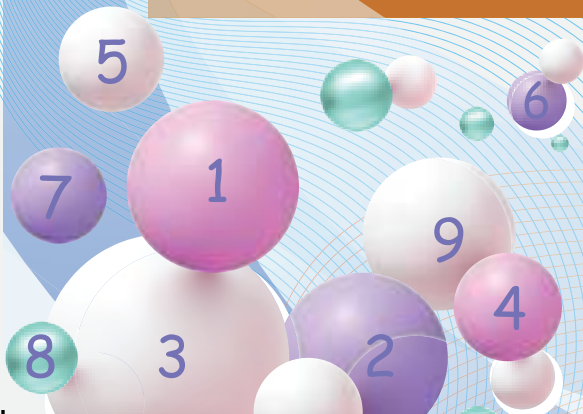


Mathematics

2



With the blessings of :
Our Parents

Mathematics (Part-2)

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- National Education Policy 2020
- NCF 2022
- Activity Based Format
- Innovative Approach
- Learning with fun
- Eco-Friendly Paper

Preface

Mathematics, a well arranged series of Mathematics strictly confirms to the vision of National Curriculum Framework 2022 and also meets the requirement of the NCERT latest syllabus. It is an activity-based maths textbook created to give the students a National Education Policy 2020-based interactive learning foundation in mathematics while also fostering the holistic development of learners through critical thinking and creativity.

These traits will aid the students in better understanding the fundamental ideas through play. Core educational ideas are the foundation of this textbook. The goal is to encourage youngsters to look beyond the theoretical side of arithmetic and to learn about practical applications.

The book's design emphasises effectiveness and logical progression. Through teaching and interactive learning, NEP 2020 seeks to enhance higher order thinking.

The purpose of this book's design and presentation is to reinforce mathematical concepts through the use of simple games. This book includes enough questions in accordance with the NEP 2020 criteria.

Salient Features of the series:

Learning Objectives: Learning objective shows the right path of learning to the teacher as well as students. It determines the direction of learning for effective and quality learning outcomes.

Warm-Up: It aids pupils in remembering lessons learnt in previous years and lets them ready for new concepts. Also, allows learners to process and explore mathematical concepts while applying, extending, and analysing information within their own unique range of understanding.

Teacher's note: A "Teacher's Note" is a set of instructions laid out for the teachers to follow in the classroom in order to make class interactive and discussion based.

Quick Tip: It offers suggestions on how to quickly solve the questions.

Facts To know: The inclusion of it gives the learner plenty of chances to investigate the information regarding the topics..

Think Wisely: These questions have been included to encourage learners to think, analyse and apply.

Mental Maths: The main goal of teaching Mental Maths to the learners is to focus on improving their arithmetic abilities through memory, practice and number manipulation.

Maths Lab Activities: These are provided with the intention of making maths learning efficient, engaging, pleasant, and intellectually stimulating.

This series of Mathematics books from class 1-8 contains sufficient questions for practice on each topic.

I am very appreciative of the entire staff and the management for working so hard to get this book into such a wonderful arrangement.

The books are always open to suggestions and enhancements.

Author

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Numbers and Numeration



Learning Objectives

At the end of this lesson, students will be able to:

- Read and write the numbers upto 1000.
- Write the numbers in expanded and short form.
- Compare and arrange the numbers in ascending and descending order.



Warm Up

Count and fill in the blanks. One is done for you.

Objects	Tens	Ones	Number
	2	3	23
			
			
			



Smallest 1-digit number is 1
 Greatest 1-digit number is 9
 Smallest 2-digit number is 10
 Greatest 2-digit number is 99



Numbers 100 to 1000

Let us read:

Numbers	Number Names
100	One hundred
200	Two hundred
300	Three hundred
400	Four hundred
500	Five hundred
600	Six hundred
700	Seven hundred
800	Eight hundred
900	Nine hundred
1000	Ten hundred or One thousand



Smallest 3-digits number is 100.
 Greatest 3-digits number is 999



Teacher's Note:

Show the students a number of real objects such as pencils, chairs, tables, etc and ask them to count and write down the place value of the number counted.





3-Digit Numbers

As we know,

Hundreds	Tens	Ones
H	T	O



3- digit numbers start from 100 to 999.

Complete the following number grids:

(a)

101									
	112								
		123							
			134						
				145					
					156				
						167			
							178		
								189	
									200





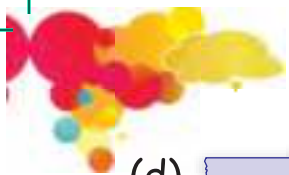
(b)

201									
		213							
			224						
				235					
					246				
				255					
			264						
		273							
	282								
291									

(c)

301									
					316				
			324						
							338		
					346				
	352								
			364						
						377			
		383							
									400





(d)

401									
		413							
			424						
				435					
					446				
				455					
			464						
		473							
	482								
									500

(e)

501									
					516				
			524						
							538		
					546				
	552								
			564						
						577			
		583							
									600





Numerals and Numeral Names

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

926

Nine hundred twenty-six



298

642

804

209

129

800

555

241

764

169





Write the numeral for each of the following numeral names:

One hundred seventy-two



Seven hundred seventy-six



Four hundred



Two hundred fifty



Five hundred fifty-two



Six hundred thirty-four



One hundred eleven



Nine hundred ninety-nine



Eight hundred fifty-six



Two hundred twelve





Before-After-In Between

Before



43



126



549



642



321



789



700



502



256



111



102



56



1000



921

After



421



298



499



556



709



999



800



642



99



921



301



209



341



72

In Between



721

723



398

400



836

838



544

546



100

102



444

446



121

123



642

644



549

551



364

366



209

211



199

201



266

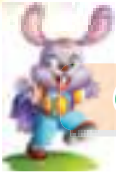
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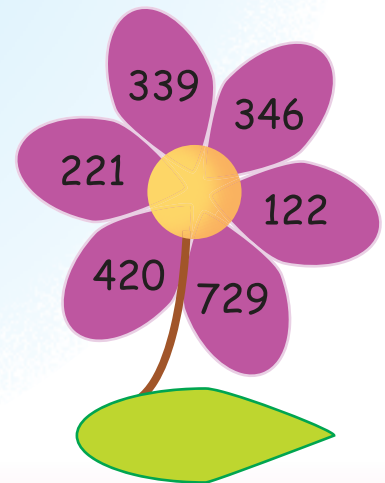
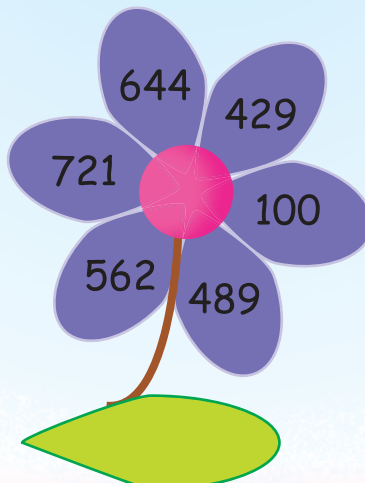
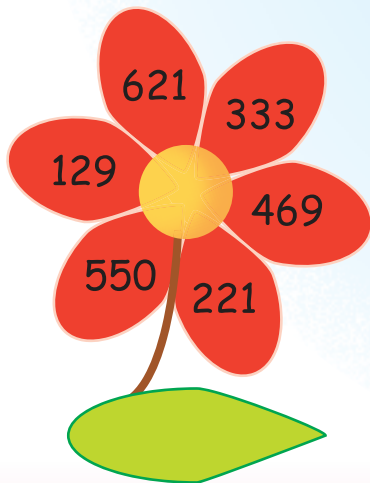
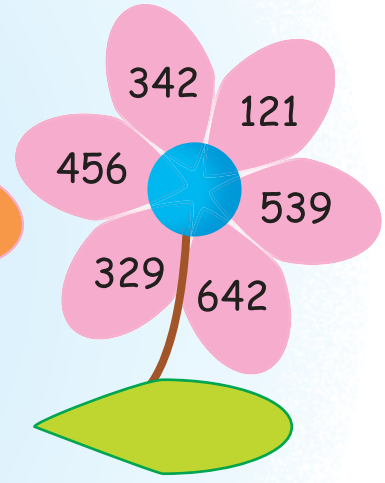
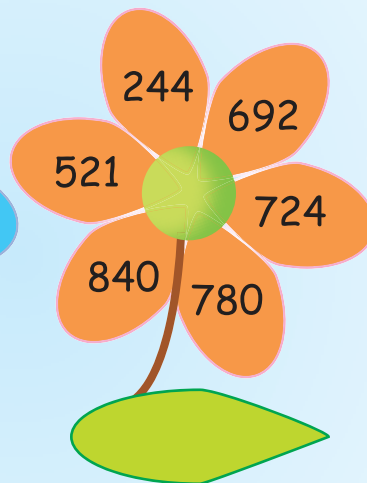
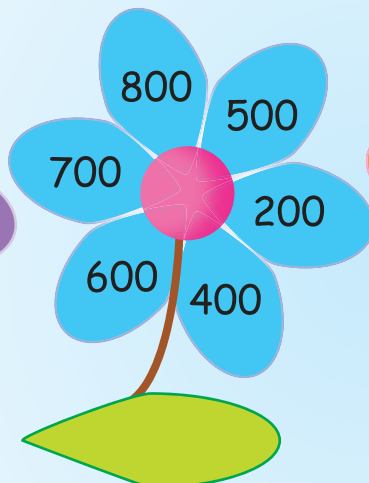
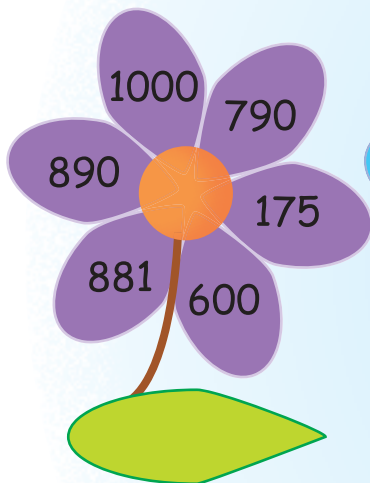
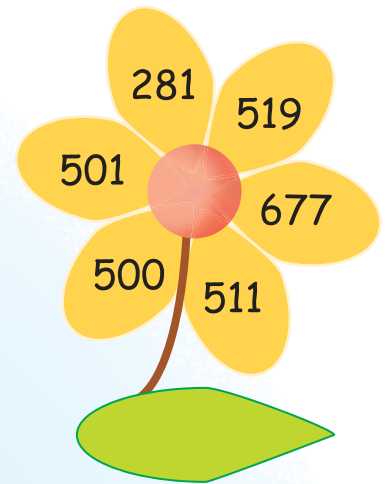
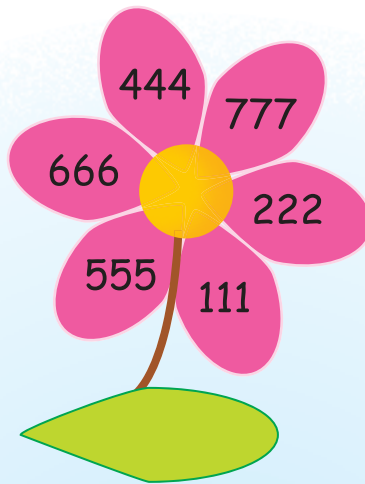
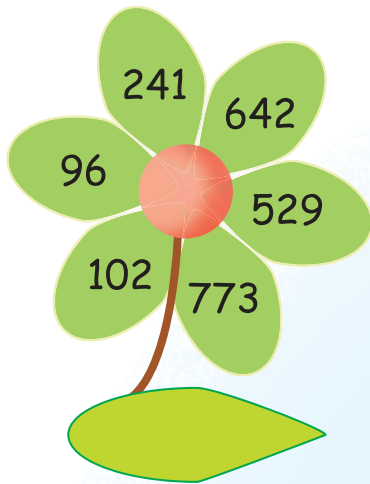
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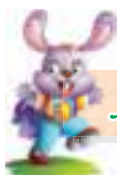




Comparison

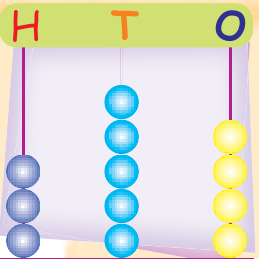
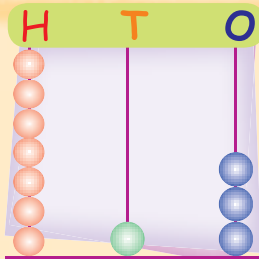
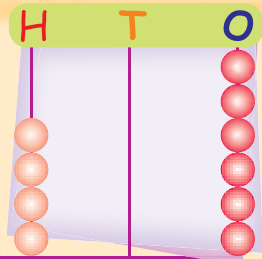
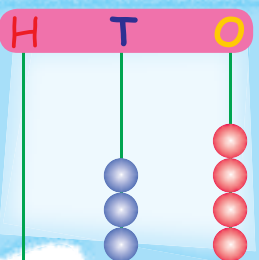
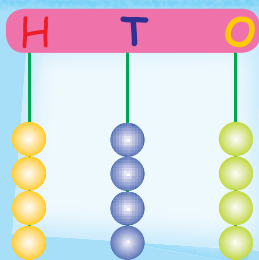
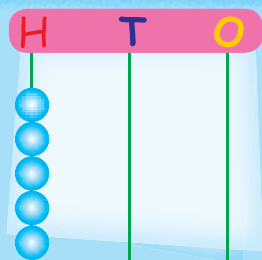
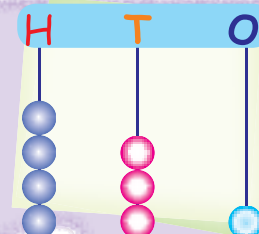
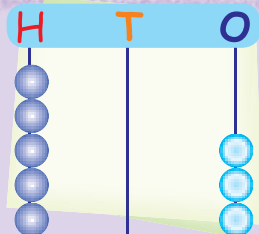
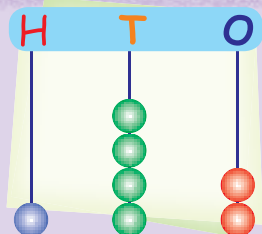
Write the smallest number in the centre of the flower and the largest number in the leaf of the flower:





Abacus

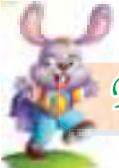
Read the numbers shown on the Abacus and write the numeral and numeral names:



Facts to Know

The person who uses the abacus is called an abacist.





Expanded Form

Write the following numbers in the expanded form:

241 =  Hundreds +  Tens +  Ones

562 =  Hundreds +  Tens +  Ones

429 =  Hundreds +  Tens +  Ones

777 =  Hundreds +  Tens +  Ones

890 =  Hundreds +  Tens +  Ones

600 =  Hundreds +  Tens +  Ones

102 =  Hundreds +  Tens +  Ones

211 =  Hundreds +  Tens +  Ones

342 =  Hundreds +  Tens +  Ones

529 =  Hundreds +  Tens +  Ones





Short Form

Write the short form of each of the following numbers:

3 Hundreds + 2 Tens + 5 Ones =

5 Hundreds + 0 Tens + 2 Ones =

2 Hundreds + 0 Tens + 0 Ones =

8 Hundreds + 9 Tens + 7 Ones =

4 Hundreds + 4 Tens + 4 Ones =

1 Hundreds + 0 Tens + 5 Ones =

7 Hundreds + 2 Tens + 3 Ones =

3 Hundreds + 7 Tens + 0 Ones =

4 Hundreds + 0 Tens + 0 Ones =

2 Hundreds + 2 Tens + 2 Ones =





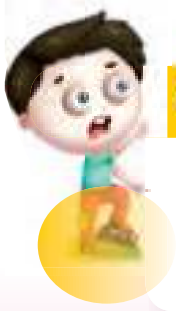
Ordering Numbers

Arranging the numerals in either ascending (increasing) order or descending (decreasing) order is called ordering of numbers.



Ascending Order

Arrange the following numbers in ascending order:

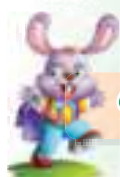


Quick Tip

If the numbers have the same numbers (three) of digits, then the digits on the extreme left are compared in order to arrange it in ascending or descending order.

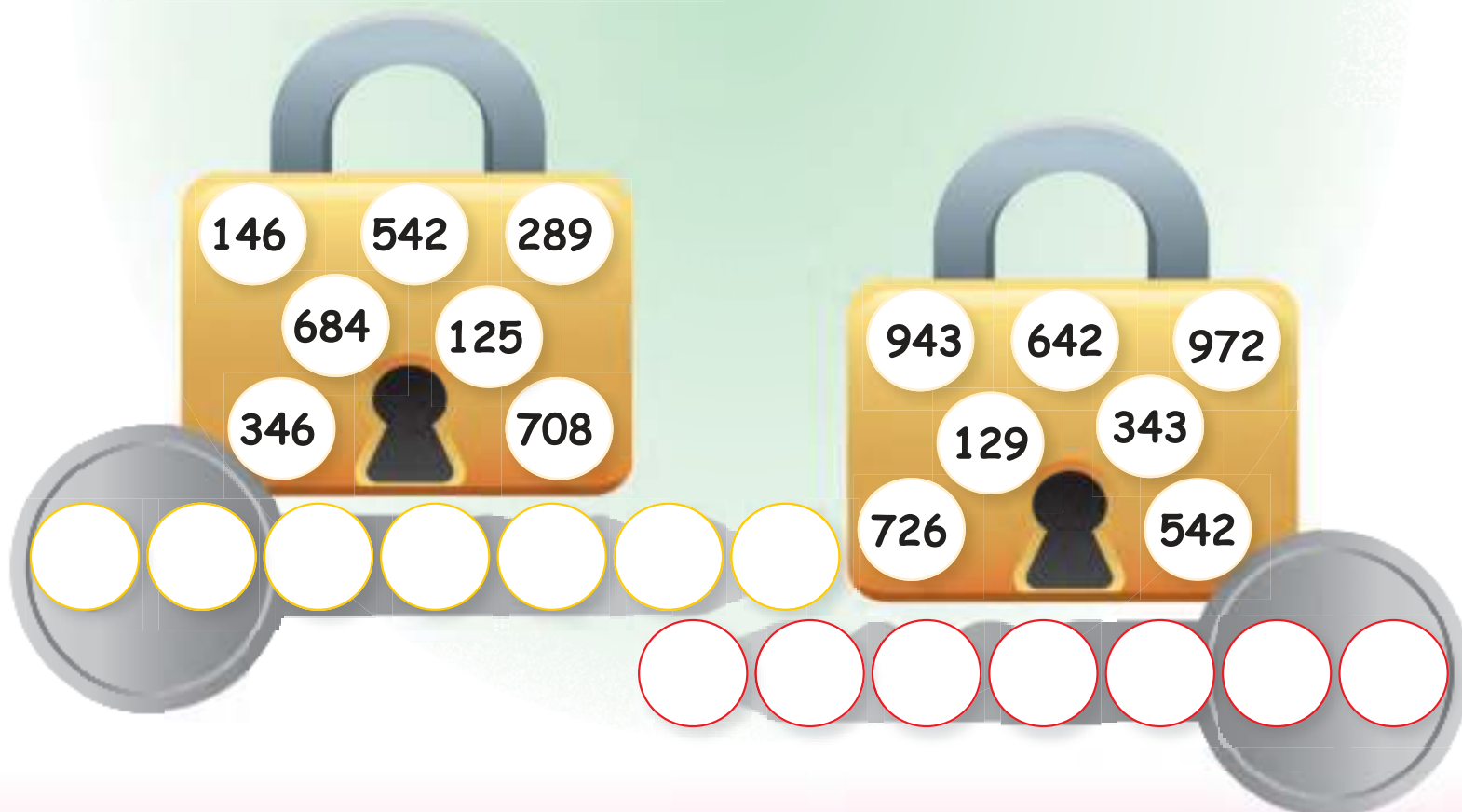


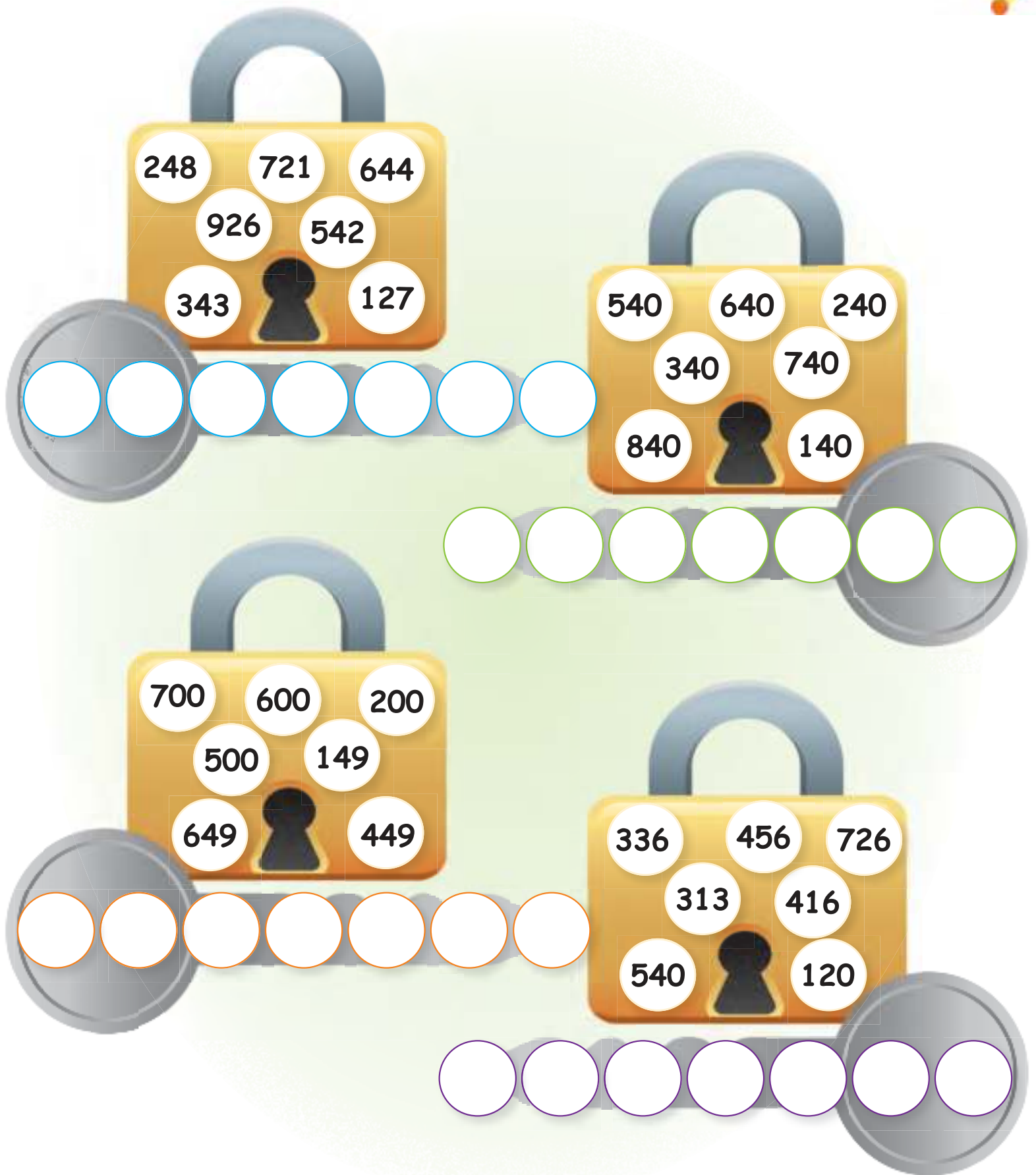




Descending Order

Arrange the following numbers in descending order:







Think Wisely

The letters represent the following numbers. Make the numbers from it.

$R = 4$

$U = 5$

$N = 2$

$S = 7$

$A = 8$

$B = 3$

$T = 6$

$I = 1$



RUN



ANT



TUB



SIR



SUN



BAT



Mental Maths

A. Give the place value of the underlined digit:

a. $7\text{6}\underline{4} =$ _____

b. $5\underline{0}7 =$ _____

c. $5\underline{5}8 =$ _____

d. $8\underline{4}6 =$ _____

e. $56\underline{9} =$ _____

f. $93\underline{3} =$ _____

B. Write the short form of each of the following numbers:

a. $700 + 5 =$ _____

c. $6 \text{ tens} + 3 \text{ ones} =$ _____

b. $500 + 10 + 1 =$ _____

d. $4 \text{ hundreds} + 1 \text{ tens} + 7 \text{ ones} =$ _____





Maths Lab Activity

Materials required:

3 dice.

Steps:

1. Take three dice. Throw them together. Form the largest and the smallest numbers that appear on dice.

Example :



5



6



1

Number on dice:

Largest number - 651

Smallest Number - 156

2. Ask your two friends to do the same. Find out who got the greatest or the highest number and the least or the smallest number.



2



Even and Odd Numbers



Learning Objectives

At the end of this lesson, students will be able to:

- Identify even and odd numbers.
- Write even and odd numbers.
- Make the number grid.



Warm Up

Sing the song along!

Even numbers, even numbers,
Even numbers, shout them out!
2, 4, 6, 8, 10!

Line them up by twos and then,
All the evens have a friend!
2, 4, 6, 8, 10!

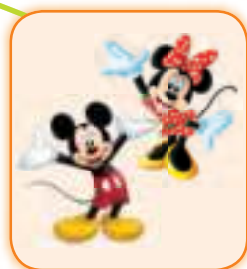
All the evens have a friend.

Odd numbers, odd numbers,
Odd numbers, shout them out!
1, 3, 5, 7, 9!

When you try to group by twos,
There's an extra you can't use.
1, 3, 5, 7, 9!

Odd man out, no friend in line.

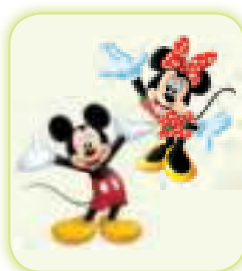




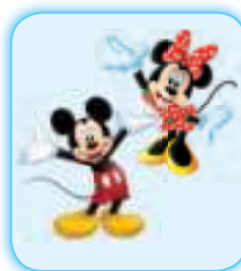
2



4



6



8

Any number that can be made into pairs is an even number.

All the numbers that have 0, 2, 4, 6, 8 at the ONES place are called **even** numbers.



Teacher's Note:

Ask the students to stand in a circle and sing the song together. Tell them to pair up the nearest person every time the word 'pair' or 'two by two' comes up, otherwise stand alone. Explain the meaning of odd and even numbers to students with the help of the song.





Any number that cannot be made into pairs is an odd number.

All the numbers that have 1, 3, 5, 7, 9 at the ONES place are called **odd** numbers.

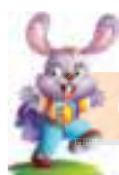




After every odd number, there is an even number.

OR

Before every even number, there is an odd number.



Count And Write

Count the number of objects and make the pairs to find whether the number is EVEN or ODD:

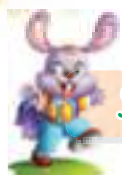
OBJECTS	ODD	EVEN
		4
		
		
		
		
		
		



Facts to Know

Even numbers when multiplied by any number always result in an even number.





Number Grid

Write the even numbers:



42	44						
28	30						
52	54						
90	92						
112	114						
102	104						
542	544						



Quick Tip

In a two digit number or three digit number or four digit number, to check whether it is even or odd, look at the digit at the ones place. If the digit at the ones place is 0 or 2 or 4 or 6 or 8, then the number is even. If the digit at the ones place is 1 or 3 or 5 or 7 or 9, then the number is odd.





Write the odd numbers:

29	31						
53	55						
69	71						
11	13						
93	95						
113	115						
145	147						
671	673						
929	931						
555	557						





Think Wisely

Find the sum of the:

(i) first 7 odd numbers -

(ii) first 10 even numbers -



Mental Maths

A. Write 'T' for True and 'F' for False statements:

1. 8 is the last odd number before 10.

2. Even numbers can be made into 2 equal groups.

3. A pair of shoes is even.

4. When you add 2 odd numbers, the answer will also be an odd number.

B. Answer in one word:

1. Which number is even, 2 or 3? _____

2. How many odd numbers are there before 10? _____

3. How many letters are there in your name?

Is it odd or even? _____

4. Which is the biggest even number before 10? _____





Materials required:

A sheet of paper, pencils and crayons.

Steps:

1. Ask the students to take a white sheet of paper and draw a big house in the centre of the sheet.
2. Draw an odd number of trees in a garden around the house.
3. Fill in the sky with an even number of birds and an odd number of clouds.
4. Draw an even number of plants but an odd number of flowers on the plants.
5. Draw an odd number of children playing in the garden.

Now, ask the students to colour the picture. Display the picture in the classroom.





Learning Objectives

At the end of this lesson, students will be able to:

- Do the addition upto 3 digit numbers.
- Add 3 digit numbers with carry over.
- Add using expanded form.
- Solve the story sums based on addition.



Warm Up

This is Honey's shop. Today he sold the following:

25 blue pens and 30 black pens.

How many pens did he sell?



17 erasers in the morning and 12 in the evening.

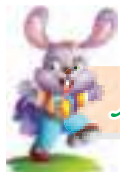
How many erasers did he sell?



Please revise addition that you have done in class I.



The addition of numbers is known as **sum**.



Addition of 1-Digit Numbers

Find the sum:

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

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

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

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

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

$$\begin{array}{r} 9 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ + 9 \\ \hline \end{array}$$

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

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

$$\begin{array}{r} 1 \\ 2 \\ + 5 \\ \hline \end{array}$$

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

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

$$\begin{array}{r} 9 \\ 8 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ 7 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ 0 \\ + 1 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ 4 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ 2 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ 4 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ 7 \\ + 3 \\ \hline \end{array}$$



Addition of 2-Digit Numbers

Find the sum:

$$\begin{array}{r} 51 \\ + 26 \\ \hline \end{array}$$

$$\begin{array}{r} 22 \\ + 26 \\ \hline \end{array}$$

$$\begin{array}{r} 48 \\ + 56 \\ \hline \end{array}$$

$$\begin{array}{r} 33 \\ + 25 \\ \hline \end{array}$$

$$\begin{array}{r} 51 \\ + 26 \\ \hline \end{array}$$

$$\begin{array}{r} 22 \\ + 26 \\ \hline \end{array}$$

$$\begin{array}{r} 48 \\ + 56 \\ \hline \end{array}$$

$$\begin{array}{r} 33 \\ + 25 \\ \hline \end{array}$$

$$\begin{array}{r} 29 \\ + 38 \\ \hline \end{array}$$

$$\begin{array}{r} 42 \\ + 67 \\ \hline \end{array}$$

$$\begin{array}{r} 48 \\ + 59 \\ \hline \end{array}$$

$$\begin{array}{r} 63 \\ + 23 \\ \hline \end{array}$$

$$\begin{array}{r} 25 \\ + 69 \\ \hline \end{array}$$

$$\begin{array}{r} 81 \\ + 18 \\ \hline \end{array}$$

$$\begin{array}{r} 45 \\ + 66 \\ \hline \end{array}$$

$$\begin{array}{r} 99 \\ + 12 \\ \hline \end{array}$$

$$\begin{array}{r} 42 \\ 61 \\ + 89 \\ \hline \end{array}$$

$$\begin{array}{r} 19 \\ 23 \\ + 18 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ 60 \\ + 40 \\ \hline \end{array}$$

$$\begin{array}{r} 55 \\ 22 \\ + 11 \\ \hline \end{array}$$



Teacher's Note:

Apprise students that while adding, always add ones, then tens and so on.





Addition of 3-Digit Numbers (Without Carry Over)

Example-1

Add: 421 and 364

Step 1 : Put the numbers in correct vertical columns.

H	T	O
4	2	1
+	3	6
	4	

Step 2 : Add the digits in ONES column.

H	T	O
4	2	1
+	3	6
		4
		5

Step 3 : Add the digits in TENS column.

H	T	O
4	2	1
+	3	6
	8	5

Step 4 : Add the digits in HUNDREDS column.

$$\text{So, } 421 + 364 = 785$$

H	T	O
4	2	1
+	3	6
7	8	5



Quick Tip

To add 99 to a number, add 100 and subtract 1.

$$\begin{aligned} & 736 + 99 \\ = & 736 + 100 - 1 \\ = & 836 - 1 \\ = & 835 \end{aligned}$$

Example-2

Add: 423, 102 and 310

Step 1 : Add Ones.

Step 2 : Add Tens.

Step 3 : Add Hundreds.

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

So, $423 + 102 + 310 = 835$



REMEMBER

Addition should be without regrouping.

Find the sum:

$$\begin{array}{r} 524 \\ + 263 \\ \hline \end{array}$$

$$\begin{array}{r} 123 \\ + 264 \\ \hline \end{array}$$

$$\begin{array}{r} 208 \\ + 541 \\ \hline \end{array}$$

$$\begin{array}{r} 149 \\ + 250 \\ \hline \end{array}$$

$$\begin{array}{r} 160 \\ + 100 \\ \hline \end{array}$$

$$\begin{array}{r} 222 \\ + 333 \\ \hline \end{array}$$

$$\begin{array}{r} 521 \\ + 442 \\ \hline \end{array}$$

$$\begin{array}{r} 236 \\ + 721 \\ \hline \end{array}$$

$$\begin{array}{r} 156 \\ + 232 \\ \hline \end{array}$$



Facts to Know

Addition was first used extensively by the Chinese almost 6,000 years ago, it is safe to say the Chinese invented addition.



$$\begin{array}{r} 106 \\ 501 \\ + 291 \\ \hline \end{array}$$

$$\begin{array}{r} 100 \\ 200 \\ + 500 \\ \hline \end{array}$$

$$\begin{array}{r} 111 \\ 222 \\ + 555 \\ \hline \end{array}$$

$$\begin{array}{r} 627 \\ 120 \\ + 252 \\ \hline \end{array}$$

$$\begin{array}{r} 300 \\ 406 \\ + 200 \\ \hline \end{array}$$

$$\begin{array}{r} 160 \\ 210 \\ + 520 \\ \hline \end{array}$$

$$\begin{array}{r} 126 \\ 221 \\ + 420 \\ \hline \end{array}$$

$$\begin{array}{r} 343 \\ 123 \\ + 222 \\ \hline \end{array}$$

$$\begin{array}{r} 123 \\ 760 \\ + 106 \\ \hline \end{array}$$

$$\begin{array}{r} 345 \\ 421 \\ + 231 \\ \hline \end{array}$$

$$\begin{array}{r} 102 \\ 501 \\ + 215 \\ \hline \end{array}$$

$$\begin{array}{r} 730 \\ 126 \\ + 102 \\ \hline \end{array}$$

Add:

$$243 + 123 = \boxed{}$$

$$146 + 252 = \boxed{}$$

$$111 + 333 = \boxed{}$$

$$171 + 108 = \boxed{}$$

$$102 + 641 = \boxed{}$$

$$340 + 259 = \boxed{}$$

$$360 + 420 = \boxed{}$$

$$629 + 140 = \boxed{}$$

$660 + 210 = \boxed{}$

$321 + 462 = \boxed{}$

$220 + 330 = \boxed{}$

$621 + 352 = \boxed{}$

$124 + 110 + 120 = \boxed{}$

$213 + 315 + 210 = \boxed{}$

$520 + 236 + 121 = \boxed{}$

$100 + 400 + 300 = \boxed{}$

$269 + 420 + 110 = \boxed{}$

$103 + 211 + 610 = \boxed{}$

$721 + 118 + 150 = \boxed{}$

$661 + 112 + 215 = \boxed{}$

$146 + 120 + 322 = \boxed{}$

$173 + 206 + 120 = \boxed{}$

$243 + 123 + 120 = \boxed{}$

$371 + 212 + 312 = \boxed{}$



Addition of 3-Digit Numbers (With Carry Over)

Example-1

Add: 429 and 384

Step 1 : Put the numbers in correct vertical columns.

	H	T	O
	4	2	9
+	3	8	4

Step 2 : Add the digits in ONES column.

$9 \text{ Ones} + 4 \text{ Ones} = 13 \text{ Ones}$



= 1 Tens + 3 Ones

Write 3 in Ones column and 1 in Tens column.

H	T	O
	1	
4	2	9
+ 3	8	4
		3

Step 3 : Add the digits in TENS column.

2 Tens + 8 Tens + 1 Tens (Carried over)

= 11 Tens

= 1 Hundred + 1 Tens

H	T	O
1	1	
4	2	9
+ 3	8	4
		3

Step 4 : Add the digits in HUNDREDS column.

4 Hundreds + 3 Hundreds + 1 Hundreds

(Carried over)

= 8 Hundreds

∴ Sum = 429 + 384 = 813

H	T	O
1	1	
4	2	9
+ 3	8	4
8	1	3

Example-2

Add: 286, 459 and 120

Step 1 : Add Ones.

Step 2 : Add Tens.

Step 3 : Add Hundreds.

Sum

= 286 + 459 + 120

= 865

H	T	O
1	1	
2	8	6
+ 4	5	9
+ 1	2	0
8	6	5



Find the sum:

	H	T	O
	3	5	9
+	4	6	4

	H	T	O
	0	9	6
+	9	8	7

	H	T	O
	7	7	7
+	2	6	6

	H	T	O
	8	0	0
+	1	0	0

	H	T	O
	5	5	5
+	2	9	6

	H	T	O
	4	9	6
+	2	9	5

	H	T	O
	6	6	2
+	2	2	1

	H	T	O
	5	2	9
+	1	0	2

	H	T	O
	7	5	9
+	1	9	8

	H	T	O
	1	4	2
+	6	4	9

	H	T	O
	2	4	3
+	7	8	9

	H	T	O
	6	2	0
+	8	5	9

	H	T	O
	1	4	2
+	9	7	2

	H	T	O
	6	9	8
+	5	2	0

	H	T	O
	3	4	6
+	9	7	8



Add:

$349 + 462$

$=$

$364 + 296$

$=$

$142 + 649$

$=$

$348 + 245$

$=$

$729 + 106$

$=$

$926 + 56$

$=$

$842 + 950$

$=$

$672 + 988$

$=$

$298 + 376$

$=$

$376 + 459$

$=$

$501 + 204 + 199$

$=$

$296 + 198 + 421$

$=$

$101 + 220 + 660$

$=$

$440 + 210 + 511$

$=$

$369 + 478 + 110$

$=$

$433 + 209 + 111$

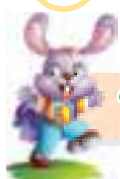
$=$

$134 + 446 + 387$

$=$

$732 + 29 + 108$

$=$



Word Problems

There were 429 books in a school library. The school bought 268 books more. How many books are there in all?



A shopkeeper sold 259 bananas on Monday, 400 bananas on Tuesday and 146 bananas on Wednesday. How many bananas did he sell in these three days?



Shreya collected 269 red flowers.
Sona collected 456 white flowers.
Radha collected 150 purple flowers.
How many flowers did they collected in all?



Sarthak counted 368 big cars and
486 small cars on the road. What
is the total number of cars he
counted?



There are 120 mango trees, 468
coconut trees and 372 apple trees
planted in a park. How many trees
were planted in all?



There are 843 bees in the hive.
108 more bees flew into the hive.
What is the total number of bees
in the hive now?



There are 446 girls and 388 boys
in a school. How many students
are there in all?



There are 286 red beads, 349
green beads and 142 purple beads
in a necklace. What is the total
number of beads in the necklace?





Think Wisely

Which number am I?

Which number am I?

1. I stand at ones place, I am 3 less than 9.

2. I am 1 more than 8 and stand at tens place.

3. I stay at hundreds place and come between the number 5 and 3.



Mental Maths

A. Solve mentally; Call out the steps as you do.

a. $20 + 70 =$ _____

b. $60 + 40 =$ _____

c. $40 + 40 =$ _____

d. $30 + 60 =$ _____

e. $20 + 90 =$ _____

f. $90 + 80 =$ _____

B. Add; Then put a tick mark on the right pictures.

1. Which two boxes would you choose to get 75 marbles.



A



B



C

2. Which two boys have 66 Stamps together?



Karan has 19 stamps



Amit has 47 stamps



Raman has 37 stamps





Maths Lab Activity

Materials required:

A sheet of paper and pencil.

Steps:

1. Ask the students to take a two-digit number.
2. Now, ask them to reverse it.
3. Add the numbers.

For e.g.

$$\begin{array}{r} \text{Reversed number} \quad + \quad 23 \\ \hline \quad \quad \quad \quad \quad 32 \\ \hline \quad \quad \quad \quad \quad 55 \\ \hline \end{array}$$

4. Tell them 55 is a palindrome. A palindrome is any number or word that can be written the same way either from forward or from backward.
5. Give some more examples such as , 434 , 12321 , MALAYALAM.

Now, list a few palindromes:

- | | |
|----------|-----------|
| 1. _____ | 2. _____ |
| 3. _____ | 4. _____ |
| 5. _____ | 6. _____ |
| 7. _____ | 8. _____ |
| 9. _____ | 10. _____ |





Subtraction



Learning Objectives

At the end of this lesson, students will be able to:

- Do the subtraction upto 3 digit numbers.
- Subtract 3 digit numbers with borrowing.
- Solve the story sums based on subtraction.
- Check the subtraction using addition.



Warm Up

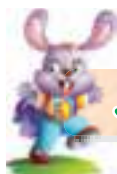
Sweety celebrated her birthday. She bought the following:

	She bought	She used	How many left?
Party poppers			

	She bought	She used	How many left?
Birthday Caps	 	 	



Please revise
subtraction that you
have done in class I.



Subtraction of 1-Digit Numbers

Find the subtraction:

$$\begin{array}{r} 3 \\ - 2 \\ \hline \end{array}$$

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

$$\begin{array}{r} 4 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ - 0 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ - 4 \\ \hline \end{array}$$

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

$$\begin{array}{r} 9 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ - 5 \\ \hline \end{array}$$

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

$$\begin{array}{r} 6 \\ - 0 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ - 2 \\ \hline \end{array}$$

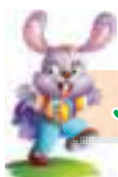
$$\begin{array}{r} 6 \\ - 3 \\ \hline \end{array}$$



**Teacher's
Note:**

Ask the students to recall the facts of subtraction learnt in class 1 that we should always subtract smaller number from the greater number.





Subtraction of 2-Digit Numbers



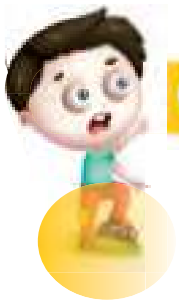
Find the subtraction:

$$\begin{array}{r} 51 \\ - 20 \\ \hline \end{array}$$
$$\begin{array}{r} 86 \\ - 52 \\ \hline \end{array}$$
$$\begin{array}{r} 56 \\ - 48 \\ \hline \end{array}$$
$$\begin{array}{r} 89 \\ - 62 \\ \hline \end{array}$$
$$\begin{array}{r} 44 \\ - 22 \\ \hline \end{array}$$

$$\begin{array}{r} 26 \\ - 22 \\ \hline \end{array}$$
$$\begin{array}{r} 72 \\ - 60 \\ \hline \end{array}$$
$$\begin{array}{r} 36 \\ - 28 \\ \hline \end{array}$$
$$\begin{array}{r} 23 \\ - 19 \\ \hline \end{array}$$
$$\begin{array}{r} 66 \\ - 32 \\ \hline \end{array}$$

$$\begin{array}{r} 50 \\ - 30 \\ \hline \end{array}$$
$$\begin{array}{r} 98 \\ - 24 \\ \hline \end{array}$$
$$\begin{array}{r} 67 \\ - 48 \\ \hline \end{array}$$
$$\begin{array}{r} 70 \\ - 36 \\ \hline \end{array}$$
$$\begin{array}{r} 90 \\ - 22 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ - 25 \\ \hline \end{array}$$
$$\begin{array}{r} 56 \\ - 34 \\ \hline \end{array}$$
$$\begin{array}{r} 59 \\ - 58 \\ \hline \end{array}$$
$$\begin{array}{r} 77 \\ - 66 \\ \hline \end{array}$$
$$\begin{array}{r} 73 \\ - 46 \\ \hline \end{array}$$



Quick Tip

To subtract 9, we simply subtract 10 and then add 1.

For e.g.

$$\begin{aligned} &87 - 9 \\ &= 87 - 10 + 1 \\ &= 77 + 1 \\ &= 78 \end{aligned}$$



Subtraction of 3-Digit Numbers (Without Borrow)

Subtract: 346 and 758

Step 1 : Put the numbers in correct vertical columns.

H	T	O
7	5	8
- 3	4	6

Step 2 : Subtract the digits in ONES column.

H	T	O
7	5	8
- 3	4	6
		2

Step 3 : Subtract the digits in TENS column.

H	T	O
7	5	8
- 3	4	6
	1	2

Step 4 : Subtract the digits in HUNDREDS column.

So, $758 - 346 = 412$

H	T	O
7	5	8
- 3	4	6
4	1	2

Find the subtraction:

9	5	3
- 4	3	2

2	7	4
- 1	2	3

5	2	4
- 2	0	0

1	6	0
- 1	0	0

6	6	6
- 4	4	4

2	4	9
- 1	3	7

5	6	9
- 4	3	2

9	8	6
- 8	5	4

3	9	6
- 1	2	4

$$\begin{array}{r} 500 \\ - 400 \\ \hline \end{array}$$

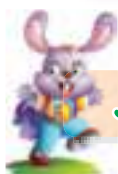
$$\begin{array}{r} 418 \\ - 204 \\ \hline \end{array}$$

$$\begin{array}{r} 459 \\ - 226 \\ \hline \end{array}$$

$$\begin{array}{r} 546 \\ - 205 \\ \hline \end{array}$$

$$\begin{array}{r} 148 \\ - 136 \\ \hline \end{array}$$

$$\begin{array}{r} 249 \\ - 138 \\ \hline \end{array}$$



Subtract

S
U
B
T
R
A
C
T

202

from

659

=

154

from

786

=

760

from

980

=

555

from

777

=

524

from

699

=

421

from

656

=

362

from

475

=

382

from

594

=

751

from

864

=

110

from

211

=



Subtraction of 3-Digit Numbers (With Borrow)

Subtract: 692 from 971

Step 1 : Put the numbers in correct vertical columns.

H	T	O
9	7	1
- 6	9	2

Step 2 : Subtract the ONES.

$$2 > 1$$

So, we cannot subtract 2 ones from 1 ones.

We borrow 1 ten.

Now, we have

$$1 \text{ tens} = 10 \text{ ones}$$

$$10 \text{ ones} + 1 \text{ ones} = 11 \text{ ones}$$

$$\text{So, } 11 \text{ ones} - 2 \text{ ones} = 9 \text{ ones}$$

H	T	O
	6	11
9	7	1
- 6	9	2
		9

Step 3 : Subtract the TENS.

$$9 > 6$$

Here, we borrow 1 hundred

Now, we have

$$1 \text{ hundred} = 10 \text{ tens}$$

$$10 \text{ tens} + 6 \text{ tens} = 16 \text{ tens}$$

$$16 \text{ tens} - 9 \text{ tens} = 7 \text{ tens}$$

H	T	O
8	16	11
9	7	1
- 6	9	2
	7	9

Step 4 : Subtract the HUNDREDS.

$$6 < 8$$

$$8 \text{ hundreds} - 6 \text{ hundreds}$$

$$= 2 \text{ hundreds}$$

$$\text{So, } 971 - 692 = 279$$

H	T	O
8	16	11
9	7	1
- 6	9	2
2	7	9

Find the subtraction:

	H	T	O
	4	5	6
-	2	9	5

	H	T	O
	7	2	4
-	3	4	6

	H	T	O
	9	5	3
-	7	9	7

	H	T	O
	8	8	0
-	7	9	9

	H	T	O
	2	1	1
-	1	2	2

	H	T	O
	6	0	0
-	5	2	4

	H	T	O
	6	9	5
-	5	0	8

	H	T	O
	3	5	9
-	2	9	6

	H	T	O
	7	6	2
-	6	9	8

	H	T	O
	9	4	6
-	2	4	9

	H	T	O
	5	5	4
-	2	9	8

	H	T	O
	9	0	8
-	2	7	9

	H	T	O
	6	0	0
-	5	4	6

	H	T	O
	8	7	2
-	6	3	9

	H	T	O
	7	9	2
-	8	0	5

Word Problems

A fruits seller had 520 mangoes in his shop. He sold 269 mangoes. How many mangoes were left?



A carpenter had 624 nails. He used 396 nails. How many nails are left unused?



Rachita scored 395 marks and her friend scored 400 marks. How many more marks has her friend scored?

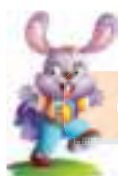


Ritu has 250 cartoon stickers and Payal has 164 cartoon stickers. How many more stickers did Ritu had?



Facts to Know

"Subtraction" is an English word derived from the Latin verb subtrahere, which in turn is a compound of sub "from under" and trahere "to pull". Thus, to subtract is to draw from below, or to take away.



Checking Subtraction Using Addition

Difference + Smaller Number = Larger Number

Let's see,

$$\begin{array}{r} 24 \\ - 13 \\ \hline 11 \end{array}$$

← Larger Number
← Smaller Number
← Difference

Now,

$$\begin{array}{r} \text{Difference} \\ + \text{Smaller Number} \\ \hline \text{Large Number} \end{array}$$

$$\begin{array}{r} 11 \\ + 13 \\ \hline 24 \end{array}$$

← Difference
← Smaller Number
← Larger Number

Thus, subtraction is correct.

Subtract: 246 from 301

	H	T	O	
	2	9	11	
	3	0	1	Larger Number
-	2	4	6	Smaller Number
	0	5	5	Difference

$$301 - 246 = 55$$

Checking Subtraction:

	H	T	O	
	1	1		
	0	5	5	Difference
+	2	4	6	Smaller Number
	3	0	1	Larger Number

Thus, subtraction is correct.





Find the difference. Also check it using addition:

Subtract

Check

$$\begin{array}{r} 23 \\ - 10 \\ \hline \end{array}$$

$$\begin{array}{r} 92 \\ - 64 \\ \hline \end{array}$$

$$\begin{array}{r} 56 \\ - 29 \\ \hline \end{array}$$

$$\begin{array}{r} 80 \\ - 78 \\ \hline \end{array}$$

$$\begin{array}{r} 98 \\ - 54 \\ \hline \end{array}$$

$$\begin{array}{r} 79 \\ - 53 \\ \hline \end{array}$$

$$\begin{array}{r} 62 \\ - 49 \\ \hline \end{array}$$





-	5	2	1
	4	2	9

-	9	8	6
	8	4	9

-	7	4	2
	3	0	8

-	7	6	4
	2	9	5

-	3	4	0
	2	9	5

-	6	0	2
	3	2	8

-	9	8	3
	5	4	6





Think Wisely

Which number am I?

What is the difference of the sum and difference of numbers 234 and 567 ?



Mental Maths

A. Solve:

- i. 7 less than 48 = _____
- ii. 4 less than 51 = _____
- iii. 3 less than 123 = _____
- iv. 8 less than 789 = _____

B. Solve mentally. Call out the steps as you do.

- i. $43 - 11 =$ _____
- ii. $74 - 11 =$ _____
- iii. $96 - 11 =$ _____
- iv. $61 - 11 =$ _____



REMEMBER

To minus 11, first minus 10, then minus 1.





Solve the problems and then colour them. Each answer has a different colour.

Steps:

7 

6 

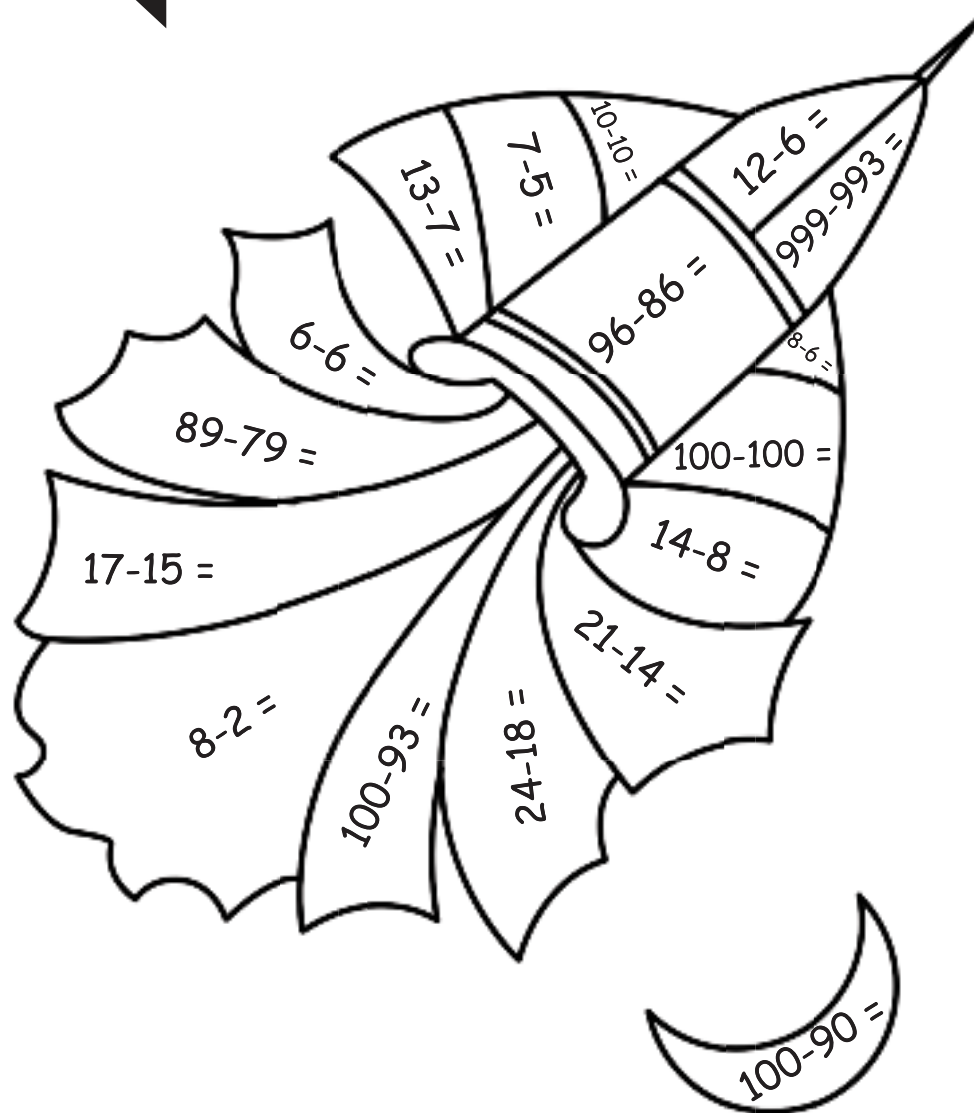
0 

10 

2 



Use the given clues for help.



5



Multiplication



Learning Objectives

At the end of this lesson, students will be able to :

- Multiply upto 2 digit numbers with 1 digit numbers.
- Use carry over in order to multiply.
- Apply the multiplication facts to solve the story sums.



Warm Up

Naira has stood first in the class. Naman, John and Hema each brought a bouquet. Each bouquet has 5 roses.

How many roses are there in all?



5 roses of bouquet



5 roses of bouquet



5 roses of bouquet

$$5 + 5 + 5 = \underline{\quad} \text{ roses}$$

It could be written as

$$3 \times 5 = 15$$

This method is known as Multiplication.





Multiplication Tables In Grid

Oh! Yes



×	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



Teacher's Note:

Elucidate the students that multiplication is addition of similar groups of things repeatedly. This method is an easy and short way to calculate.





Multiplication Facts

If we change the order of the factors, then the answer does not change.

$$5 \times 6 = 30$$

$$6 \times 5 = 30$$

$$4 \times 2 = 8$$

$$2 \times 4 = 8$$

When a number is multiplied by zero (0), then the answer is always zero.

$$0 \times 5 = 0$$

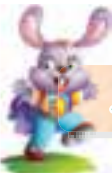
$$4 \times 0 = 0$$

$$6 \times 0 = 0$$

$$0 \times 1 = 0$$



Practice makes the man perfect.



Multiplication of 1-Digit Number by 1-Digit Number

$$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ \times 5 \\ \hline \end{array}$$

Facts to Know



When multiplying an even number by 6, the product ends in the same digit as the even number. For example, $6 \times 2 = 12$, $6 \times 4 = 24$, $6 \times 6 = 36$, etc.



Multiplication of 2-Digit Numbers By 1-Digit Number (Without Carry Over)

Multiply 24 by 2

Step 1 : Write the numbers in column form.

T	O
2	4
×	2

Step 2 : Multiply the ones.

$$4 \times 2 = 8 \text{ ones.}$$

Write 8 in the ONES column.

T	O
2	4
×	2
	8

Step 3 : Multiply the tens.

$$2 \times 2 = 4 \text{ tens}$$

Write 4 in the TENS column.

T	O
2	4
×	2
4	8

So, $24 \times 2 = 48$

Factor Factor Product

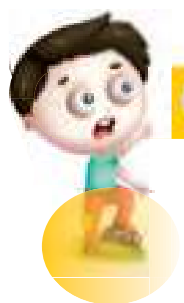
Find the multiplication:

T	O
4	8
×	1

T	O
4	3
×	2

T	O
4	2
×	2

T	O
2	3
×	3



Quick Tip

To multiply a number with 9:

Add 1 to 9 and minus the number with itself, which is to be multiplied.

Example:

$$5 \times 9:$$

$$= (9+1) \times 5 - 5$$

$$= 10 \times 5 - 5$$

$$= 50 - 5$$

$$= 45$$





T	O
3	2
x	2

T	O
2	8
x	0

T	O
2	1
x	4

T	O
1	2
x	3

T	O
5	1
x	1

T	O
2	2
x	2

T	O
3	3
x	3

T	O
1	1
x	0



Multiplication of 2-Digit Numbers By 1-Digit Number (With Carry Over)

Multiply 28 by 2

Step 1 : Write the numbers in column form.

T	O
2	8
x	2

Step 2 : Multiply the ones.

$$8 \times 2 = 16 \text{ ones.}$$

Write 6 in the ONES column and carry 1 to the TENS column.

T	O
1	
2	8
x	2
	6

Step 3 : Multiply the tens.

$$2 \times 2 = 4 \text{ ones}$$

$$4 + 1 \text{ (carry over)}$$

$$= 5 \text{ tens}$$

Write 5 in the TENS column.

So, $28 \times 2 = 56$

T	O
1	
2	8
x	2
5	6

Factor Factor Product



Multiply 34 by 4

Step 1 : Write the numbers in column form.

T	O
3	4
×	4

Step 2 : Multiply the ones.

$$4 \times 4 = 16 \text{ Ones}$$

Write 6 in the ONES column and carry 1 to the TENS column.

T	O
1	3
3	4
×	4
	6

Step 3 : Multiply the tens.

$$3 \times 4 = 12 \text{ tens}$$

$$12 + 1 \text{ (carry over)}$$

$$= 13 \text{ tens}$$

Write 3 in the TENS column and 1 in HUNDREDS column.

So, $34 \times 4 = 136$

Factor Factor Product

T	O
1	3
3	4
×	4
1	36

Find the multiplication:

T	O
1	6
×	7

T	O
2	5
×	2

T	O
1	6
×	6

T	O
2	7
×	2

T	O
1	7
×	3

T	O
2	4
×	4

H	T	O
7	9	
×	9	

H	T	O
6	4	
×	4	

H	T	O
5	9	
×	8	



Fill in the blanks:

$$2 \times 3 = \square$$

$$5 \times \square = 5$$

$$6 \times \square = 0$$

$$\square \times 4 = 4$$

$$\square \times 2 = 2$$

$$\square \times 1 = 1$$



$$9 \times 0 = \square$$

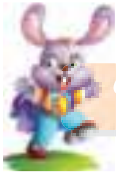
$$7 \times 1 = \square$$

$$4 \times 3 = \square$$

$$5 \times 2 = \square$$

$$7 \times 3 = \square$$

$$2 \times 0 = \square$$



Word Problems

A cat jumps 5 stairs at a time.
How many stairs does it climb in 7 jumps?



There are 7 days in a week. How many days are there in 21 weeks?

< January >						
S	M	T	W	T	F	S
			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	

There are 39 apples on a tree.
How many apples are there on 5 such trees?



One shirt has 5 buttons. How many buttons are there on 12 shirts?





Think Wisely

1. Write two numbers whose product is equal to their sum. _____
2. Write two numbers such that their product is 1. _____



Mental Maths

A. Tick the correct answer:

i. $99 \times \square = 0$

1. 100

☐

2. 0

☐

3. 10

☐

ii. What is '50 times 6'?

1. 300

☐

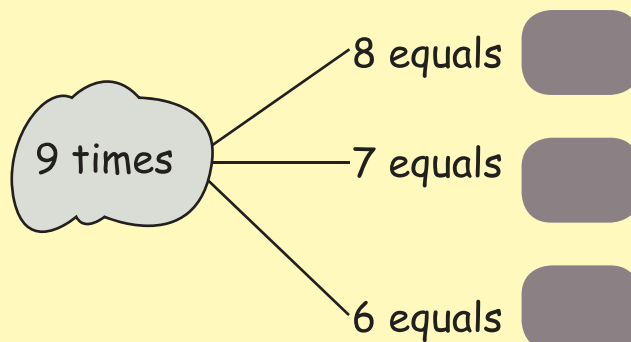
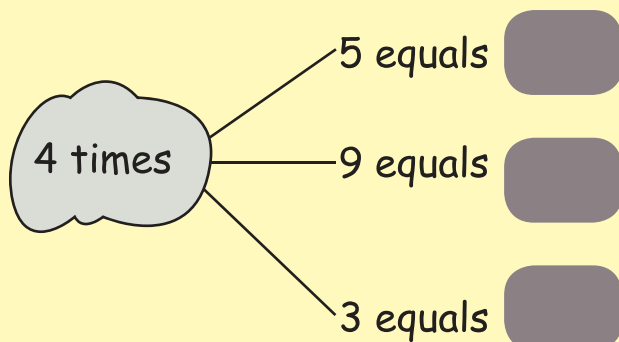
2. 35

☐

3. 350

☐

B. Fill in the boxes



Maths Lab Activity

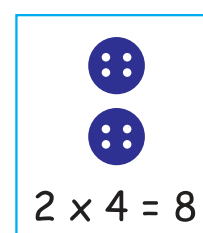
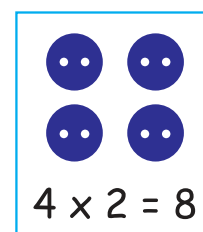
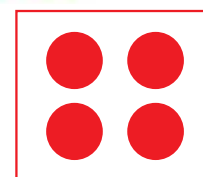
Materials Required:

Plain sheets of paper (A-4 size), bangles, fevicol, sticker bindis and paper slips with multiplication facts written on them.



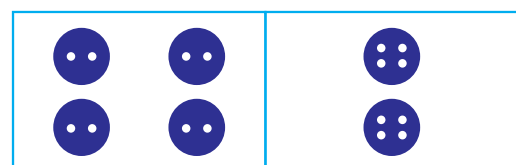
Steps:

1. Ask pupils to work in pairs.
2. To show $4 \times 2 = 2 \times 4$
3. One pupil will paste 4 bangles on the paper with fevicol.
4. The pupil will then stick 2 bindis in each bangle to make multiplication fact.
5. Now, the pupil will write the multiplication sentence for the number of bindis.
6. The other pupil will paste 2 bangles on the paper with fevicol and stick 4 bindis in each bangle.
7. Now, he/she will also write the multiplication sentence for number of bindis.



But the pupils will find that answer in both the cases is same.

Record the activity:



$$4 \times 2 = 8$$

$$2 \times 4 = 8$$

Therefore, $4 \times 2 = 2 \times 4$.

Try This:

(a) Show that $2 \times 3 = 3 \times 2$

(b) Show that $5 \times 4 = 4 \times 5$



Learning Objectives

At the end of this lesson, students will be able to:

- Apply division facts to divide.
- Identify the relationship between Multiplication and Division.
- Divide the numbers using a long division method.
- Implement division facts to solve the story sums.



Warm Up

There are 12 eggs. They need to be placed in 3 trays.



How many eggs are there? _____

How many trays are there? _____

How many eggs are there in each tray? _____

Thus, we can see that 12 eggs are shared equally in 3 trays. We call it 'division'.



Facts to Know

The oblique bar used as a sign in the division process was introduced by De Morgan in 1845.





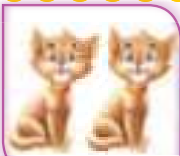
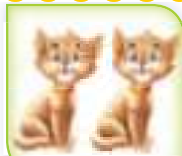
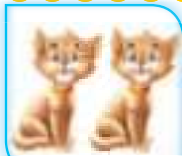
5 umbrellas among 5 children



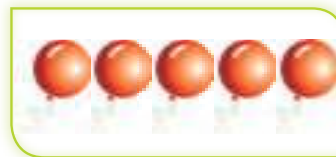
10 flowers among 2 pots



Write Division Fact for each of the following



$$8 \div 4 = 2$$



$$\square \div \square = \square$$



$$\square \div \square = \square$$



$$\square \div \square = \square$$





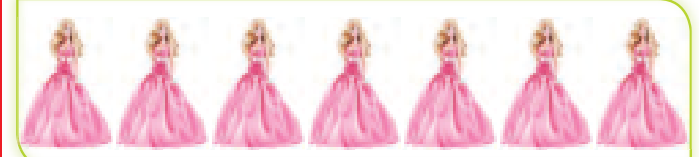
$$\square \div \square = \square$$



$$\square \div \square = \square$$

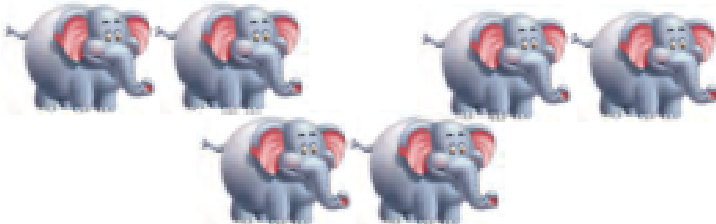


$$\square \div \square = \square$$



$$\square \div \square = \square$$

Make Groups Based on the Division Fact



$$6 \div 3 = 2$$



$$14 \div 2 = \square$$



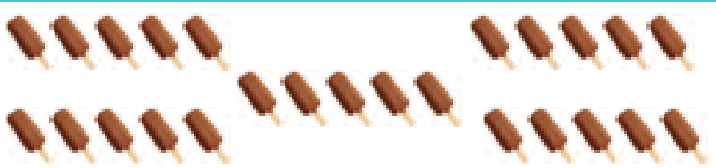
$$18 \div 2 = \square$$



$$28 \div 4 = \square$$

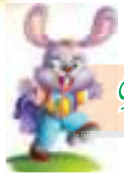


$$12 \div 6 = \square$$



$$25 \div 5 = \square$$





Relationship Between Multiplication and Division

$$5 \times 2 = 10$$

or

$$2 \times 5 = 10$$

Division is the
opposite of
multiplication.

$$10 \div 2 = 5$$

or

$$10 \div 5 = 2$$



Multiplication Facts

Any number divided
by 1 (one) is always
equal to the number
itself.

$$5 \div 1 = 5$$

$$7 \div 1 = 7$$

$$4 \div 1 = 4$$

$$10 \div 1 = 10$$

Any number divided
by the number itself
is always equal to 1.

$$2 \div 2 = 1$$

$$3 \div 3 = 1$$

$$6 \div 6 = 1$$

$$8 \div 8 = 1$$

Zero divided by any
number is always
equal to zero.

$$0 \div 1 = 0$$

$$0 \div 2 = 0$$

$$0 \div 5 = 0$$

$$0 \times 10 = 0$$



REMEMBER

Division by zero is not possible.



Write two division facts for each of the following multiplication facts:

$4 \times 6 = 24$	$24 \div 4 = 6$	$24 \div 6 = 4$
$9 \times 3 = 27$		
$7 \times 6 = 42$		
$5 \times 9 = 45$		
$3 \times 9 = 27$		
$4 \times 2 = 8$		
$5 \times 3 = 15$		
$4 \times 9 = 36$		
$8 \times 9 = 72$		
$3 \times 4 = 12$		
$8 \times 5 = 40$		
$6 \times 5 = 30$		
$2 \times 5 = 10$		
$7 \times 2 = 14$		



Divide the following using Multiplication Tables



$$20 \div 5 = 4$$



$$6 \div 6 =$$



$$16 \div 4 =$$



$$15 \div 3 =$$



$$20 \div 2 =$$



Quick Tip

Note that multiplication is opposite of division. Also, division is the opposite of multiplication. Therefore, multiplication tables can be used to understand division.





$4 \div 2 =$



$10 \div 5 =$



$16 \div 2 =$



$63 \div 7 =$



$70 \div 7 =$



$24 \div 8 =$



$28 \div 4 =$



$36 \div 6 =$



$60 \div 6 =$



$40 \div 4 =$



$25 \div 5 =$



$35 \div 7 =$



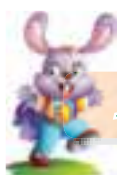
$36 \div 6 =$



$64 \div 8 =$



$18 \div 9 =$



Long Division Method

In long division method,

$$\begin{array}{ccc} \boxed{32} & \div & \boxed{8} = \boxed{4} \\ \uparrow & & \uparrow \\ \text{Dividend} & & \text{Quotient} \\ & & \uparrow \\ & & \text{Divisor} \end{array}$$

can be written as

$$\begin{array}{r} 4 \leftarrow \text{Quotient} \\ 8 \overline{) 32} \\ \uparrow \quad \uparrow \\ \text{Divisor} \quad \text{Dividend} \end{array}$$



Teacher's Note:

Tell the children that a number cannot be divided by a number larger than it.



Divide : $35 \div 7$

Step 1 : Write the numbers as,

Divisor $\overline{) \text{Dividend}}$

$$7 \overline{) 35}$$

Step 2 : Read the table of 7 till you reach 35.

$$7 \times 5 = 35$$

Step 3 : Write 5 as quotient and 35 under dividend.

$$\begin{array}{r} 5 \\ 7 \overline{) 35} \\ - 35 \\ \hline 0 \end{array}$$

Remainder

Step 4 : Subtract it.

We get remainder as 0.

$$\text{So, } 35 \div 7 = 5$$

Dividend $\uparrow$ Divisor $\uparrow$ Quotient $\nwarrow$

Divide the following using long division method. Also write divisor, quotient and dividend.

$$\begin{array}{r} 7 \overline{) 28} \\ \hline \\ \hline \end{array}$$

Divisor :

Quotient :

Dividend :

$$\begin{array}{r} 8 \overline{) 40} \\ \hline \\ \hline \end{array}$$

Divisor :

Quotient :

Dividend :

$$\begin{array}{r} 6 \overline{) 36} \\ \hline \\ \hline \end{array}$$

Divisor :

Quotient :

Dividend :

$$9 \overline{) 72}$$

Divisor :

Quotient :

Dividend :

$$6 \overline{) 18}$$

Divisor :

Quotient :

Dividend :

$$6 \overline{) 24}$$

Divisor :

Quotient :

Dividend :

$$7 \overline{) 63}$$

Divisor :

Quotient :

Dividend :

$$5 \overline{) 45}$$

Divisor :

Quotient :

Dividend :

$$3 \overline{) 27}$$

Divisor :

Quotient :

Dividend :



Checking Division

$$\text{Divisor} \times \text{Quotient} = \text{Dividend}$$

$$\begin{array}{r} 9 \\ 10 \overline{) 90} \\ \underline{90} \\ 0 \end{array}$$

Divisor → 10 ← Quotient
90 ← Dividend

Check: $10 \times 9 = 90$



Find the division. Also check the answer.

$$8 \overline{) 24}$$

Check:

$$7 \overline{) 42}$$

Check:

$$5 \overline{) 25}$$

Check:

$$9 \overline{) 81}$$

Check:

$$3 \overline{) 15}$$

Check:

$$4 \overline{) 28}$$

Check:



Word Problems

30 toffees are equally divided among 6 girls. How many toffees will each girl get?



There are 25 bananas in 5 bunches. Each bunch contains the equal number of bananas. How many bananas are there in each bunch?



48 flowers have to be put in 8 pots. How many flowers should be put in each pot?



36 toys are divided among 6 girls. How many toys does each girl will get?



3 girls share 27 balloons equally. How many balloons will each girl get?



Think Wisely

Shubham is thinking of a number, if he divides it by 7, then the quotient is 2 more than 7. What number is he thinking of?





Mental Maths

A. Write the multiplication facts for the following division problems. **One has been done for you.**

1. $10 \div 5 = 2$ $2 \times 5 = 10$ and $5 \times 2 = 10$

2. $18 \div 6 = 3$ _____ and _____

3. $48 \div 8 =$ _____ and _____

B. How many 2's are there in 18? _____

C. If 30 chocolates are distributed among 6 friends, then each will get _____ chocolates.

D. Solve the following word problems:

(a) There are 14 toffees in a packet. If the toffees are distributed among 7 children, then how much each one will get?



(b) If a person distribute 10 bags among 2 people, then how much each one will get?





Maths Lab Activity

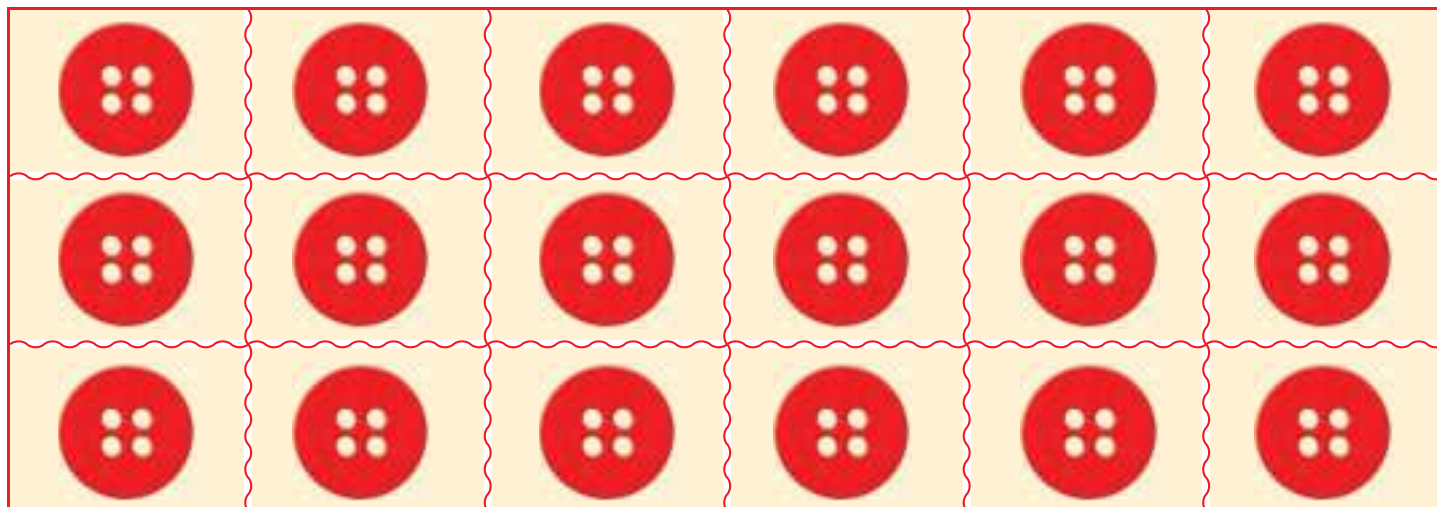
Materials required:

Buttons and blank flash cards.

Steps:

1. Make groups of students.
2. Give empty flash cards and the buttons to the first group of students.
3. Ask them to write a division fact of their choice and represent it using the objects.
4. Discuss group's representation with the class.
5. Similarly, repeat the same with the other groups.

Example: $18 \div 6$



Therefore, $18 \div 6 = 3$





Learning Objectives

At the end of this lesson, students will be able to:

- Know about the half, one - third and one - fourth.
- Write a fraction according to the picture.



Warm Up

Material Required: One piece of newspaper

1. Each student will need one piece of newspaper. Students place the piece of newspaper out as a 'whole piece'.
2. The teacher plays some fun dancing music so that the students can dance along on their piece of newspaper. When the music stops, the students must pick up their piece of paper and fold it in half.
3. Then they start dancing on half of the newspaper. Again, the music stops and they fold the piece of paper so that they are dancing on only one quarter. Finally, they fold the newspaper so that they are only dancing on one eighth of the paper.
4. They can then unfold their piece of paper to see the folds in the paper. A great discussion can take place after this game about the different fractions they created during this activity.



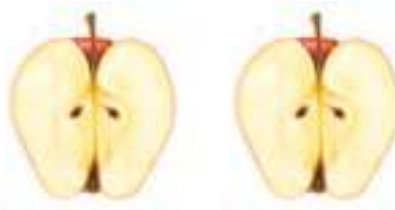
Fraction means part of one whole.



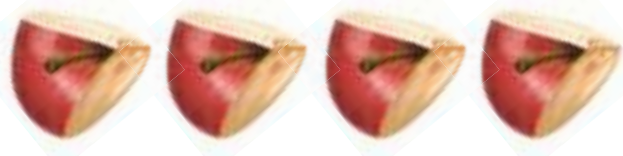
When an apple is cut into parts, each part is a fraction of whole apple.



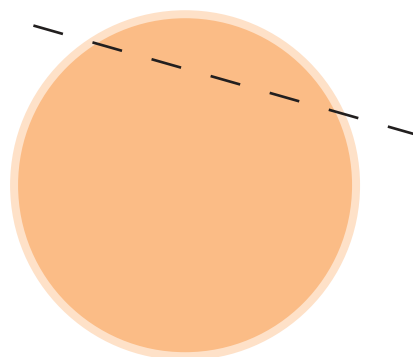
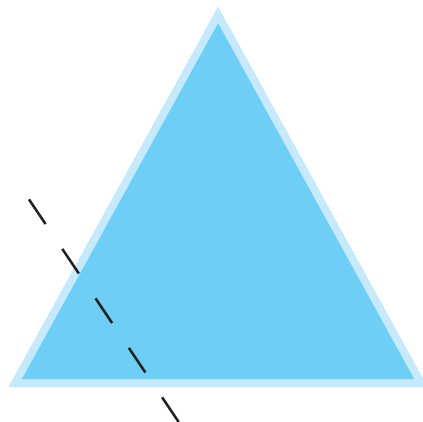
One-half $\left(\frac{1}{2}\right)$ part is the **equal part**.



One-fourth $\left(\frac{1}{4}\right)$ part is known as **quarter part**.



Unequal parts



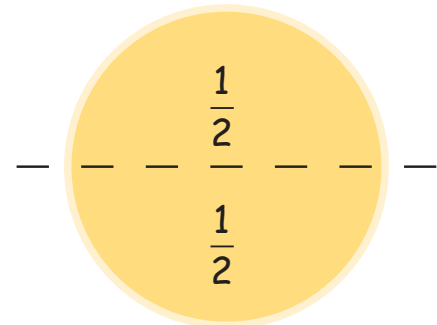
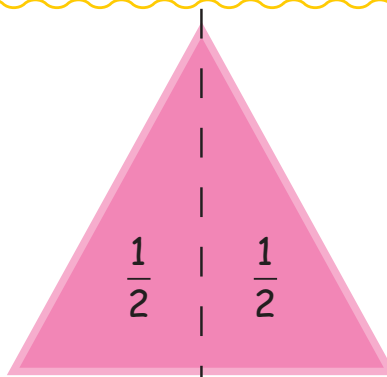
Facts to Know

Fractions with the same denominator are called 'like fractions.' Ex: $\frac{1}{5}$, $\frac{3}{5}$, $\frac{4}{5}$ are called like fractions.

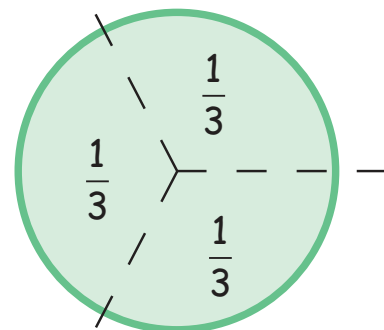
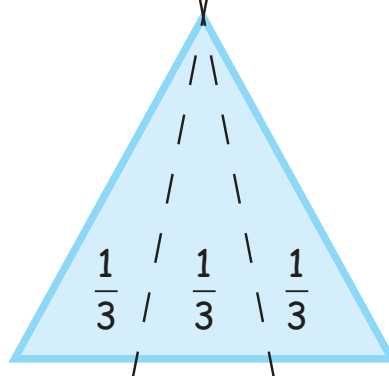
Fractions with 1 in the numerator are called 'unit fractions.' Ex: $\frac{1}{7}$, $\frac{1}{13}$, $\frac{1}{19}$ are unit fractions.



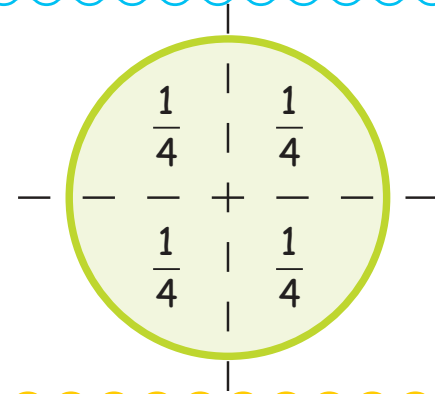
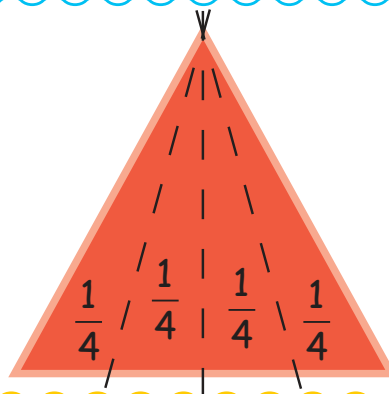
One-half $\left(\frac{1}{2}\right)$ part



One-third $\left(\frac{1}{3}\right)$ part



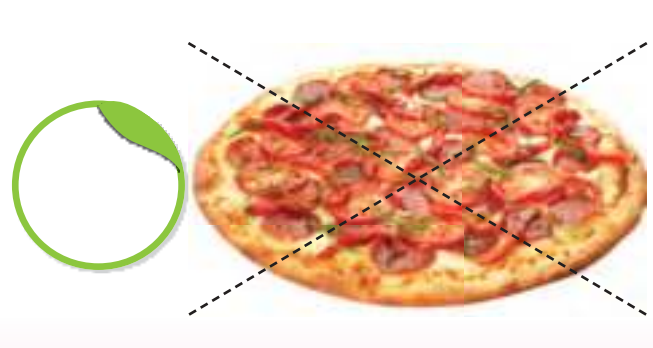
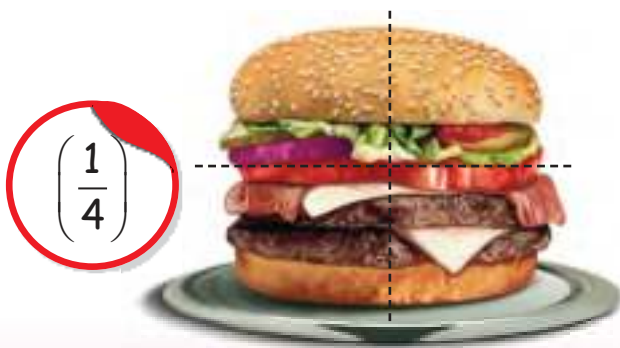
One-fourth $\left(\frac{1}{4}\right)$ part

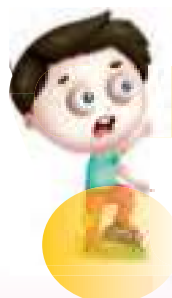
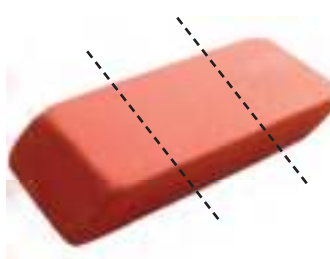
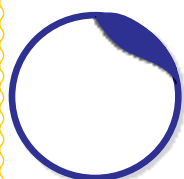
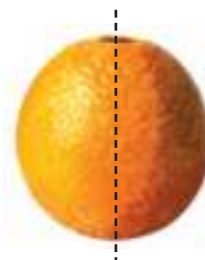
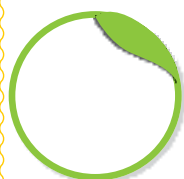
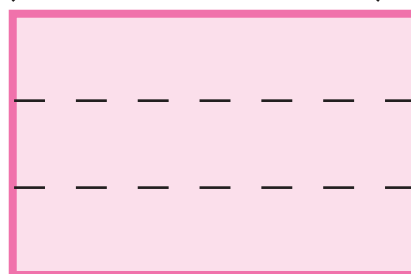
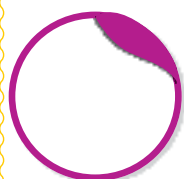
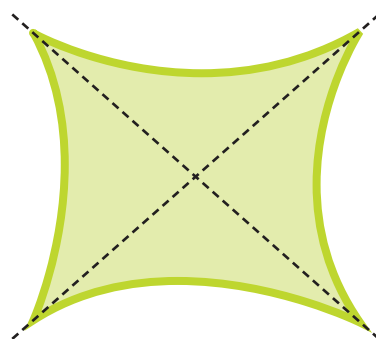
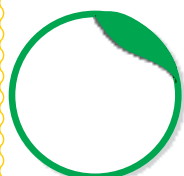
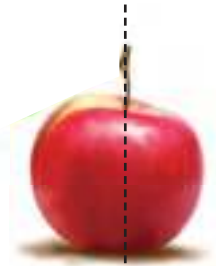
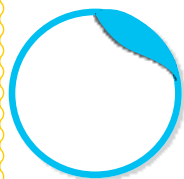
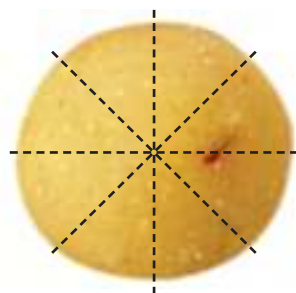
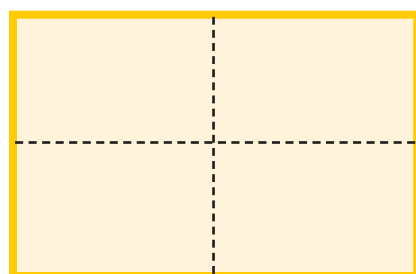
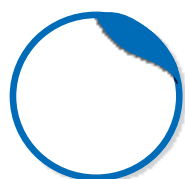
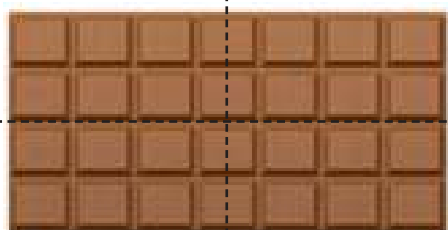


Teacher's Note:

We can talk about a fraction (part) of a whole only when the whole is divided into equal parts.

Write fractions for each of the following:





Quick Tip

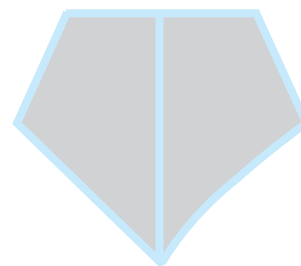
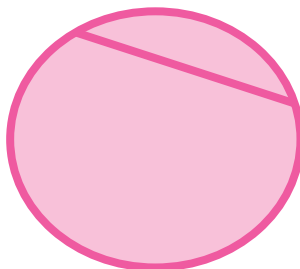
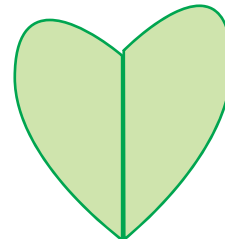
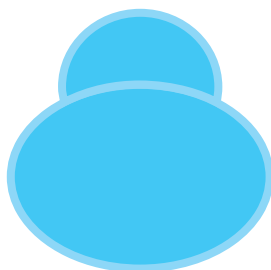
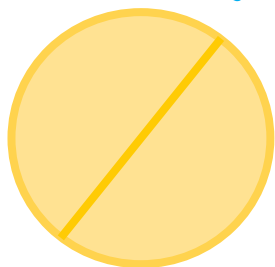
Two halves together make a whole. $\frac{1}{2} + \frac{1}{2} = 1$

Four one - fourths make a whole. $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = 1$

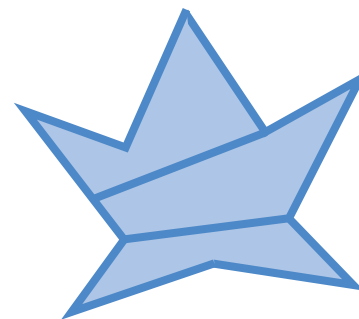
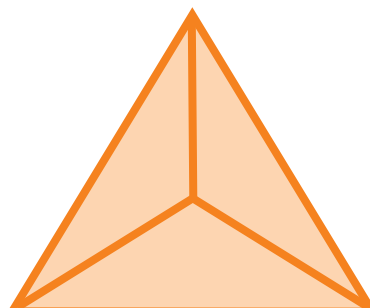
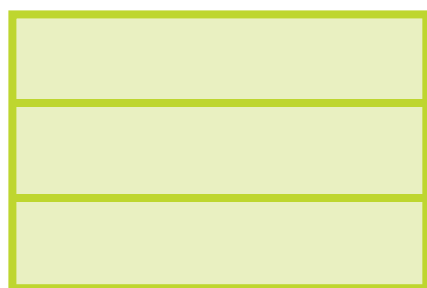
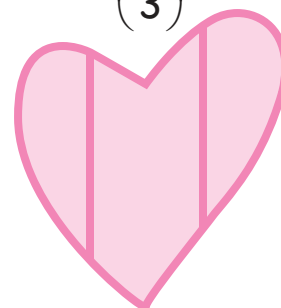
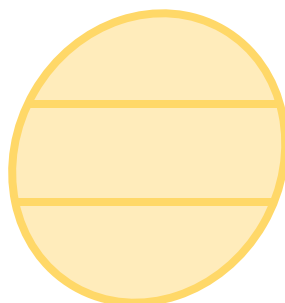




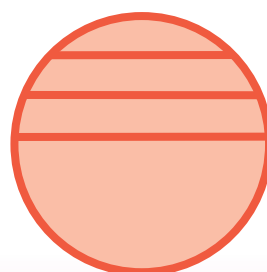
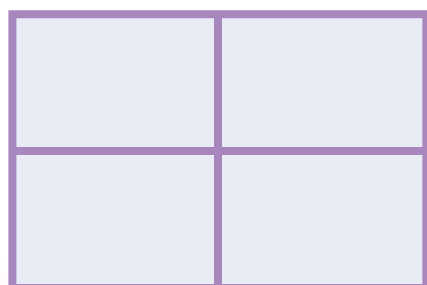
Tick (✓) the objects which are divided into equal halves $\left(\frac{1}{2}\right)$:

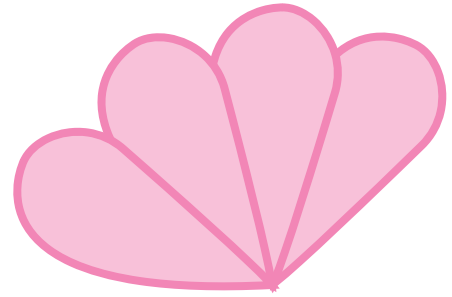
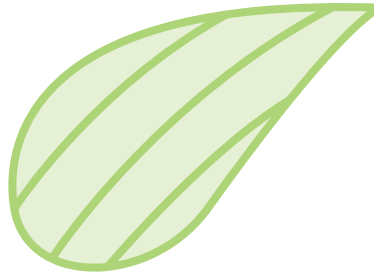
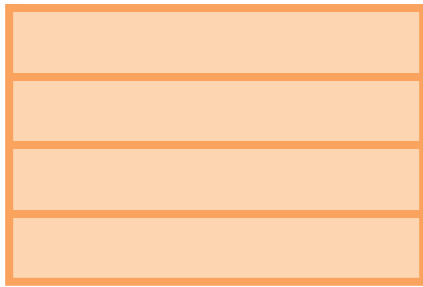


Tick (✓) the objects which are divided into one-third $\left(\frac{1}{3}\right)$ part:



Tick (✓) the objects which are divided into quarter $\left(\frac{1}{4}\right)$ part:





Think Wisely

Shriya has an apple. She has to share it with her 2 sisters. She decided to keep half for herself. How much will each of the sisters get, if she divides the remaining equally among them?



Mental Maths

A. Tick the correct answer:

i. One out of 3 equal parts of a whole is _____.

1. $1/2$

☐

2. $1/3$

☐

3. $1/4$

☐

ii. How many one fourths make a whole?

1. 1

☐

2. 4

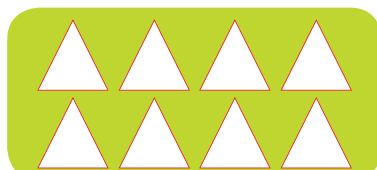
☐

3. 2

☐

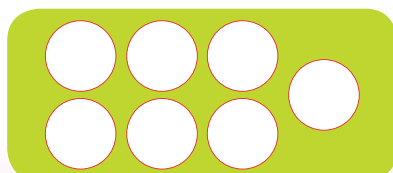
B. Colour to show the given fraction.

a.



$6/8$

b.



$3/7$





Maths Lab Activity

Material required:

Flag of Italy

Steps:

1. This is a flag.
2. It has 3 equal parts - green, white and red.
3. What fraction of the flag is
 - A. White in colour? _____
 - B. Green and red in colour? _____
4. Now, create your own flag using the given instructions.
Starting from the top.
 - a. $\frac{1}{3}$ of the flag is Saffron.
 - b. $\frac{1}{3}$ of the flag is White
 - c. $\frac{1}{3}$ of the flag is Green.
5. Name the country it belongs to: _____





Learning Objectives

At the end of this lesson, students will be able to:

- Recognise Indian currency
- Write Rupees and Paise
- Add and subtract money



Warm Up

Take a look at the stuff below. They bear price tags.



₹ 200



₹ 120



₹ 500



₹ 300

Fill in the blanks:

1. The cost of the school bag is _____ rupees.
2. If you want to buy a watch and a belt, you need rupees _____.
3. You will need rupees 120 to buy a _____.



We need money to buy things from the market.

Indian currency (or money) is represented in the form of **Rupees** and **Paise**.

We write ₹ for rupee (or rupees) and p for paise.



Coins

Not in use now-these days



Notes

1 Rupee = 100 paise



How to Write Rupees and Paise Together?

We use point (.) to separate **rupees** and **paise**.



We write 5 Rs 75 paise as : ₹ 5.75



Write in Figures

Eighty five rupees and sixty paise

₹ 85.60

Twenty rupees and seventy five paise

Seven rupees and forty paise

Three hundred rupees and twenty five paise

Sixty two rupees and ninety paise

Fifty rupees

Quick Tip

When we put a dot we need not write paise. It is understood.



Write in Words

₹ 60.55

Sixty rupees and fifty five paise

₹ 8.40

₹ 50.00

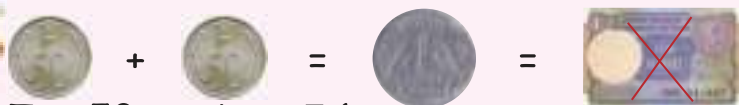
₹ 260.45

₹ 70.90

₹ 68.25

₹ 92.50

REMEMBER



Two 50 p coins = ₹ 1



Four 25 p coins = ₹ 1



Five 20 p coins = ₹ 1

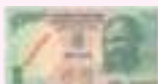
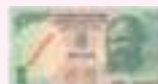


Ten 10 p coins = ₹ 1



Twenty 5 p coins = ₹ 1



	+		=							
	+		=							
	+		+		+		+		=	
	+		=							
	+		=							
	+		+		+		+		=	



Addition Using Money

+

	+		+		= ₹ 30.50		
	+		+		+		=
	+		+		+		=



Teacher's Note:

Tell the students that always count the money from the biggest amount to the smallest.





+



=



+



+



=



+



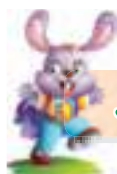
+



+



=



Subtraction Using Money



-



= ₹ 18



-



=



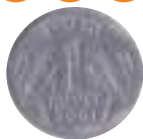
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-



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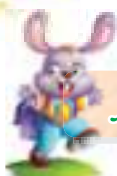


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Facts to Know

Indian currency notes are not actually made of paper. Instead, they are made from a pulp that contains cotton, balsam, special dyes and gelatin. These ingredients help to increase the life of the notes by enhancing their strength.



Addition of Rupees And Paise

Add: ₹ 26.20 and ₹ 45.35

Step 1 : Write the numbers in correct column.

₹	P
26	20
+	45.35

Step 2 : Add the numbers in paise (P) column.

₹	P
26	20
+	45.35
	55

Step 3 : Add the numbers in rupees (₹) column.

₹	P
26	20
+	45.35
71	55

So, ₹ 26.20 + ₹ 45.35 = ₹ 71.55



Add The Money

₹	P
7.50	
+	8.25

₹	P
85.62	
+	32.75

₹	P
54.50	
+	22.50

₹	P
72.25	
+	83.25

₹	P
23.50	
+	60.00

₹	P
83.00	
+	22.00

₹	P
20.50	
+	10.25

₹	P
50.50	
+	25.25





Subtraction of Rupees And Paise

Subtract: ₹ 60.50 from ₹ 82.70

Step 1 : Write the numbers in correct column.

₹	P
82.70	
- 60.50	

Step 2 : Subtract the numbers in paise (P) column.

₹	P
82.70	
- 60.50	
	20

Step 3 : Subtract the numbers in rupees (₹) column.

₹	P
82.70	
- 60.50	
22.20	

So, ₹ 82.70 - ₹ 60.50 = ₹ 22.20



Subtract The Money

₹	P
80.60	
- 12.50	

₹	P
54.25	
- 22.20	

₹	P
72.00	
- 50.00	

₹	P
25.00	
- 20.50	

₹	P
66.00	
- 32.25	

₹	P
40.50	
- 28.50	

₹	P
22.50	
- 05.50	

₹	P
83.20	
- 52.60	



Fill in the blanks:



Word Problems

Rajat's father gave him ₹ 20.00. His mother gave him ₹ 10.00. How much money did he have now?



My father gave me ₹ 500 for the picnic. I spent ₹ 320. How much money is left with me?



On Diwali, Sona spent ₹ 249 on sweets, ₹ 500 on crackers and ₹ 50 on candles. How much money did she spend on Diwali?





Gungun has ₹ 529 and her sister has ₹ 449. How much more money, Gungun has from her sister?



Somiya bought a chocolate for ₹ 22. She paid ₹ 50 note to the shopkeeper. How much money did she get back?



Use the least number of notes and coins to do shopping:



₹ 24 ₹ 20 ₹ 2 ₹ 2



₹ 30 ₹ ₹



₹ 175 ₹ ₹ ₹ ₹



₹ 48 ₹ ₹ ₹ ₹ ₹



₹ 166 ₹ ₹ ₹ ₹ ₹





Think Wisely

Sam and Pam have the following :

Sam: 5 notes of ₹ 10, 2 notes of ₹ 20, 3 coins of ₹ 2.

Pam: 4 notes of 20 , 3 coins of ₹ 2, 8 notes of ₹ 10.

Who has more money and by how much?



Mental Maths

A. Fill in the blanks

1. There are _____ coins of ten rupees in ₹ 100.
2. _____ notes of fifty rupees will make ₹ 100.
3. _____ paise = ₹ 1.
4. There are _____ coins of ten rupees in ₹ 100.
5. 5 coins of two rupees will make _____.

B. Write the total amount.

1. ₹ 5 + ₹ 1 + ₹ 5 = _____
2. ₹ 10 + ₹ 20 + ₹ 5 + 50 paise = _____
3. ₹ 10 + ₹ 2 + ₹ 5 + 50 paise = _____
4. ₹ 100 + ₹ 50 + ₹ 200 paise = _____
5. ₹ 100 + ₹ 10 + ₹ 20 paise = _____
6. ₹ 500 + ₹ 2 + ₹ 20 + ₹ 1 paise = _____
7. ₹ 500 + ₹ 1 + ₹ 50 paise = _____





Maths Lab Activity

Materials required:

Various combinations for ₹ 50.

Steps:

1. Ask the students to work in groups.
2. Every group should have the following notes.
 - a. 2 notes of ₹ 20
 - b. 3 coins of ₹ 5
 - c. 2 notes of ₹ 10
 - d. 5 coins of ₹ 2
 - e. 5 coins of ₹ 1
3. Find the different combinations to make ₹ 50.
4. Write your combinations in the table given below:

S.No	Combinations	Amount
1.		₹ 50
2.		₹ 50
3.		₹ 50
4.		₹ 50
5		₹ 50





Measurement



Learning Objectives

At the end of this lesson, students will be able to:

- Measure the length of an object using body parts, different objects and a ruler.
- Add and subtract the lengths, weights and capacities.
- Know about the standard unit for measuring length, weights and capacities.
- Apply the skills of measurements to solve the story sums.



Warm Up

Pick the correct words from the clouds and fill in the blanks.



Shorter Longer

The neck of a giraffe is _____ than the dog's neck.



Heavier lighter

The rabbit is _____ than the lion and the lion is _____ than the rabbit.



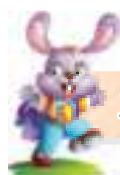
more less

The bucket holds _____ water than the tub. The tub holds _____ water than the bucket.



Let's revise

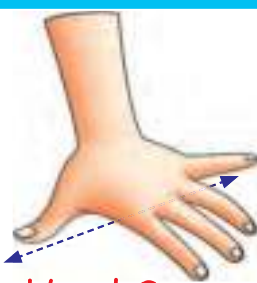
LENGTH



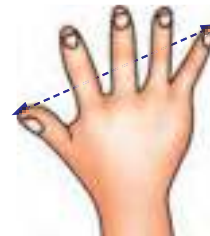
Measuring Length Using Body Parts



Digit



Hand Span



Palm



Cubit



Foot Span

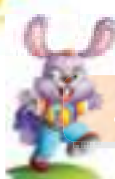


Pace



Arm Span

If two persons measure the length of an object using body parts, then they get different answers.



Measuring Length Using Objects



If two persons measure the length of an object by using the same object, then they get the same answer.



Measuring Length Using Standard Units

Standard unit means the units which are widely used.

Standard units of length are **centimetre** (*cm*), **metre** (*m*) and **kilometre** (*km*).



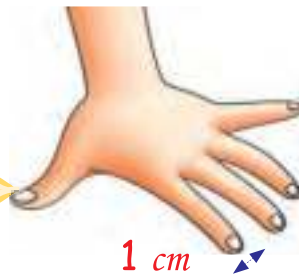
Teacher's Note:

- Make two dots on board at some distance. Then draw a line to join dots.
- Now, by writing on board, tell the students: "Distance between two points is called length".



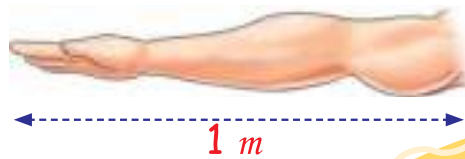
1 metre = 100 centimetre

Centimetre is used to measure small things.



1 cm is about the width of your index finger.

Metre is used to measure longer things.

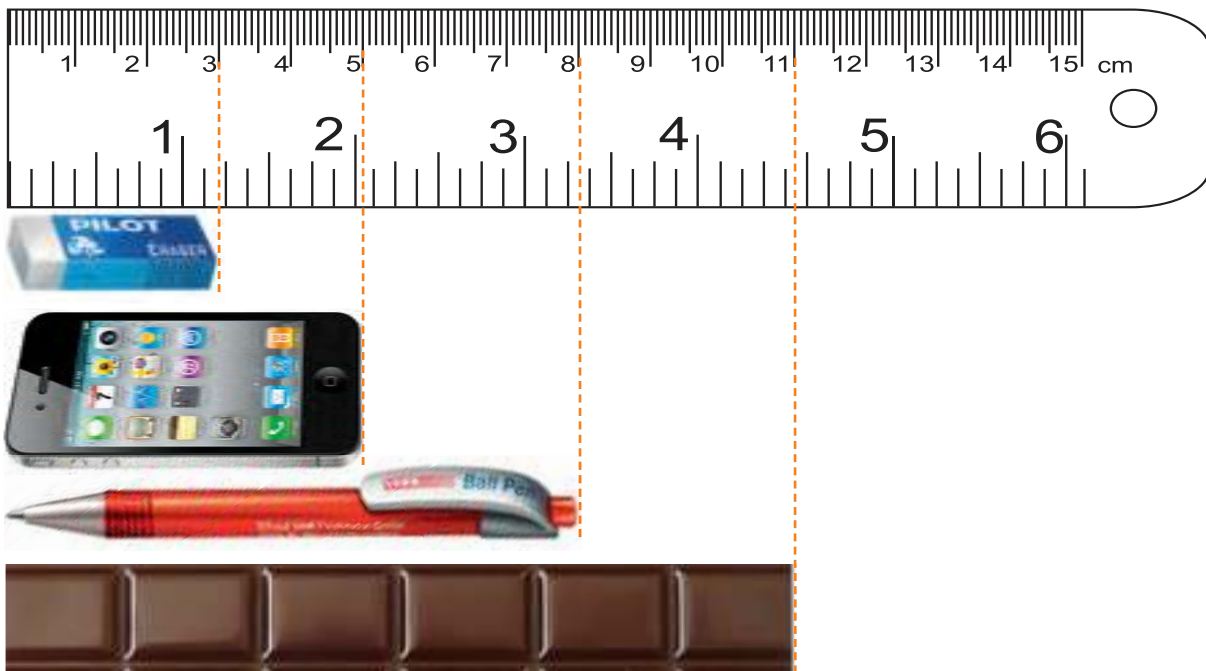


1 m is about the width of your arm span.



Measuring The Length Of An Object Using A Ruler

Look at the ruler given below. Its length is 15 cm.



Quick Tip

It is difficult to use cm to measure the length of a wall. We use metres (m) to measure longer lengths.



Write the length of the objects shown:

Eraser



=

3 cm

Mobile



=

..... cm

Pen



=

..... cm

Chocolate



=

..... cm

Remote Control



=

..... cm

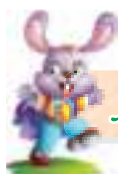


Bigger unit of length is kilometre (km).



Kilometre is used to measure long distances.

$$1 \text{ km} = 1000 \text{ m}$$



Addition Of Lengths

Just like other numbers, we add m and cm



First add cm , then m

m	cm
1	1
42	69
+ 72	83
115	152

m	cm
63	49
+ 82	53

m
22
+ 68

cm
36
+ 85

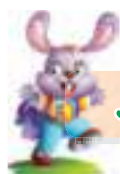


$$\begin{array}{r}
 \text{m} \quad \text{cm} \\
 56 \quad 42 \\
 + 65 \quad 94 \\
 + 89 \quad 10 \\
 \hline
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{m} \quad \text{cm} \\
 98 \quad 34 \\
 + 22 \quad 21 \\
 + 12 \quad 42 \\
 \hline
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{m} \\
 63 \\
 43 \\
 + 29 \\
 \hline
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{cm} \\
 42 \\
 55 \\
 + 66 \\
 \hline
 \hline
 \end{array}$$



Subtraction Of Lengths

Just like other numbers, we subtract *m* and *cm*



First subtract *cm*, then *m*

$$\begin{array}{r}
 \text{m} \quad \text{cm} \\
 73 \quad 89 \\
 - 42 \quad 61 \\
 \hline
 31\text{m} \quad 28\text{cm}
 \end{array}$$

$$\begin{array}{r}
 \text{m} \quad \text{cm} \\
 86 \quad 42 \\
 - 29 \quad 53 \\
 \hline
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{m} \quad \text{cm} \\
 22 \quad 55 \\
 - 10 \quad 12 \\
 \hline
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{m} \quad \text{cm} \\
 96 \quad 92 \\
 - 83 \quad 41 \\
 \hline
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{m} \\
 78 \\
 - 56 \\
 \hline
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{m} \\
 165 \\
 - 160 \\
 \hline
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{cm} \\
 921 \\
 - 642 \\
 \hline
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{cm} \\
 80 \\
 - 35 \\
 \hline
 \hline
 \end{array}$$



Facts to Know

The world's smallest fish measures about the same length as the nail of your little finger.



Word Problems

Sharad is $2\text{m } 25\text{cm}$ tall. Rajat is $3\text{m } 15\text{cm}$ tall. Who is taller and by how much?



A piece of ribbon is 60cm long. Another piece of ribbon is 20cm long. What is the total length of two ribbons?



Mini bought a reel of thread measuring 500 metres. She used 250 metres. How much thread was left with her?



The tailor stitched two pieces of cloth together. The length of one piece was 35cm and the other was 22cm . What is the total length of cloth stitched?



A piece of cloth measures $25\text{m } 32\text{cm}$. A piece of $12\text{m } 15\text{cm}$ is cut from it. What is the length of the remaining cloth?





Think Wisely

Write the following in descending order:

2 m,

3 m 15 cm,

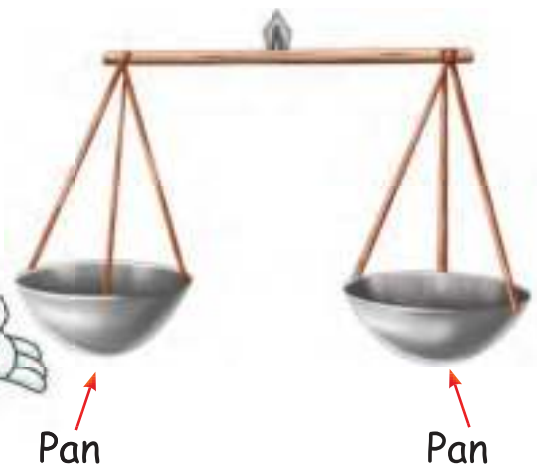
22 cm,

25 m 32 cm.

Let's revise

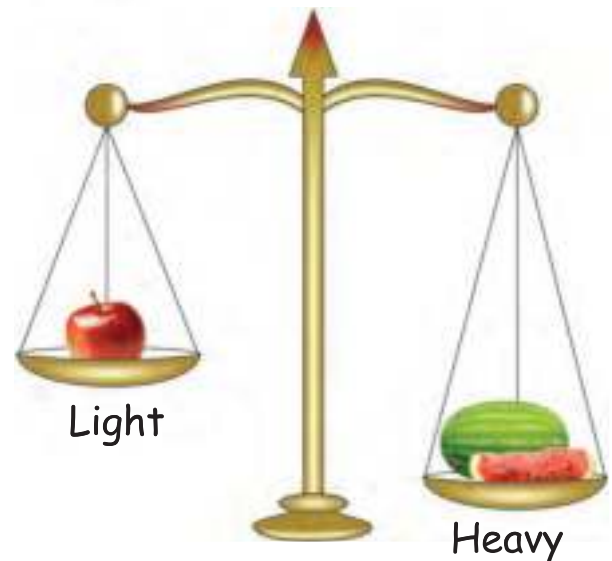
WEIGHT

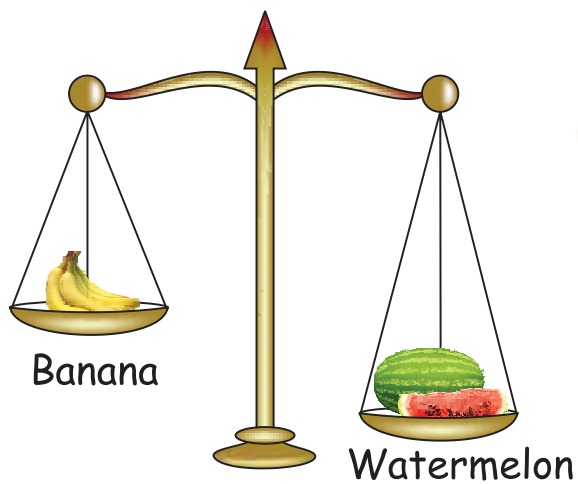
Weighing machine is used to measure the weight of an object.



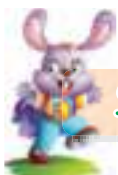
It has two pans.

The pan which weighs more, comes down.



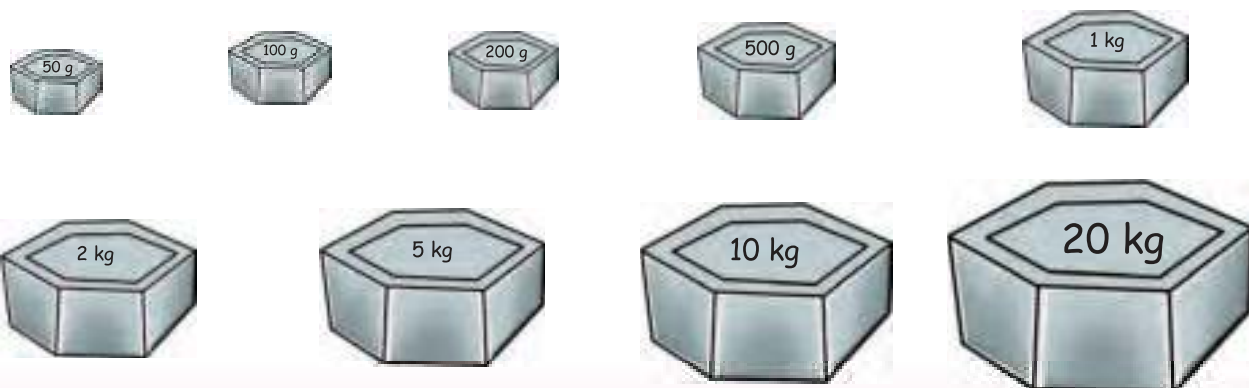


The pan which
weight less, goes
up.



Measuring Weight

When we buy fruits, vegetables, rice, sugar, wheat, etc. from the market, the shopkeeper uses different blocks known as **weights**.



Standard units
of weight are
gram (g) and
kilogram (kg).

1 kilogram = 1000 grams

Gram is used to
weigh light objects.



A paper clip is
about 1 g.

Kilogram is used
to weigh heavy
objects.



A thick book is
about 1 kg.



Write down the Weight of Objects

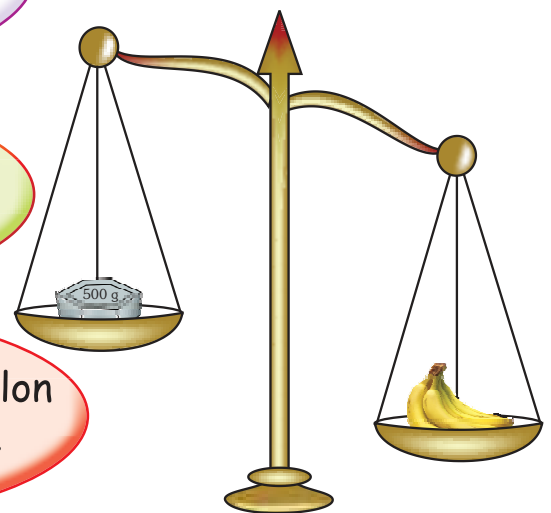


The weight of apples is
less than kg.

The weight
of bananas is more
than grams.



The weight of watermelon
is equal to kg.



Addition of Weights

kg	g
42	53
+ 65	21
107	74
kg g	

First add g,
then kg



kg	g
86	21
+ 42	33
kg g	

kg	g
23	41
+ 55	20
+ 65	98
kg g	

kg	g
44	22
+ 93	65
+ 32	59
kg g	

kg	
53	
+ 62	
+ 21	
kg	

g	
69	
+ 43	
+ 51	
g	

Subtraction of Weights

kg	g
65	59
- 20	42
45	17
kg g	

First subtract
g, then kg



kg	g
42	65
- 23	91
kg g	

kg	g
92	60
- 49	52
kg g	

kg	g
88	33
- 42	56
kg g	

kg	g
219	83
- 110	20
kg g	

kg	g
256	42
- 190	60
kg g	

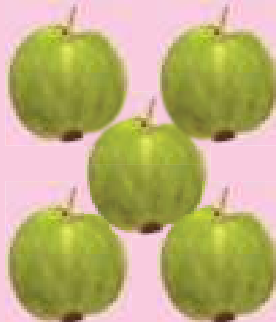




Word Problems



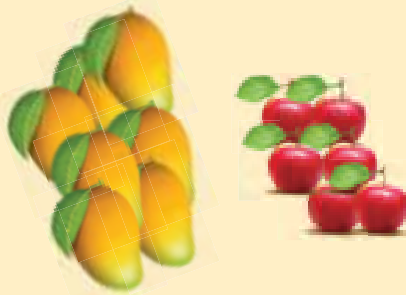
John had $15\text{ kg } 500\text{ g}$ of guavas. He sold 14 kg guavas. How much guavas are left with him?



A piece of silver block weighs $500\text{ kg } 200\text{ g}$. A block weighing $296\text{ kg } 180\text{ g}$ was cut from it. Find the weight of the remaining silver block.



My mother bought $5\text{ kg } 250\text{ g}$ of mangoes and 2 kg of apples. Find the total weight of fruits.



A shopkeeper had $7\text{ kg } 700\text{ g}$ of flour. He bought $8\text{ kg } 500\text{ g}$ more. What is the total weight of flour with him?



Let's revise

CAPACITY

Capacity means the amount of liquid that a container can hold.

Standard units of capacity are **litre (l)** and **millilitre (ml)**.



1 litre = 1000 millilitre

Litre (l) is used to measure large quantities.

For example, petrol, diesel, oil cane, etc.



Millilitre (ml) is used to measure small quantities.

For example, a glass of juice, a cup of milk, a medicine dropper, etc.



A medicine dropper holds about 1 ml .



A glass of water holds about 250 ml



A teaspoon holds about 5 ml



A water bottle holds about 1000 ml or 1 l .



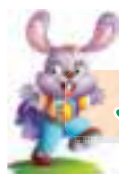
A cold-drink holds about 2 l or 2000 ml .



A can of refined oil holds about 5 l or 5000 ml .



Big oil tankers can hold about 400 l , 600 l or more.



Standard Containers Used for Measuring Milk



Standard Containers Used for Measuring Oil or Petrol



Addition of Capacities

l	ml
418	720
+ 560	108
978 l	828 ml

First add ml,
then l

l	ml
142	65
+ 292	81

l	ml
36	298
+ 29	721

l	ml
49	652
+ 56	119

l
396
+ 298
+ 598

ml
496
+ 595
+ 642



Subtraction of Capacities

$$\begin{array}{r} \text{ } \ell \qquad \text{ml} \\ 85 \quad 692 \\ - 74 \quad 521 \\ \hline 11 \ell \quad 171 \text{ ml} \end{array}$$

First subtract
ml, then ℓ



$$\begin{array}{r} \text{ } \ell \qquad \text{ml} \\ 162 \quad 42 \\ - 118 \quad 46 \\ \hline \end{array}$$

$$\begin{array}{r} \text{ } \ell \qquad \text{ml} \\ 492 \quad 692 \\ - 329 \quad 508 \\ \hline \end{array}$$

$$\begin{array}{r} \text{ } \ell \qquad \text{ml} \\ 997 \quad 642 \\ - 529 \quad 607 \\ \hline \end{array}$$

$$\begin{array}{r} \text{ } \ell \\ 642 \\ - 198 \\ \hline \end{array}$$

$$\begin{array}{r} \text{ } \text{ml} \\ 721 \\ - 526 \\ \hline \end{array}$$



Word Problems

A man filled 15 ℓ 500 ml of petrol in his car and 5 ℓ 250 ml of petrol in his motor bike. How much petrol did he fill in all?



An oil cane hold 80 ℓ of oil. Out of this, 35 ℓ of oil was used. How much oil is left in the cane?



A bottle contains 540ml water. Another bottle contains 380ml water. What is the total quantity of water in these two bottles?



A petrol tanker had 500ℓ of petrol. 110ℓ 250ml petrol lost due to leakage. How much petrol is left in the tanker?



Raghu bought 150ℓ of pink paint and 110ℓ of green paint. How many litres of paint did he buy in all?



A medicine bottle had 250ml of syrup. Out of this, 50ml of syrup was used. How much syrup is left in the bottle now?



Sona bought a bottle of 2ℓ 250ml of coconut oil and 5ℓ 500ml of almond oil. How much oil did she buy in all?



A cow gave 10ℓ 250ml milk. The milk man sold 7ℓ 750ml milk. How much milk was left with him?



Tick (✓) the correct measure:



$\text{kg} / \text{cm} / \ell$



$\ell / \text{m} / \text{kg}$



$\text{m} / \text{kg} / \ell$



$\text{km} / \text{kg} / \ell$



$\text{m} / \ell / \text{kg}$



$\text{m} / \text{kg} / \ell$





Mental Maths

A. Tick the correct choice.

- Quantity of milk is expressed in
 - litre
 - kilogram
- Six litres of oil added to two litres of oil will make _____ of oil.
 - 4 L
 - 8 L
- 2 L is the same as
 - 2000 ml
 - 200 ml
- $1\text{ L } 150\text{ ml} + 2\text{ L } 350\text{ ml} =$
 - 3L 500 ml
 - 3 L 450 ml
- On which standard unit, will we measure onions?
 - Litres
 - kilograms

B. Answer in one word

- Which standard unit of length is used to measure small things? _____
- Which finger's width is about 1 cm _____
- What does we measure using as kilometres? _____
- Standard units of capacity. _____ and _____
- Which standard unit is used to weight light objects? _____





Maths Lab Activity

Materials required:

A book, a string and a ruler.

Steps:

1. Hold the string in one hand and keep the book on the table.
2. Hold one end of the string at one corner of the book and the other end of the string at other end of that side of the book along the length as shown below.
3. Now hold the two ends of the strings against a ruler and measure it. Note it down in your notebook. This is the length of your book.
4. Now do the same to measure the length of the other objects you have with or near you.





Tally Marks



Learning Objectives

At the end of this lesson, students will be able to:

- Use tally marks to count.
- Make groups of 5s.
- Represent tally marks.



Warm Up

Let's recite:

Let's make TALLY MARKS

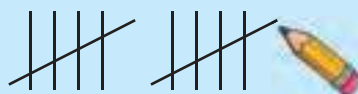
1, 2, 3, 4,

Number 5 shuts the door.



6, 7, 8, 9,

Number 10 draws the line.





Teacher's

Note:

Apprise the students that:

One is expressed by '|' tally mark.

- Two is represented by '||' tally marks.
- Three is represented by '|||' tally marks.
- Four is denoted by '||||' tally marks.
- Five is not denoted by '|||||' tally marks in the graphs. For the number 5, draw four vertical lines (||||) with a diagonal ('/') line through it. Hence we can represent number 5 as ||||/ .



Representing Tally Marks

Objects	Number	Tally Marks
	1	
	2	
	3	
	4	





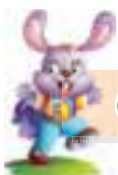
	5	
	6	
	7	
	8	
	9	
	10	



Facts to Know

Before numbers were invented people found it difficult to keep records of their belongings and hence they used to do counting by sticks which are further known as tally marks.



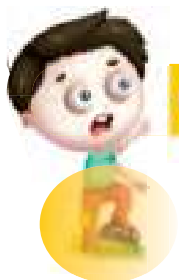


Count and Draw:



Count the number of objects and then draw tally marks:

Objects	Number	Tally Mark
		



Quick Tip

The fifth count is represented by a diagonal line across the previous four lines in the second. It is also considered as one group in tally marks.



Think Wisely

Read the Tally chart given below carefully and answer the questions.

Favourite Pets

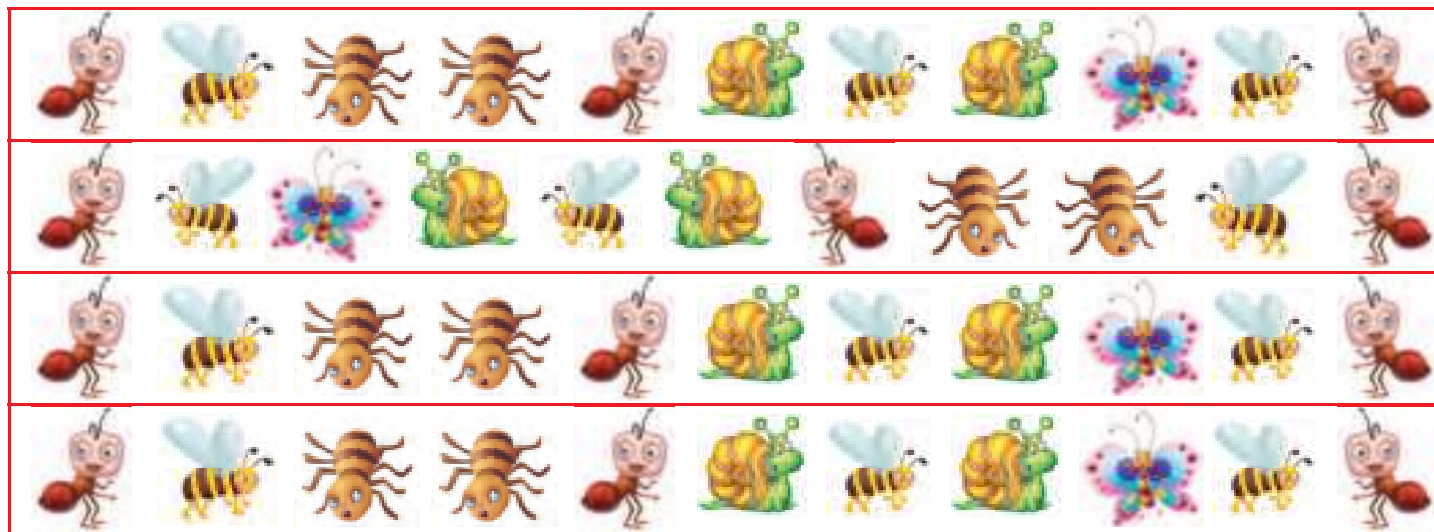
Pets	Tally Marks
	
	
	

1. How many people like fish as the favourite pet?



Mental Maths

A. Count the number of insects in each category and draw a tally mark for each one.



	BUG TALLY	NUMBERS
spider 		
ant 		
snail 		
butterfly 		
bee 		





Maths Lab Activity

Materials required:

A pencil

Steps:

1. Observe the hairstyle of the children in your class.

Now, look at the following table and write down:

Hairstyle	Tally marks
Long hair	
Short hair	
Ponytail	

- a. How many girls have long hair? _____
- b. How many girls have ponytails? _____
- c. The number of children with short hair is _____ (more/less) than the children with long hair.





Learning Objectives

At the end of this lesson, students will be able to:

- Identify minute hand and hour hand in a clock.
- Read and write the time.
- Draw the minute hand and hour hand as per the time mentioned.



Warm Up

Write the time for the following activities you do on daily basis:

1. At what time do you wake up in the morning?



2. At what time do you go to school?



3. At what time do you go to play?



4. At what time do you go to bed?

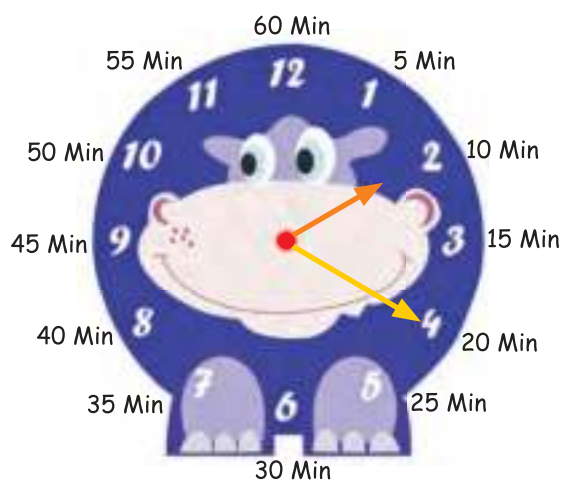


This is a clock.

It has two hands.

Long hand is the minute hand. →

Short hand is the hour hand. →



Minute hand takes 5 minutes to move from one number to the next.

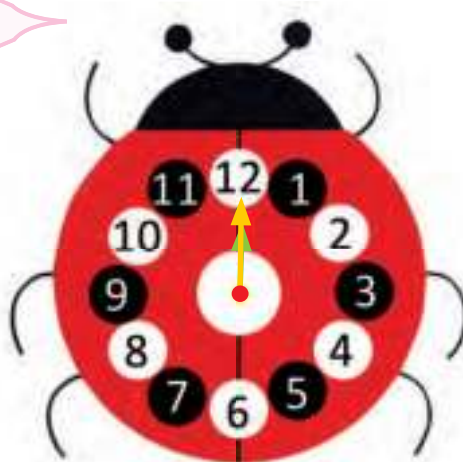
Minute hand moves round the clock 24 times in day.

Hour hand takes 1 hour to move from one number to the next.

Hour hand moves round the clock 2 times in a day.

1 Hour = 60 Minutes

Time at 12 o'clock in the morning is read as **12 noon**



Time at 12 o'clock in the night is read as **12 midnight**



Teacher's Note:

Ask the students to describe their daily routine and specify the time of their activities.

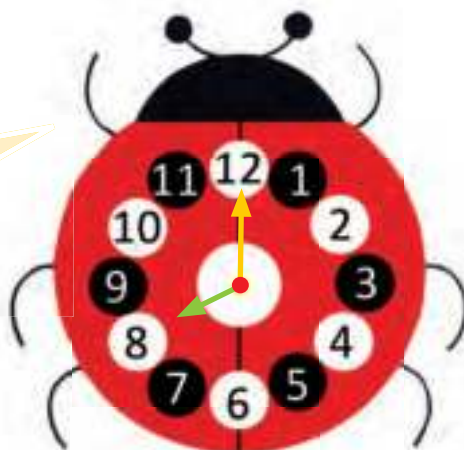


Time from noon until midnight is p.m.

Time from midnight until noon is a.m.

8 o'clock in the morning is read as 8 a.m.

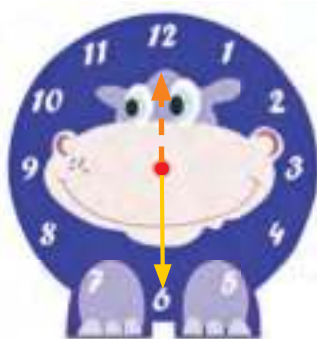
8 o'clock in the night is read as 8 p.m.



Reading Time

In Quarter Hours and Half Hours:

Half Hour = 30 Minutes



Half Past
means minute hand is at 6.

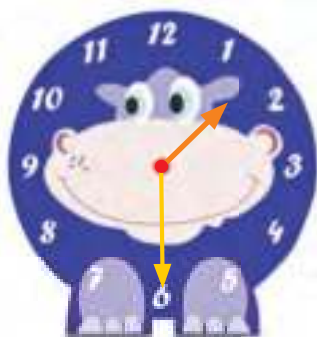


Quarter Past
means minute hand is at 3.



Quarter To
means minute hand is at 9.





Short hand is between 1 and 2. Long hand is at 6.
Time is

Half past 1

or

1 : 30



Short hand is at 1.
Long hand is at 3.
Time is

Quarter past 1

or

1 : 15

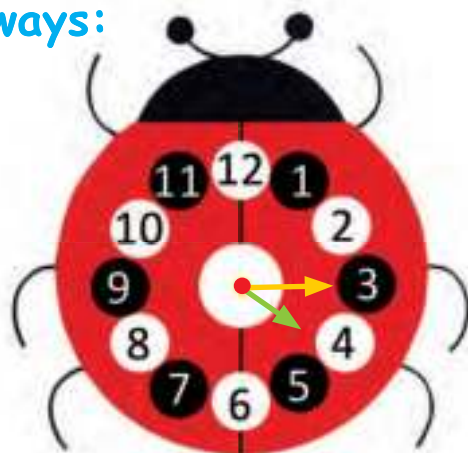


Quick Tip

When the minute hand is on the left hand side of the clock, we read it as - to the hour.

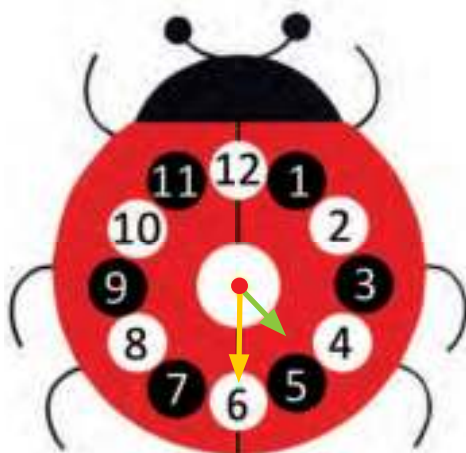
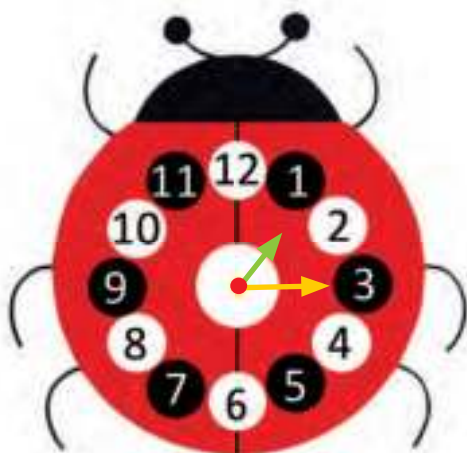
When the minute hand is on the right hand side of the clock, we read it as - past the hour.

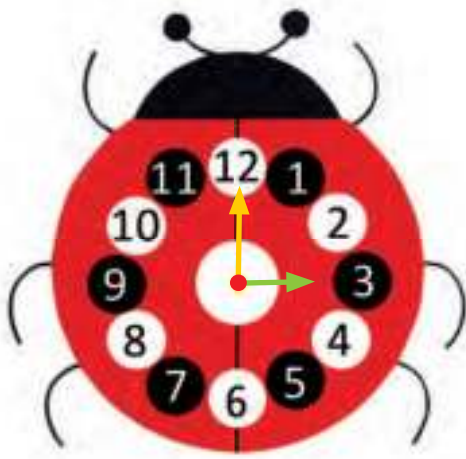
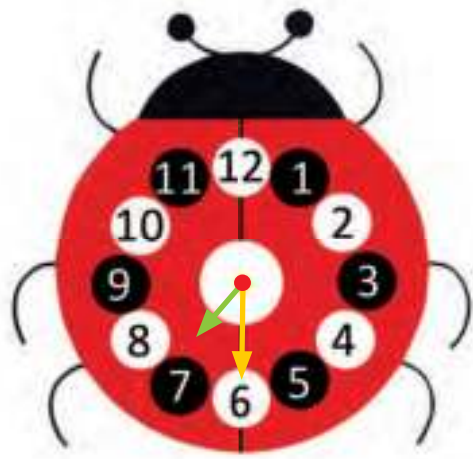
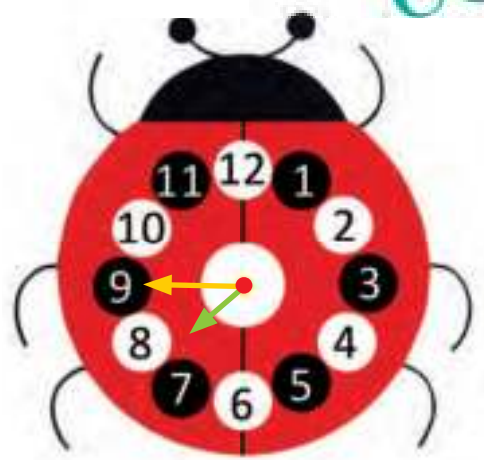
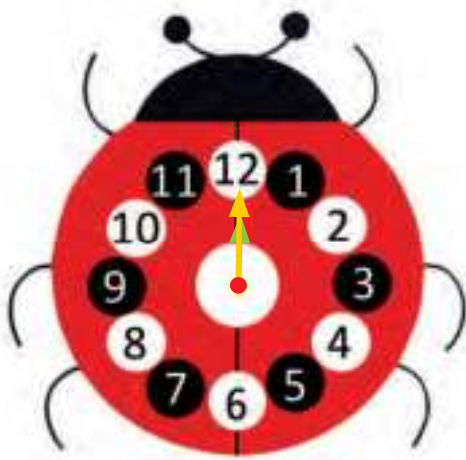
Look at the clock and write the correct time in two different ways:



Quarter Past 4

4 : 15





Draw the minute hand and hour hand to show the time:



Half past 3



Quarter to 5



Quarter past 11





Half past 8



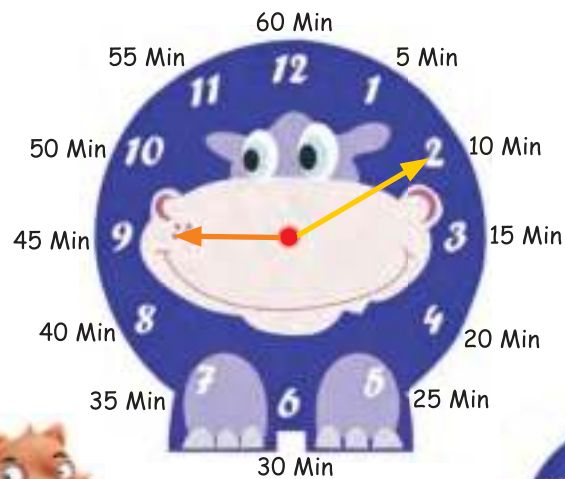
Quarter to 7



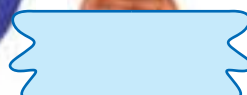
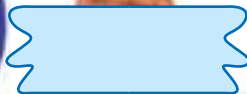
9 o'clock



Reading Time In Minutes



9:10



Facts to Know

The oldest working clock in the world is the Salisbury Cathedral Clock in Salisbury, England. This mechanical clock dates all the way back to 1386.





Think Wisely

Use the clock to fill-in the blanks.

The time is _____.

In 30 minutes, the time will be _____.

One hour ago the time was _____.

In one-quarter hour, the time will be _____.



Mental Maths

Tick the correct answer:

1. How many hours are there in a day?

i. 25

☐

ii. 36

☐

iii. 24

☐

2. Quarter past 6 can also be written as _____.

3. 2 Hours = _____ Minutes.

4. 7:30 can be written as _____.

5. The short hand of a clock is also called _____ hand.





Maths Lab Activity

Read the statements given below and draw the hands of the clock accordingly.

My school starts at



and

ends at



I play at



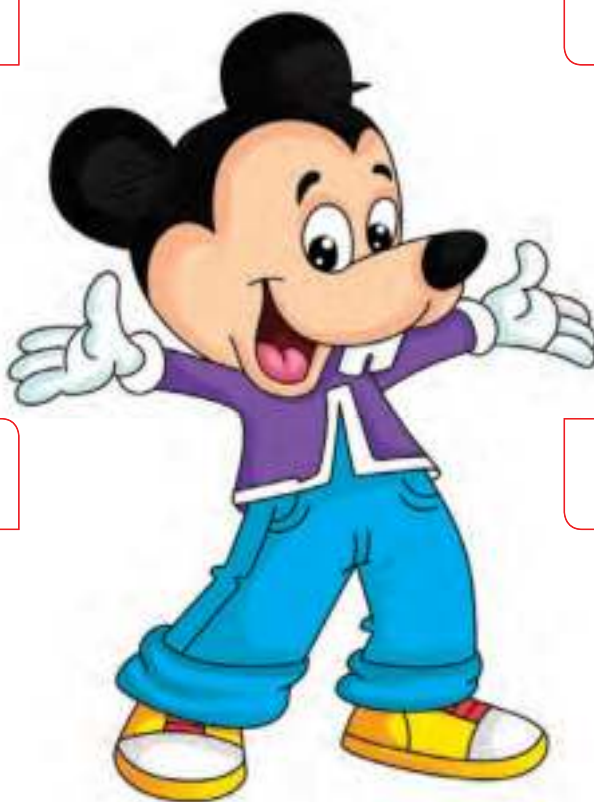
and end at



I take dinner at



I go to bed at





Learning Objectives

At the end of this lesson, students will be able to:

- Tell the numbers of months in a year
- Read the calendar and tell the holidays.
- Know the six seasons of India.



Warm Up

Let's celebrate!

Answer the following about your birthdate:

1. The day on which you were born?

2. Date on which you were born?

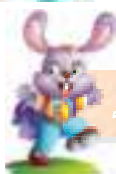
3. Your birth year? _____
4. Number of days in the month you were born? _____



Teacher's Note:

The number of days in a month can be counted using the knuckles on the hand.





Let's revise

DAYS

Monday

I

Tuesday

II

Wednesday

III

Thursday

IV

Friday

V

Saturday

VI

Sunday

VII

There are 7 days
in a week.

Days of
the
Week



Quick Tip

1 fortnight has 2 weeks, 1 month has 4 weeks and a year has 52 weeks.





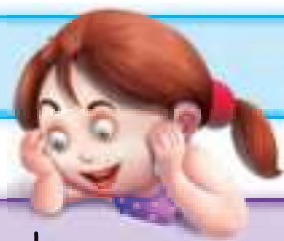
Fill in the blanks:

is the first day of the week.

Friday is the day of the week.

comes between tuesday and thursday.

is the last day of the week.



Tuesday is the day of the week.

Wednesday comes between and .

comes before sunday.

comes after friday.

Thursday comes after .

Monday comes before .





Yesterday, Today, Tomorrow



Complete the table:

Yesterday	Today	Tomorrow
.....	Monday	
.....		Wednesday
Tuesday		
.....	Thursday	
.....		Saturday
Friday		
.....	Sunday	





Let's revise

MONTHS OF THE YEAR

JANUARY						
S	M	T	W	T	F	S
	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						
S	M	T	W	T	F	S
				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		

MARCH						
S	M	T	W	T	F	S
					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						
S	M	T	W	T	F	S
	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						
S	M	T	W	T	F	S
			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						
S	M	T	W	T	F	S
						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						
S	M	T	W	T	F	S
	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						
	M	T	W	T	F	S
				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						
S	M	T	W	T	F	S
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						
S	M	T	W	T	F	S
		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						
S	M	T	W	T	F	S
					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						
S	M	T	W	T	F	S
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				



MONTHS

January

I

February

II

March

III

April

IV

May

V

June

VI

July

VII

August

VIII

September

IX

October

X

November

XI

December

XII

There are 12 months
in a year.

Months
of
the Year





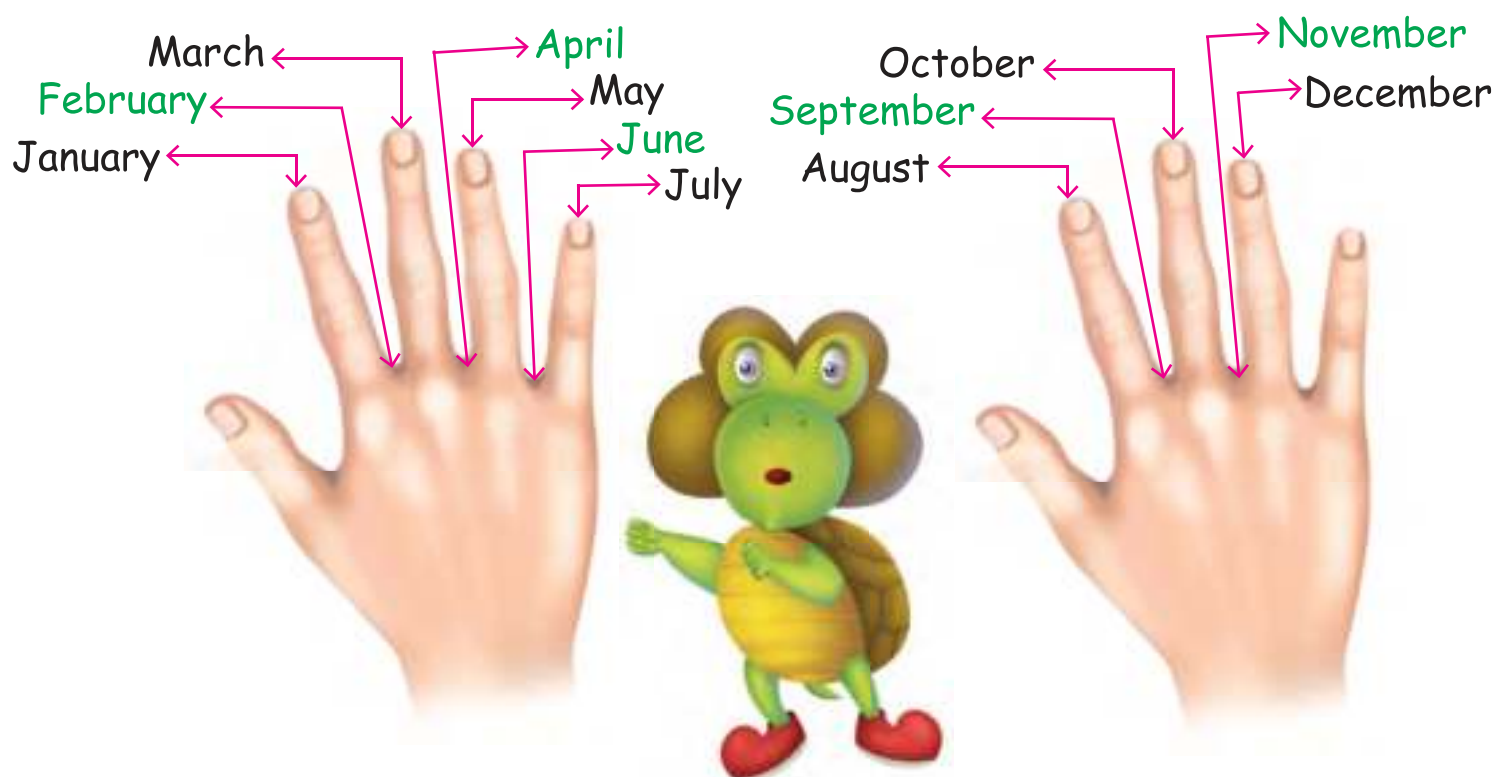
January is the first month of the year.

December is the last month of the year.



How to Remember Days in a Month?

Use knuckle trick to know days in every month.



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

7 months has
31 days.

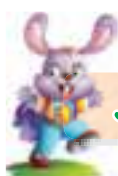
4 months has
30 days.

April,
June,
September
and
November
has 30 days.

February has
28 or 29 days.

1 month has
28 or 29 days.





Sequencing Events of the Year

Match the events to the correct month:



Happy Holi



Merry Christmas



Happy Diwali

January

February

March

April

May

June

July

August

September

October

November

December



Independence Day



Children's Day



Teacher's Day



Your Birthday



Two months of summer vacations



Gandhi Jayanti

January

February

March

April

May

June

July

August

September

October

November

December

1st
April

Fool's Day



New Year's Day



Republic Day



Facts to Know

The ancient Roman had a holiday called Hilaria. This is when they played jokes on each other.

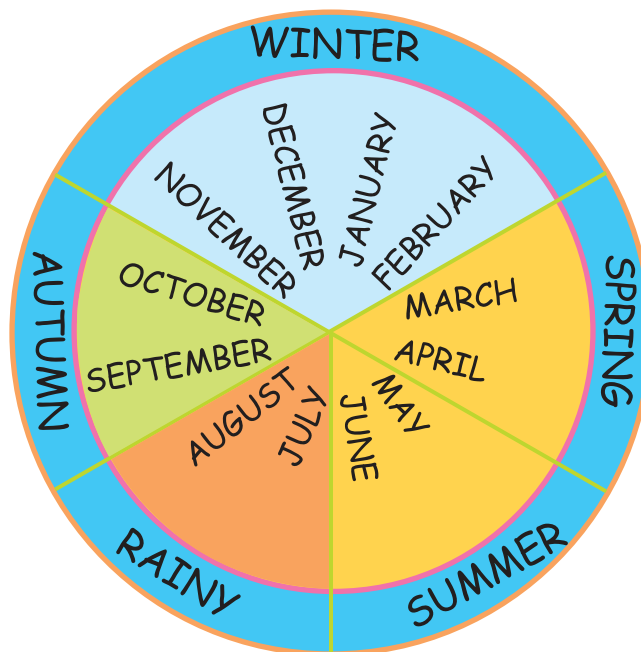
It was very similar to April Fools!





Seasons

In India, we have mainly these five seasons.



Autumn
September
October



Winter
November
December
January
February



Spring
March
April



Summer
May
June



Rainy
July
August



Fill in the blanks:

We wear woollens in season.



We wear raincoats in season.



We drink cold-drinks in season.



We use umbrellas in season.

We use A.C. in season.



We use room heaters in season.

Holi comes in season.



Republic day comes in season.

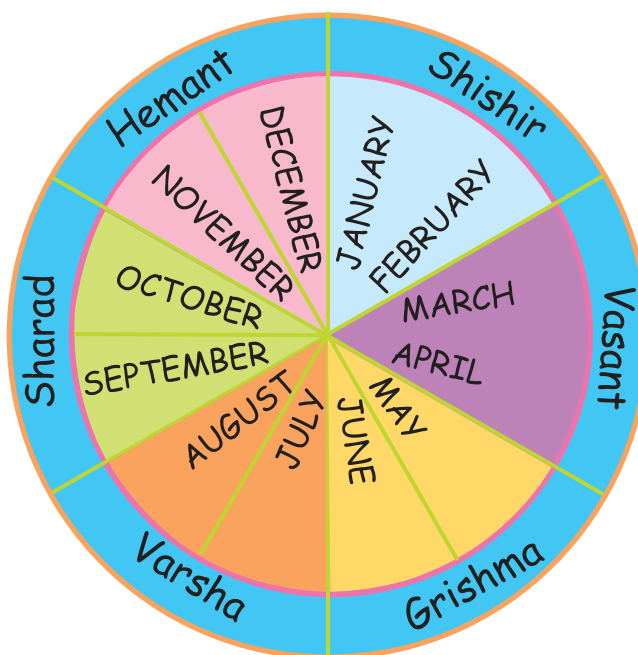


Gandhi Jayanti comes in season.



Christmas comes in season.

As per the Indian calendar, year is divided into six seasons.



Shishir
January
February

Vasant
March
April

Grishma
May
June

Varsha
July
August

Sharad
September
October

Hemant
November
December



Grishma is the summer season. It's very hot. We use A.C., cooler, fan, etc. to stay indoors. We enjoy ice creams and cold drinks.



Varsha is the rainy season. We use raincoats and umbrellas to go outside.

Sharad is the autumn season. It is neither too cold nor too hot. The weather is very pleasant.



Hemant is the winter season. It is very cold. We wear woollens and use hot blankets at night. We take bath from hot water.



Shishir is the colder winter. We celebrate New Year day.





Vasant is the spring season. New flowers and leaves grow on the trees. The weather is very pleasant.

Match the following:

Shishir

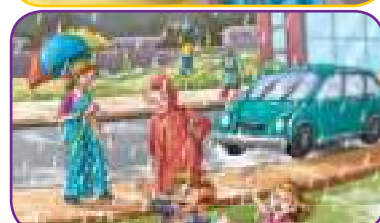
Vasant

Grishma

Varsha

Sharad

Hemant





Think Wisely

1. If tomorrow is Sunday, what was the day before yesterday?
2. The day before yesterday was Monday. What will be the day after tomorrow?



Mental Maths

Answer the following:

- a. List the months which have 30 days.

- b. Which is the shortest month? _____

- c. Name the months of this year which have 5 sundays.

- d. How many weeks are there in a year? _____

- e. How many seasons are there in India? _____





Maths Lab Activity

Aim: To identify the months of a year

Materials required:

Placards with all the 12 months written — 3 sets, that is, $3 \times 12 = 36$ placards

Steps:

1. Have 3 sets (so that all students can participate at the same time) of placards ready with the name of each month written on each placard.
2. Give one placard to each child.
3. Students to hold the placards with both their hands in front of them.
4. Ask each complete group to stand in a horizontal line in the correct order from January to December.
5. All the students to read out aloud the names of the months in order.
6. Now have them stand in a circle. Play music or clap hands and students should go around in the circle.
7. Stop clapping or playing the music and call out the name of any month by giving a hint. For example, the month that comes after May, the shortest month, etc.
8. All those students who have the placard of that month's name should raise their placards above their heads.
9. After 3 rounds, call out multiple months. For example, the first and the last month, the months that begin with the letter 'J' the last three months.
10. After 3 rounds, now when the music stops, ask the students to stand in a horizontal line in the correct order from January to December.





Geometrical Shapes



Learning Objectives

At the end of this lesson, students will be able to:

- Know about different types of lines.
- Identify solid and plane figures.
- Tell the faces, edges and vertices of solid and plane figures.



Warm Up

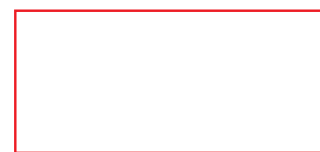
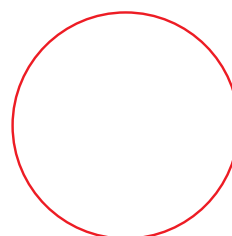
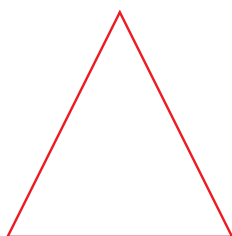
Count and write:

Squares - _____

Circles - _____

Triangles - _____

Rectangles - _____



Teacher's Note:

Apprise the students that a point has no size. It means, it has no length, breadth or height.

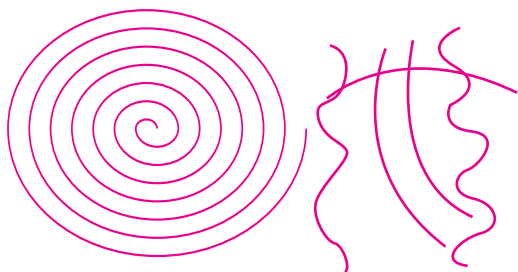


POINT

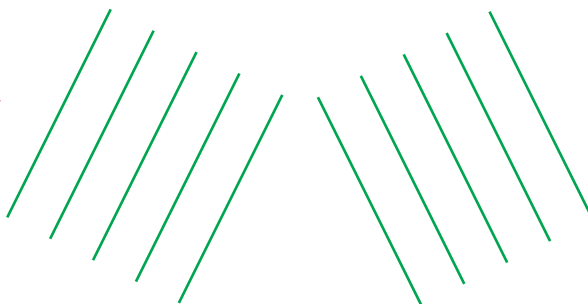
There are different types of lines.

A simple dot (.) is known as point

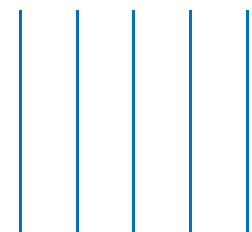
Horizontal lines
or
Sleeping lines



Curved lines

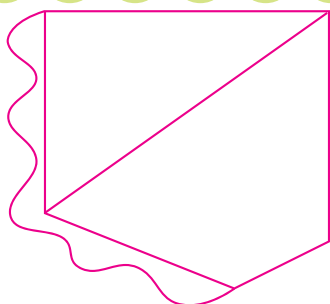


Slanting lines

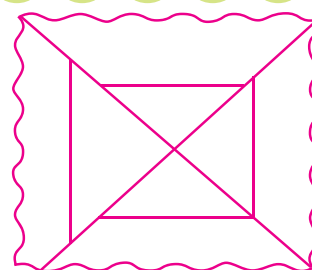


Vertical lines or
Standing lines

Count the number of different types of lines in each of the following figures:



Horizontal lines	1
Vertical lines	2
Slanting lines	3
Curved lines	1



Horizontal lines	
Vertical lines	
Slanting lines	
Curved lines	



Quick Tip

A line is a set of points. It has no beginning and no end.



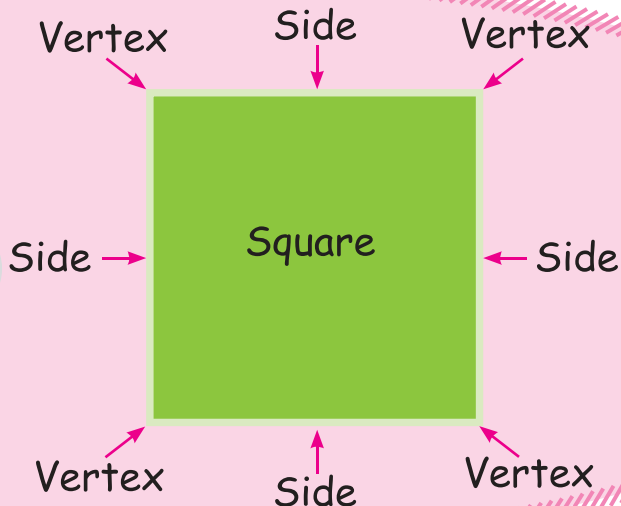
Plane Figures

Plane figures has only 1 face.

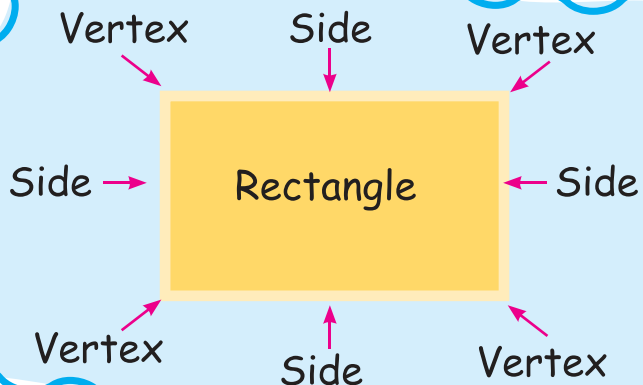
Vertex is the corner of a plane figure.

Sides are the straight lines used in forming a plane figure.

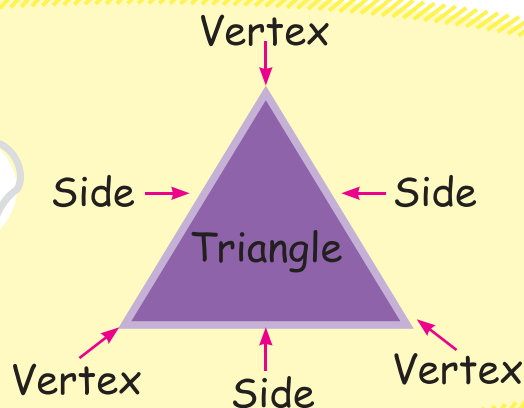
A **square** has four sides and four vertices. All the four sides of a square are equal.

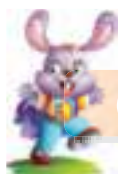
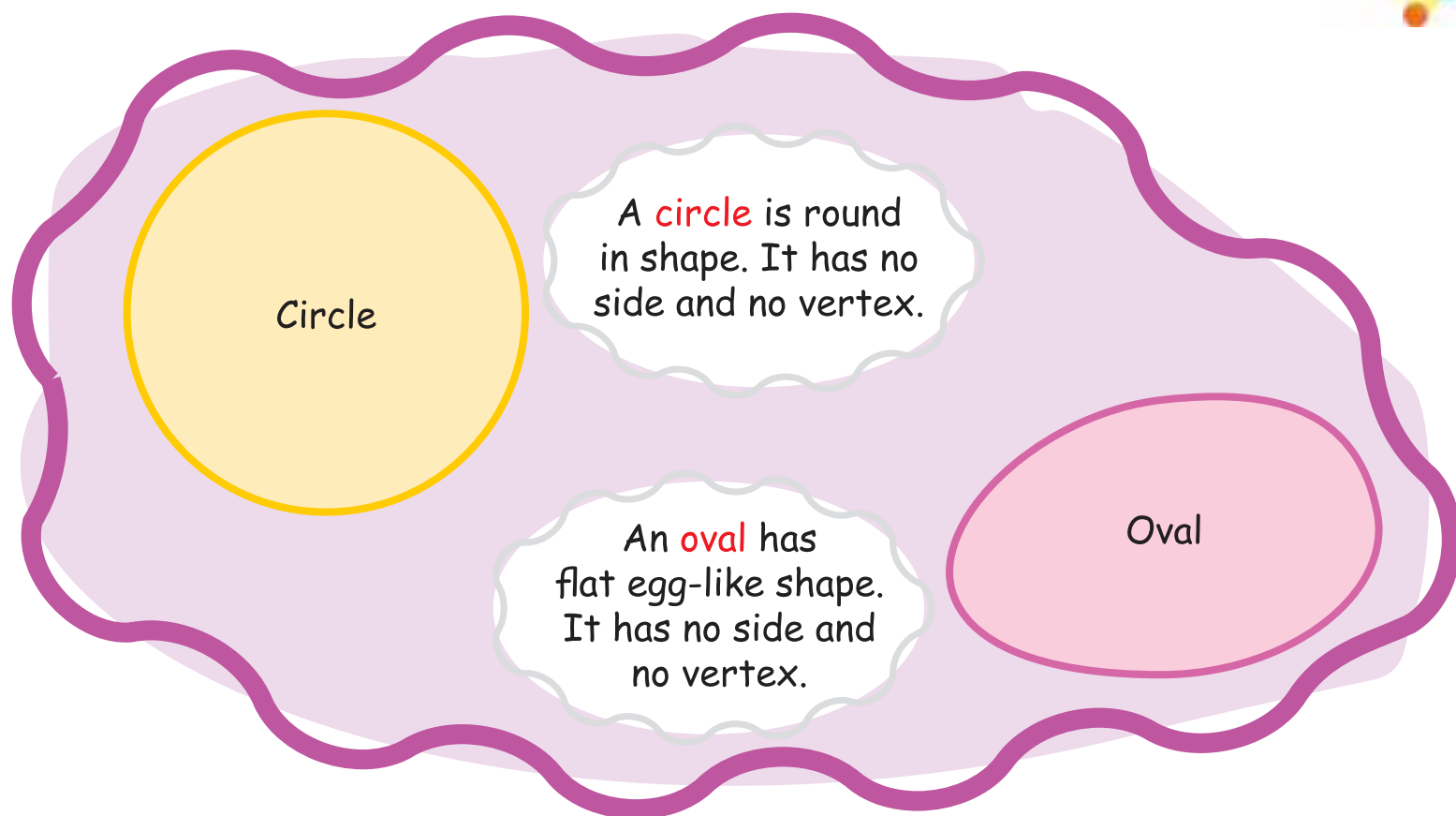


A **rectangle** has four sides and four vertices. The opposite sides of a rectangle are equal.



A **triangle** has three sides and three vertices.





Count and Write

Count and write the different shapes in the figures given below:

Circles

Squares

Triangles

Rectangles

Ovals



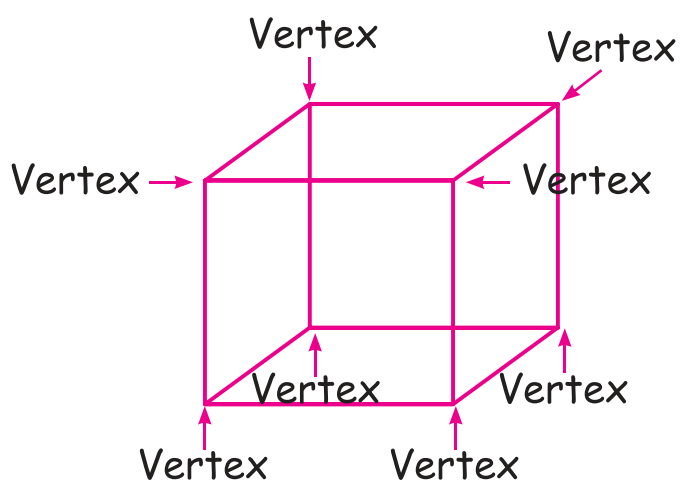
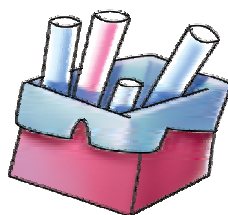
Solid Figures

Solid figures has many faces.

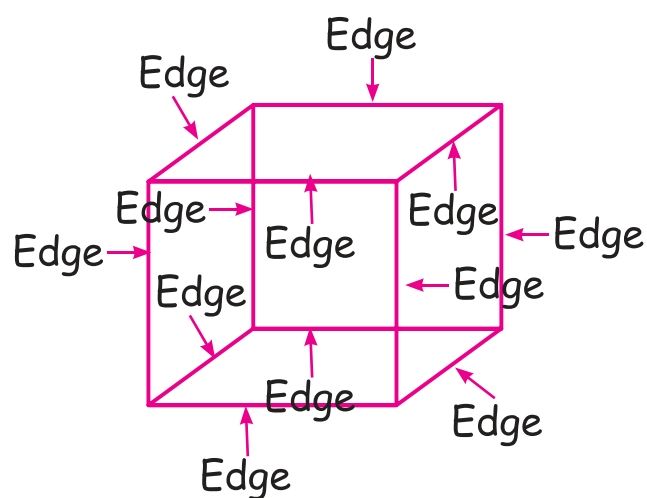
CUBE

CUBE looks like a dice.

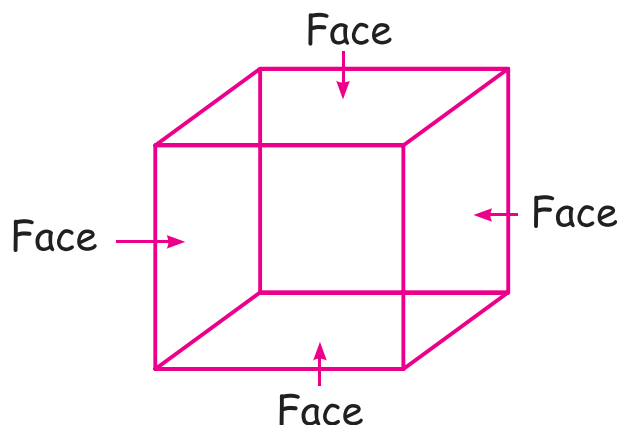
Some of the examples of cube are shown below:



A cube has 8 vertices.



A cube has 12 edges.



A cube has 6 flat faces. Each face of a cube is a square.



CUBOID

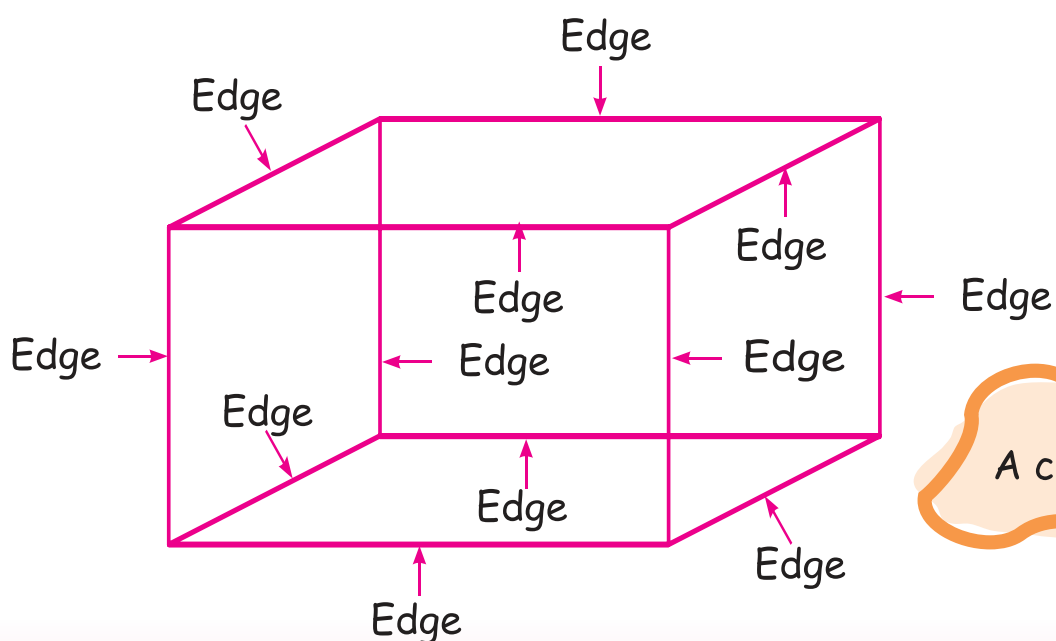
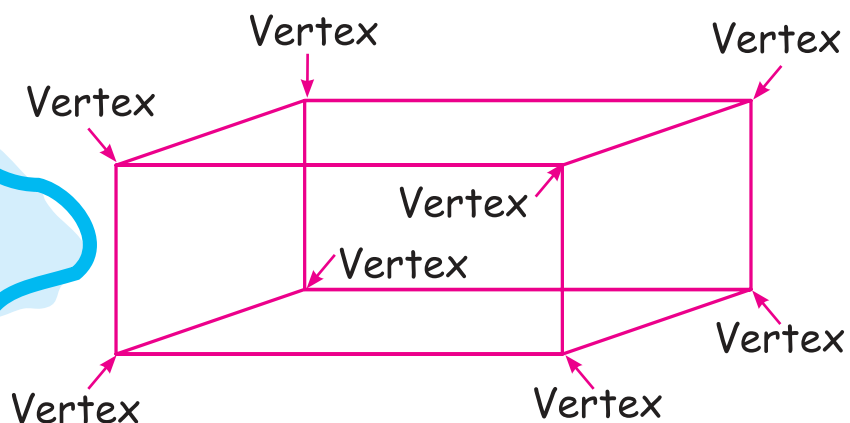
CUBOID looks like a brick.



Some of the examples of cuboid are shown below:



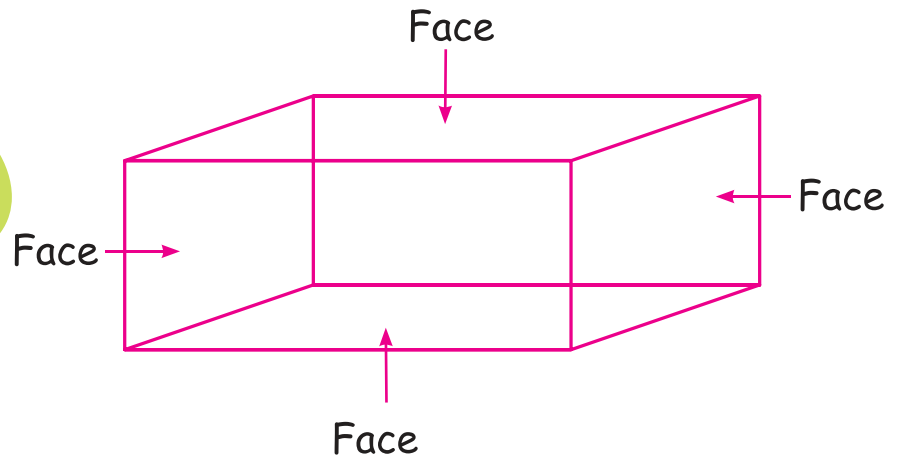
A cuboid has 8 vertices



A cuboid has 12 edges



A cuboid has **6 flat faces**.
Each face of a cuboid is a rectangle.



SPHERE

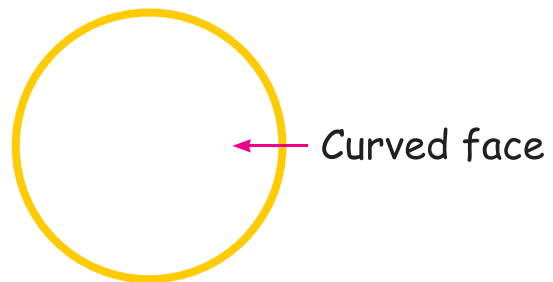
SPHERE looks like a ball.



Some of the examples of sphere are shown below:



A sphere has **1 curved face**,
no edge and **no vertex**.



Facts to Know

Every point on the surface of a sphere is the exact same distance from the centre.



CONE

CONE looks like a tent.

Some of the examples of cone are shown below:



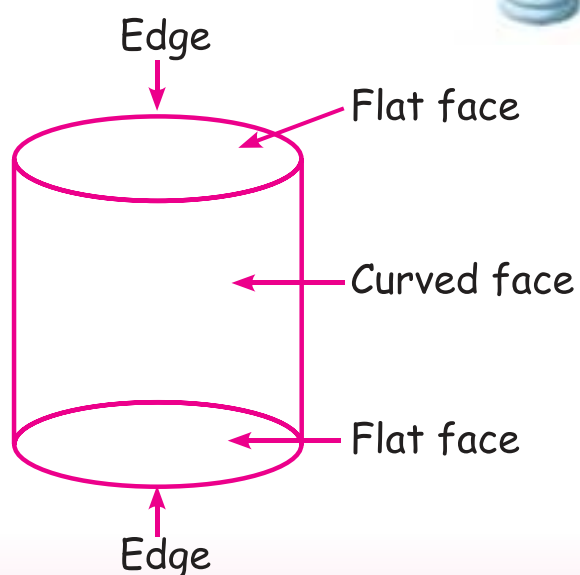
CYLINDER

CYLINDER looks like a drum.

Some of the examples of cylinder are shown below:



A cylinder has **no vertex**,
2 edges and **3 faces**.
(2 flat & 1 curved)

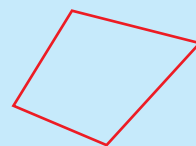
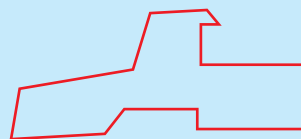
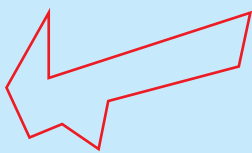




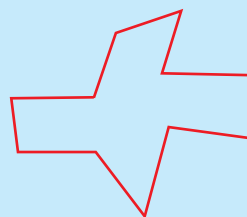
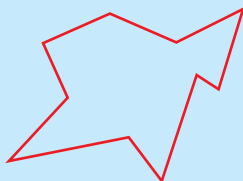
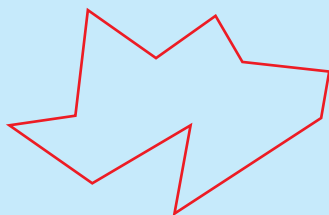
Think Wisely

Tick the figures having more vertical lines in each set.

1.



2.



Mental Maths

Answer the following in one word:

- Name the shape in which all four sides are equal. _____
- In which shape are opposite sides equal? _____
- Name the solid shape which has 1 curved face and 0 edges and vertices. _____
- Which shape looks like a drum? _____
- What is the other name for vertical lines? _____





Match the balloons with right shape:

You see me in a tubelight and piece of chalk.

A 3D-shape with exactly one face.

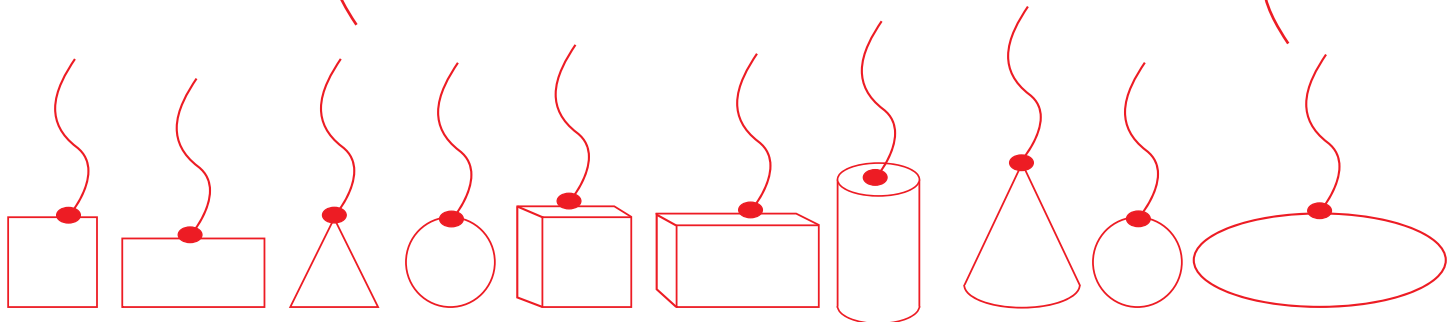
Can trace me with the help of a Bengal.

Your favourite Ludo dice is a copy of mine.

A shape with four equal sides.

I am the shape of an egg.

I have 6 faces but not all same.





Learning Objectives

At the end of this lesson, students will be able to:

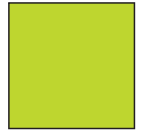
- Identify the different types of patterns.
- Observe the pattern to make the sequence.



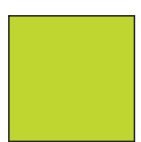
Warm Up

Draw and colour the next pattern.

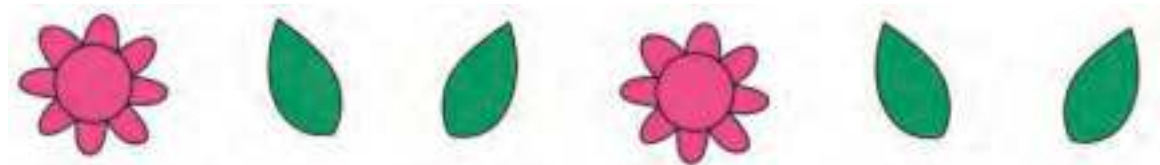
1.



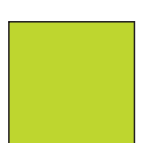
2.



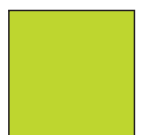
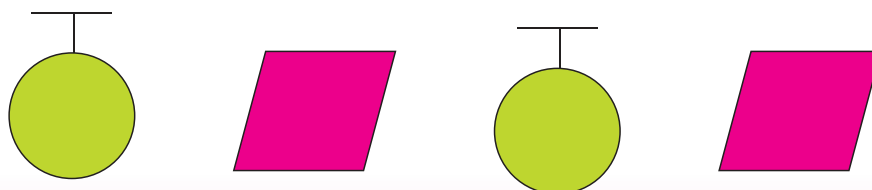
3.

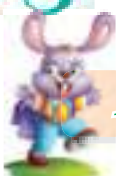


4.



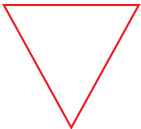
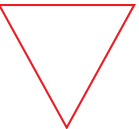
5.





Let's revise

Observe and complete the patterns given below:

					
					
Aa	Bb	Cc			

Everyday, we see lots of patterns around us.
Some of them are:

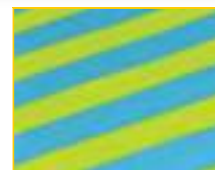
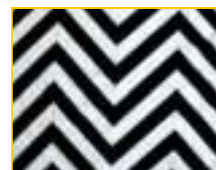
Patterns on snakes



Quick Tip

In order to continue the pattern, concentrate at the given pattern carefully and make connections.

Patterns on bed sheets



Teacher's
Note:

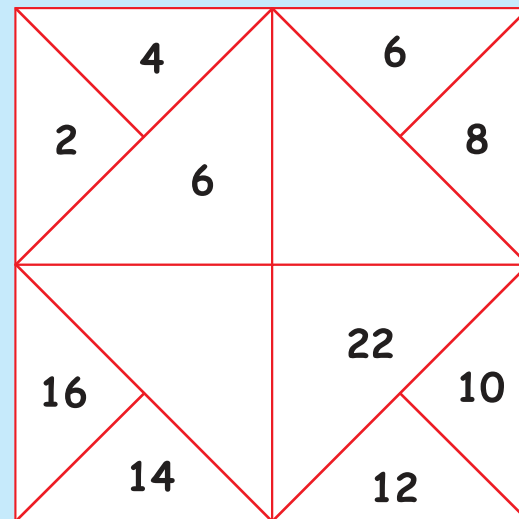
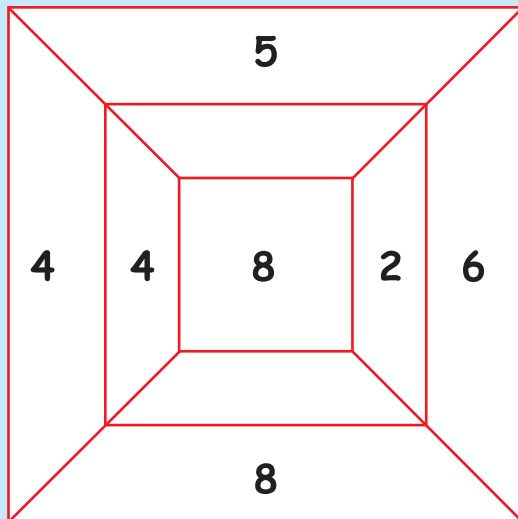
Elucidate students that a recurring arrangement of numbers, shapes, colours and other elements constitutes a pattern. Any kind of event or object can be connected to the Pattern. When a group of numbers are arranged in a particular way, the arrangement is referred to as a pattern. It can also occasionally be referred to as a series.





Think Wisely

Study the pattern in each grid and fill in the missing numbers:



Facts to Know

Your fingerprints are made of several layers of twisted skin that formed prior to birth. These ridges of skin make patterns.

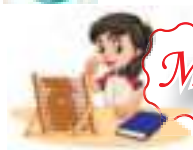


Mental Maths

Complete the patterns.

1. A1, B2, C3, _____, _____, _____, _____
2. 155, 150, 145, 140, _____, _____, _____, _____
3. ABC, CDE, EFG, _____, _____, _____, _____
4. AZ, BY, CX, DW, _____, _____, _____, _____
5. 35, 42, 49, _____, _____, _____, _____





Maths Lab Activity

Materials required:

Ladyfinger, potato, tomato, painting colours and a sheet of paper.

Steps:

1. Cut the vegetables.
2. Dip them in different colours and press them on plain paper.
3. Make different patterns using the prints.

