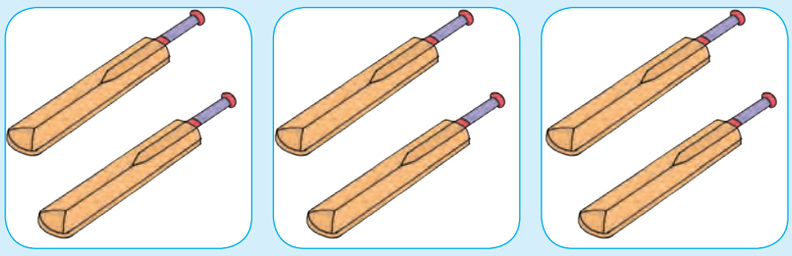


28 oranges have been divided equally into ☐ groups.

Each group contains ☐ oranges.

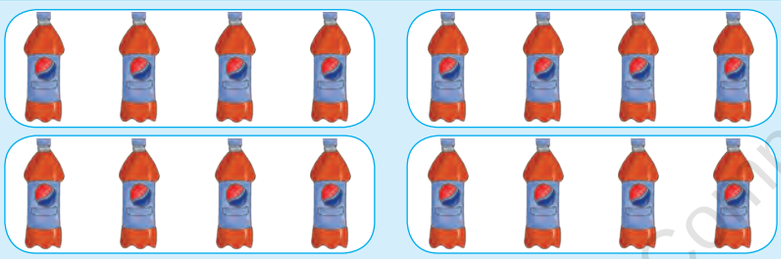
Division fact is ☐ ÷ ☐ = ☐.

Write the division fact for each of the following.



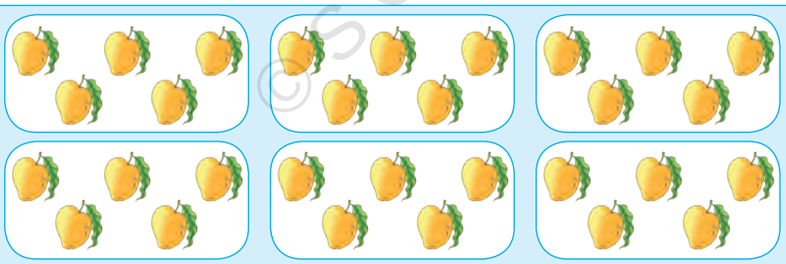
6 ÷ 3 = 2

☐ ÷ ☐ = ☐

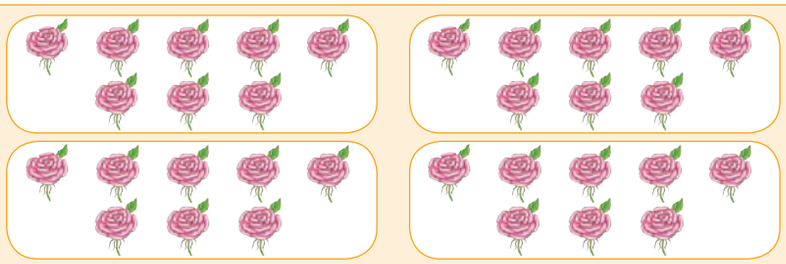


☐ ÷ ☐ = ☐

☐ ÷ ☐ = ☐

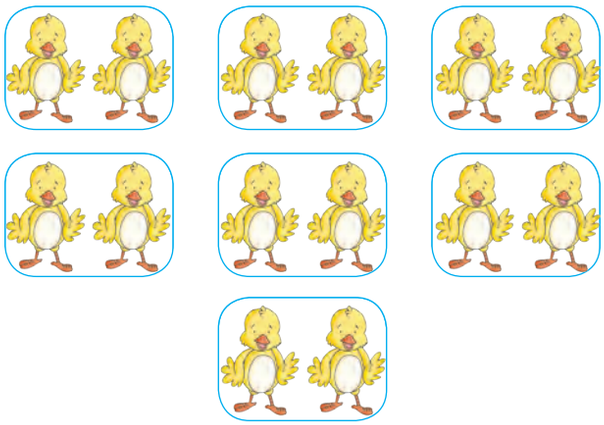


☐ ÷ ☐ = ☐

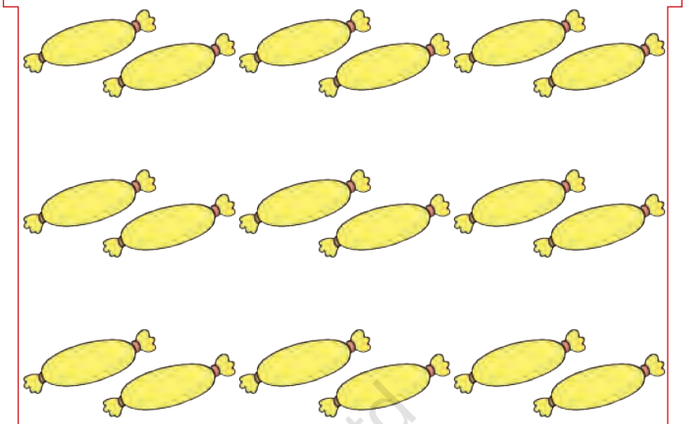


☐ ÷ ☐ = ☐

Make groups as shown and fill in the correct number.



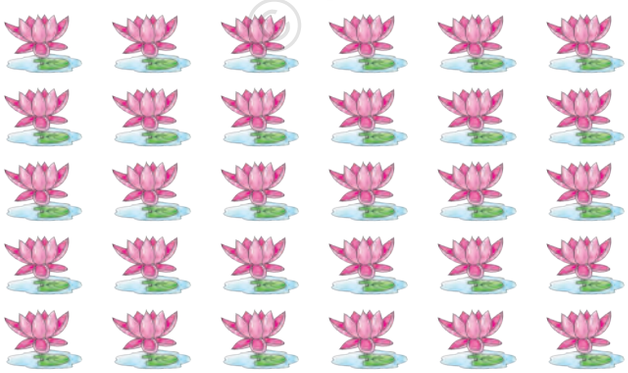
14 ÷ 7 = 2



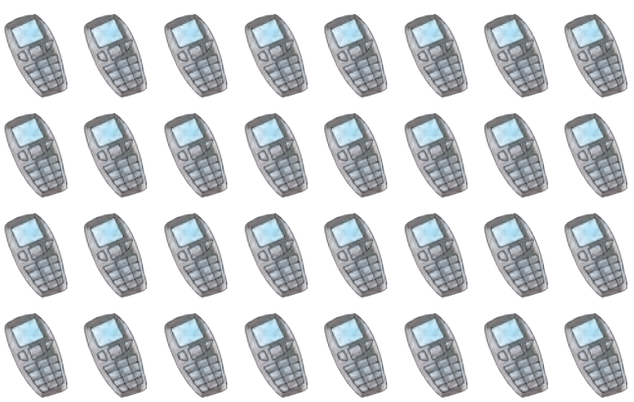
18 ÷ 3 = ☐

20 ÷ 4 = ☐

27 ÷ 9 = ☐



30 ÷ 6 = ☐



32 ÷ 8 = ☐

Division as Inverse of Multiplication

Suppose we have 2 groups of 4 boys each.

Total number of boys = 2×4

$= 8.$

This means 8 boys have been divided into 2 groups and there are 4 boys in each group.

So, $8 \div 2 = 4$.

Again, divide the 8 boys into 4 groups.

How many boys are there in each group?

Clearly, 2.

So, $8 \div 4 = 2$.

The multiplication fact $2 \times 4 = 8$ gives rise to two division facts:

$8 \div 2 = 4$ and $8 \div 4 = 2$.

So, division is the inverse of multiplication.

Write two division facts for each of the following multiplication facts. One has been done for you.

Multiplication Fact	Division Facts	
$2 \times 5 = 10$	$10 \div 2 = 5$	$10 \div 5 = 2$
$3 \times 4 = 12$	$\square \div \square = \square$	$\square \div \square = \square$
$3 \times 9 = 27$	$\square \div \square = \square$	$\square \div \square = \square$
$4 \times 6 = 24$	$\square \div \square = \square$	$\square \div \square = \square$
$5 \times 7 = 35$	$\square \div \square = \square$	$\square \div \square = \square$
$6 \times 3 = 18$	$\square \div \square = \square$	$\square \div \square = \square$
$8 \times 5 = 40$	$\square \div \square = \square$	$\square \div \square = \square$
$7 \times 8 = 56$	$\square \div \square = \square$	$\square \div \square = \square$
$9 \times 7 = 63$	$\square \div \square = \square$	$\square \div \square = \square$
$4 \times 10 = 40$	$\square \div \square = \square$	$\square \div \square = \square$
$8 \times 9 = 72$	$\square \div \square = \square$	$\square \div \square = \square$
$6 \times 7 = 42$	$\square \div \square = \square$	$\square \div \square = \square$

Division using Multiplication Tables

Suppose we have to divide 20 by 4.

Recite the multiplication table of 4 till you come to 20.

Clearly, 4 goes into 20 five times as $4 \times 5 = 20$.

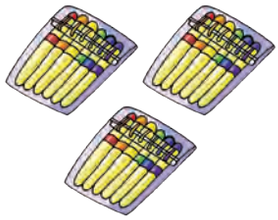
So, $20 \div 4 = 5$.

Divide using multiplication tables.

$16 \div 2 =$ ◯	$15 \div 3 =$ ◯	$24 \div 4 =$ ◯
$27 \div 9 =$ ◯	$32 \div 8 =$ ◯	$56 \div 7 =$ ◯
$48 \div 6 =$ ◯	$63 \div 9 =$ ◯	$35 \div 5 =$ ◯
$36 \div 4 =$ ◯	$18 \div 2 =$ ◯	$21 \div 3 =$ ◯
$54 \div 9 =$ ◯	$49 \div 7 =$ ◯	$45 \div 5 =$ ◯
$72 \div 8 =$ ◯	$36 \div 6 =$ ◯	$81 \div 9 =$ ◯
$63 \div 7 =$ ◯	$80 \div 10 =$ ◯	$56 \div 8 =$ ◯
$50 \div 5 =$ ◯	$24 \div 3 =$ ◯	$16 \div 4 =$ ◯
$64 \div 8 =$ ◯	$12 \div 3 =$ ◯	$70 \div 7 =$ ◯

Word Problems

1. 18 pens are equally packed into 3 packets. How many pens are there in each packet?



$18 \div 3 = 6$

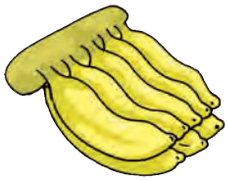
2. 45 toffees are equally divided among 9 girls. How many toffees does each girl get?

3. 7 days make a week. How many weeks are there in 42 days?

SUN	MON	TUE	WED	THU	FRI	SAT
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				

4. 4 persons can sit in a car. How many cars will be needed for 32 persons?

5. 6 balls cost ₹ 54. How much does one ball cost, if each ball has the same cost?

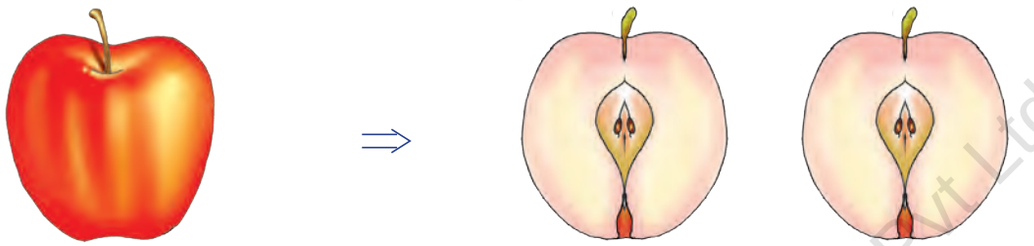


6. There are 40 bananas in 5 bunches. Each bunch contains the same number of bananas. How many bananas are there in each bunch?

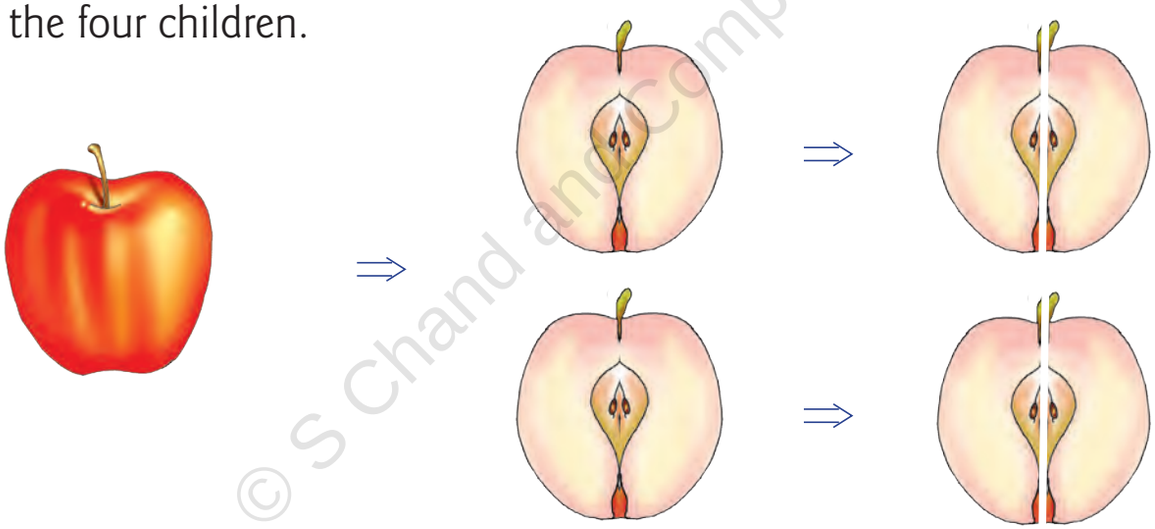
9 Fractions – An Introduction

Fraction means part of a whole.

Tina's mummy had an apple. She cut it into two equal parts to give one to Tina and the other to her younger brother, Mac.



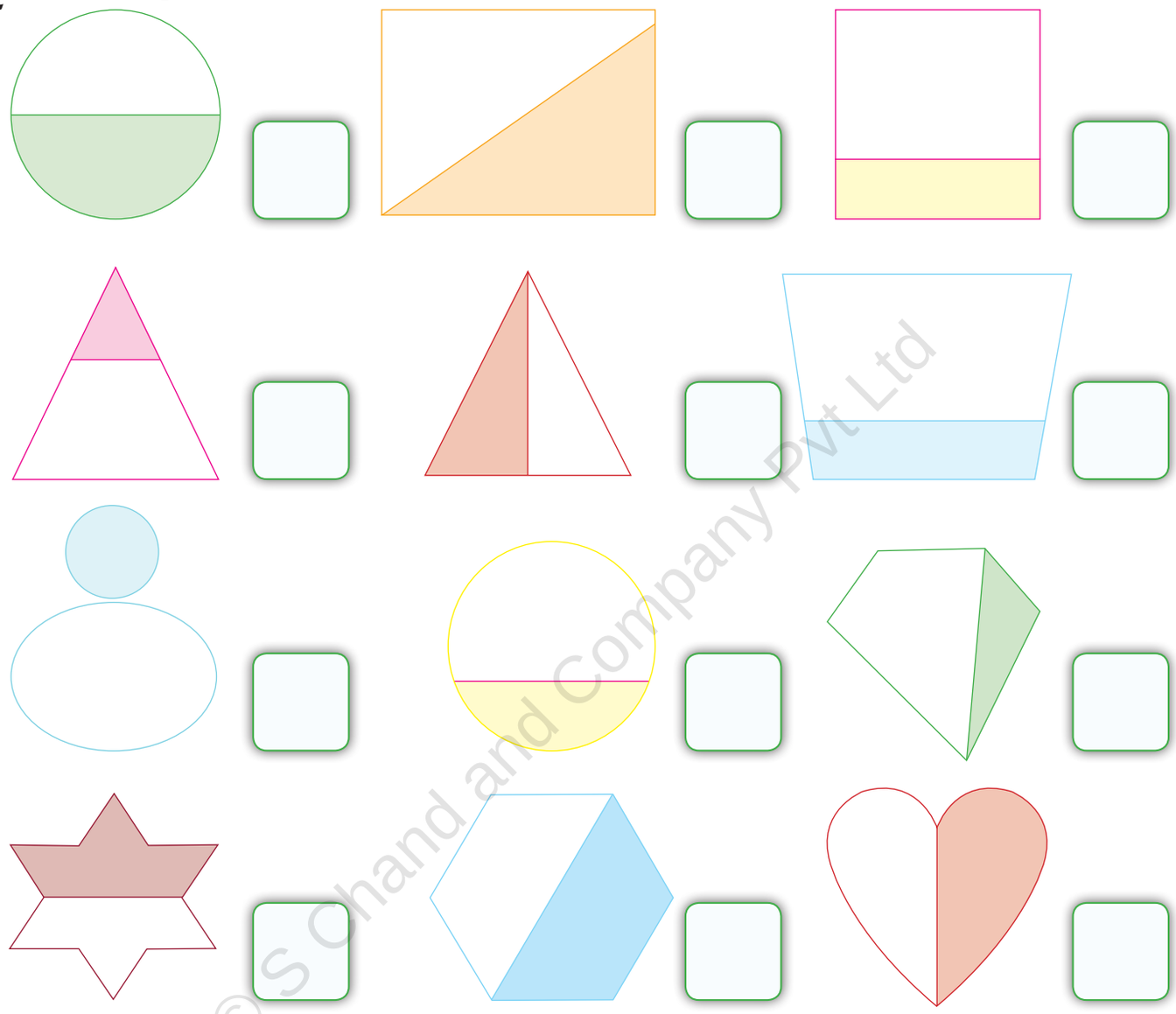
But just then Mac's friend, Sam and Tina's friend, Ria came there.
So, mummy cut each part into two equal parts again to give one part to each of the four children.



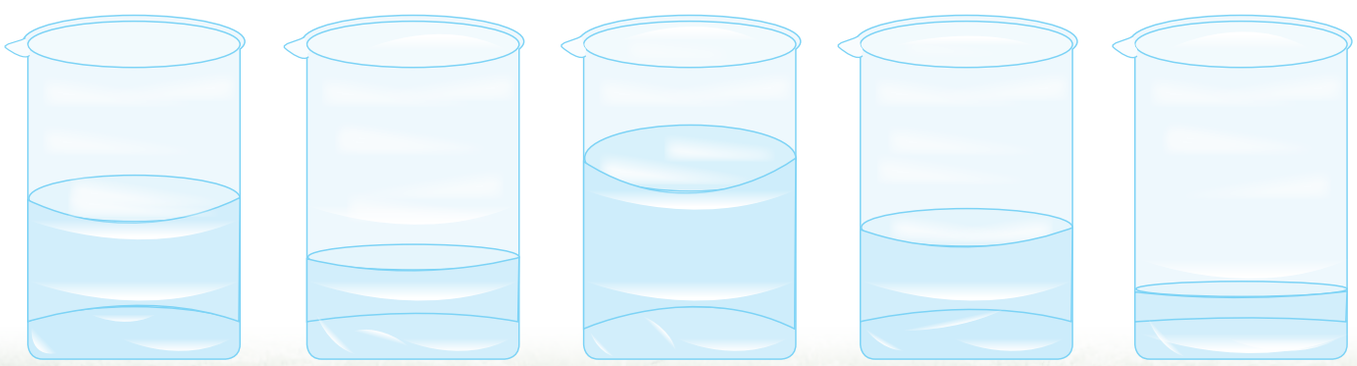
One part out of two equal parts is called one-half, written as $\frac{1}{2}$.
So, two halves make a whole.
Thus, each of Mac and Tina was to get one-half of the apple before their friends came.

One part out of four equal parts is called one-quarter, written as $\frac{1}{4}$.
So, four quarters make a whole.
Thus, finally each of the four children got one-quarter of the apple.

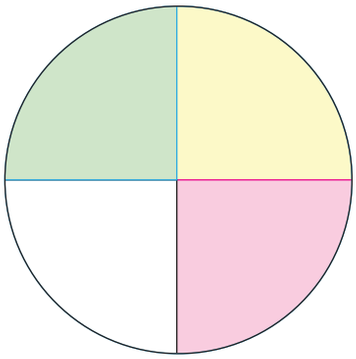
Tick (✓) the shapes which are divided in halves and write the fraction $\frac{1}{2}$ in each part.

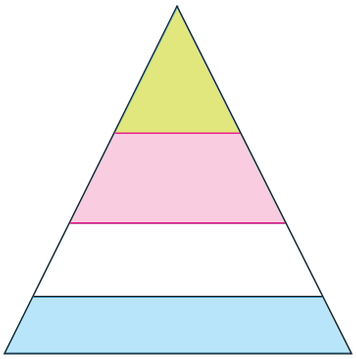


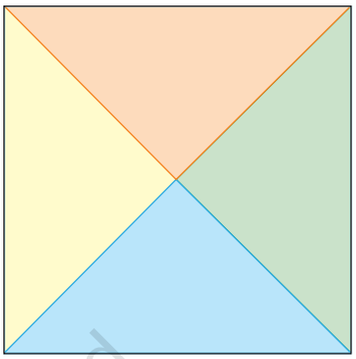
Circle the jars which are less than half full of water.

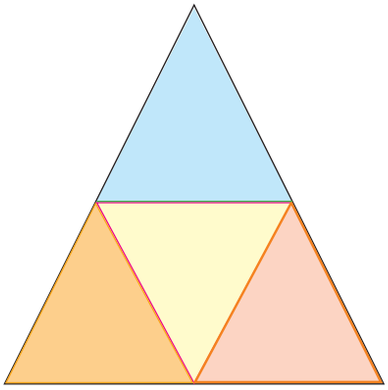


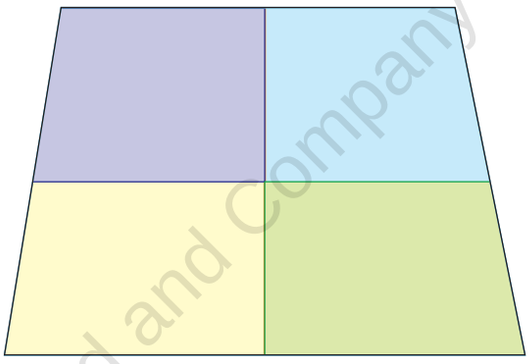
Tick (✓) the shapes which are divided in quarters and write the fraction $\frac{1}{4}$ in each part.

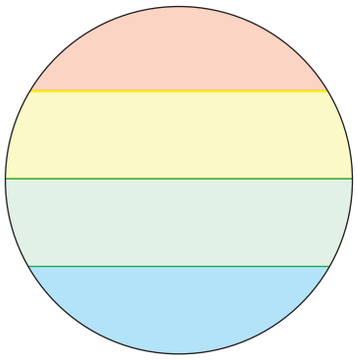


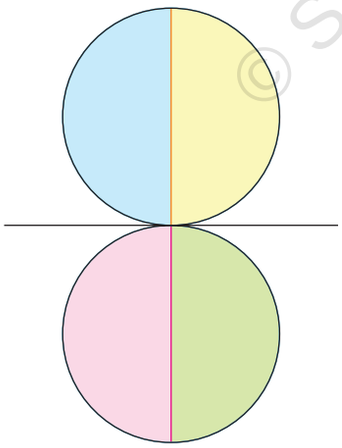


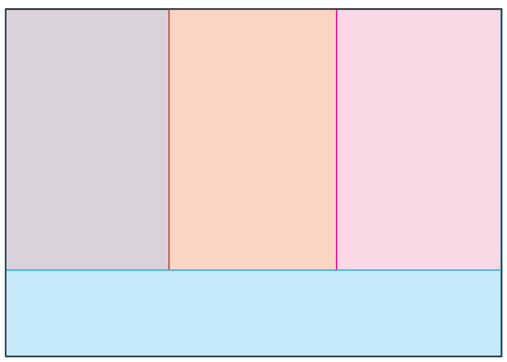












10 Money

For our daily needs, we buy things from the market. To buy things, we have to pay money to the shopkeepers.

Indian Currency

Indian currency is in the form of Rupees and Paise. Rupees and paise are in the form of coins and notes.

Coins

5 paise

10 paise

20 paise

25 paise

50 paise

1 rupee

2 rupees

5 rupees

10 rupees

Notes

1 rupee

2 rupees

5 rupees

10 rupees

20 rupees

50 rupees

100 rupees

500 rupees

2000 rupees

Note : Coins of 5 p, 10 p, 20 p, 25 p, 50 p and notes of denominations 1 rupee and 2 rupee are not in use.

1 rupee = 100 paise

In short, we denote:

Rupees by ₹ and Paise by p.

Thus, we can write:

1 rupee as ₹ 1, 57 rupees as ₹ 57 and 63 paise as 63 p.

The following statements are clearly true.

Two  (50-paise coins) =  1 rupee

Four  (25-paise coins) =  1 rupee

Five  (20-paise coins) =  1 rupee

Ten  (10-paise coins) =  1 rupee

Twenty  (5-paise coins) =  1 rupee

Similarly, we have:

 +  = 

 +  = 

 +  +  +  +  = 

 +  +  +  +  = 

Fill in the placeholders.

1. How many 25-paise coins make a rupee?
2. How many 20-paise coins make a rupee?
3. How many 5-paise coins make a rupee?
4. How many 10-paise coins make a rupee?
5. How many 50-rupee notes make 100 rupees?
6. How many 5-rupee notes make 100 rupees?

Fill in the blanks.

1. 1 rupee = ... paise.
2. ..... 50-paise coins make a rupee.
3. ..... 10-paise coins make a rupee.
4. Two 50-rupee notes make ..... rupees.
5. ..... 20-rupee notes make 100 rupees.
6. ..... 5-rupee notes make 100 rupees.
7. ..... 2-rupee notes make 100 rupees.

8. For a 20-rupee note, we can exchange ..... 5-rupee notes.
9. For a 50-rupee note, we can exchange ..... 10-rupee notes.
10. For a 100-rupee note, we can exchange ..... 10-rupee notes.
11. For a 100-rupee note, we can exchange ..... 20-rupee notes.

Addition and Subtraction of Money

Addition

For adding two or more amounts of money, we simply add their numbers.

Observe the following additions.

	(1) ← Carry		
	₹	5	6
+	₹	3	9
	₹	9	5

		(2)	(2)	← Carry
	₹	3	6	7
	₹	1	7	4
+	₹		8	9
	₹	6	3	0

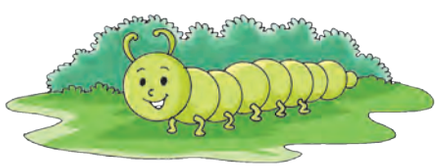
	(1) ← Carry		
	3	7	p
+	5	8	p
	9	5	p

	(1) ← Carry		
	2	3	p
	4	9	p
+		7	p
	7	9	p

Subtraction

To subtract an amount of money from the other, we simply subtract their numbers.

Observe the following subtractions.



	(6)	(11)	
	₹	~~7~~	~~1~~
−	₹	1	6
	₹	5	5

	(5)	(11)	(13)	
		(1)		
	₹	~~6~~	~~2~~	~~3~~
−	₹	1	5	9
	₹	4	6	4

	(2)	(10)	
	~~3~~	~~0~~	p
−	2	3	p
	0	7	p

Add:

3 6 rupees + 4 8 rupees	5 4 rupees + 2 9 rupees	6 8 rupees + 7 4 rupees
2 6 5 rupees 1 4 7 rupees + 5 9 rupees	3 7 9 rupees 2 1 6 rupees + 1 9 7 rupees	4 5 3 rupees 8 9 rupees + 7 rupees
₹ 8 9 + ₹ 7 2	₹ 8 1 + ₹ 2 9	₹ 7 6 + ₹ 6 7
₹ 2 7 6 ₹ 1 3 7 + ₹ 8 9	₹ 5 4 7 ₹ 2 5 6 + ₹ 1 8 5	₹ 7 8 4 ₹ 9 8 + ₹ 7
5 9 paise + 3 7 paise	4 3 paise + 3 8 paise	6 1 paise + 2 9 paise
7 2 p + 1 8 p	6 7 p + 2 8 p	3 4 p + 5 6 p

Subtract:

5 3 rupees – 3 8 rupees	6 1 rupees – 2 9 rupees	7 2 rupees – 5 4 rupees
1 0 0 rupees – 6 4 rupees	2 1 5 rupees – 1 7 6 rupees	4 5 3 rupees – 9 7 rupees
5 3 0 rupees – 2 6 5 rupees	2 3 0 rupees – 9 3 rupees	1 3 2 rupees – 9 rupees
6 4 paise – 3 6 paise	8 3 paise – 6 9 paise	7 0 paise – 5 1 paise
₹ 8 0 – ₹ 6 3	₹ 1 1 0 – ₹ 7 6	₹ 5 0 0 – ₹ 2 3 5
8 2 p – 3 7 p	7 3 p – 4 8 p	9 0 p – 6 7 p

Word Problems

1. Tanya had 64 rupees. Her mother gave her 56 rupees more. How many rupees did she have in all?

$$\begin{array}{rr} & \overset{1}{} \\ & ₹\ 64 \\ + & ₹\ 56 \\ \hline & ₹\ 120 \end{array}$$

2. Shilpa paid 305 paise for an eraser and 245 paise for a toffee. How much money did she pay altogether?

3. Tom bought a bag for 186 rupees, a book for 49 rupees and a pencil-box for 27 rupees. How much money did he spend in all?

4. On Diwali, Sachin spent ₹ 238 on sweets, ₹ 85 on crackers and ₹ 26 on candles. How much money did he spend on Diwali?

5. Joseph has ₹ 68. His sister Mary has ₹ 16 more than Joseph. How much money does Mary have? How much money do they have altogether?

6. Komal bought a pencil for 75 paise. She gave a 1-rupee note to the shopkeeper. How many paise did she get back?

$$\begin{array}{r} \overset{0}{\cancel{1}}\ \overset{9}{0}\ \overset{10}{0}\ p \\ -\quad 7\ 5\ p \\ \hline 2\ 5\ p \end{array}$$

7. Sonia had 50 rupees. She bought an inkpot for 17 rupees. How much money is left with her?

8. Sunita has ₹ 82. Her brother Gaurav has ₹ 25 less than Sunita. How much money does Gaurav have?

9. Mona's mother had ₹ 350 in her purse. She purchased fruits for ₹ 268. How many rupees were left with her?

10. Geeta has ₹ 546 and her brother Ravi has ₹ 357. How much money has Geeta more than Ravi?

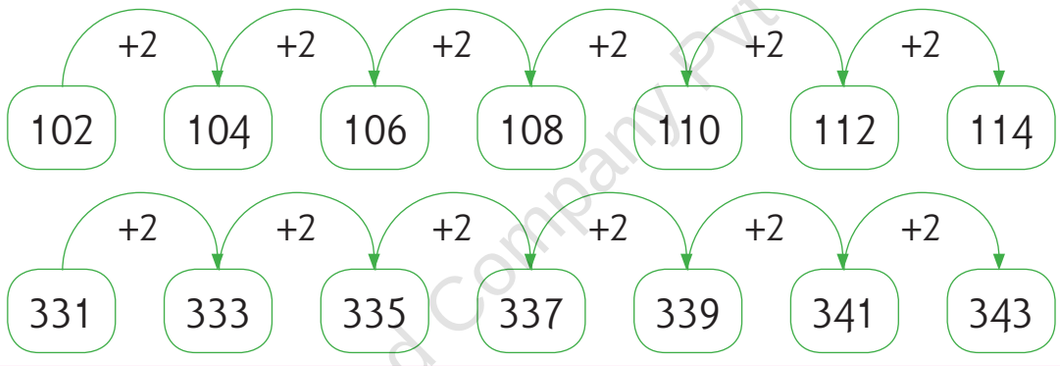
11 Skip Counting

As you have read before, 'Skip Counting' means 'skipping numbers while counting'.

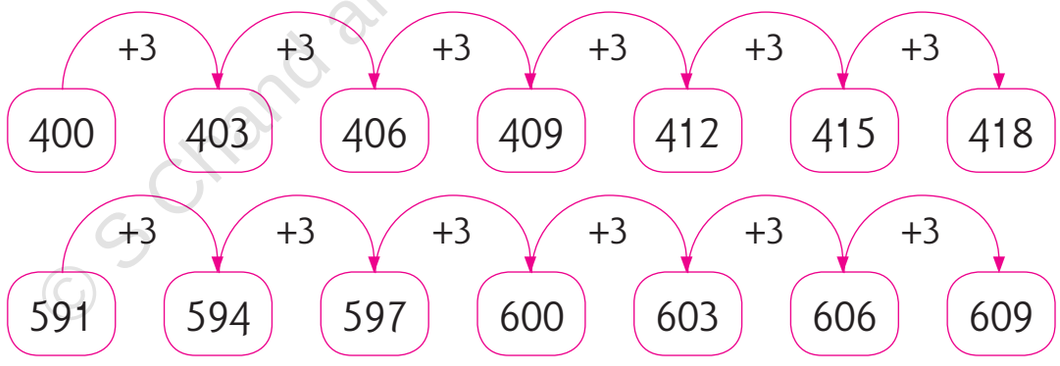
In a skip counting pattern, we go on adding the same number to get the next term. Thus, while skip counting in 2s, we go on adding 2; while skip counting in 5s, we go on adding 5; and so on.

Let us study some examples.

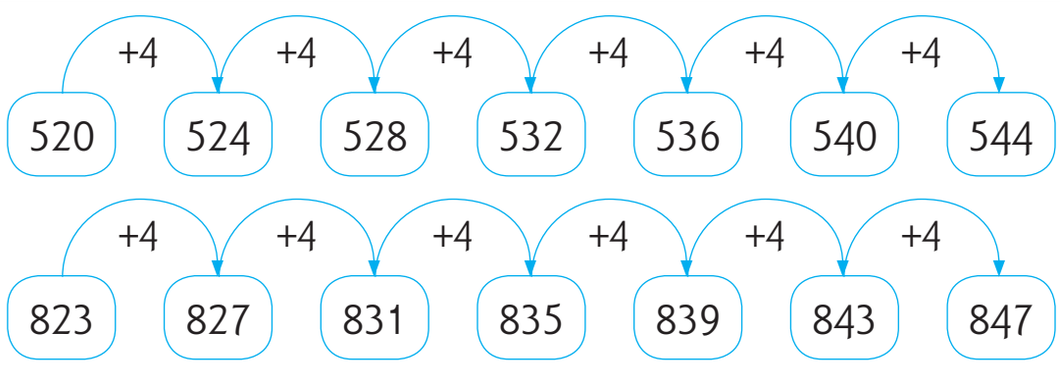
Skip counting in 2s



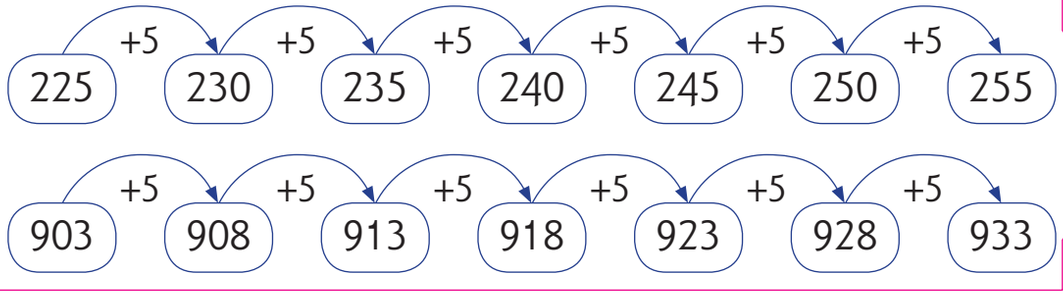
Skip counting in 3s



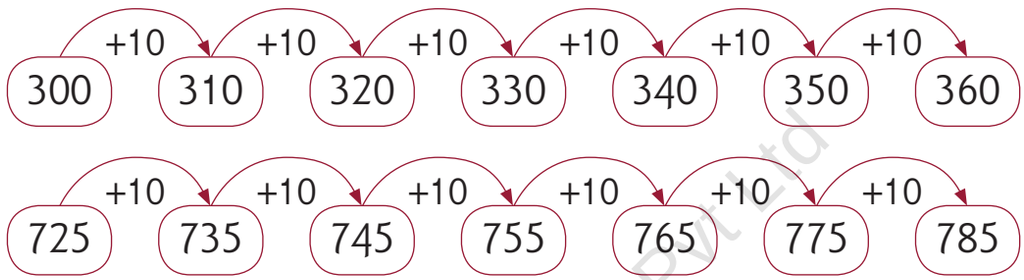
Skip counting in 4s



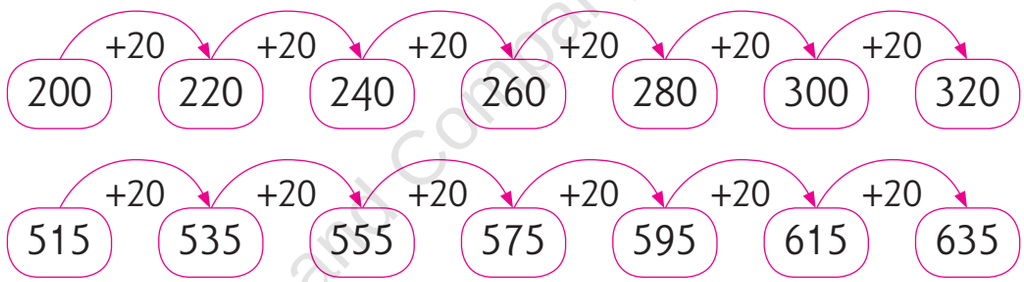
Skip counting in 5s



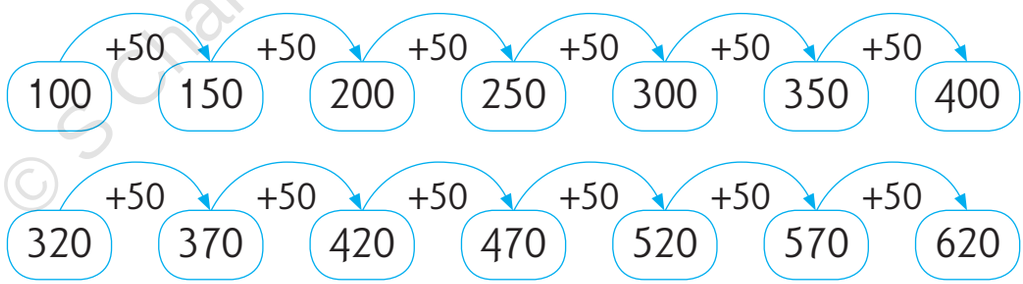
Skip counting in 10s



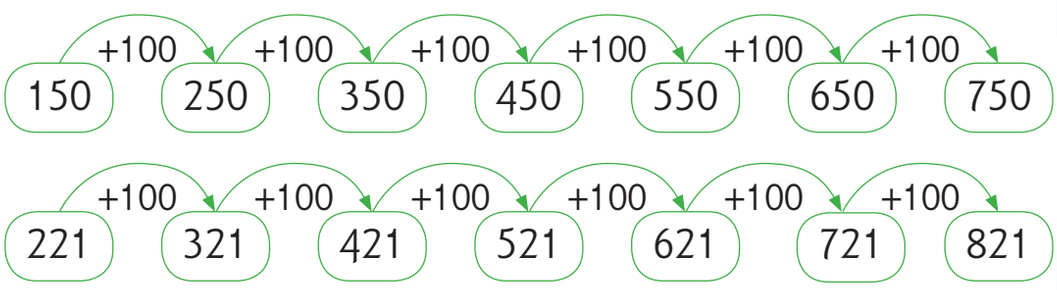
Skip counting in 20s



Skip counting in 50s



Skip counting in 100s



Continue the pattern by counting in 2s.

132	134	136						
396	398							

Continue the pattern by counting in 3s.

543	546	549						
602	605	608						

Continue the pattern by counting in 5s.

411	416	421						

Continue the pattern by counting in 10s.

220	230	240						
651	661	671						

Continue the pattern by counting in 20s.

810	830	850						

Continue the pattern by counting in 50s.

130	180	230						
525	575	625						

Continue the pattern by counting in 100s.

105	205							

12 Measurement of Length

In our everyday life, we measure the lengths of various objects such as cloth, rope, electric wire, etc.

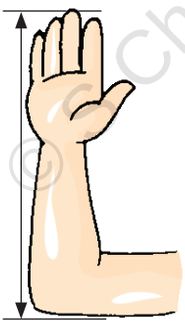
Units of Length

Length tells us how long an object is.

In olden days, lengths were measured using handspan, finger-width, arm-length or step-length as below:

Handspan

Finger-width



Cubit

Pace

But none of these is a standard unit,

as the handspan, finger-width, arm-length etc.

differ from person to person.

So, for convenient and accurate measurement of length, we use the standard units and devices.

We measure the length of an object by a metre scale or a ruler.

The standard unit of length is metre.

For measuring small lengths, we use centimetre as a unit.

We denote:

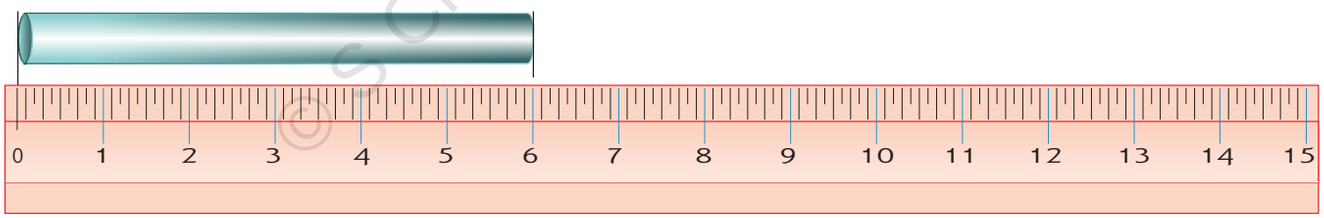
(a) metres by m

(b) centimetres by cm

1 m = 100 cm

How to Measure the Length of an Object Using a Ruler

We place the object alongside the ruler, with one end of the object at the zero mark on the ruler, as shown below.



Then, we take the reading at the other end of the object.

This gives us the length of the object.

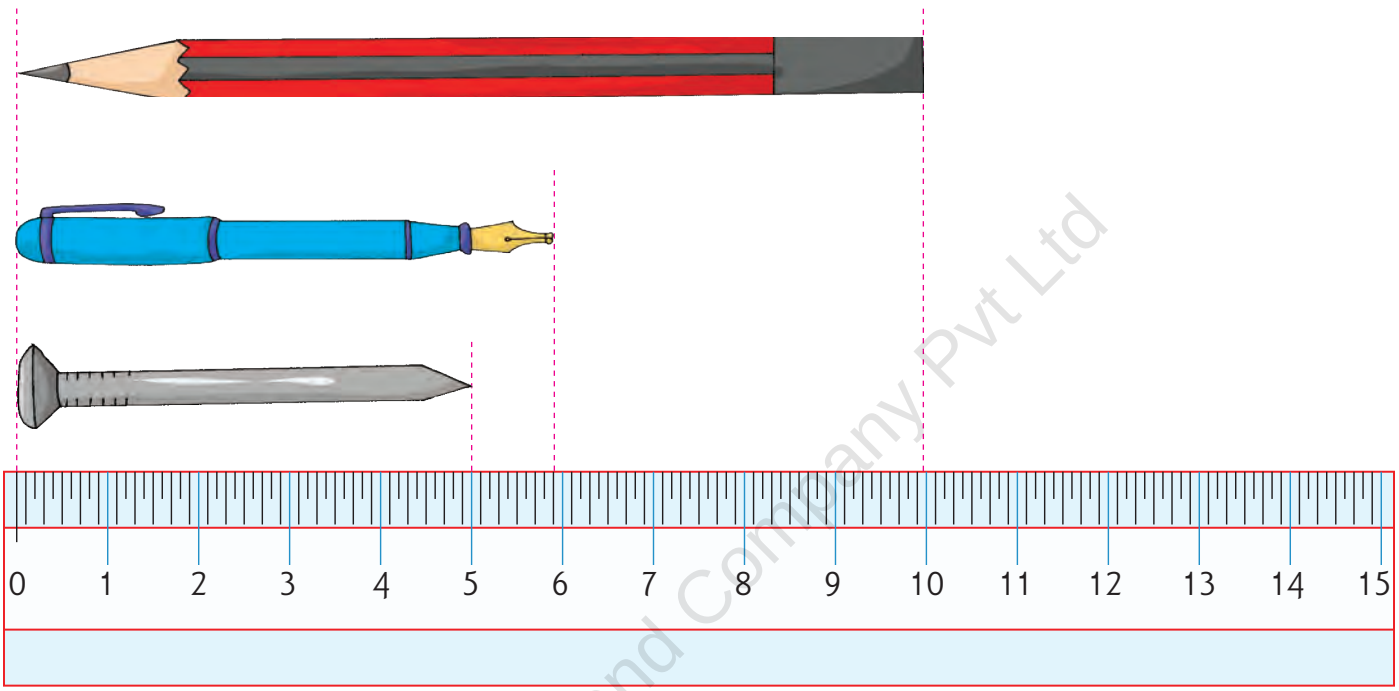
A ruler or a small scale, as shown above, gives us the length in centimetres.

So, the length of the above rod is 6 cm.

Look at the ruler shown below.

Its length is 15 cm.

Given below are some objects. One end of each one of them is at the 0-mark of the scale. Look at the other end of each object at the scale and note down its length.



Now, fill in the blanks given below.

The length of the nail is ..... cm.

The length of the pencil is ..... cm.

The length of the pen is ..... cm.

A bigger unit of length is kilometre.

We denote kilometres by km.

It is used to measure long distances.

1 km = 1000 m

Addition and Subtraction of Lengths

Addition of Lengths

To add two or more lengths in metres or centimetres, we simply add the numbers and put down the unit.

	(1)	(1) ← Carry		
	1	7	8	m
+	2	5	6	m
	4	3	4	m

	(1) ← Carry		
	6	7	cm
+	2	8	cm
	9	5	cm

	(2) ← Carry		
	6	9	m
	7	5	m
+	5	8	m
2	0	2	m

Subtraction of Lengths

To subtract given lengths, we simply subtract the numbers and units put down the unit.

	(8)	(11)		
	~~9~~	~~1~~	m	
−	7	3	m	
	1	8	m	

	(7)	(14)	
	~~8~~	~~4~~	cm
−	4	8	cm
	3	6	cm

		(14)		
	(0)	~~(4)~~	(16)	
	~~1~~	~~5~~	~~6~~	cm
−		8	8	cm
		6	8	cm

If the given lengths are in combined units, we arrange them in two columns of m and cm and then add or subtract them separately.

Add: 24 m 65 cm and 9 m 17 cm.

	m	cm	
	(1)	(1)	← Carry
	2 4	6 5	
+	9	1 7	
	3 3	8 2	

So, the sum is 33 m 82 cm.

Subtract: 48 m 65 cm from 72 m 90 cm.

	m		cm	
	(6)	(12)	(8) (10)	← Carry
	~~7~~	~~2~~	~~9~~ ~~0~~	
−	4	8	6	5
	2	4	2	5

So, the difference is 24 m 25 cm.

Add:

75 m + 39 m =	64 m + 86 m =	57 cm + 36 cm =	23 cm + 49 cm =
432 m + 148 m =	518 m + 284 m =	356 m + 344 m =	884 m + 99 m =
56 m + 49 m + 25 m =	136 m + 247 m + 485 m =	275 m + 89 m + 8 m =	64 cm + 29 cm + 4 cm =

m	cm	m	cm	m	cm
48	56	42	35	137	44
+ 16	25 =	+ 29	59 =	+ 68	48 =
m	cm	m	cm	m	cm
66	44	148	54	563	56
37	36	47	26	78	29
+ 18	19 =	+ 457	18 =	+ 6	6 =

Subtract:

63 m − 36 m =	85 m − 26 m =	53 m − 35 m =	91 cm − 29 cm =
248 m − 189 m =	316 m − 158 m =	430 m − 189 m =	600 m − 244 m =

m	cm
61	43
− 19	27

m	cm
70	60
− 46	32

m	cm
82	35
− 37	19

m	cm
103	45
− 68	28

m	cm
176	20
− 58	9

m	cm
2145	0
− 1293	6

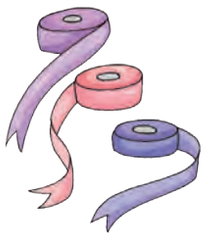
m	cm
200	62
− 108	34

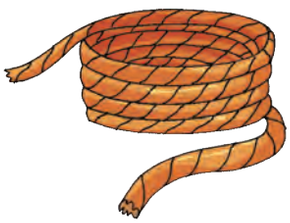
m	cm
563	43
− 278	25

m	cm
805	75
− 469	37

Word Problems

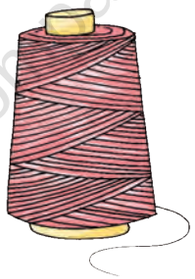
1. Swati bought three pieces of ribbon. One of them was 38 cm long, the second 29 cm long and the third 26 cm long. What length of the ribbon did she buy altogether?





2. A rope 84 metres long is cut into two pieces. The length of one piece is 48 metres. What is the length of the other piece?

3. Kamla bought a reel of thread measuring 500 metres. She used 372 metres for stitching clothes. How much thread was left with her?

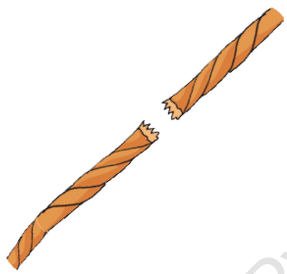


4. Reena is 1 m 46 cm tall. Her brother Nitin is 38 cm taller than her. What is the height of Nitin?

5. Payal is 1 m 54 cm tall. Her brother Gaurav is shorter by 25 cm. How tall is Gaurav?

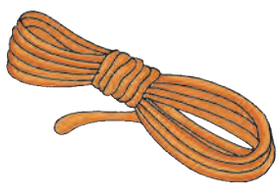
6. Sajal's father bought 2 m 35 cm of cloth for his shirt and 2 m 55 cm for his trousers. How much cloth did he buy altogether?

7. A piece of rope is cut into two pieces. One piece is 8 m 56 cm long. The other piece is 13 m 28 cm long. What was the length of the original piece?



8. A cloth seller had 42 m 50 cm of cloth. He sold 28 m 35 cm from it. How much cloth was left?

9. Vanya has 27 m 56 cm long rope and Tanya has 32 m 75 cm long rope. Who has the longer rope and by how much?



10. A piece of cloth measures 32 m 25 cm. A piece measuring 27 m 16 cm is cut from it. What length of the cloth is left?

13 Measurement of Weight

In Class 1, you have studied how to separate heavy and light objects.

Activity 1

Take a piece of chalk in one hand and a stone in the other hand.
Which of the two is easier to lift?
Clearly, the chalk-piece.
So, the chalk-piece is light, while the stone is heavy.

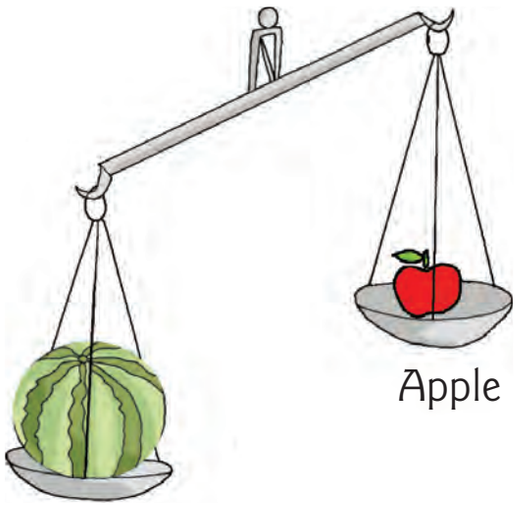
Heavy items are said to have more weight.
Light items have less weight.

The property of an object which tells us how heavy it is, is called its weight.

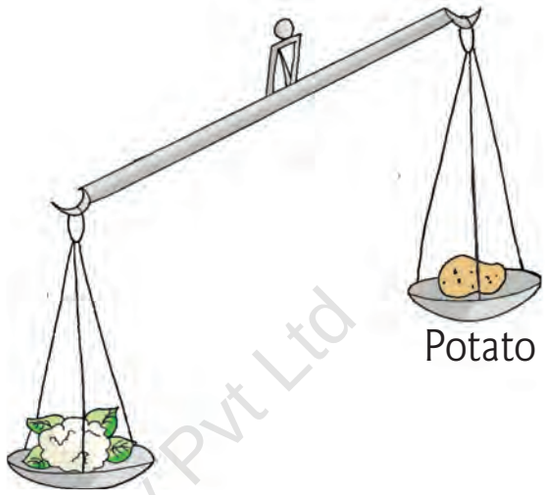
Activity 2

Take two elastic strings.
Tie one end of one string to a stone.
Tie one end of the other string to a pencil.
Hold the two strings in your hands.
Which string stretches more?
The string with the stone.
So, heavy objects push downwards more than light objects.

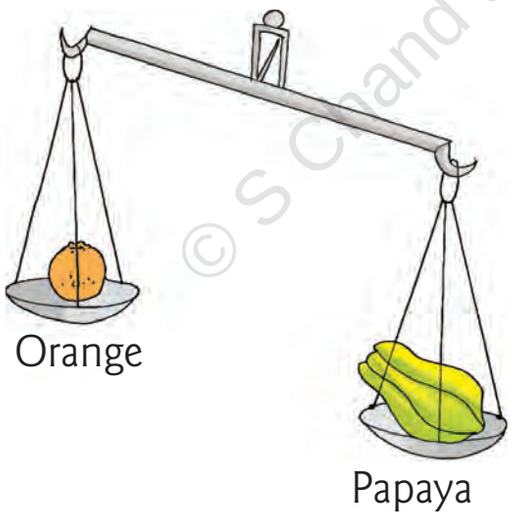
Look at the following figures. Observe the position of the pans and write which of the two objects is heavier.



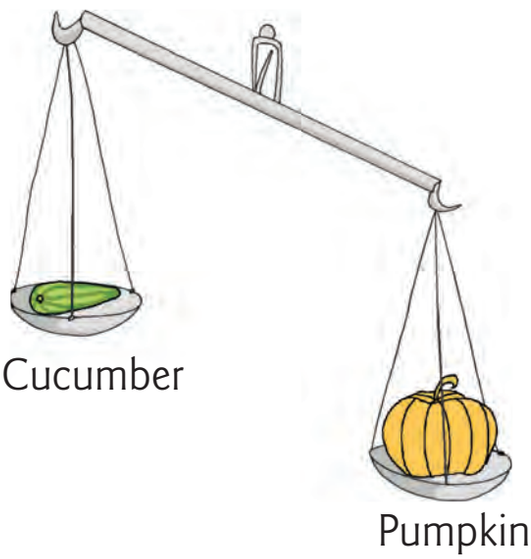
..... is heavier.



..... is heavier.



..... is heavier.



..... is heavier.

Measuring Weights

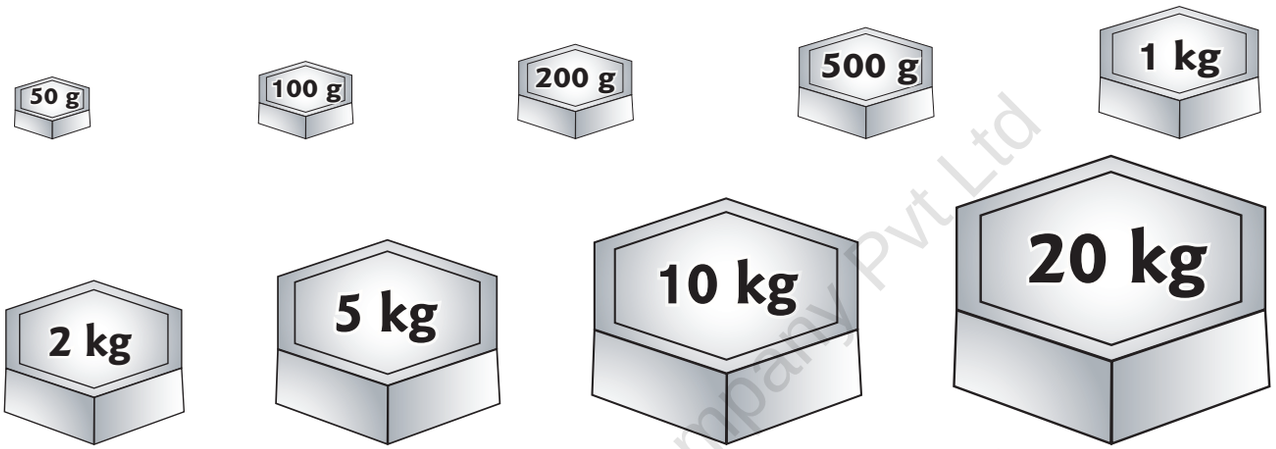
We purchase fruits, vegetables, sugar, rice etc. by weights.

We weigh them in kilograms and grams.

In short, we denote:

kilograms by kg and grams by g.

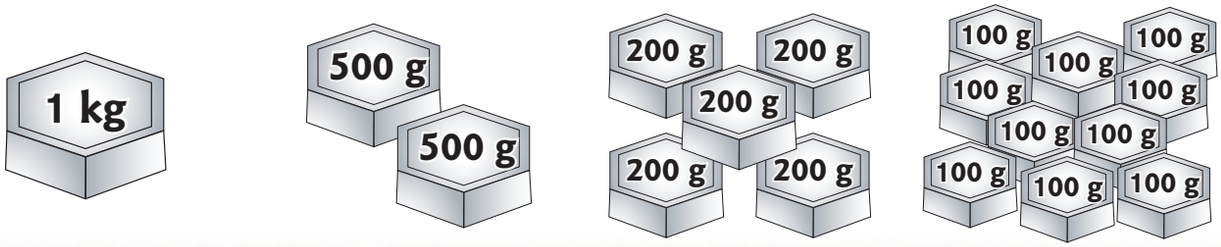
These weights are shown below.



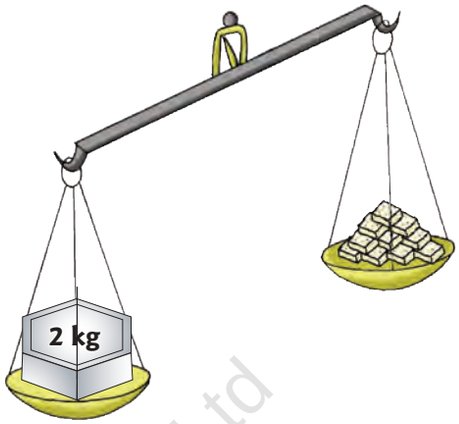
Objects are weighed in a balance.
A balance has two pans.
In one pan, we put the object to be weighed.
In the other pan, we go on putting weights
till the two pans are in the same level.
These total weights, show the actual weight of the object.

1 kg = 1000 g

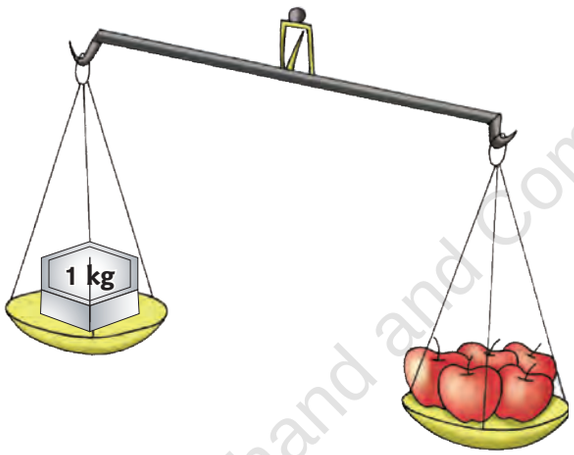
One weight of 1 kg = 2 weights of 500 g = 5 weights of 200 g = 10 weights of 100 g

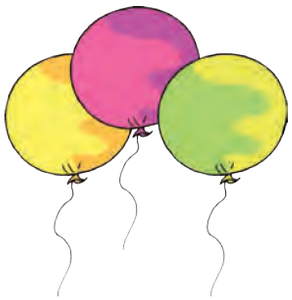


Fill in the placeholders with less than or more than or equal to as the case may be.

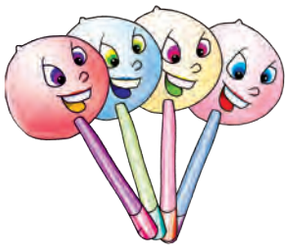


The weight of sweets is _____ 2 kilograms.





The weight of apples is _____ 1 kilogram.



The weight of grapes is _____ 500 grams.

Addition and Subtraction of Weights

Addition of Weights

To add two or more weights in grams or kilograms, we simply add the numbers and put down the unit.

	(1)		
	3	6	kg
+	4	8	kg
	8	4	kg

	(1)	(1)		
	2	5	9	kg
+		7	6	kg
	3	3	5	kg

	(1)	(1)		
	5	6	7	g
+	3	8	9	g
	9	5	6	g

Subtraction of Weights

To subtract given weights, we simply subtract the numbers and put down the unit.

	(5)	(15)	
	~~6~~	~~5~~	kg
−	3	7	kg
	2	8	kg

		(12)		
	(8)	~~2~~	(10)	
	~~9~~	~~3~~	~~0~~	g
−	6	7	5	g
	2	5	5	g

If the given weights are in combined units, we arrange them in two columns of kg and g and then add or subtract them separately.

Add: 6 kg 395 g and 15 kg 545 g.

kg		g		
(1)		(1)	(1)	
	6	3	9	5
+	15	5	4	5
	21	9	4	0

So, the sum is 21 kg 940 g.

Subtract: 242 kg 375 g from 418 kg 500 g.

kg			g		
			(9)		
(3)	(11)		(4)	(10)	(10)
~~4~~	~~1~~	8	~~5~~	~~0~~	~~0~~
− 2	4	2	3	7	5
1	7	6	1	2	5

So, the difference is 176 kg 125 g.

Add:

65 kg + 28 kg _____	136 kg + 79 kg _____	548 kg + 274 kg _____
78 g + 95 g _____	745 g + 178 g _____	854 g + 96 g _____

kg	g
5	630
+ 9	280
_____	

kg	g
35	375
+ 8	465
_____	

kg	g
135	250
+ 268	650
_____	

kg	g
76	537
+ 34	375
_____	

kg	g
234	725
+ 69	185
_____	

kg	g
572	260
+ 238	650
_____	

kg	g
66	570
+ 134	380
_____	

kg	g
361	340
+ 179	475
_____	

kg	g
409	75
+ 267	375
_____	

Subtract:

71 kg − 39 kg =	103 kg − 65 kg =	615 kg − 467 kg =
530 g − 374 g =	600 g − 235 g =	130 g − 86 g =

kg	g	kg	g	kg	g
8	300	30	225	125	450
− 4	125	− 19	187	− 68	275

kg	g	kg	g	kg	g
512	250	400	540	650	200
− 127	75	− 245	250	− 175	150

kg	g	kg	g	kg	g
104	315	70	650	230	150
− 65	176	− 8	80	− 45	75

Word Problems

1. A shopkeeper had 600 kg of wheat. Out of it, he sold 385 kg. How much of wheat was left with the shopkeeper?

2. A coolie carries two boxes. One box weighs 28 kg and the other weighs 69 kg. How much weight does the coolie carry?

3. Anita weighs 42 kg 300 g whereas her friend Geeta weighs 39 kg 175 g. Who weighs more and by how much?

4. Amit purchased 36 kg 285 g of sugar from one shop and 48 kg 460 g from another shop. What is the total quantity of sugar purchased by him?

5. Rahul weighed 75 kg 320 g. He reduced his weight and lost 8 kg 275 g. How much does he weigh now?

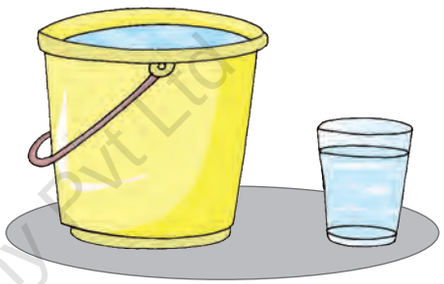
6. On first day of a month Sunita purchased 75 kg 500 g of flour. Out of it, 48 kg 350 g was used during the month. How much flour was left?

14 Measurement of Capacity

Substances like water, milk, oil, petrol etc. are called liquids.

Activity 1

Take a bucket and a glass.
Fill the bucket with water.
Now, pour the water from the bucket into the glass, till the glass is full.
But water is still left in the bucket.
Clearly, the bucket can hold more water than the glass. We say that the capacity of the bucket is more than the capacity of the glass.



Activity 2

Take a milk feeding bottle and a cup.
Fill each of them with milk.
Which one can hold more milk?
Clearly, the milk feeding bottle can hold more milk than the cup. We say that the capacity of milk feeding bottle is more than the capacity of the cup.

The capacity of a container is the quantity of liquid it can hold.

We measure the quantity of a liquid in litres and millilitres.

We denote litres by L and millilitres by mL.

The vessel shown below measures 1 litre of petrol or kerosene.

1 litre

This vessel when filled completely measures one litre of the liquid. The other measures for measuring petrol, kerosene etc. are given below.

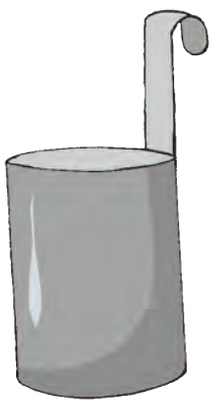
500 mL

200 mL

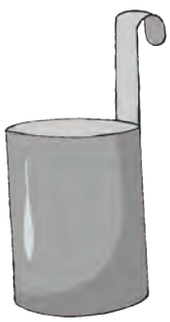
100 mL

50 mL

The vessels for measuring milk are shown below.



1 litre



500 mL

200 mL

100 mL

50 mL

Measuring Capacity in Litres and Millilitres

We measure small quantities of liquids in millilitres (mL).

Some examples are shown below.

1. Dose of medicine to be given as injection to a patient like 1 mL, 2 mL, 5 mL, 10 mL.

2. Milk to be given to an infant in a feeding bottle like 100 mL, 200 mL, 250 mL.

3. Cough syrup or any tonic that we buy from a chemist shop like 40 mL, 50 mL, 100 mL, 200 mL.

4. Fruit-juice, inkpot or ketch-up that we buy such as 400 mL, 500 mL.

Large quantities of liquids are measured in litres (L).

Some examples are shown below.

1. Water in a bucket such as 5 L, 10 L, 20 L.

2. Milk that we buy daily such as 1 L, 2 L, 3 L, 5 L.

3. Oil or ghee in large packs or tins such as 5 L, 10 L, 15 L.

4. Oil in big tankers such as 400 L, 600 L, 800 L.

Addition and Subtraction of Capacities

Addition

To add two or more capacities in litres or millilitres, we simply add the numbers and write the unit.

	①		
	7	3	L
+	5	9	L
1	3	2	L

	①	①	
	2	6	5 L
+	1	5	7 L
4	2	2	L

	①	①	
	3	7	2 mL
+	2	6	8 mL
6	4	0	mL

Subtraction

To subtract given capacities, we simply subtract the numbers and put down the unit.

	⑧	⑮	
	~~9~~	~~5~~	L
−	6	8	L
2	7	L	

		⑯		
	⑤	~~6~~	⑮	
	~~6~~	~~7~~	~~5~~	mL
−	3	7	8	mL
2	9	7	mL	

If the given capacities are in combined units, we arrange them in two columns of L and mL and then add or subtract them separately.

Add: 17 L 563 mL and 28 L 387 mL

	L		mL	
	①		①	①
	1	7	5	6 3
+	2	8	3	8 7
4	5	9	5	0

So, the sum is 45 L 950 mL.

Subtract: 47 L 485 mL from 70 L 840 mL

	L		mL		
				⑬	
	⑥	⑩	⑦	③	⑩
	~~7~~	~~0~~	~~8~~	~~4~~	~~0~~
−	4	7	4	8	5
2	3	3	5	5	

So, the difference is 23 L 355 mL.

Add:

64 L + 28 L	57 L + 37 L	85 L + 98 L	196 L + 207 L
485 mL + 267 mL	374 mL + 198 mL	587 mL + 94 mL	372 mL + 69 mL
56 L + 69 L + 47 L	238 L + 356 L + 475 L	532 L + 79 L + 8 L	578 mL + 184 mL + 239 mL

L	mL	L	mL	L	mL
36	284	76	358	155	632
+ 29	678	+ 37	294	+ 77	88

L	mL	L	mL	L	mL
369	284	535	466	546	768
+ 174	538	+ 177	377	+ 467	176

Subtract:

74 L − 36 L =	83 L − 29 L =	436 L − 258 L =
360 mL − 275 mL =	645 mL − 378 mL =	700 mL − 434 mL =

L	mL	L	mL	L	mL
85	160	50	285	125	265
− 68	95	− 17	98	− 86	176

L	mL	L	mL	L	mL
315	418	234	370	603	400
− 76	289	− 165	185	− 207	275

L	mL	L	mL	L	mL
410	205	500	645	287	314
− 135	166	− 245	567	− 198	275

Word Problems

1. A drum contains 37 litres of oil. Another drum contains 48 litres of oil. Both are emptied in an empty tank. How much oil is filled in the tank?

2. A fair-price shop had 820 litres of kerosene. It sold 537 litres. How much kerosene is left in the shop?

3. The petrol tank of a car had 16 L 265 mL of petrol. For completely filling the tank, 8 L 485 mL more petrol was filled into it. What is the capacity of the petrol tank of the car?

4. The petrol tank of a car had 22 L 500 mL of petrol. It consumed 17 L 325 mL in a trip. How much petrol was left in the tank after the trip?

5. A tea-shop owner purchased 18 L 350 mL of milk. Out of it, 9 L 265 mL of is consumed. How much milk is left with him?

6. The capacity of a flask is 2 L 400 mL. The capacity of another flask is 2 L 125 mL. What is the difference between the capacities of the two flasks?

15 Geometry

Point and Line

Point

Take a fine pencil.

Mark a dot with it on a piece of paper.

Name it P.

We say that P is a point.

So, a fine dot represents a point.

• P

Line

Activity 1

Take a thread.

Hold one end of it in one hand

and the other end in the other hand.

Stretch the thread straight.

We say that it forms a straight line.

Now, loosen the above thread.

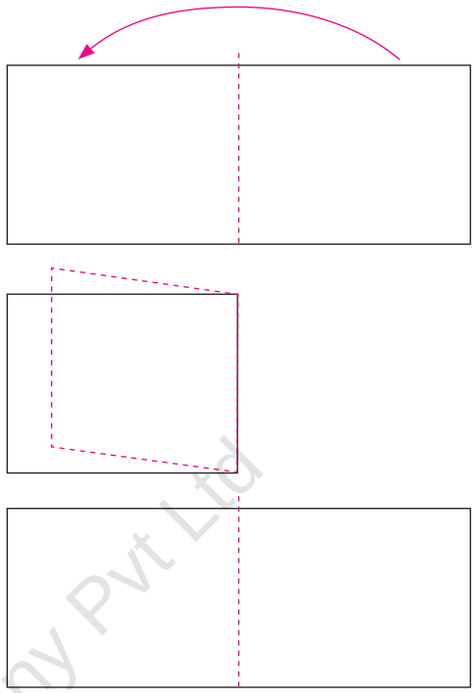
What do you observe?

The straight thread, now gets curved.

Such lines are called curved lines.

Activity 2

Take a piece of plain paper.
Fold it along the middle.
Press the fold firmly.
Open up the folded paper.
Observe the crease in the middle of the paper.
What do you notice?
The crease on the paper again resembles a straight line.



Write if the line is curved or straight.

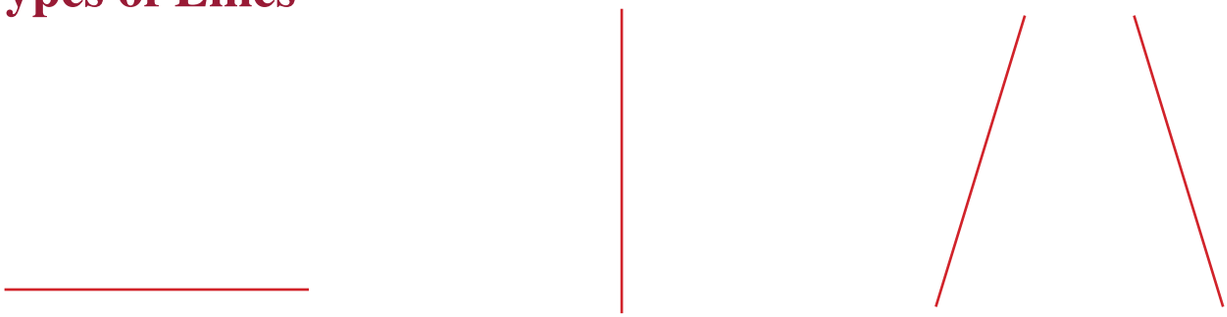
....

How to Represent a Line?

We represent a line by the diagram shown below.

The arrow heads at each end tell us that the line continues without end.

Types of Lines



Horizontal Line
(Sleeping Line)

Vertical Line
(Standing Line)

Slanting Lines

Practice drawing horizontal line.

Practice drawing vertical line.

Practice drawing slanting line.

Using a Ruler

Till now, you have drawn lines with a free hand.

But, when we draw long lines with a free hand, they may not be straight.

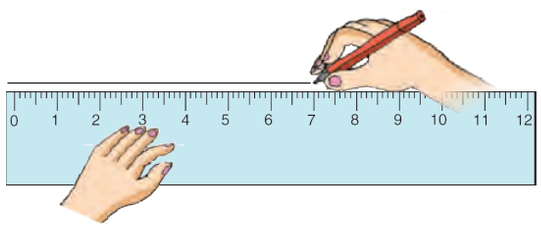
So, we use a scale or a ruler to draw straight lines.

Take a ruler and place it on a paper.

Now, move a sharpened pencil along the ruler.

Now, remove the ruler.

You see that you have drawn a straight line.



Plane Figures

Vertex: Each corner of a plane figure is called its vertex. The plural of vertex is vertices.

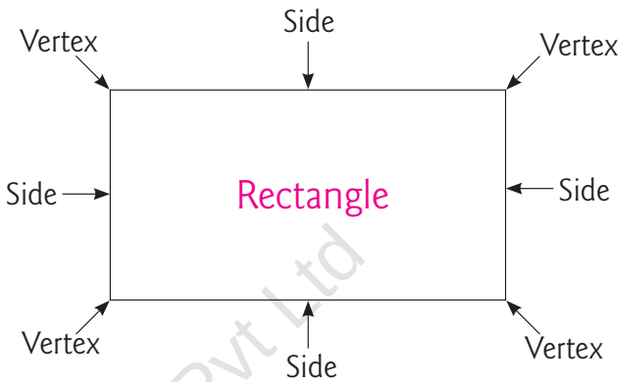
Side: The straight lines forming a plane figure are called its sides.

Rectangle

This is a rectangle.

A rectangle has four sides, and four corners, called vertices.

The opposite sides of a rectangle are equal.

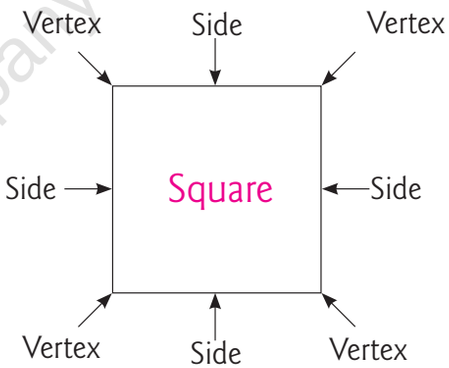


Square

This is a square.

A square has four sides.

All the sides of a square are equal.

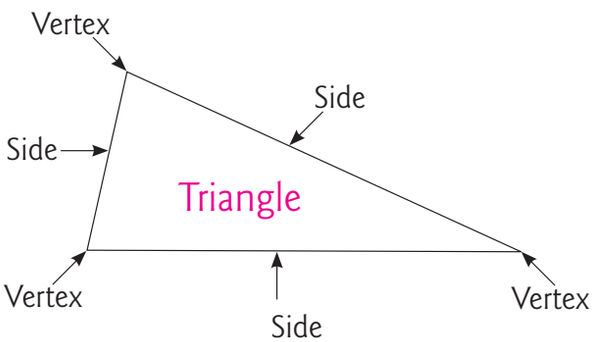


Triangle

This is a triangle.

A triangle has 3 corners or vertices.

A triangle has 3 sides.

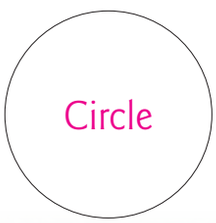


Circle

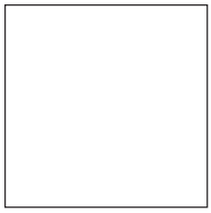
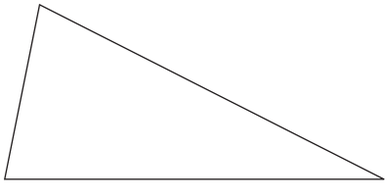
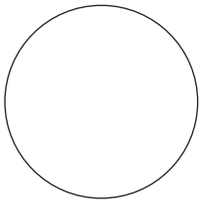
Put a coin on the plane of your paper and move a pencil around it.

The figure you will get, is a circle.

A circle has no corners.



Write the names of each of the figures given below.


…….. …….. …….. ……..

In the space given below draw a triangle, a circle, a rectangle and a square.

Triangle

Circle

Rectangle

Square

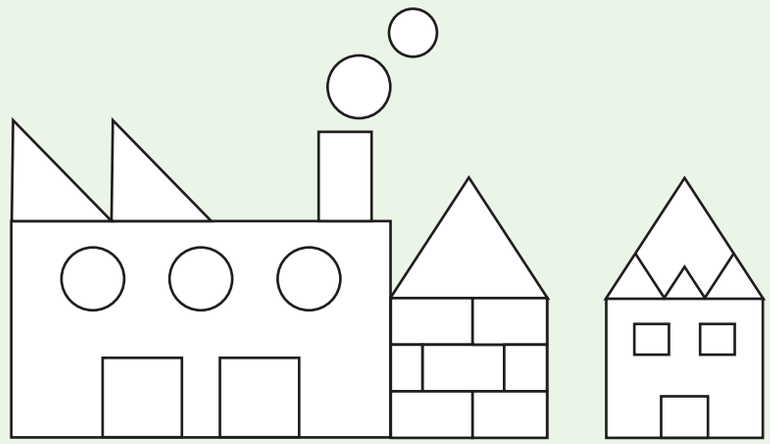
Count and colour the shapes.

Blue or Black

Red or Pink

Yellow or Orange

Green or Purple



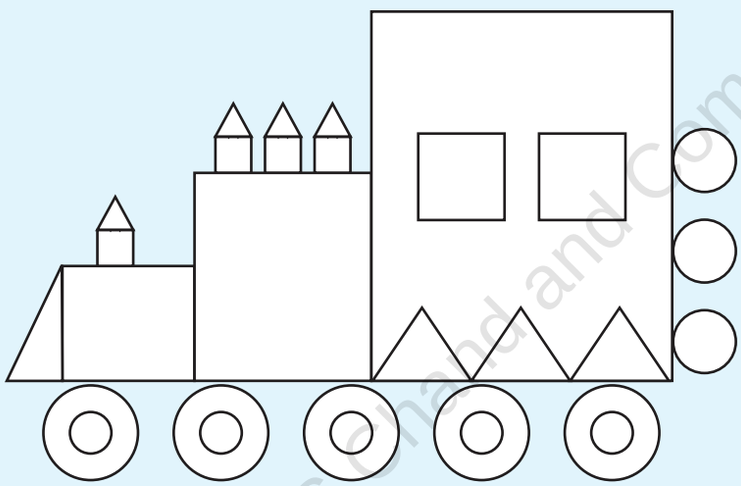
How many?

Circles

Squares

Rectangles

Triangles



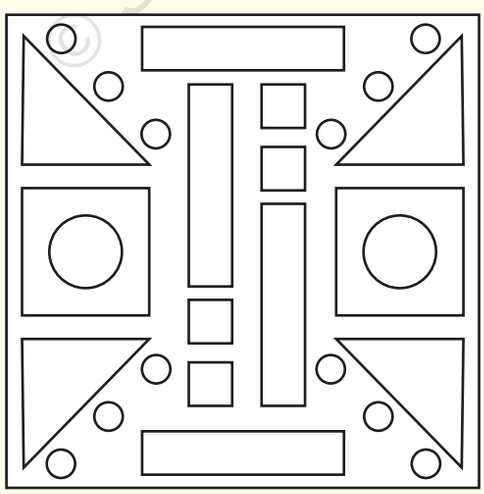
How many?

Circles

Squares

Rectangles

Triangles



How many?

Circles

Squares

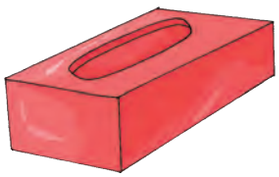
Rectangles

Triangles

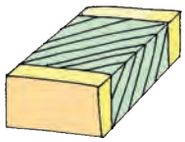
Solids

Cuboid

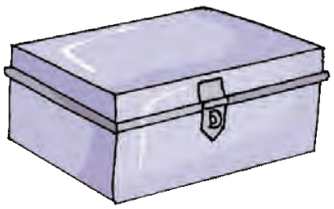
Look at the shape of the objects shown below.



Brick

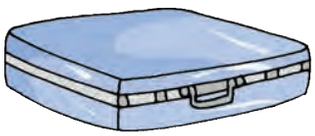


Eraser



Box

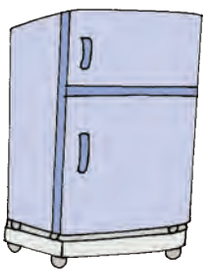
Almirah



Suitcase

Book

Tea-packet



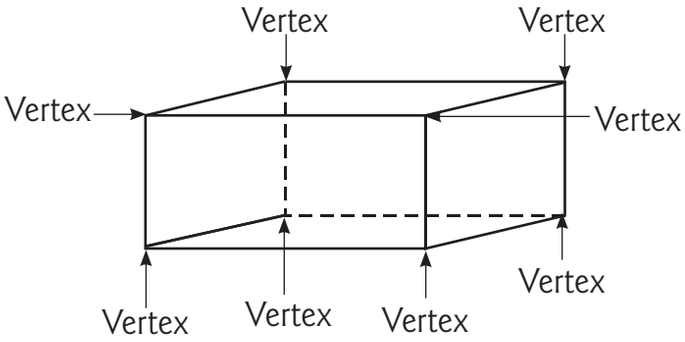
Refrigerator

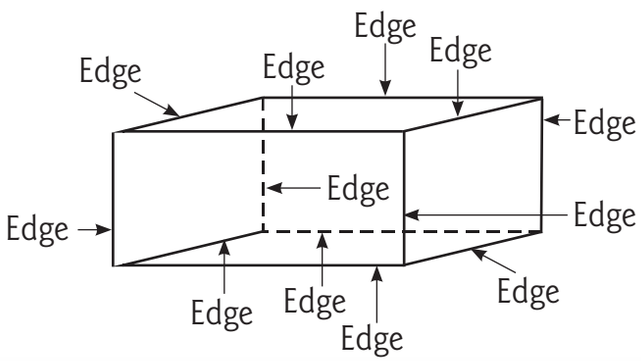
Each of these objects has the shape of a cuboid.

These are called cuboidal objects.

A cuboid has 8 vertices.

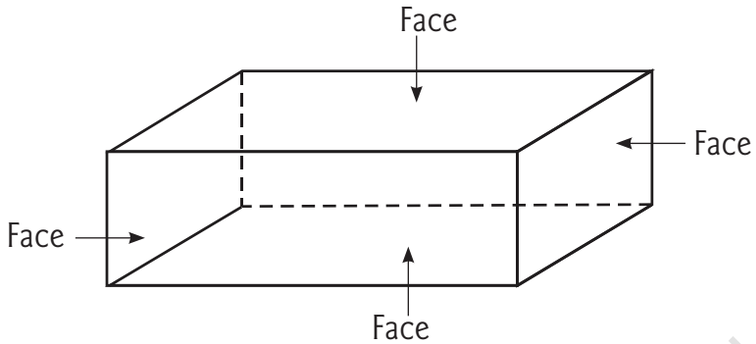
A cuboid has 12 edges.





A cuboid has 6 faces.

All the faces of a cuboid are rectangular in shape.

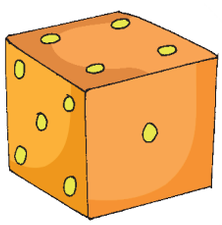


Two more faces are there, namely front face and back face.

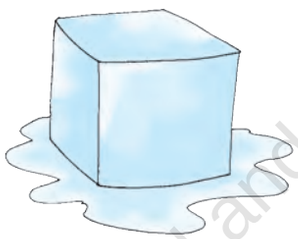
Cube

A cuboid with all edges of the same length is a cube.

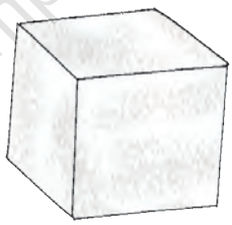
Each one of the objects given below is in the shape of a cube.



Dice



Ice cube



Sugar cube

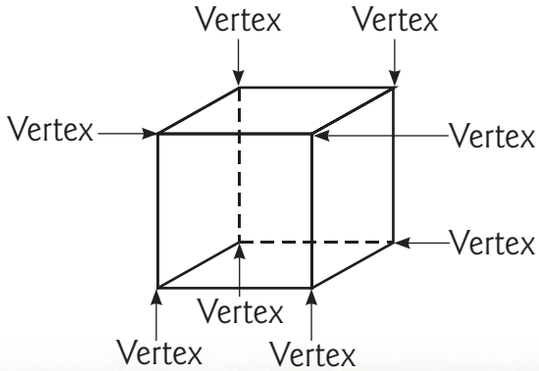
Chalk box

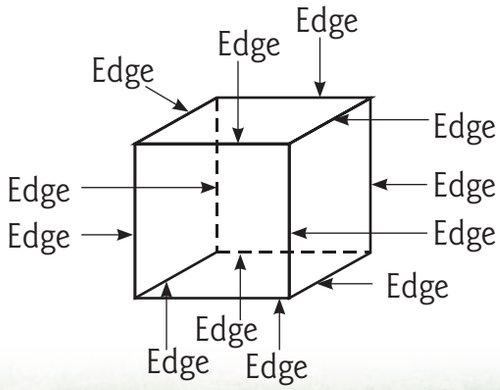
A cube has 8 vertices.

A cube has 12 edges.

A cube has 6 faces.

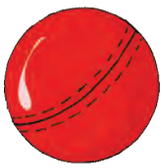
Each face of a cube is a square.





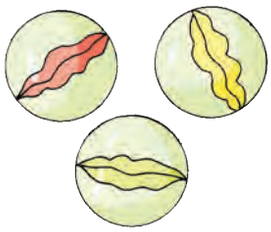
Sphere

Look at the shape of the objects shown below.

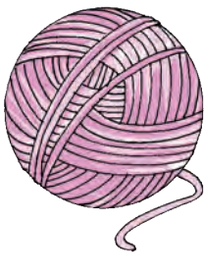


Cricket ball

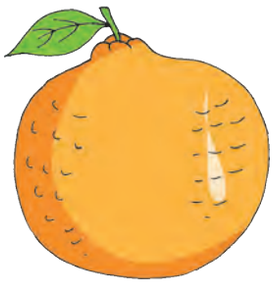
Football



Marbles

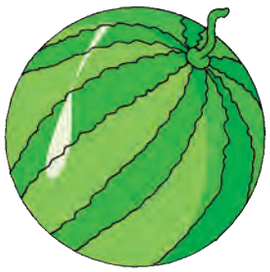


Woollen ball



Orange

Globe



Watermelon

Each one of these objects has the shape of a sphere.

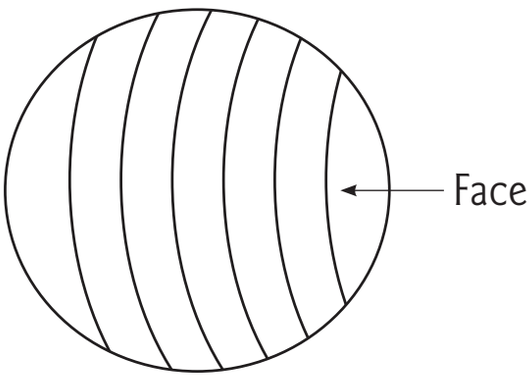
These are called spherical objects.

A sphere has one face.

A sphere has no vertex.

A sphere has no edge.

A sphere has a curved surface.



Cylinder

Look at the shape of the objects shown below.

Drum

Jar

Pencil

Vacuum flask

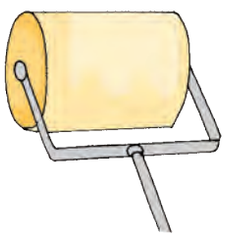
Electric tube

Dalda tin

Crayons

Bottle

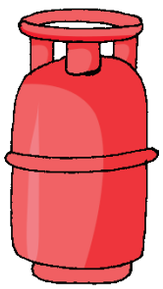
Candle



Garden roller

Battery cell

Syringe



Gas cylinder

Each one of these objects has the shape of a cylinder.

These are called cylindrical objects.

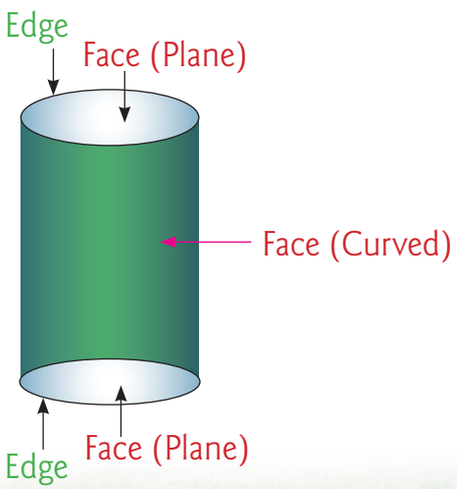
A cylinder has no vertex.

A cylinder has two edges.

A cylinder has three faces.

One face of a cylinder is a curved surface.

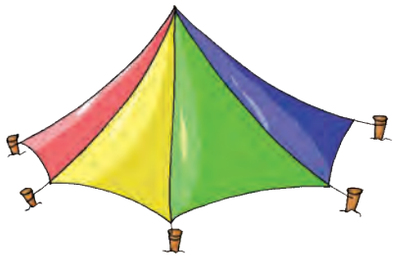
Two faces of a cylinder have plane surfaces.



Cone

Look at the shape of the objects shown below.

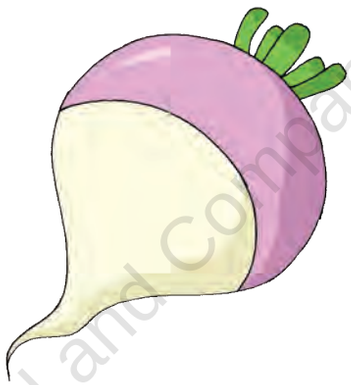
Ice cream cone



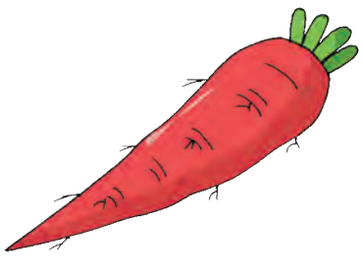
Conical tent

Funnel

Conical cap



Turnip



Carrot

Each one of these objects has the shape of a cone.

A cone has one vertex.

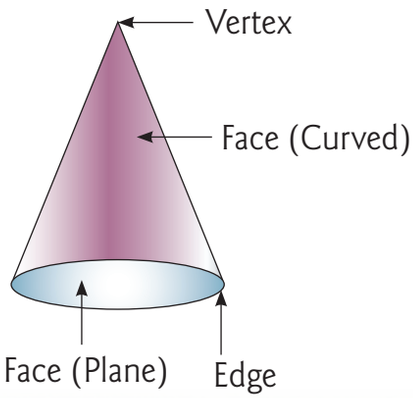
A cone has one edge.

A cone has two faces.

One face of a cone has a curved surface.

The other face of a cone has a plane surface.

Edge of a cone is also curved.



Draw the diagram of:

A cone	A sphere	A cylinder

A cuboid	A cube

Fill in the blanks.

A cuboid has ..... vertices, ... edges and ..... faces.

A cone has ..... vertex, ... edges and ..... faces.

A cylinder has ..... vertex, ... edges and ..... faces.

A sphere has ..... vertex, ... edges and ..... face.

A cube has ..... vertices, ... edges and ..... faces.

A sphere has a ..... surface.

A cylinder has two ..... faces and one ..... face.

A cone has one ..... face and one ..... face.

Drawing Shapes using Solids

Activity 1

Place a book on a plain sheet of paper. Hold the book tight with your left hand. Draw the outline of the book with a pencil.

Remove the book from the paper.

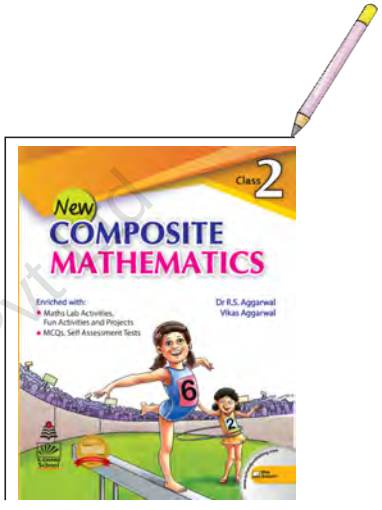
Which shape have you drawn?

A rectangle.

Repeat the above activity using other cuboidal objects like a pencil box, a tea packet or an eraser and placing them in different ways.

You will find that each time you get a rectangle.

So, we can say that each face of a cuboid is a rectangle.



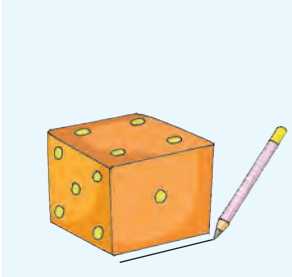
Activity 2

Place a dice on a plain sheet of paper. Hold the dice firmly and draw its outline with a pencil.

Remove the dice.

Which shape have you drawn?

A square.



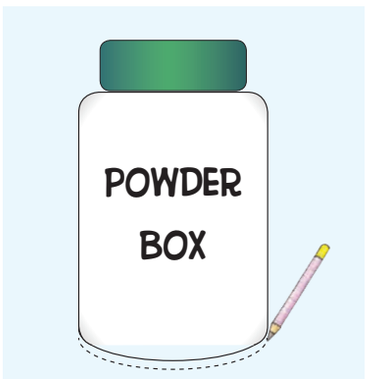
Repeat the above activity using other cubical objects such as a chalk box and placing them in different ways. You will find that each time you get a square. So, we can say that each face of a cube is a square.

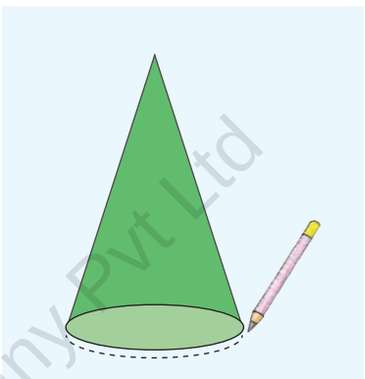
Activity 3

Repeat the same process as in Activity 1 and 2 using a cylindrical tin or a conical funnel.

You will find that drawing an outline of these objects as shown gives a circle.

So, we can say that cylinders and cones have circular edges.



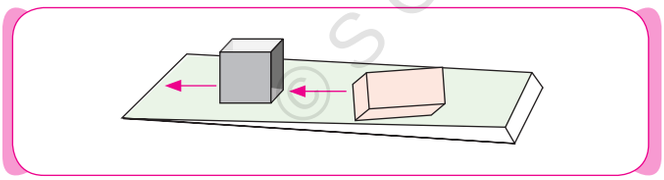


Sliding and Rolling Movements

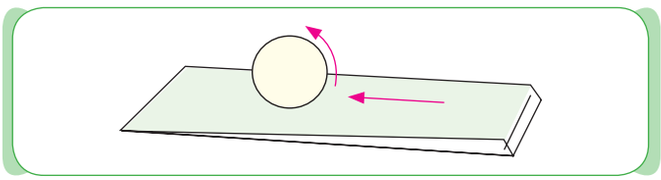
Solids with flat surfaces slide down a sloping surface.

Solids with curved surfaces roll down a sloping surface.

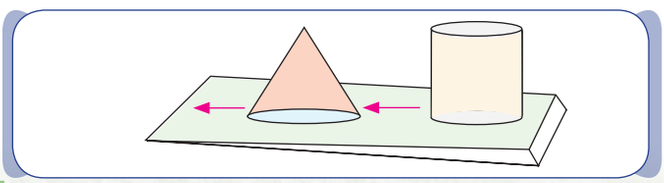
Cubes and cuboids have flat surfaces. So, they slide.



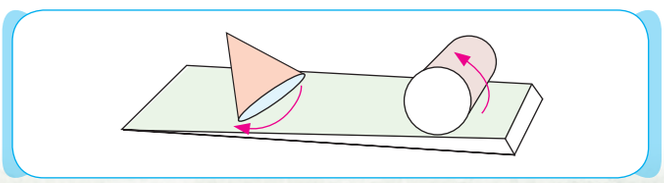
Spheres have curved surface. So, they roll down.



Cylinders and cones have curved and flat surfaces. They slide down on their flat surfaces.

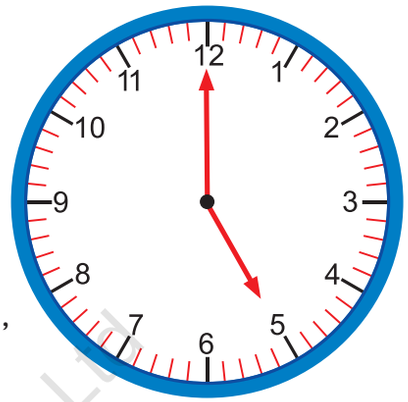


Cylinders and cones roll along their curved surface.



16 Time

Clocks



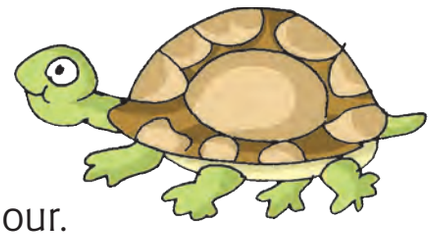
As we have read earlier, a clock tells us the time.

Look at the face or dial of the clock shown here.

The dial of the clock is divided into 12 big divisions, marked as 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12.

The gap between every two big divisions is divided into 5 small divisions, representing minutes. So, there are 60 small divisions on the whole dial.

The clock has two hands – a longer hand and a shorter hand.

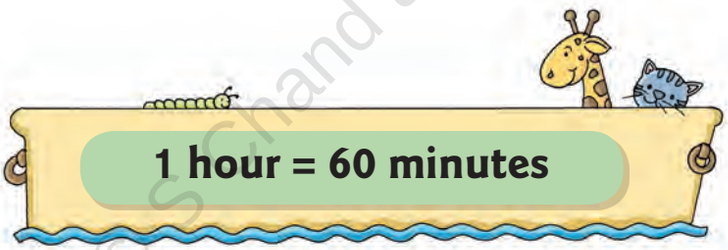


The longer hand is called the minute-hand.

The shorter hand is called the hour-hand.

The minute hand moves round the clock once in 1 hour.

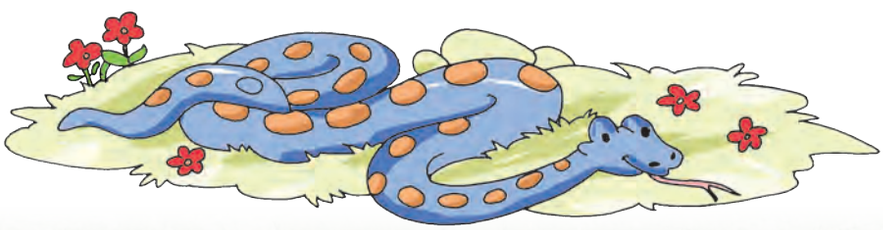
So,



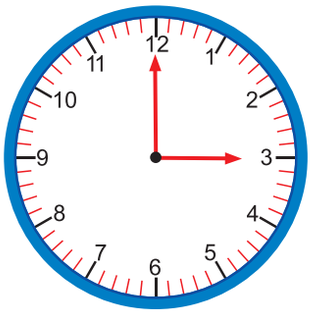
To Read time when the Minute-Hand is at 12

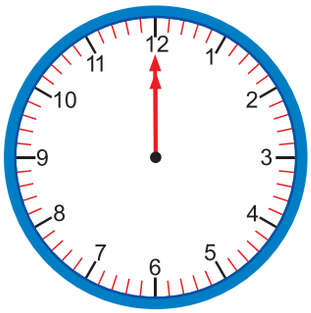
In the clock shown above, the hour-hand is at 5 and the minute-hand is at 12.

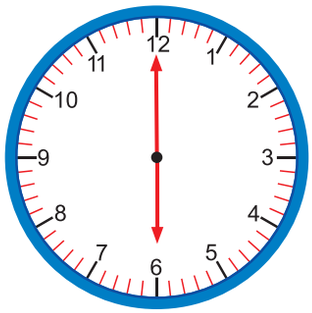
We say that the time is 5 o'clock or 5:00.

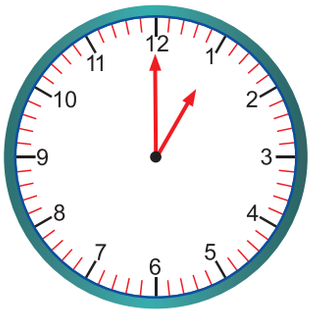


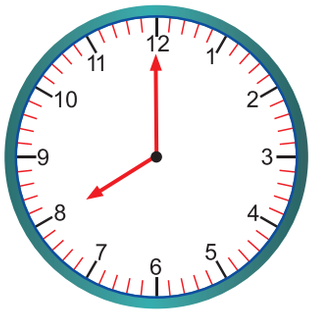
Look at the clocks and write the correct time shown by it in two different ways.



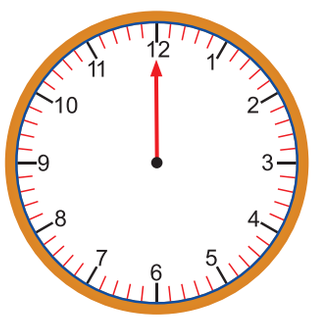




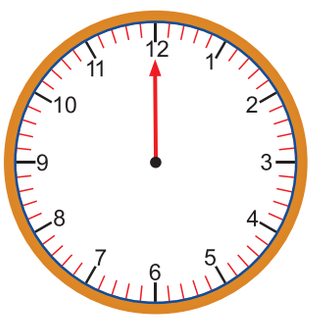




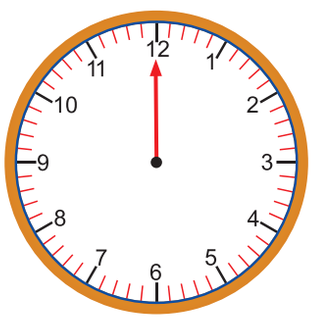
Draw the hour hand to show the given time.



2 o' clock



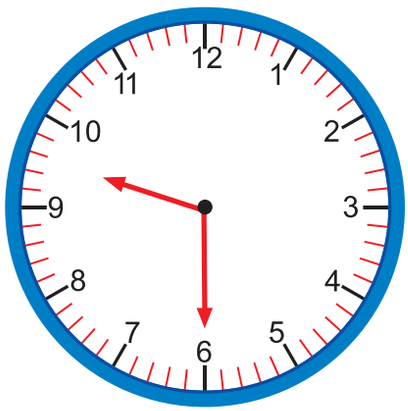
9:00



11 o' clock

To Read Time when the Minute-Hand is at 6

Look at the clock shown below.



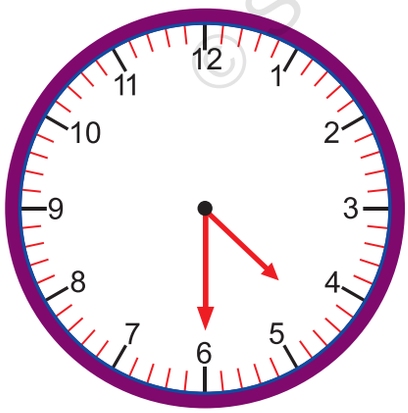
The hour-hand is beyond 9.

The minute hand is at 6.

The minute-hand has covered 30 small divisions in moving from 12 to 6. So, the minute-hand at 6 shows 30 minutes.

We say that the time is 9:30 or 30 minutes past 9.

Since the minute-hand has covered half round of the clock, we also say that the time is half past 9.



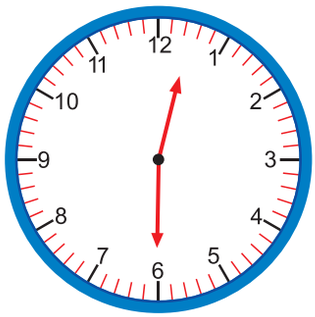
In this clock:

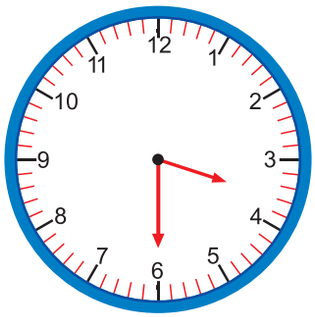
The hour-hand is beyond 4.

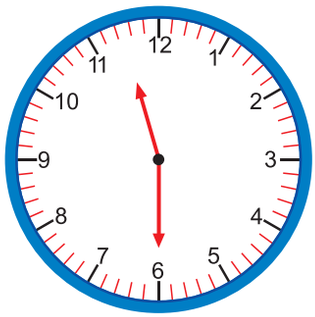
The minute-hand is at 6.

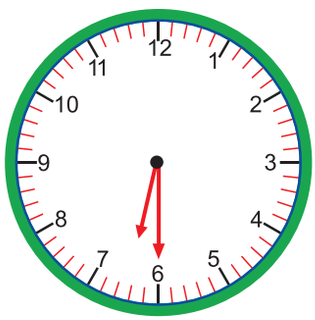
So, we say that the time is 4:30 or 30 minutes past 4 or half past 4.

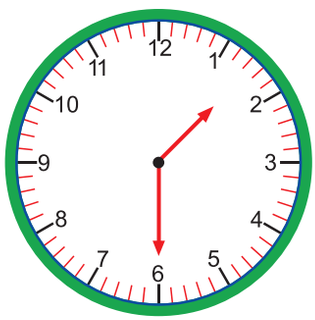
Look at the clocks and write the correct time shown by it in two different ways.



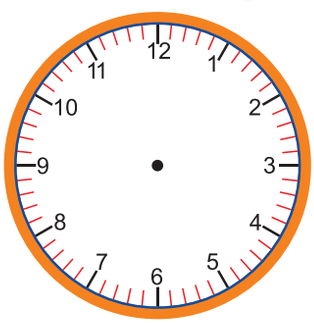




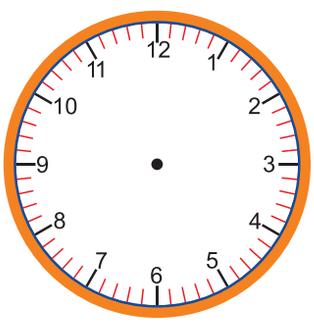




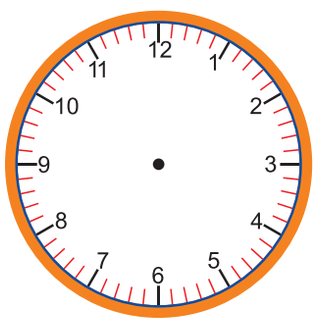
Draw the hands of each of the following clocks to show the given time.



Half past 5



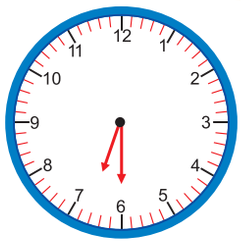
2:30



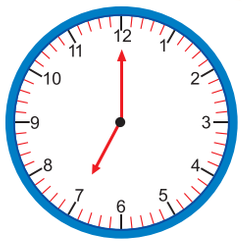
30 minutes past 10

Daily Routine

Below is given the daily routine of a boy. Fill in the correct time as shown.



I get up at ..... .



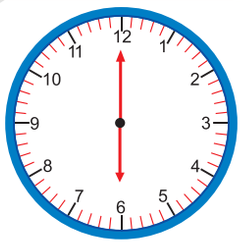
I take my breakfast at ..... .

I go to school at ..... .

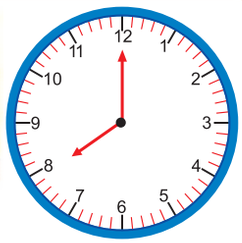
I come home back from school at..... .

I take my lunch at ..... .

I play at ..... .

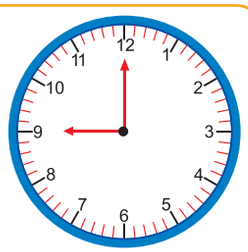


I do my homework at ..... .



I take my dinner at ..... .

I watch TV at ..... .



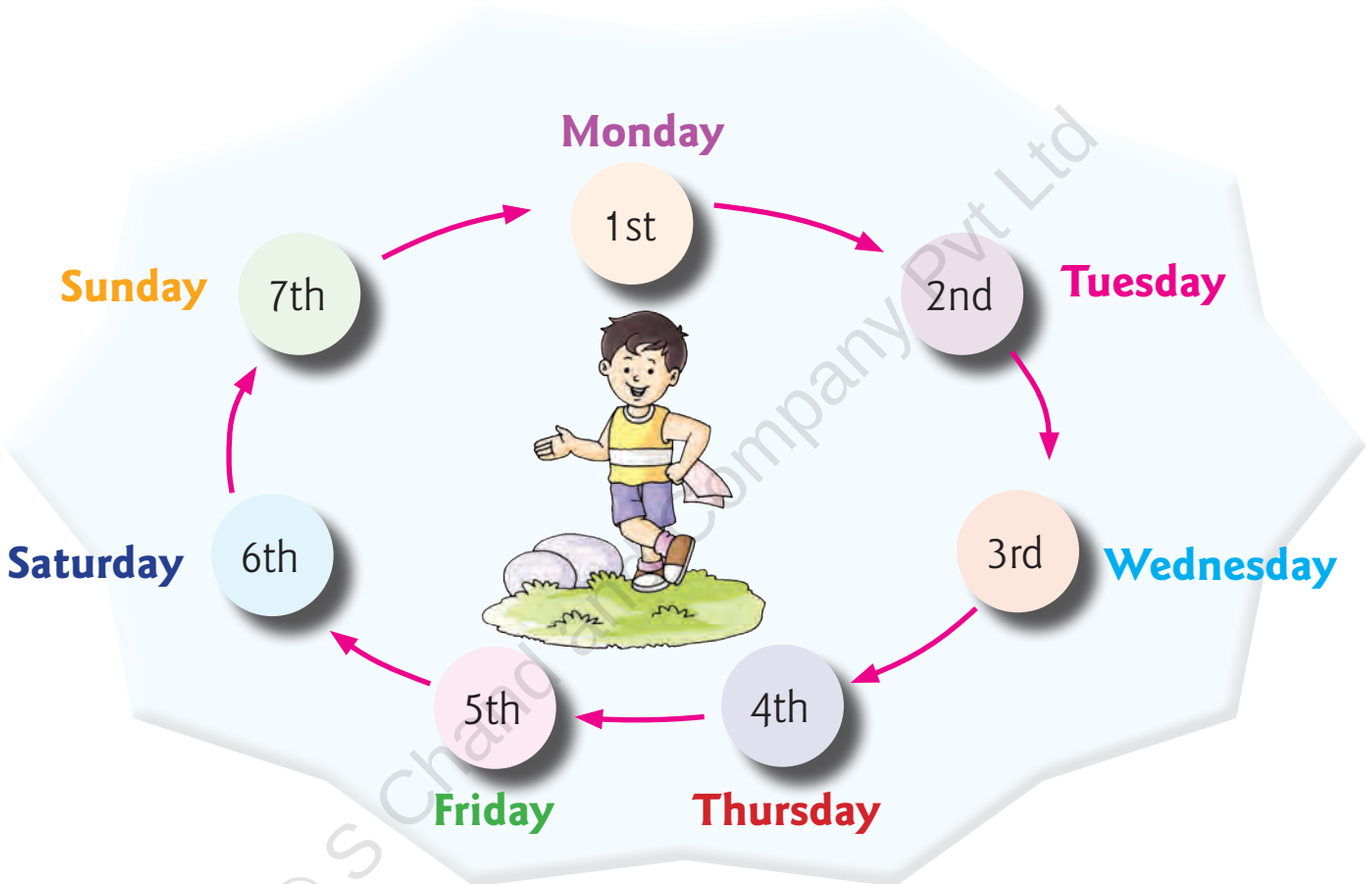
I go to bed at ..... .

Days of the Week

There are seven days in a week.

The names of the days of a week in order are:

1. Monday
2. Tuesday
3. Wednesday
4. Thursday
5. Friday
6. Saturday
7. Sunday



Monday is the first day of a week.

After each Monday, Tuesday comes.

After each Tuesday, Wednesday comes and so on.

Sunday is the last day of the week.

Then, the next week starts with Monday again.

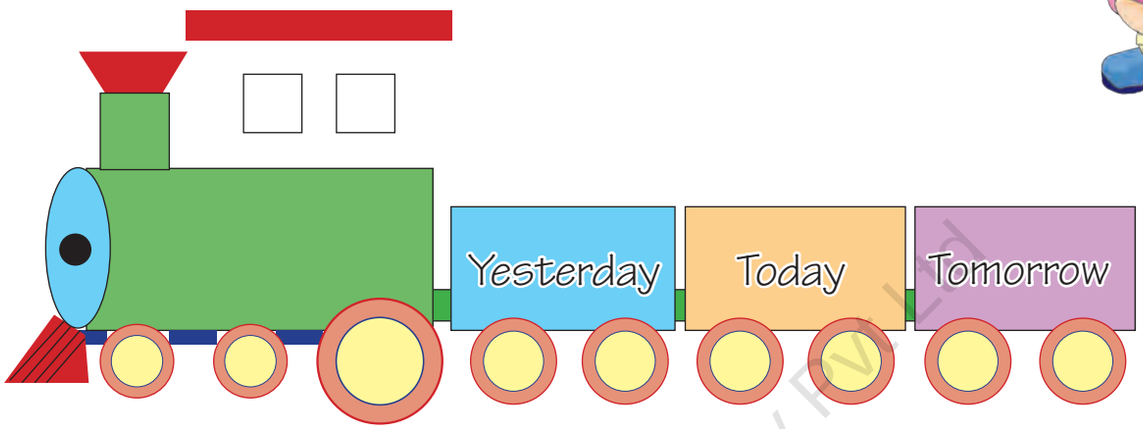
This sequence goes on.

Today, Yesterday and Tomorrow

Today is the present day.

Yesterday is the day before the present day.

Tomorrow is the day after the present day.



Suppose today is Sunday.

Day before Sunday is Saturday.

So, on Sunday, we say that it was Saturday yesterday.

Day after Sunday is Monday.

So, on Sunday, we say that it will be Monday tomorrow.

Similarly, on Wednesday, we say that

1. it was Tuesday yesterday; and
2. it will be Thursday tomorrow.

On Friday, we say that

1. it was Thursday yesterday; and
2. it will be Saturday tomorrow.

Answer the following questions.

1.	Which day comes after Wednesday?	
2.	Which day comes after Sunday?	
3.	Which day comes before Friday?	
4.	Which day comes before Sunday?	
5.	Which day comes between Tuesday and Thursday?	
6.	Which is the third day of the week?	
7.	Which is the fifth day of the week?	
8.	If today is Thursday, what day was it yesterday?	
9.	If it was Monday yesterday, what day is it today?	
10.	If today is Saturday, what day will it be tomorrow?	
11.	If it will be Wednesday tomorrow, what day is it today?	
12.	If it was Saturday yesterday, what day will it be tomorrow?	

Word Problems

1. The school holidays started on Monday and the school opened again on Thursday. How many holidays did the children get?

Monday
Tuesday
Wednesday

3

2. Renu went to her aunt's house on Wednesday and she returned home on Saturday morning. For how many days did Renu stay with her aunt?

3. The Diwali Mela continued from Tuesday to Thursday. For how many days did the Diwali Mela continue?

4. Puja did not go to school from Sunday to Friday. For how many days was Puja absent from school?

5. Nitin fell ill on Thursday and his illness continued till Sunday. For how many days was Nitin ill?

Months of a Year

There are 12 months in a year.
The names of the months and the number of days they have, are given below.

Serial Number	Name of the month	Number of days
1.	JANUARY	31
2.	FEBRUARY	28 or 29
3.	MARCH	31
4.	APRIL	30
5.	MAY	31
6.	JUNE	30
7.	JULY	31
8.	AUGUST	31
9.	SEPTEMBER	30
10.	OCTOBER	31
11.	NOVEMBER	30
12.	DECEMBER	31

You can see that:

1. There are 7 months in a year, which have 31 days each.
2. There are 4 months in a year, which have 30 days each.
3. February is the only month, which has less than 30 days.

Fill in the blanks.

1. There are ..... months in a year.
2. ..... is the third month of a year.
3. August is the ..... month of a year.
4. The tenth month of a year is ..... .
5. Republic Day falls in the month of ..... .
6. Independence Day falls in the month of ..... .
7. Children's Day falls in the month of ..... .
8. The number of months having 30 days is ..... .
9. The number of months having 31 days is ..... .

Answer the following questions.

1. Write the names of the months, each having 30 days.

   .....

2. Write the names of the months, each having 31 days.

   .....

   .....

3. Which month comes after April? .....
4. Which month comes after July? .....
5. Which month comes after October? .....
6. Which month comes before March? .....
7. Which month comes before September? .....
8. Which month comes before June? .....
9. Which month comes between March and May? .....
10. Which month comes between August and October? .....
11. Which is the last month of a year? .....
12. In which month were you born? .....

Calendar

Calendar is the record of all the dates and days of a year.

It, thus, shows the months, weeks and days in the year.

How to write dates?

When we write a date for a particular day in a year, we specify the number of the day in a month (i.e., date), the name of the month and then the year.

Example: 1st January, 2017 or January 1, 2017

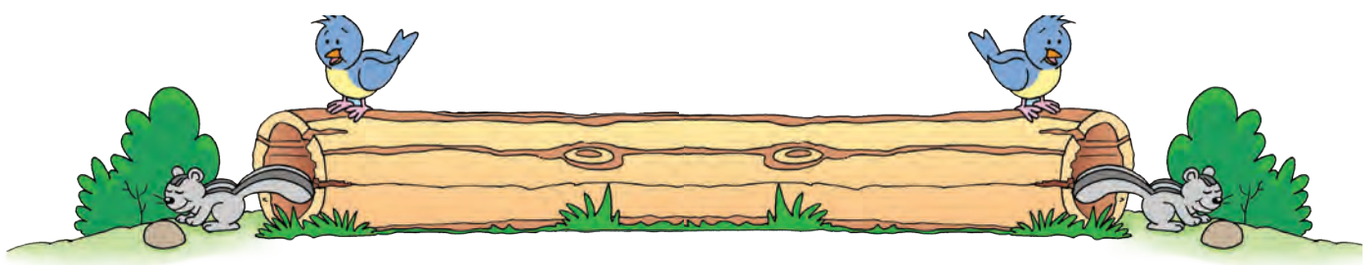
2nd February, 2017 or February 2, 2017

13th August, 2017 or August 13, 2017

In short, we write a date as a group of 3 numbers separated by two dots. The first number stands for the day, the second for the month and the third for the year.

(1 stands for January, 2 for February, 3 for March, ... and 12 for December)

Thus, 12th October, 2017 shall be written in short form as:



Calendar for 2017

January

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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				

February

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			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				

March

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			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	

April

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						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						

May

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	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			

June

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				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	

July

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						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					

August

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		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		

September

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					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

October

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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				

November

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			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		

December

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					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						

Look at the calendar for the year 2017 given on the previous page and answer the following questions.

1. On which day does the year 2017 begin? .....

2. How many Sundays are there in May, 2017? .....

3. How many Tuesdays are there in October, 2017? .....

4. How many days are there in February, 2017? .....

5. We know that Republic Day falls on 26th January. On which day does Republic Day fall in 2017? .....

6. Every year, 15th August is celebrated as Independence Day. On which day does Independence Day fall in 2017? .....

7. How many months in 2017 have 5 Sundays? .....

8. Write the date of your birthday. .....

9. On which day does your birthday fall in the year 2017? .....

10. Which is the last day of the year 2017? .....

11. Write each of the following dates in short and find out the day on which it falls.

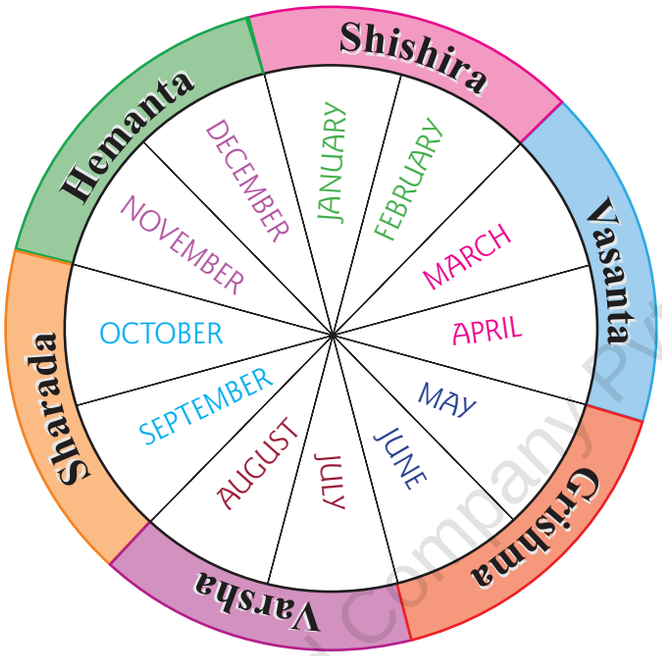
23rd January, 2017	23.1.2017	Monday
5th March, 2017	.....	.....
18th May, 2017	.....	.....
11th November, 2017	.....	.....
26th September, 2017	.....	.....

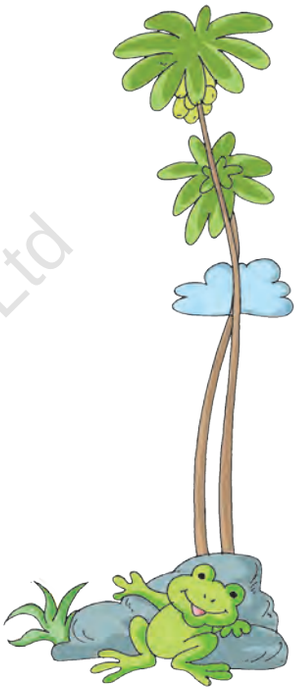
Seasons

The year is divided into six seasons.

1. Shishira **2.** Vasanta **3.** Grishma

4. Varsha **5.** Sharada **6.** Hemanta

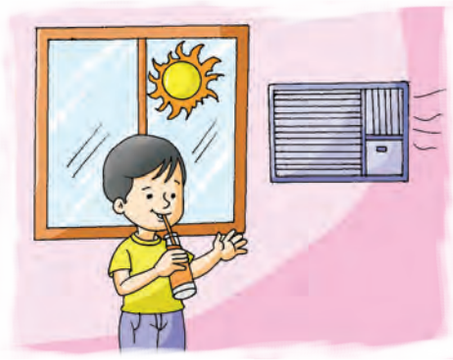




Shishira is the colder winter season.

Vasanta is the spring season.
New flowers bloom and new leaves grow on trees.
The weather is pleasant.

Grishma is the summer season. It is very hot and we wear light-coloured cotton clothes. We like to stay indoors, with fan, cooler or AC switched on. We bathe in cold water. We enjoy having cold drinks, ice creams etc.



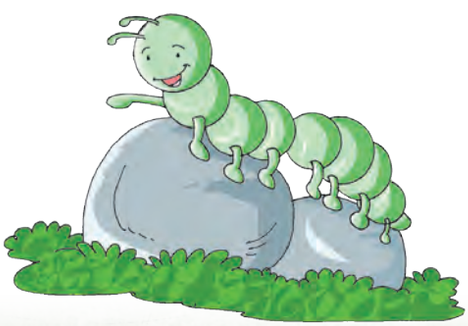
Varsha is the rainy season. We use umbrellas or raincoats when we go outside.

Sharada is the autumn season.
Most of the trees shed their leaves during this season.
It is neither too hot nor too cold.
The weather is pleasant.

Hemanta is the winter season.
It is very cold.
We wear woollen clothes, use blankets or quilts at night and like to have hot drinks like tea or coffee. We bathe in hot water.

Fill in the blanks.

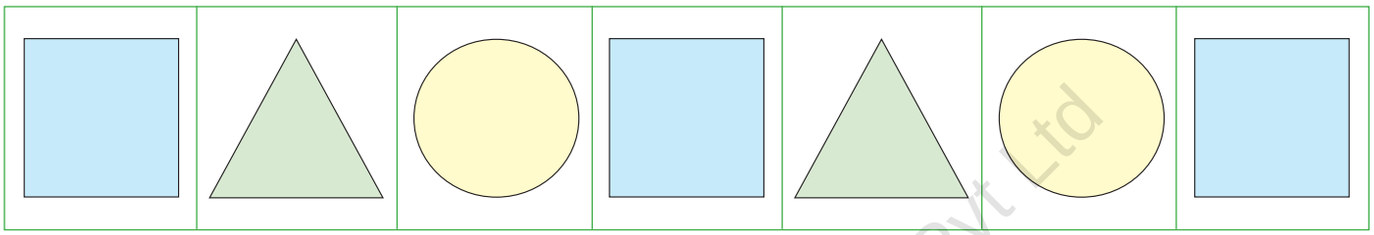
1. The season of ..... starts in the month of November.
2. ..... comes between Sharada and Shishira.
3. The season of ..... comes after Grishma.
4. The season of ..... comes before Vasanta.
5. Sharada comes between ..... and Hemanta.
6. In March and April, it is ..... season.
7. The season of Varsha ends in the month of ..... .
8. The season of ..... comes after Hemanta.
9. We like to bathe in cold water during the season of ..... .
10. Umbrellas are used very often in the season of ..... .
11. In September and October, it is ..... season.
12. The season of Shishira ends in the month of ..... .



17 Patterns

A definite sequence of figures, shapes, letters or numbers is called a pattern. The elements of a pattern follow a definite rule.

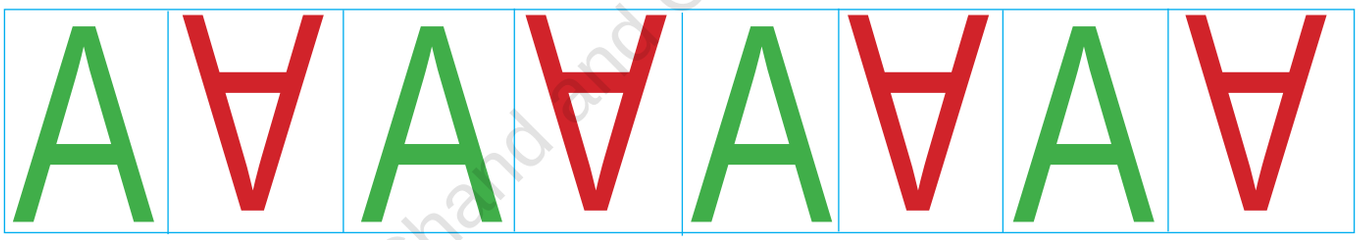
Observe the sequence shown below.



In this sequence; a square comes first, then a triangle, then a circle; again a square, then a triangle, then a circle; and so on.

So, the above sequence forms a pattern.

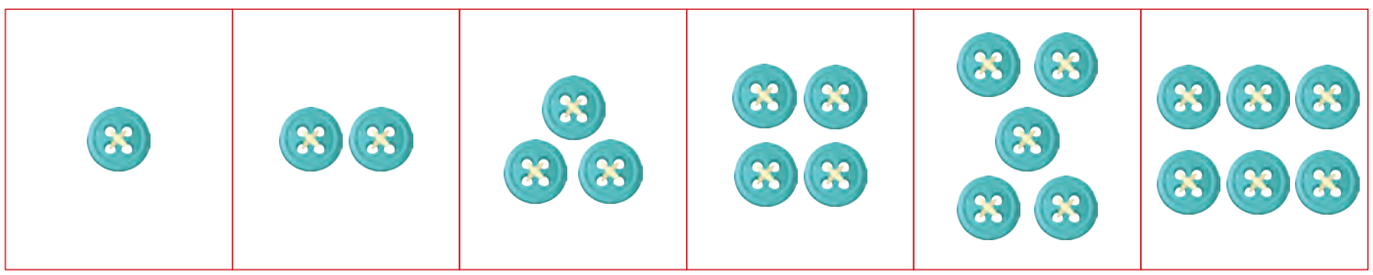
Now, observe the sequence shown below.



This sequence comprises of erect and inverted A's occurring alternately.

So, it forms a pattern.

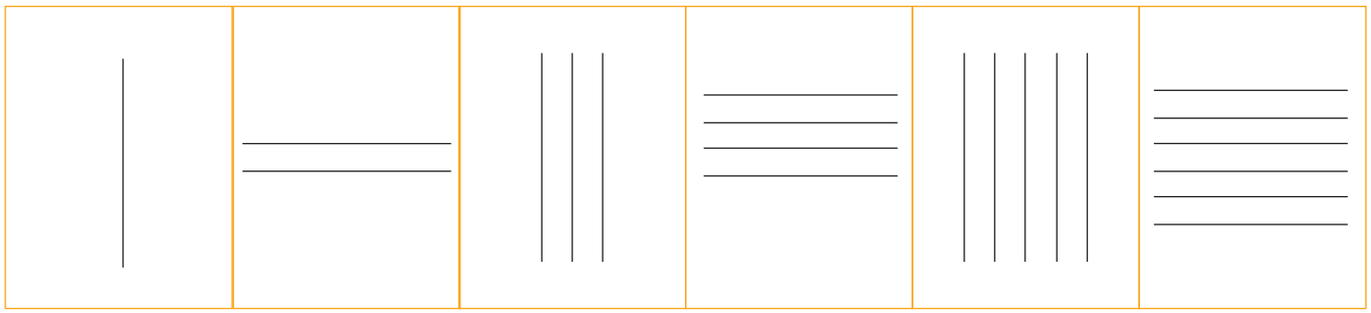
Again, look at the sequence shown below.



You must have observed, that in the above sequence, one button is added at the each step.

So, this also forms a pattern.

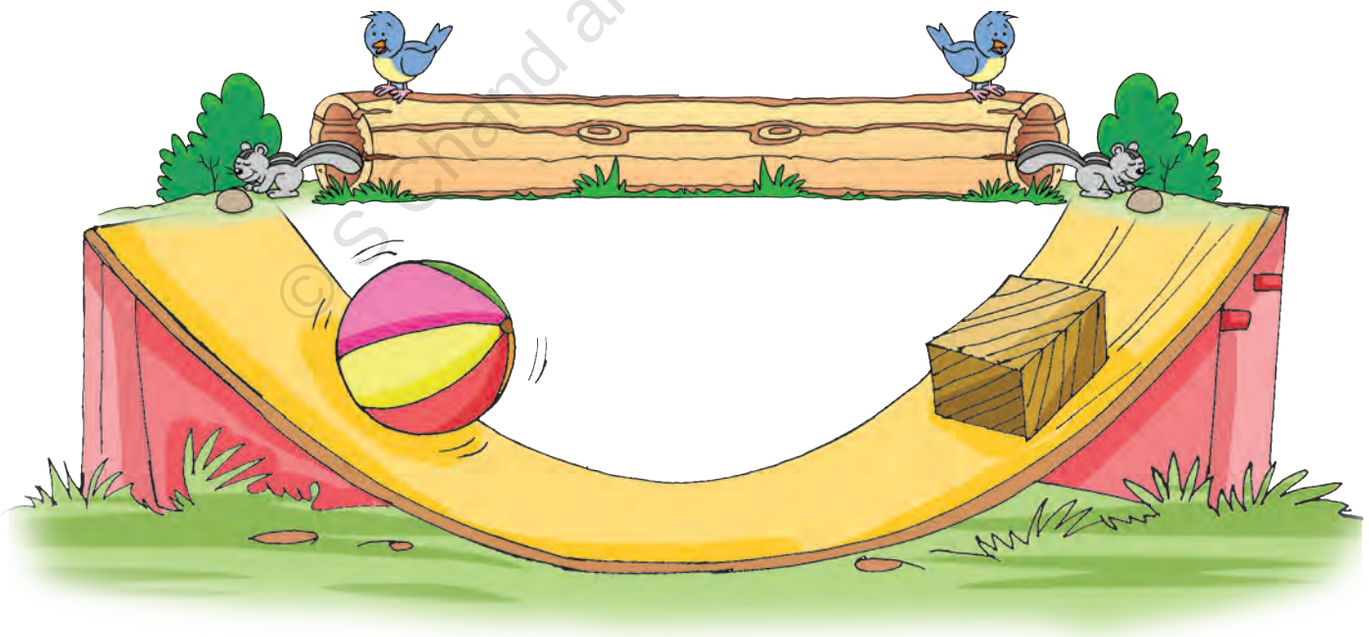
Now, observe the following sequence.



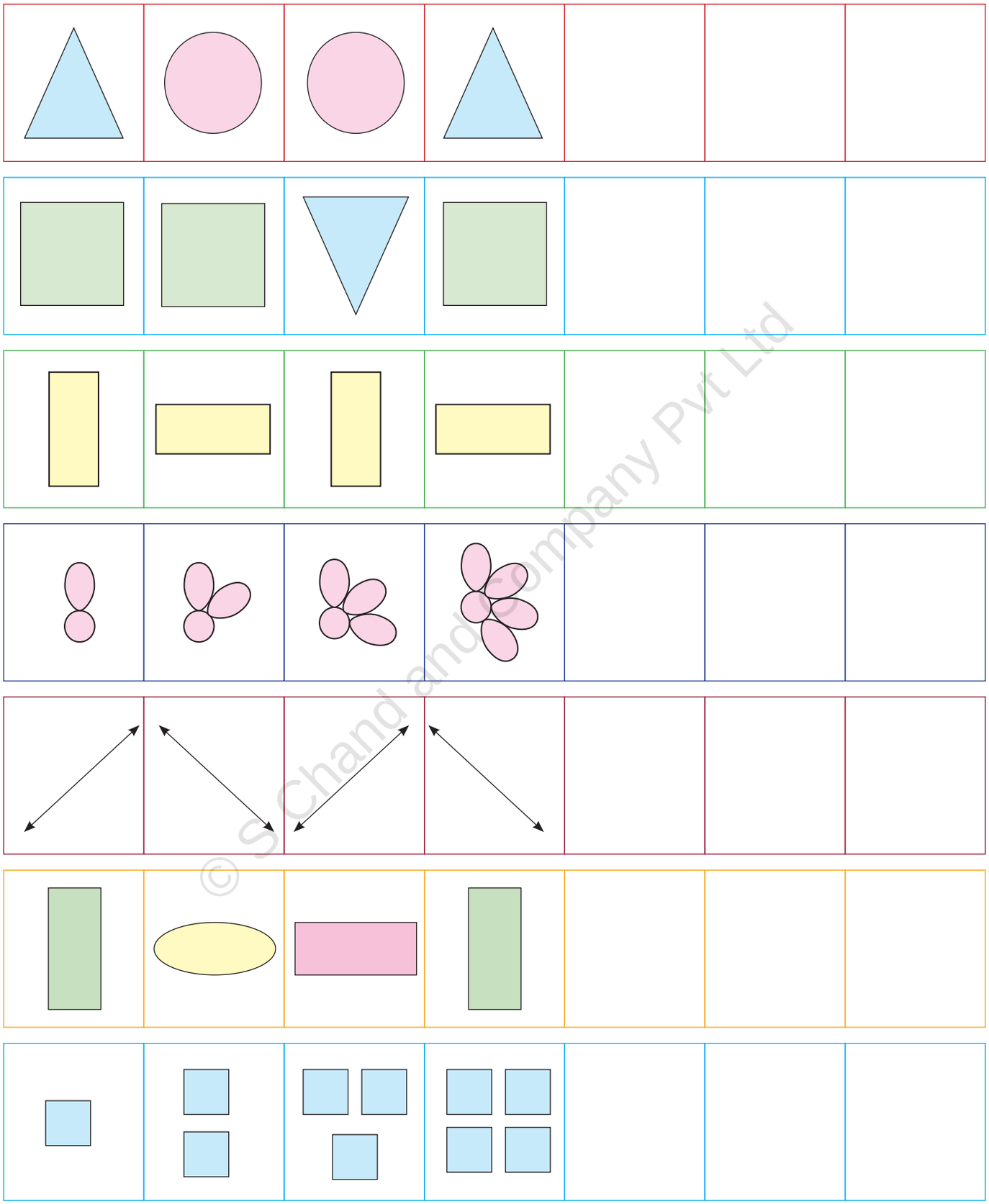
The above sequence has one vertical line in the first place; then 2 horizontal lines; then 3 vertical lines; then 4 horizontal lines and so on.

Thus, vertical and horizontal lines come alternately and one line is added at each step.

So, this sequence again forms a pattern.



Complete each of the following patterns.



QUESTION BAG

1. Circle all the odd numbers in collection A and all the even numbers in collection B.

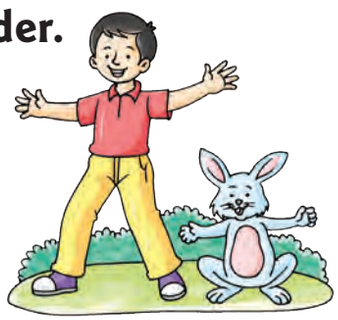
A

100	601	384
89		657
445	510	376
883	999	

B

758	514	643
96		57
401	792	990
625	889	

2. Put the correct symbol >, < or = in the placeholder.



(a) 589 ⬡ 500 + 90 + 8

(b) 200 + 70 + 4 ⬡ 247

3. Arrange the given numerals in ascending order.

(a) 978, 798, 879, 987, 897, 789

(b) 362, 632, 263, 326, 236, 623

4. Arrange the given numerals in descending order.

(a) 990, 909, 900, 919, 999, 991

(b) 587, 785, 857, 758, 578, 875

5. Add:

(a)

H	T	O
	8	7
+	7	8

(b)

H	T	O
4	6	6
+ 3	8	8

(c)

H	T	O
2	8	9
+ 5	4	7

(d)

H	T	O
6	7	5
+ 2	4	8

6. Subtract:

(a)

T	O
9	4
– 3	9

(b)

H	T	O
8	0	0
– 2	4	6

(c)

H	T	O
9	1	3
– 3	7	5

(d)

H	T	O
6	2	5
– 1	8	9

7. Multiply:

(a)

H	T	O
	1	9
	×	6

(b)

H	T	O
	2	7
	×	8

(c)

H	T	O
	3	5
	×	7

(d)

H	T	O
	8	8
	×	9

8. Put the correct symbol +, –, × or ÷ in the placeholder.

(a) 27 ☐ 9 = 18

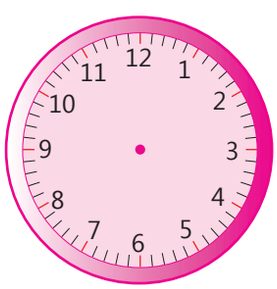
(b) 7 ☐ 3 = 21

(c) 16 ☐ 8 = 24

(d) 81 ☐ 9 = 9

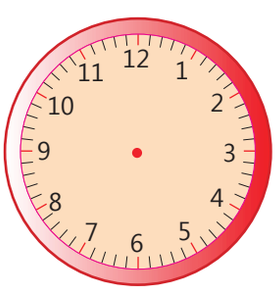
9. Draw the hands of the clock to show the correct time.

(a)



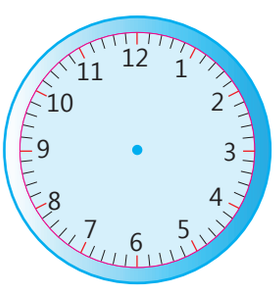
8:00

(b)



6:30

(c)



10:30

10. Complete each of the following number patterns.

(a) 313, 318, 323, 328, ..., ..., ...

(b) 251, 257, 263, 269, ..., ..., ...

(c) 452, 463, 474, 485, ..., ..., ...

(d) 175, 190, 205, 220, ..., ..., ...

(e) 565, 590, 615, 640, ..., ..., ...

11. Fill in the blanks.

(a) The place value of ..... always remains the same.

(b) The smallest 3-digit odd number is ..... .

(c) The greatest 3-digit even number is ..... .

(d) The sum of the face value and place value of 1 in 216 is ..... .

(e) The sum of the place values of two 6's in 686 is ..... .

(f) If we add ..... to any number we get the same number.

(g) If we multiply any number by ....., we get the same number.

12. State whether each of the following statements is true or false.

(a) The place value of 2 in 235 is 2. .....

(b) All the sides of a rectangle are equal. .....

(c) Only one month in a year has less than 30 days. .....

(d) The hands of the clock are exactly opposite to each other at 6:00.
.....

(e) There are five 25-paise coins in a rupee. .....

13. Write two division facts for each of the following multiplication facts.

(a) $9 \times 8 = 72$

(b) $7 \times 4 = 28$

(c) $8 \times 6 = 48$

14. Divide using multiplication tables.

(a) $40 \div 5 =$ ____

(b) $63 \div 9 =$ ____

(c) $50 \div 10 =$ ____

(d) $49 \div 7 =$ ____

(e) $32 \div 8 =$ ____

(f) $54 \div 6 =$ ____

15. Fill in the placeholders.

(a) 1 m = ____ cm

(b) 1 km = ____ m

(c) 1 kg = ____ g

(d) 1 L = ____ mL

16. Fill in the suitable unit to measure.

(a) The height of a man

(b) The length of a pencil

(c) Quantity of nail polish in a bottle

(d) Quantity of milk in a glass

(e) Quantity of petrol filled in a car

(f) Weight of a bag of wheat

(g) Weight of a mobile phone

17. Name the months of the year, having 31 days each.

18. A number is 89 more than 656.
What is the number?

19. How much is 285 less than 532?

20. How much is 514 greater than 279?

21. Fill in the blanks.

(a) A triangle has ..... sides and ..... vertices.

(b) A square has ..... sides and ..... vertices.

(c) Each face of a cube is a ..... .

(d) Cylinder and cone have ..... edges.

(e) Solids with ..... surfaces slide.

(f) At half past an hour, the minute hand is at ..... .

(g) The ninth month of the year is ..... .

(h) If yesterday was Friday, then tomorrow will be ..... .

(i) There are ..... days in a year.

Multiple Choice Questions

Tick (✓) the correct answer.

1. The sum of the face value and place value of 9 in 691 is

(a) 909 (b) 90 (c) 91 (d) 99

2. Arun interchanges the hundreds and tens digit of the numeral 673. By how much is the number increased?

(a) 80 (b) 89 (c) 90 (d) 99

3. Find the next number in the sequence 5, 8, 11, 14, 17, ...

(a) 18 (b) 19 (c) 20 (d) 21

4. How many even numbers are there between 40 and 60?

(a) 8 (b) 9 (c) 10 (d) None of these

5. Which of the following groups contains only even numbers?

(a) 684, 516, 889, 252, 158 (b) 222, 444, 666, 888, 111

(c) 336, 555, 772, 994, 118 (d) 578, 892, 770, 614, 306

6. What must be added to 266 to make it 400 ?

(a) 134 (b) 136 (c) 144 (d) 146

7. A cuboid has ..... faces, ... vertices and ..... edges.

(a) 8,8,8 (b) 6,8,12 (c) 6,6,12 (d) 8,8,12

8. Find the next number in the sequence 285, 325, 365, ...

(a) 385 (b) 405 (c) 395 (d) 415

9. If you take away 8 tens from 8 hundreds, you get

(a) 680 (b) 780 (c) 720 (d) 740

10. A story begins at page number 56 and ends at page number 81. How many pages long is the story?

(a) 24 (b) 25 (c) 26 (d) 27

11. The sum of two numbers is 812. If one of them is 468, what is the other?

(a) 334 (b) 338 (c) 344 (d) 348

12. How many months in a year have 30 days each?

(a) 4 (b) 5 (c) 6 (d) 7

13. A cylinder has ..... vertices, ... edges and ..... faces.

(a) 1, 2, 3 (b) 0, 2, 3 (c) 0, 4, 3 (d) 3, 3, 2

14. There are 8 baskets of mangoes. Each basket contains 72 mangoes. How many mangoes in all are there in the baskets?

(a) 536 (b) 546 (c) 566 (d) 576

15. If the day before yesterday was Sunday, what will be the day tomorrow?

(a) Tuesday (b) Wednesday (c) Thursday (d) Friday

16. How many months lie between August and December?

(a) 3 (b) 4 (c) 5 (d) 6

17. Choose the incorrect statement:

(a) 54 + 89 = 96 + 47 (b) 79 + 97 = 211 − 35

(c) 96 + 67 = 192 − 39 (d) 66 + 66 = 44 + 88

18. The two hands of the clock are together at

(a) 12:00 (b) 6:00 (c) 12:30 (d) 6:30

19. How many 5-paise coins are there in a rupee?

(a) 10 (b) 15 (c) 20 (d) 25

20. If the 2nd of a month is Tuesday, then the next Tuesday falls on

(a) 7th (b) 8th (c) 9th (d) 10th

21. A shopkeeper had 8 dozen eggs. He sold 28 eggs. How many eggs are left with him?

(a) 56 (b) 64 (c) 68 (d) 72

22. If 1 litre of milk costs ₹ 29, the cost of 9 litres of milk is

(a) ₹ 226 (b) ₹ 241 (c) ₹ 249 (d) ₹ 261

23. How many different triangles can you count in the given figure?

(a) 3 (b) 4

(c) 5 (d) 6

24. There are 5 sections of Class 3 in a school. Each section has 24 boys and 13 girls. How many students are there in Class 3?

(a) 145 (b) 175 (c) 185 (d) 195

25. How many 25-paise coins are there in ₹ 5?

(a) 10 (b) 15 (c) 20 (d) 25

26. If 3 students sit on each of the 16 benches in a class, 4 students are left standing. How many students are there in the class?

(a) 54 (b) 52 (c) 50 (d) 48

27. Which of the following groups of months have 31 days each?

(a) April and July (b) January and June

(c) May and September (d) March and October

28. There are 24 hours in a day. How many hours are there in a week?

(a) 148 (b) 154 (c) 162 (d) 168

29. How many days are there in all in the three months of July, August and September?

(a) 90 (b) 91 (c) 92 (d) 93

30. I have one vertex, one plane face, one curved face and one edge. Who am I?

(a) Cube (b) Cylinder (c) Cone (d) Sphere

31. Sachin bought a bag worth ₹ 184, a pencil box worth ₹ 78 and a pen worth ₹ 56. He gave a 500-rupee note to the shopkeeper. How much money did he get back?

(a) ₹ 182 (b) ₹ 192 (c) ₹ 238 (d) ₹ 260

Answers

1. (d)	**2.** (c)	**3.** (c)	**4.** (b)	**5.** (d)	**6.** (a)	**7.** (b)
8. (b)	**9.** (c)	**10.** (c)	**11.** (c)	**12.** (a)	**13.** (b)	**14.** (d)
15. (b)	**16.** (a)	**17.** (c)	**18.** (a)	**19.** (c)	**20.** (c)	**21.** (c)
22. (d)	**23.** (c)	**24.** (c)	**25.** (c)	**26.** (b)	**27.** (d)	**28.** (d)
29. (c)	**30.** (c)	**31.** (a)				