MATHEMATICS

Class - 4

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PREFACE

After the creation of Chhattisgarh state, the responsibility of creating new text books for children of the state has been assigned to State Council of Educational Research and Training. The books have been created by keeping in view the social, cultural and geographical background of the state.

It has also been kept in mind that the new vision which is being made in the context of the children at the national level can also benefit the children of the state.

These books were tested for two years in various areas of the state. As per the feedback of teachers, parents, children and academicians some changes were made.

At the time of creation of this mathematics text book the main thing that was put forward was that learning mathematics can be joy for children if they can relate our environment to it. Mathematics should not be confined to the text books. The knowledge of process of addition, subtraction, multiplication and division is not enough. The learner should also be able to apply these processes appropriately in real life situations. Pictorial representations have been used in the text book so that the learners easily relate mathematical concepts and process to their surroundings.

This book addresses children with easy language. It has been kept in mind while making the entire book that all the symbols and words are familiar to children. Wherever it is very necessary to use mathematical words, they are used with examples. To keep the learning process from being burdensome and boring several interesting activities have been given. By doing these activities individually or in groups, the learners will learn easily.

It has been kept in mind that the activities, examples and figures given in book are related to children's experience and interest.

According to the National Curriculum Framwork-2005 the purpose of mathematics is not merely following the algorithm and getting the result. Hence in this text book, we have put emphasis on understanding, discussion and interaction of children. There are several such lessons in the book in which children have been asked to discuss many issues with their friends and teachers. We also recognize that if children use their own language to create logical framework their concepts will be strong and clear. Here the teachers are expected to create a rapport and let them speak openly about those issues. Teachers need to listen to them and if the children are having trouble to reach the conclusion then help them. Hope this text book will be helpful in keeping the environment of the school entertaining and exciting.

In preparing these books the council has got continuous cooperation from teachers, academicians and linguist of governmental and nongovernmental sector. The council is grateful to all of them.

It is our responsibility to make our future generation beautiful. We hope that we will all be able to do something good.

Director
State Council of Educational Research and
Training Chhattisgarh, Raipur

SUGGESTIONS FOR TEACHERS AND PARENTS

There have been continuous efforts to make teaching-learning processes interesting and effective. There have been efforts to understand the objects of having different disciplines in the school syllabus and to understand and explain nature of each subject. Yet in teachers and children a reflection on clarity and good understanding does seem to be evident. This is particularly true about mathematics.

If you were to pose the question, "What is mathematics?", the answers would range from counting objects, displaying numbers, doing number operations, lines, making shapes and so on. A few answers might differ from the ones cited above, but these would be largely the things mentioned.

Before we go ahead, let us try and understand what all happens when we are attempting to solve a problem in mathematics. For example, "A bus travels a distance of 35 kilometers in 1 hour. How far will it travel in 6 hours?"

Here, time is an abstract concept. We have defined an interval as the unit of this abstract concept and expressed large time intervals in terms of these units. Similarly, for distance, we have defined a unit, which then helps us quantify it.

In the next step we explore the relationship between these two units of time and distance. We have stated, " The bus travels a distance of 35 kilometres in 1 hour". This defines a relationship, which we translate in term of an operation-for instance, either addition or multiplication.

Let us consider another example. A kilogram of rice costs Rs. 16. How much will 54 kilograms of rice cost?

In this example, we have again defined a unit for quantity of rice, and expressed the total quantity in terms of the unit. The same can be observed while solving problems related to area, etc. It is clear from these examples that mathematics is not just limited to counting or operations on numbers. In the same way, mathematics of shapes and lines is about exploring and establishing the relationships between them. Further, while we include the concept of measurement for use, the sorting, classification searching for and establishing their properties, constitute important facets of mathematics.

When a child begins learning mathematics, in order to express abstract ideas understand operations as well as simple problems faced in daily life, it becomes necessary to use concrete (real physical) objects. However, this dependence on real objects progressively decreases as mathematical skills develop.

Children then begin to build arguments. Their ability to deal with abstractions increases. They begin to abstract arguments from their daily life, and translate abstractions into reality. They also begin to seek solutions to problems of their own accord using various methods. This whole process helps children understand how and where available information can be used to solve problems.

Therefore, it is imperative that in the teaching of mathematics children be allowed to have maximum opportunity to think and work independently. This will only happen if children are not provided with ready-made solutions, and are instead encouraged to think on their own, with guidance towards the right direction. This might seem strange in the beginning, but it is difficult to teach mathematics without developing the ability to think independently and take decisions on the basis of this thought. The development of this ability will make the children self-confident and reduce the fear of mathematics that is widely prevalent.

The class 1 textbook has been developed keeping in mind that it could be used by teachers as a guide and for self-learning by children. We have also tried to provide many opportunities for students following this textbook to think and act independently.

Beginning mathematics using concrete objects and games generates interest amongst the children. Therefore, we have also begun the book with games. The first section develops the ability to focus and concentrate, develop, eye-hand coordination, learn to sort and classify objects, and make pairs. These are through games and would help develop the abilities for sorting, classification, understanding one to one correspondence and comparing quantities.

It is expected that children will be given sufficient time to use as concrete objects while working on the materials given in the book. We have given some examples of the concrete objects that can be used for this purpose but you have to think of some more. Some suggestions can also be seen from the teachers' guide which is being published separately. The purpose of having children engaged with activities

with concrete objects and for creation of supplementary materials for games is to ensure that they work with concrete objects while learning new concepts. They should work on their own, understand operations and slowly move towards greater abstractions. In this period they should be given opportunities to use language in the context of these concepts and operations. These occasions should be both in small groups and in common situations along with teachers so that they can build their self confidence. If there is an opportunity in each chapter to do this then many difficulties that arise in learning Mathematics would be destroyed from the root. Children would develop different attitudes towards mathematics there is a need to pose for a while and think about this point.

Children love stories. One sees children completely engrossed in a story being told to them, especially, if it being related well. In order to understand mathematics because of its abstraction it is useful to have it embedded in stories or contexts, understanding and enjoying stories is a prerequisite. Keeping this in mind, some characters have been created in the textbook. Children can be encouraged to name these characters imaginatively and a short story could be woven around them at the beginning of the lesson. Problems can be posed through play, activities with concrete objects and stories, which would help children form their own base for understanding mathematics better.

No lesson or activity is complete in itself. The materials in the text are just indicative. According to the needs of your classroom and the interest of the children, develop and use new materials, new interesting activities and new games. We have given some suggestions for this purpose. Wherever extra things can be thought of symbols at the bottom of the page show what is possible according to use. The key to the symbols is given at the beginning of the book. Children could be encouraged to interpret the symbols and complete the activities on their own.

To summarise:-

- ❒ Children must be given the opportunity to flip through their books, look at the pictures given and attempt to read in an independent manner

- ❒ Every page of the textbook contains interesting activities and practice exercises. Make more such tasks, ask children to develop them and also to solve them.

- ❒ Children must be given sufficient time to understand and learn a new concept. Children develop new techniques to understand concepts, and must be encouraged in these endeavors.

- ❒ The objective of solving problems is to understand the underlying mathematical concept. Solving a select set of questions or rote learning of select solutions is not the correct way to teach mathematics. Children must, therefore, be encouraged to solve problems as well as develop new problems.

- ❒ Mistakes are a natural process of learning while learning a concept or in solving problems. Children must not be discouraged on mistakes. Instead, they should be encouraged to develop new methods and ways to solve problems.

- ❒ Children learn from their peers, and therefore, must be encouraged to indulge in conversations and group work, and then to present the work that was done in the group.

- ❒ If children have difficulty in solving a problem guidance can be provided in the form of pointed questions that help students think along a certain direction.

- ❒ The materials mentioned in the book are indicative. Please develop and use new materials, innovative games, exercises, and activities depending on the needs, interest and background of the children. The use of symbols in the book indicates the areas where this is possible. Children should be encouraged to understand the symbols independently and work according to the instructions given.

This book is an attempt to dialogue with the teachers/parents and children. All suggestions to improve the book are invaluable and you must please send these to the SCERT.

Director

State Council of Educational Research and Training

Raipur (Chattisgarh)

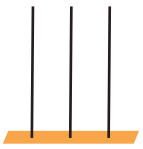
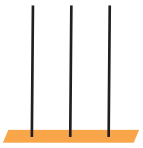
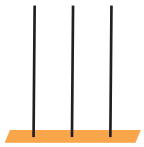
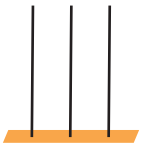
Contents

UNIT 1

NUMBERS

Introduction to Thousand

Answer and show it in the abacus also :

		Least Number	Greatest Number
1.	Least number and greatest Number of one digit ————————, ————————		
2.	Least number and greatest Number of two digits ————————, ————————		
3.	Least number and greatest Number of three digits ————————, ————————		

Now answer

9 + 1 = ————, What comes after 9 ————

99 + 1 = ————, What comes after 99 ————

In this way

999 + 1 = ?, What comes after 999 ————

Raju and Chanda are also trying to know

There are nine beads in the ones, tens and hundreds column of the abacus. In this way it exhibits the number nine Hundred ninety nine . What will happen If one bead is increased in ones place

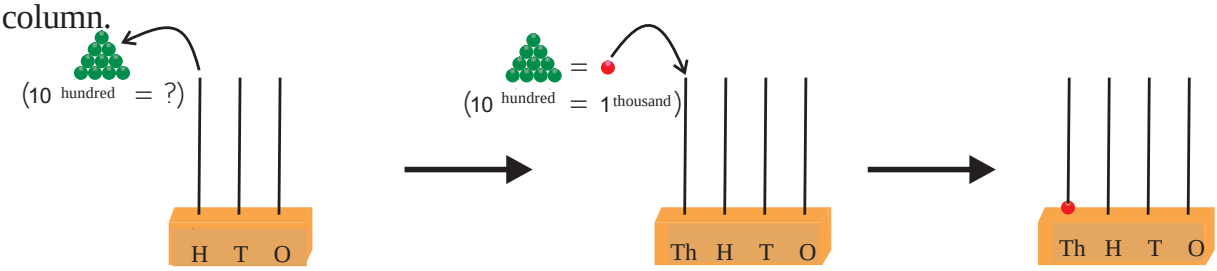
Then we have to vacate the ones columns, In place of these ten beads and put one bead in tens column.

But already there are nine beads in the tens column So vacate the tens column and in place of these ten beads put one bead in hundreds column.

Oh , but already there are 9 beads in hundreds column. Now what to do?

Now tell what will Raju and Chanda do?

Vacate the hundreds column and in place of these nine beads we have to put one bead in next column. Thus we need a new column. This means a new place. This new place is called thousands. Therefore in place of ten beads of hundreds we put one bead in thousands column.



Now answer -

What will be the number if you add 1 with 999 ? ----------

In the same way-

1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 = 10

i.e. ten ones = ... ten

10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 = 100

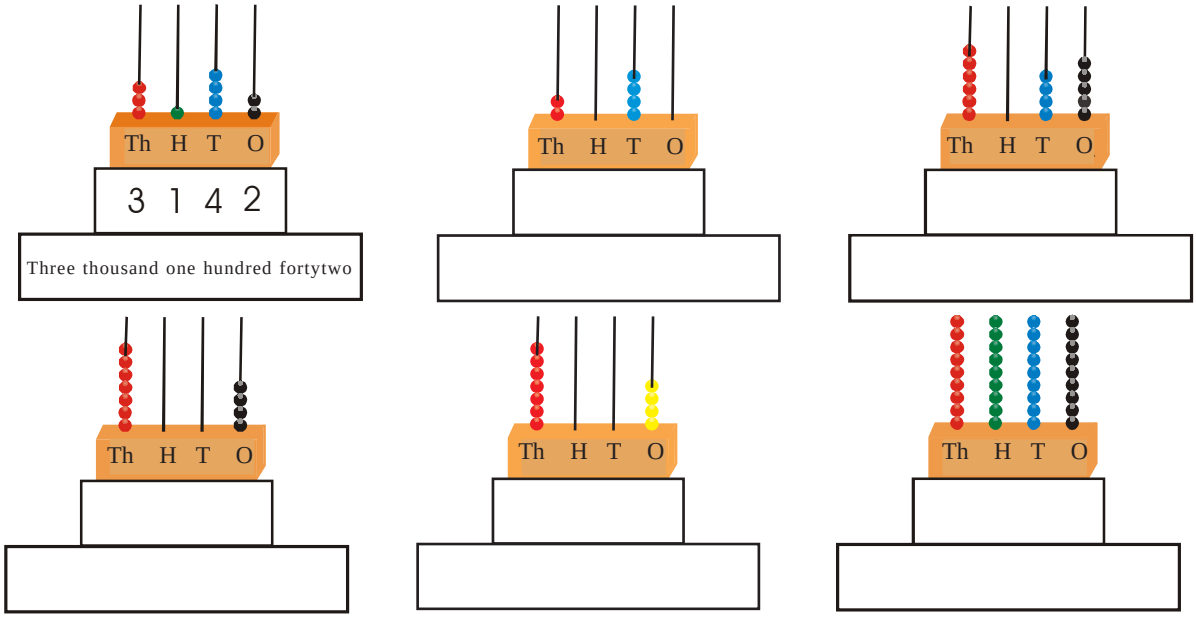
i.e. ten tens =.....hundreds

In the same way-

100 + 100 + 100 + 100 + 100 + 100 + 100 + 100 + 100 + 100 = 1000

Ten hundreds =_____thousands

Raju and Chanda have exhibited some numbers in abacus. Count the numbers and write them in figures and in words.



Write the numbers in figures and words.

1.	4321	.....
2.	1234	.....
3.	2222	.....
4.	.....	six thousand nine hundred fifty
5.	7089	.....
6.	.....	eight thousand six hundred two
7.	.....	nine hundred ninety
8.	3007	.....
9.	5671	.....
10.	.....	six thousand seven hundred sixty one

Circle on the correct number

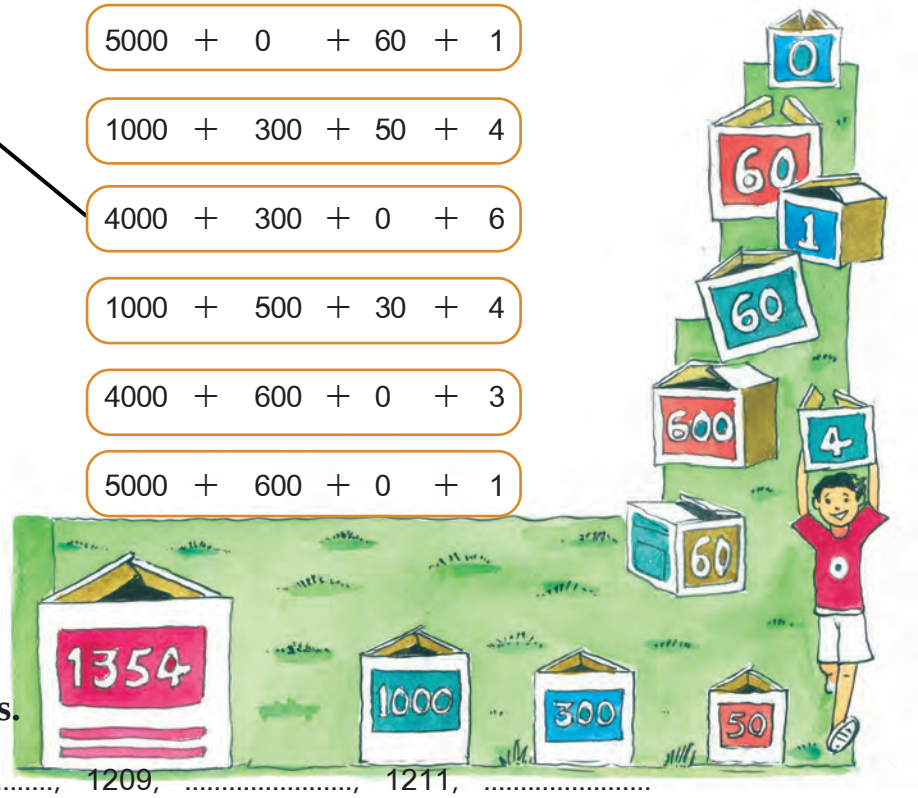
Three thousand seven hundred fifty nine	769	3759	3957	3579
Five thousand three hundred twenty	5302	5203	5320	5032
One thousand two	1002	1020	1200	1000
Six thousand ten	60010	6010	6100	6001
Two thousand three hundred sixty nine	2369	2963	2379	230069
Four thousand two hundred ten	40210	4210	4012	40120

Complete the following :

1. 1234 = 1 Th + 2 H + 3 Tens + 4 Ones = 1000 + 200 + 30 + 4
2. 2430 = ( ) + ( ) + ( ) + ( ) = [ ] + [ ] + [ ] + [ ]
3. ..... = ( ) + ( ) + ( ) + ( ) = 3000 + 100 + 0 + 5
4. ..... = 6 Th + 0 H + 8 Ten + 8 Ones = [ ] + [ ] + [ ] + [ ]
5. ..... = ( ) + ( ) + ( ) + ( ) = 5000 + 400 + 0 + 0
6. ..... = 9 Th + 0 H + 0 Ten + 1 Ones = [ ] + [ ] + [ ] + [ ]

Match the columns

1.	4306	5000 + 0 + 60 + 1
2.	1534	1000 + 300 + 50 + 4
3.	4603	4000 + 300 + 0 + 6
4.	1354	1000 + 500 + 30 + 4
5.	5601	4000 + 600 + 0 + 3
6.	5061	5000 + 600 + 0 + 1



Complete the series.

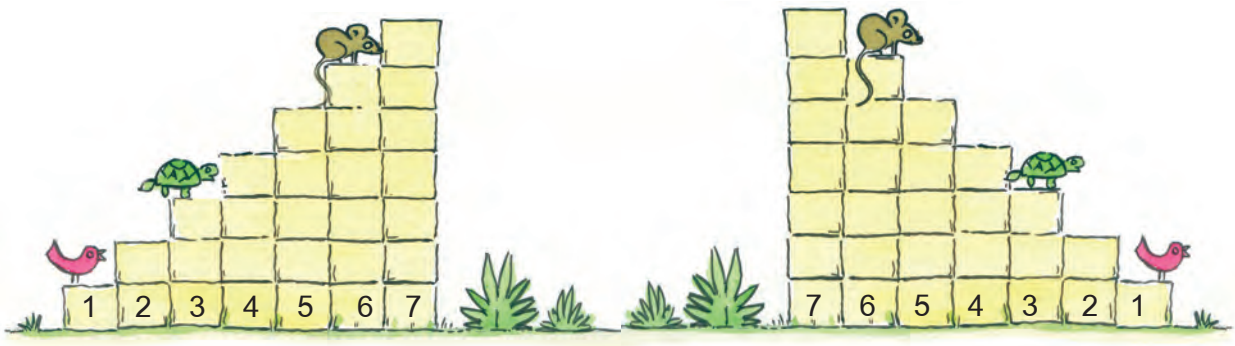
1. 1207, ..., 1209, ..., 1211, ...

2. 203, 303, 403, ..., ..., ..., ...

3. 2399, ..., 2401, ..., ..., ...

4. 755, 745, 735, ..., ..., ..., ...

5. 999, 888, 777, ..., ..., ..., ...



Write the greater number.

		Greater number	How do you come to know?
1.	5336 and 2336		
2.	2135 and 2155		
3.	1523 and 1323		
4.	3427 or 3347		

Find out the wrong statement and right statement. Correct the wrong statement.

For example – 5356 > 4213>3415>2999 (right)

1. 1515 < 5151 < 6345 < 7135 ( ) .....
2. 1239 < 1042 = 1043 > 1051 ( ) .....
3. 8976 < 8796 > 7321 > 5432 ( ) .....
4. 5601 < 6510 < 7345 < 8342 ( ) .....
5. 4259 < 5942 > 6724 > 9243 ( ) .....

Select any five numbers. Arrange them in descending order first and then in ascending order using lesser than or greater than sign.

Without repeating the numbers read and write as many numbers as you can -

1. Make two digit numbers with 3 and 8 and read -

   .....

2. Make two digit number with 2 and 4 and read -

   .....

3. Make three digit number with 1 , 2 and 4 and read -

.....

4. Make three digit number with 5 , 6 and 0 and read -

.....

5. Make four digit numbers with 3,4,7 and 9 and read -

....., ..., ..., ..., ...,

....., ..., ..., ..., ...,

....., ..., ..., ..., ...,

....., ..., ..., ..., ...

6. Make four digit numbers with 1,2,5 and 0 and read -

....., ..., ..., ..., ...,

....., ..., ..., ..., ...,

....., ..., ..., ..., ...,

....., ..., ..., ..., ...

How many numbers are there ?

Using the numbers given below make the smallest and the greatest number. Remember that no digit should be repeated.

		Smallest number	Greatest number
1.	1, 2, 3, 4		
2.	3, 0, 2, 5		
3.	8, 7, 6, 9		
4.	4, 2, 8, 1		
5.	5, 9, 0, 2		

Till now you have learnt upto 9999. Ten digits are used in making these numbers.

Write here which are those numbers? ☐☐☐☐☐☐☐☐☐☐

Can you write any number without using these digits ?_____

Do you know the different ways to write these numbers?

See the picture of the clock-

You musthave seen these types of figures in clocks. These signs are Roman signs. These are called RomanNumbers.

_____

By seeing the picture of the clock write first ten Roman Numbers :

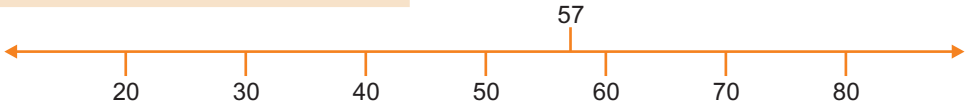
1	2	3	4	5	6	7	8	9	10
I								IX	

There is no sign for zero in Roman Numbers.

In Roman Number only seven symbols are used :

I	V	X	L	C	D	M
1	5	10	50	100	500	1000

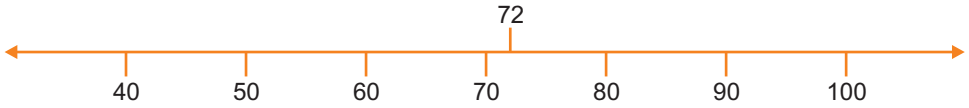
Which number is nearer to :



57 is the number which comes between 50 and 60.

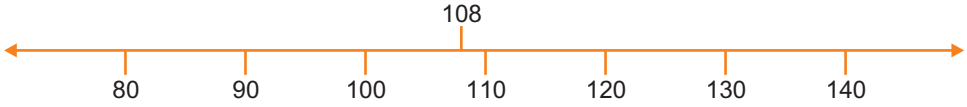
57 is nearer to which number 50 or 60 ? ----------

Thus 60 is nearer to 57, which is the nearer value of tens?



72 is the between 70 and 80

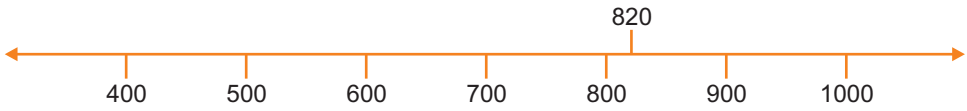
72 is nearer to which number ? _____ Thus the nearest tens value of 72 is _____.



108 is nearer to which number? _____. Thus the nearest tens value of 108 is _____.

580 is between 500 and 600

580 is nearer to which number? _____ Thus the nearest hundred value of 580 is _____.

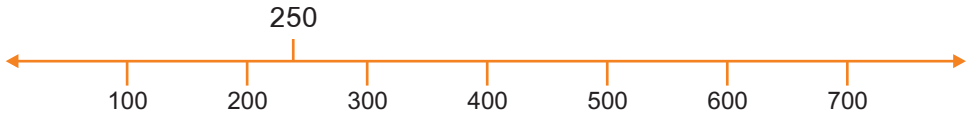


820 is nearer to which number?---------- What is the nearest hundred value of 820 ----------

122 is nearer to which number ?--------- Thus the nearest hundred value of 122 is ----------

In special cases, if a number is just between any two numbers then how will you calculate the nearest hundred value of that particular number.

Eg. 250 is nearer to which number



250 is just in between 200 and 300. In this case the nearest hundred value of 250 will be 300. Thus the nearest hundred value of 250 is 300.

1. Find out the nearest tens value of the following numbers.

   24, 65, 92, 148

2. Find out the nearest hundreds value of the following numbers.

   235, 709, 676, 550

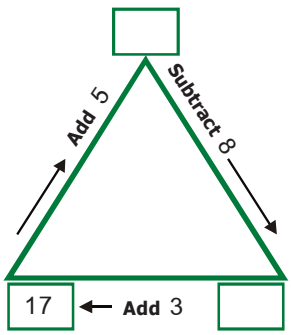
3. Find out the nearest tens and hundreds value of the following numbers.

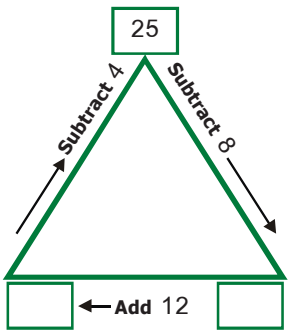
   138, 559, 427

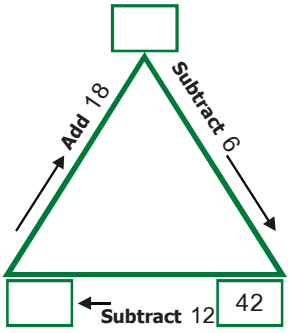
UNIT 2

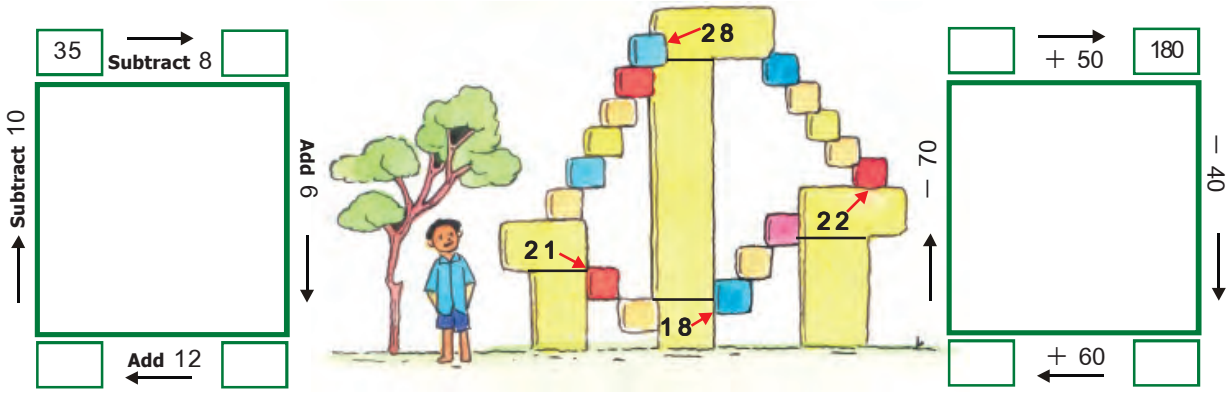
ADDITION & SUBTRACTION

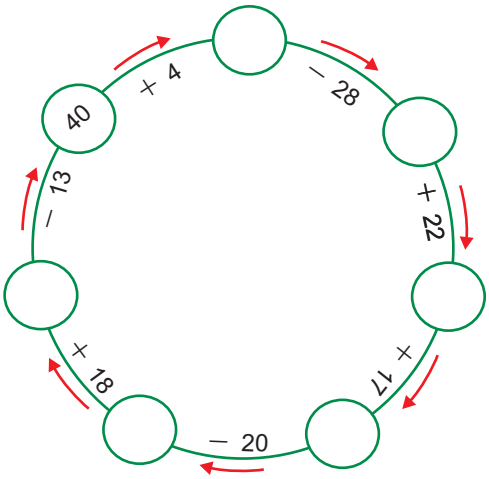
Write numbers in the boxes as shown.

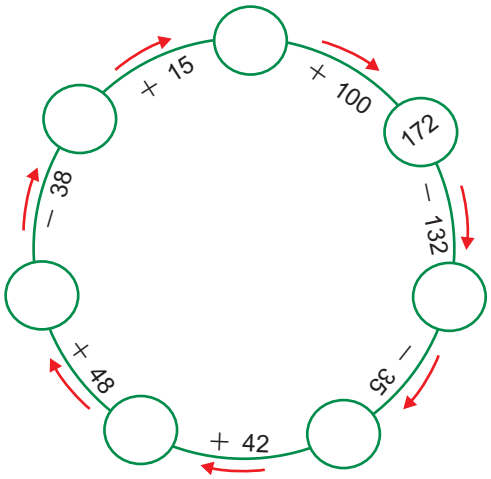












Understand the pattern and proceed.

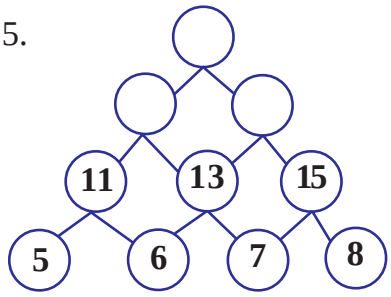
1.
1+2+3 = 6
2+3+4 = 9
3+4+5 = 12

2.
1+2+3 = 6
4+5+6 = 15
7+8+9 = 24

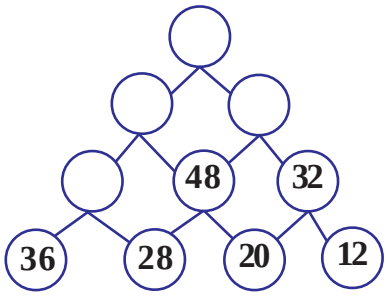
3.
2+4+6 = 12
8+10+12 = 30

4.
1+3+5 = 9
7+9+--- =

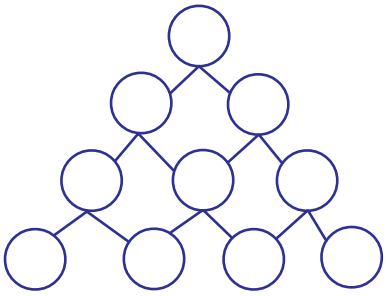
5.

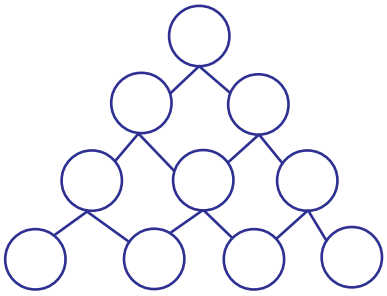


6.



In the same way you also make two patterns :-





Number game:

Select any number from the table. Do calculation using other numbers from the table to get the number you have selected :-

43	12	69	5	51	85
24	45	**64**	49	36	59
16	15	10	19	73	34
14	6	7	28	52	31
38	13	21	43	4	60
79	90	32	17	9	40

By selecting the number 64 you find the number in this way:

$60 + 4 = 64,$

$73 - 9 = 64,$

$69 - 5 = 64$

- Add numbers the result of which will be 34.
- Subtract numbers the result of which will be 34.

Some answers are given below. Form questions from these numbers:

- Answer is 35
- Answer is 44
- Answer is 21
- Answer is 12

If the answer is 18 then the question may be as follows

- What will you get by adding 9 to 9 ?
- One basket carries 9 mangoes. How many mangoes will be there in such two baskets?
- What is the answer of 25 - 7 ?
- What is two times of 9 ?
- $9 \times 2 =$ .....

Add and subtract in the following boxes

+	731	605	615
210	(941)		
318			
605			

−	881	7005	6382
613		(6392)	
780			
103			

Make questions:

Example-

	5	0			2	5	
−	2	5		+	1	0	
	2	5	<		3	5	

									1	4	
−				+				−			+		
	4	8	>					3	8	=			
	9												
−				+				−			+		
	7	8	>		9			2	7	<		3	

See the table and give the answers:

221	222	223	224	225	226	227	228	229	230
231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250
251	252	253	254	255	256	257	258	259	260

How much more is 231 than 221 ——————————

How much more is 241 than 231 ——————————

How much more is 251 than 241 ——————————

How much more is 243 than 242 ——————————

How much more is 244 than 243 ——————————

How much more is 245 than 244 ——————————

Follow the same pattern and find their difference:

Select any one number from the table. Add two numbers from below. Now add the two numbers from its left side. In the end find out the difference between the sum of these two numbers.

Example :

If you select 237 then the sum of two numbers247 + 257 = 504 and the addition of the left side number = 236 + 235 = 471. The difference between 504 and 471 i.e 504 - 471 = 33

Do the same with three more numbers. Is there anything special in the answer. Why does this happen?

The question given below are solved by Rahul and Riya. Tell who has solved the questions correctly. Write his/ her name in the box.

712+18, 216 + 17, 762−176, 800−191

The question done by Rahul

```
   7 1 2
+    1 8
-------
   7 2 10
     1
   2 1 6
+    1 7
-------
   2 3 3
-------
```

The questions done by Riya

```
     1
   7 1 2
+    1 8
-------
   7 3 0
-------

   2 1 6
+ 1 7
-------
   3 8 6
-------
```

$$\begin{array}{r} 762 \\ -\ 176 \\ \hline 586 \end{array}$$

$$\begin{array}{r} 800 \\ -\ 191 \\ \hline 609 \end{array}$$

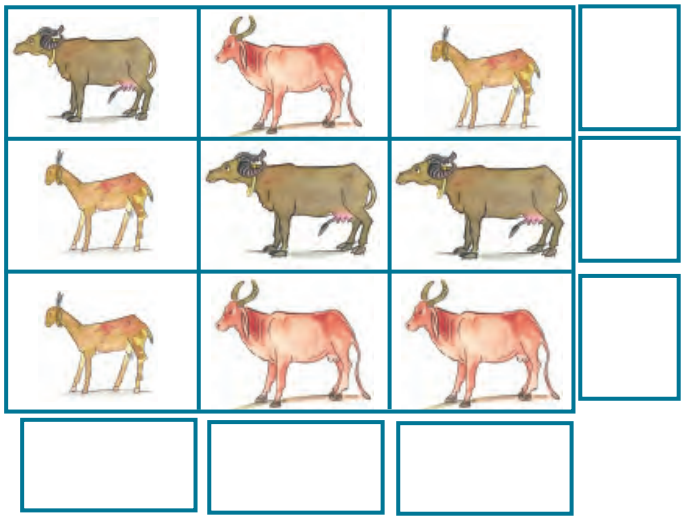
$$\begin{array}{r} 762 \\ -\ 176 \\ \hline 614 \end{array}$$

$$\begin{array}{r} 800 \\ -\ 191 \\ \hline 791 \end{array}$$

Discuss with your friends who has made the mistakes and where?

How much price ?

The price of a buffalo is Rs 5000/- . The cost of a cow is Rs 3000 and the cost of a goat is Rs 1000. See the picture and say:



1. Add the cost of all the animals in each column and write the answers in the blank box.
2. Write the total cost of the cows in the given box.
3. Tell the total cost of two cows and two goats.
4. Tell the total cost of 1 cow and 3 goats.
5. How many goats can be purchased in the price of one buffalo?
6. Shalu purchased one cow, one buffalo and one goat. After that she had sufficient money to purchase a goat. Tell how much money she had.

Add in expanded form

Example : Add 3453 to 5286.

3453 = Three thousand + Four hundred +Five tens + Three ones

3453 = 3000 + 400 + 50 + 3

In this way

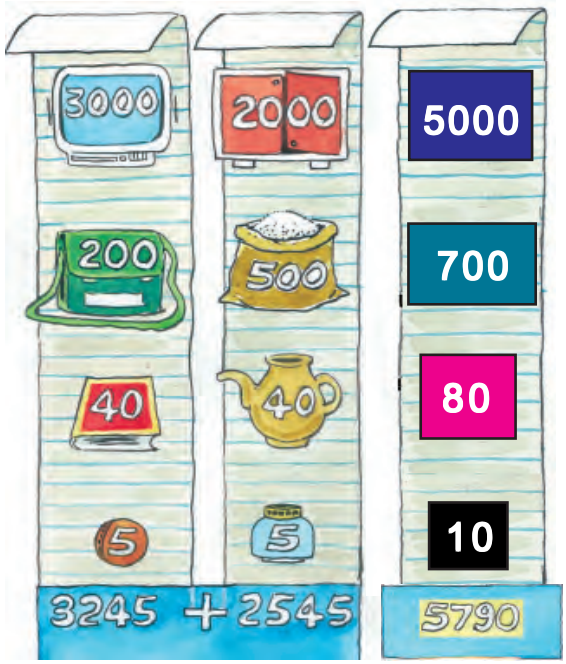
5286 = 5 thousands + 2 hundreds + 8 tens + 6 ones

= 5000 + 200 + 80 + 6

Thus

$$\begin{array}{rl} 3453 & = 3000 + 400 + 50 + 3 \\ +\ 5286 & = 5000 + 200 + 80 + 6 \\ \hline & 8000 + 600 + 130 + 9 \end{array}$$

Therefore 8 Th + 6 Hundreds + 13 Tens + 9 Ones
Or 8 Th + (6+1) Hun + 3 Tens + 9 Ones
Or 8 Th + 7 Hun + 3 Tens + 9 Ones



Example : Add 6875 to 2749

6875 = 6000 + 800 + 70 + 5
2749 = 2000 + 700 + 40 + 9
8000 + 1500 + 110 + 14

8 Th +15 H + 11 T +14 Ones
Or 8 Th + 15 H + 12 T + 4 Ones
Or 8 Th + 16 H + 2 T + 4 Ones
Or 9 Th + 6 H + 2 T + 4 Ones

The sum is 9624

Brief form :

```
  1 1 1
  6 8 7 5
+ 2 7 4 9
-------
  9 6 2 4
-------
```

Write the answers in expanded form :

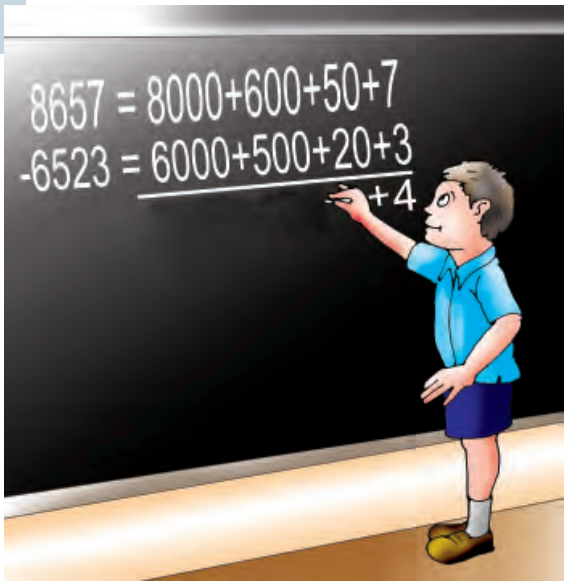
1. 2721 and 2620
2. 3510 and 2410
3. 4618 and 3206
4. 7390 and 2000
5. 5881 and 2830
6. 8215 and 1037

The difference in expanded form

Example : The difference of 8657 and 6523

8657 = 8000 + 600 + 50 + 7
− 6523 = 6000 + 500 + 20 + 3
2000 + 100 + 30 + 4

2 thousand + 1 hundred + 3 tens and 4 ones



Example : Subtract 4875 from 6324.

6324 = 6000 + 300 + 20 + 4
(5000, 1000, 200, 100, 10, 10)
− 4875 = 4000 + 800 + 70 + 5
1000 + 400 + 40 + 9

1 Th + 4 Hun + 4 Tens + 9Ones = 1449

Thus

$$\begin{array}{r} 6324 \\ -\ 4875 \\ \hline 1449 \end{array}$$

Subtract in expanded form :

1. 2100 from 6301 2. 3000 from 5810 3. 4210 from 5380
4. 4000 from 5000 5. 6000 from 6000 6. 1037 from 8215

Addition of numbers having 3 digits :

Example :

Add **147**, **253** and **268**

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

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

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

Brief form :

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

Solve these :

1.

	1	2	7
+	2	1	0
+	2	4	2

2.

	1	2	4
+	2	6	7
+	7	1	3

3.

	1	4	5
+	2	4	6
+	1	3	2

4.

	1	1	5
+	1	0	6
+	7	0	3

Number 1 to 100 are written in these boxes.

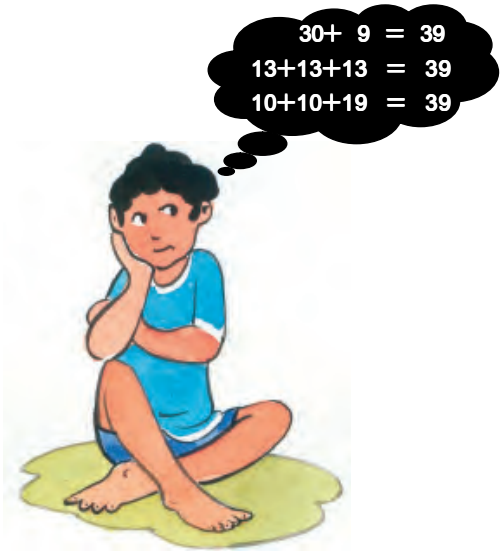
In number 13, the sum of both the digits 1+3 = 4. In the same way, in number 57 the sum of both the digits is 5+7 = 12 and 1+2 = 3.

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

Now in these boxes write the sum of the digits & complete the square.

		4							
						3			

Do you find some order in these numbers written in squares?



.

Write three numbers, the sum of which is 125 -

27	+	50	+	48	=	125
	+		+		=	125
	+		+		=	125
	+		+		=	125
	+		+		=	125

Solve these questions -

1. There are 438 students in Patel Para School. Out of which 198 are girls. What is the number of boys in the school ?
2. In a garden, there are 245 mango trees, 368 guava trees and 154 papaya trees. What is the total number of trees in the garden ?
3. In a school there are 435 Hindi books, 412 Maths books and 138 English books. Write the total number of books.
4. One boy purchased a copy containing 360 pages. He wrote on 272 pages in a few days. How many pages are blank ?
5. Hindi, Mathematics and English books contain 368, 370 and 205 pages respectively. Find the total number of pages.
6. In an election of the gram panchayat first candidate got 638 votes, the second candidate got 758 votes and was elected. Say, the candidate was defeated by how many votes?
7. 352 and 256 guavas were plucked from two different gardens. Tell, How many more guavas were plucked from first garden?

The addition of 4 digits numbers :

Example : Add 4538 and 3485.

	T.	H.	T.	O
	(1)	(1)	(1)	
	4	5	3	8
+	3	4	8	5
	8	0	2	3

Solve these-

1. 4385 + 2876 =

2. 5738 + 2575 =

3. 3475 + 3687 =

4. 6346 + 282 =

5. 3436 + 208 =

6. 5785 + 3512 =

7. 7213 + 2587 =

8. 1111 + 1199 =

9. 5789 + 3122 =

10. 4747 + 4363 =

11. 689 + 4678 =

12. 7172 + 938 =

The subtraction of 4 digit number:-

Example : Substract 6853 from 8327

	T.	H.	T.	O
	~~8~~ 7	~~3~~ 12	~~2~~ 12	7
−	6	8	5	3
	1	4	7	4

Solve these-

1. 5078 − 2784

2. 7981 − 2503

3. 5672 − 3240

4. 3563 − 2706

5. 6230 − 2451

6. 2508 − 1392

7. 5643 − 2154

8. 9634 − 5071

9. 5000 − 2550

10. 7111 − 5222

11. 4444 − 2165

12. 8100 − 7899

The population of 3 villages are in written below :

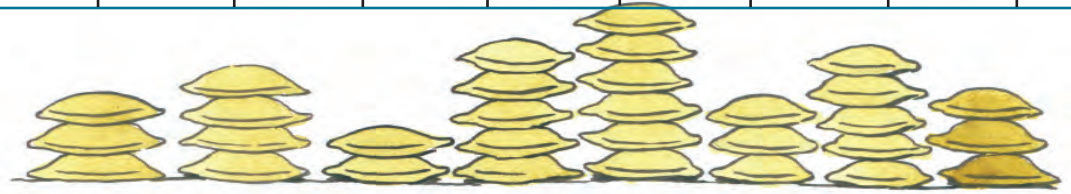
	Ladies	Men	Boys	Girls
Bhanupratappur	4134	3975	1152	987
Basna	3412	3116	1017	1075
Abhanpur	3532	3580	875	915

See this table and answer the questions :-

1. How many people live in Bhanupratappur ?
2. In Basna how many men are less than women ?
3. How many boys live in Bhanupratappur and Basna ?
4. What is the total number of boys and girls in Abhanpur ?

See the picture and tell :

Edible things	Wheat	Rice	Maida	Sugar	Salt	Rawa	Peas	Paddy
In a Bag	75 kg	50 kg	50 kg	50 kg	40 kg	40 kg	75 kg	75 kg



Maida. Rice Sugar Wheat Paddy Rawa Peas Salt

- What is the total weight of Rawa ?
- What is the total quantity of 4 sacks of rice and 3 sacks of salt?
- How much is the weight of the sacks of Rawa less than the weight of the sacks of maida ?
- Among given edible things, which are equal in weight?
- What is the total weight of 1 sack of maida and 2 sacks of rice?
- Among the above edible things given which has the maximum and minimum weight ?
- The total number of sacks of all the edible things.

See the picture and say who has spent how much money to purchase things at the following price :

Harpal purchased cycle and T.V. ( )
Dinesh purchased bat ball, radio and mobile. ( )
Raju purchased bucket and mug, almirah and telephone. ( )
Salma purchased hockey stick, radio and mobile. ( )
Reeti purchased bucket, mug, radio and almirah. ( )

If every person has Rs. 9,500 then what amount of money would be left with each one?

Now tell -

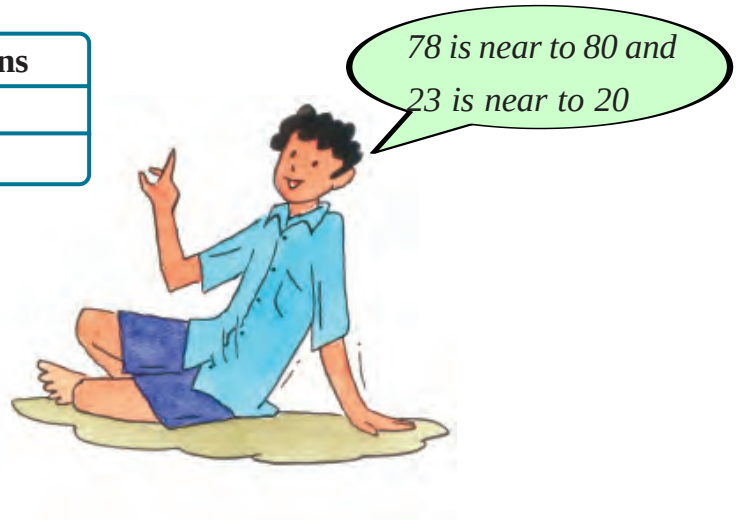
1. Who has spent more: Harpal or Dinesh ?
2. Who has spent more: Dinesh or Reeti ? By how much ?
3. What is the total amount spent by Raju and Salma both?
4. How much less was spent by Salma than Harpal ?

Now you ask your friends about their favourite things and find out their cost.

Calculation based on Addition:

Example 1: There are 78 marbles in a bag and 23 in another bag. If you add marbles from both the bags, then calculate the total number of marbles. Before calculating 78 + 23 first, find the nearest tens value of 78 and 23 and add them.

Number	Nearest Tens
78	80
23	20



Celculated Total

80
+ 20
100

Actual Total

78
+ 23
101

Thus on adding marbles of both the bags. We get about hundred marbles. Therefore the difference between the calculated number (100) and actual number (101) is only 1.

Example 2: In primary school , 172 boys and 121 girls are registered. Calculate the total number of students in the school?

Before calculation, find out the nearest value of 172 and 121 and add them:

First find the nearest thousand valve of Rs. 3725 and Rs. 1650.

Number	Nearest Hundred
172	200
121	100

Calculated Total –

$$\begin{array}{r} 200 \\ +\ 100 \\ \hline 300 \end{array}$$

Actual Total–

$$\begin{array}{r} 172 \\ +\ 121 \\ \hline 293 \end{array}$$

Thus the calculated total of the students is 300 which is very near the actual total 293.

Example 3: Raju went to market to purchase a portable T.V. and fan. Their cost are Rs. 3725 and Rs. 1650. Now you tell, nearly how much amount of money should Raju carry?

First find the nearest thousand value of Rs. 3725 and Rs. 1650.

Number	Nearest Thousand
3725	4000
1650	2000

Calculated Total

$$\begin{array}{r} 4000 \\ +\ 2000 \\ \hline 6000 \end{array}$$

Actual Total

$$\begin{array}{r} 3725 \\ +\ 1650 \\ \hline 5375 \end{array}$$

Therefore Raju should carry Rs. 6000 to market for both the market.

Now tell the calculated and the actual total

Hint–
- If the number is of two digits then of nearest Tens.
- If the number is of three digits then of nearest Hundred.
- If the number is of four digits then of nearest Thousand.

1.	47, 81	2.	67, 32	3.	97, 15	4.	72, 138
5.	8251, 1310	6.	5371, 3800	7.	7214, 1818	8.	632, 225
9.	5990, 4137	10.	265, 381	11.	703, 581	12.	6410, 3817

Methods of Vedic Maths

You have already learnt addition, subtraction, multiplication and division. There are a few simple and interesting methods for this processes in Vadic Maths also. Here we will introduce them to you. Before knowing about these methods let us get acquainted with digits.

Digits (Ank)- 0,1,2,3,4,5,6,7,8,9. These are the ten digits. All the numbers are written using these digits.

Bijank- In Vedic Maths digits from 1 to 9 are called Bijank. To find out the Bijank of any number, the digit of the number are added till a single digit number is obtained.

For example –

To find out the Bijank of 35, we will add its digits.

3 + 5 = 8

So the Bijank of 35 is 8

Similarly -

Bijank of 97

9 + 7 = 16 but 16 has 2 digits So we will add these digits also

1 + 6 = 7

So the Bijank of 97 is 7

Param Mitra Ank –

Any 2 digits whose total is 10 are called Param Mitra of each other.

For example –

1 + 9 = 10

So 1 is Param Mitra of 9

and 9 is Param Mitra of 1

Now let's practice it a bit

Exercise

Q. 1 - What are the digits that are used for writing numbers?

Q. 2 - Write the Bijank of following numbers.

(i) 12 (ii) 15 (iii) 17 (iv) 19 (v) 37

(vi) 44 (vii) 56 (viii) 67 (ix) 96 (x) 183

Q. 3 - Write the Param Mitra number of the following numbers.

(i) 2 (ii) 3 (iii) 4 (iv) 5

Ekadhiken Poorven–

The meaning of Ekadhiken Poorven is take one more than the previous number.

For example -3 is the ekadhik of 2

Similarly - 4 is the ekadhik of 3

Can you tell the ekadhik of each digit from 1 to 9 ?

Eknyunen Poorven –

The meaning of EkNyunenPoorven is take one less than the previous number.

For example - 7 is eknyun of 8, Similarly 4 is eknyun of 5

Now you tell the eknyun of all the digit from 1 to 9.

In the methods of Vedic Maths, Ekadhiken Poorven and Eknyunen Poorven are used at many places.

Now tell –

What numbers will you get from the following numbers by doing its Ekadhik twice?

(i) 22 (ii) 43 (iii) 30 (iv) 58

Sometimes it is necessary to do Ekadhik or Eknyun more than once.

For example –

We get 13 by doing Ekadhik of 12 and 14 when we again do Ekadhik of 13 that is get 14 when we do Ekadhik of 12 twice.

Now lets do Eknyunen of 12 twice.

We get 11 by doing Eknyun and 10 when we again do Eknyun of 11 we get 10 that is when we do Eknyunen of 12 twice.

What numbers we will get when we do Ekadhik of these numbers thrice?

(i) 23 (ii) 15 (iii) 36 (iv) 42

Choose some numbers on your own and practice Ekadhik of these numbers.

Now tell –

What numbers will you get by doing EkNyunen twice?

(i) 16 (ii) 30 (iii) 67 (iv) 75

What numbers will you get from these numbers by doing EkNyunen thrice?

Choose some numbers on your own and practice doing Eknyun twice or thrice.

Addition with the help of Param Mitra.

If we have to add 1,2 or 3 to any digit, we can do it by doing Ekadhik as per need. But if both the digits are greater than 5, it is easy to add with the help of Param Mitra.

Lets, look at an example.

```
   9
 + 7
 ———
```

Here we have to add 9 and 7. Param Mitra Ank of 9 is 1.

So we taken 1from 7 and add it to 9.

Now 9 + 1 = 10

And taking out 1 from 7 makes it 6. By adding 6 to 10, we get 16

i.e.

```
   9
 + 7
 ———
  16
```

Similarly practice addition with the help of Param Mitra.

(i) 7 + 8 (ii) 8 + 6 (iii) 9 + 8 (iv) 6 + 9

In a similar way, take two digits greater than 5 and try adding them with the help of Param Mitra.

Unit 3

Multiplication and division

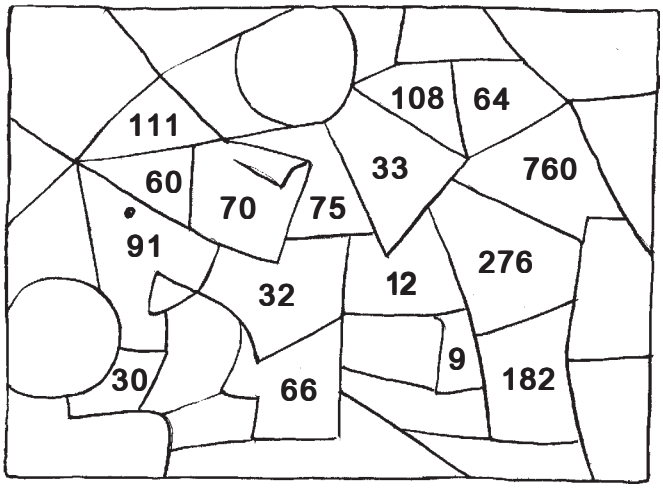
You have already done multiplication and division in previous classes-

Some similar questions (sums) are given below –

Answers of the questions are given in adjacent boxes.

Solve the questions. Colour the boxes which have the answers. When all the boxes will be coloured, you will get a figure.

1. 46 × 6 = ...
2. 7 × 13 = ...
3. 66 ÷ 2 = ...
4. 11 × 6 = ...
5. 37 × 3 = ...
6. 150 ÷ 5 = ...
7. 128 ÷ 4 = ...
8. 95 × 8 = ...
9. 15 × 5 = ...
10. 120 ÷ 2 = ...
11. 26 × 7 = ...
12. 27 × 4 = ...



13. A box contains 7 balls. How many boxes are needed for 63 balls?
14. Cost of 1 kg sugar is Rs 14/- Rajiv bought 5 kg of sugar. How much money should he pay to the shopkeeper?.
15. There are 16 guava trees, 16 orange trees, 16 papaya trees and 16 mango trees in a fruit garden (orchard). What is the total number of trees in the fruit garden(orchard)?
16. There are 72 oranges. Distribute them among 6 persons. How many oranges will each person get?

You have already learnt in previons classes that multiplication means add again and again:

1 Box contain 18 chalksticks. How many chalksticks will be there in such 3 boxes?

18 + 18 + 18 = 54 i.e. 18 × 3 = 54

You already know 6 × 5 = 5 × 6

Find out the product of two numbers. You will see if you change the position of the number, the product will be same i.e 3 × 4 = 4 × 3

Tell everyone if you find any two numbers for which this is not true.

Now solve the following problems quickly:-

1. 8 × 8 = 64
2. 12 × 9 = 108
3. 19 × 10 = 190
4. 20 × 5 = 100
5. 29 × 4 = 116
6. 26 × 8 = 208

8 × 9 = ...

9 × 12 = ...

20 × 10 = ...

20 × 4 = ...

30 × 4 = ...

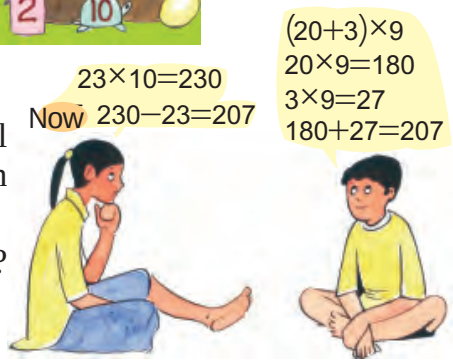
26 × 7 = ...

Find the missing number:

Different methods of multiplication

There are 23 chairs in a row. How many chairs will be there in 9 such rows? Meena and Tinu solved this in different ways.

In how many more ways can you solve this problem ?



Some more problem sums

1. In a garden there are 7 rows. In each row 15 rose plants are planted. How many total rose plants are there?
2. There are 25 oranges in a basket. How many oranges will come in such 5 baskets ?
3. A tailor stiches 12 shirts in one day. How many shirts does he stitch in 4 days?

You should try some more such problems and solve it in different ways. Try at least 4-5 processes for each problem.

How to solve?

In previous class you did sums like 34 × 7, 126 × 2

Now we will see 32 × 16

```
   1
  32
× 16
 192   (32 × 6)
 320   (32 × 10)
 512
```

Whenever you multiply a number with some two digits number, first you multiply ones number.
In this number ones digit is 6 therefore 32 × 6 = 192
Now the second digit, 1 tens i.e. 10 is multiplied by 32
32 × 10 = 320 | Now you add both (192+320). The answer will be 512.

There is one more process for multiplication

$32 \times 16 = ?$ We can write it $32 = 30 + 2$ & $16 = 10 + 6$

×	30	2
10	30 × 10 300	2 × 10 20
6	30 × 6 180	2 × 6 12

Now add all the four numbers.

$300 + 180 + 20 + 12 =$ ————

Is the answer the same as it was in previous process?

Now solve the sums given below in both the processes -

1. 45×23 **2.** 95×89 **3.** 67×72

4. 57×69 **5.** 30×29 **6.** 15×49

Observe and understand:

$346 \times 25 = ?$ other process to solve it.

$346 = 300 + 40 + 6$ & $25 = 20 + 5$

$$\begin{array}{r} 346 \\ \times \quad 25 \\ \hline 1730 \quad (346 \times 5) \\ +\ 6920 \quad (346 \times 20) \\ \hline 8650 \end{array}$$

×	300	40	6
20	300 × 20 6000	40 × 20 800	6 × 20 120
5	300 × 5 1500	40 × 5 200	6 × 5 30

Thus $346 \times 25 = 6000 + 1500 + 800 + 200 + 120 + 30$

Or $346 \times 25 = 8650$

Solve these:

1. 132×95 **2.** 465×38 **3.** 278×47

4. 921×66 **5.** 760×19 **6.** 803×45

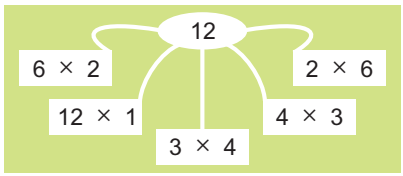
Problem Sums:

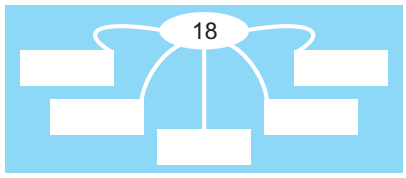
- There are 65 students in a school. All deposited Rs 15 for picnic. What is the total amount deposited?
- Radha is in need of 14 copies. If each copy costs Rs 16. How much money does Radha require?
- In a small box 12 ice cream cups can be kept. In a big box 15 times more icecream cups can be kept. Answer how many icecreams can be kept in big box?
- A saree has 25 different designs. Every design has 16 colours. A shopkeeper wants to purchase one piece of each type of saree for his shop. How many sarees the

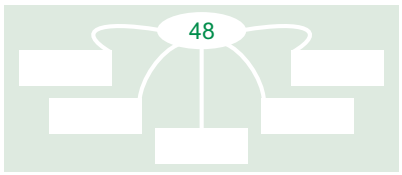
shopkeeper has to purchase for shop?

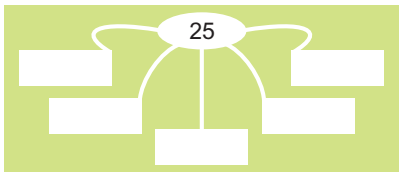
- One chair costs Rs. 436. What will be the cost of 35 chairs?
- Ramesh went to the market with Rs. 3000. He purchased 12 sets of books at the rate of Rs 175. How much money is left with him?

Form question from the given answer









Game of tables (Tables game)

If you know the tables from one to ten then you can form tables beyond ten:

Let us develop table of 13:-

Table of 10	10	20	30	40	50	60	70	80	90	100
Table of 3	3	6	9	12	15	18	21	24	27	30
Table of 13	13	26	39	52	65	78	91	104	117	130

To form table of 13 first we wrote table of 10 and then table of 3. then added them and we get the table of 13, 7+6 =13 what will happen if we add tables of 7 and 6 ?

Let us do and observe -

Table of 7	7	14	21	28	35	42	49	56	63	70
Table of 6	6	12	18	24	30	36	42	48	54	60
Table of 13	13	.....	.....	.....	.....	.....	.....	.....	.....	.....

Do you get the table of 13? Can you develop the table of 13 by using other numbers? Which are those numbers?

1. ....., ... 2. ....., ... 3. ....., ... 4. ....., ...

You have already formed table of 13 In the same way develop tables of 11, 12, 14, ...20.

DIVISION

When we have to distribute the things equally we divide it. You have learnt in class 3 that we do division by subtracting the same number again and again or by telling the tables.

Ex. 15 apples are distributed equally among 5 children. Tell how many will each child get?

$$5\overline{)15}\quad 3$$
$$15$$

$$5\overline{)15}\quad 1+1+1$$
$$-5$$
$$10$$
$$-5$$
$$5$$
$$-5$$
$$0$$

In this way you have seen that by both the processes of division 5 children got 3 apples.

Solve:

1. $51 \div 3 = 17$
2. $40 \div 4 =$ ———
3. $150 \div 5 =$ ———
4. $63 \div 7 =$ ———
5. How many times can 5 be subtracted from 45?
6. If 108 things are distributed in 9 groups then how many groups will be formed?
7. In a jeep only 8 people can sit. Then how many times will the jeep be required to take 48 people to the market.
8. One gardener has 60 flowers. If he makes a garland of 12 flowers then how many garlands would be made?
9. One box can contain 10 books. Then how many boxes would be required to keep 100 books.

$$3\overline{)51}\quad 17$$
$$-3$$
$$21$$
$$21$$
$$0$$

Remainder

Can 13 sweets be divided equally among 4 children.

$$4\overline{)13}\quad 3$$
$$12$$
$$1$$

You know:
Here 4 divisor
13 dividend
and 3 quotient

This means that when 13 sweets were distributed equally among 4 children then each child got 3 sweets and one sweet was left. Here remainder = 1.

Remainder = 1

Now solve the questions given below.

1. 25 ÷ 4
2. 39 ÷ 6
3. 53 ÷ 8
4. $7\overline{)529}$
5. $9\overline{)353}$
6. $3\overline{)654}$
7. 84 ÷ 4
8. 49 ÷ 7
9. 97 ÷ 6

Write the divisor, dividend, quotient and remainder separately. Write the questions, which have a remainder of '0' in your copy and make a problem sum of these question. Two problem sums are given here –

1. 25 ÷ 4

The teacher took out 25 books and distributed them equally among 4 children. Tell how many books each child would get and how many books would be left.

2. $3\overline{)654}$

The cost of 3 chairs is Rs 654. Then what is the cost of one chair?

Make questions and solve

484 ÷ 4

The cost of 4 sarees .....

.....

Different ways of division

The teacher gave questions of division to the students and asked them to solve it in their copies. Look at the ways in which the students solved the questions.

$$\begin{array}{r} 71 \\ 4\overline{)284} \\ -\underline{28} \\ 04 \\ -\underline{4} \\ 0 \end{array}$$

$$\begin{array}{r} 70+1 \\ 4\overline{)\ 284} \\ -\underline{280} \\ 04 \\ -\underline{4} \\ 0 \end{array}$$

$$\begin{array}{r} 40+30+1 \\ 4\overline{)\ \ 284} \\ -\underline{160} \\ 124 \\ -\underline{120} \\ 04 \\ -\underline{4} \\ 0 \end{array}$$

284 = 200+80+4, 284 ÷ 4 =

200 ÷ 4 = 50
80 ÷ 4 = 20
4 ÷ 4 = 1
71

Are all the solutions correct? Discuss. Solve the questions of division in different way and tell which one you like and why?

Naseem and Sushila were talking. Sushila asked her to tell quickly what would be the answer on dividing 1018 by 11? Naseem told that the answer would be approximately 100.

How can we guess the answers of these questions?

Lets observe:

Naseem said 1018 is near to 1000 and 11 is near to 10.

Therefore we can divide 1000 by 10, (1000 ÷ 10)

and the answer would be near to 100.

Now guess the answers of the followings questions and ask others.

1. What would be the answer on dividing 97 by 31?
2. What would be the answer on dividing 932 by 9?
3. How many heaps of 8 guavas can be made from 118 guavas?

How to solve

You have already done division in previous classes. Can you tell 372 ÷ 12 = ?

$$
\begin{array}{r}
31 \\
12\overline{)372} \\
-36 \quad (12\times3=36) \\
\hline
12 \\
12 \quad (12\times1) \\
\hline
00
\end{array}
$$

Here 372 is to be divided by 12. You can not distribute 3 hundreds into 12 parts. So convert 3 hundreds into tens. In this way 30 tens +7 Tens makes 37 tens.

What will be the divisor of 37 by 12 Let us read the table of 12

12 × 1 = 12
12 × 2 = 24
12 × 3 = 36
12 × 4 = 48

48, is greater than 37. So we read table of 12 only three times and subtrat 36 from 37. 1 tens will be remainder which we convert into ones. In this way 10+2 = 12 Ones

Now dividing 12 by 12 is equal to 1.

This can also be done in this way:

$$
\begin{array}{r}
20+5+6 \\
12\overline{)\ 300+72} \\
-240 \quad (12\times20) \\
\hline
60 \\
-60 \quad (12\times5) \\
\hline
00 \quad 72 \\
-\ 72 \quad (12\times6) \\
-\ 00
\end{array}
$$

20+5+6 = 31

Now solve these questions:

1. One rope is 132 m long. If we cut the rope into pieces of 12 meter each. How many pieces can be cut?
2. One box contains 17 bottles then how many bottles will be there in 12 boxes?
3. There are 252 apples in a basket. How many apples each person will get if these apples are distributed among 18 people?
4. A bag contains 55 numbers of 1Rupee coins. How many heaps can be made by these coins if each heap has five rupees.
5. If one has to pay Rs. 1650 for 3 fans. What is the cost of one fan?
6. 12 students of class IV got Rs. 900 as scholorship. Tell how much rupees each student got?

You also form these type of questions. Solve it and show it to your friends and teachers.

There are some numbers and signs kept in boxes given below. Ravi has arranged them properly. But Kamla has disturbed them. Can you re-arrange them?

=	10	÷	2	5
45	÷	3	=	15
3	×	12	4	=
3	3	9	÷	=
20	÷	5	=	4

State which solutions are right and which solution are wrong. Find the mistake and correct the wrong solution.

1.
$$\begin{array}{r} 10 \\ 7\overline{)81} \\ -7 \\ \hline 1 \end{array}$$

2.
$$\begin{array}{r} 33 \\ 3\overline{)99} \\ 9 \\ \hline 09 \\ -9 \\ \hline 0 \end{array}$$

3.
$$\begin{array}{r} 114 \\ 4\overline{)\ 96} \\ -4 \\ \hline 5 \\ -4 \\ \hline 16 \\ -16 \\ \hline 00 \end{array}$$

4.
$$\begin{array}{r} 1 \\ 6\overline{)\ 90} \\ -6 \\ \hline 3 \end{array}$$

5.
$$\begin{array}{r} 07 \\ 8\overline{)56} \\ 0 \\ \hline 56 \end{array}$$

7.
$$\begin{array}{r} 12 \\ 4\overline{)\ 58} \\ -4 \\ \hline 8 \\ -8 \\ \hline 0 \end{array}$$

You have already done problem sums. Now you form problem sums from the facts given below.

1. 125 ÷ 5
2. 53 × 4
3. 15 + 15 + 15
4. 763 − 365
5. 256 ÷ 12
6. 105 ÷ 15
7. 108 × 13
8. 256 + 200 + 300
9. 63 × 9

You also make such type of sums. Do it yourself and also ask your friends to do it.

Unit 4

FRACTION

You have read about $\frac{1}{2}, \frac{1}{4}, \frac{3}{4}, \frac{1}{3}$ in class III. Do you remember we said $\frac{1}{2}$ as half and exhibited in figure in this way

$\frac{1}{2}$ = half =  (Colour part)

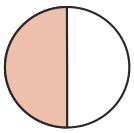
Fill up the blanks with similar figures

$\frac{1}{4}$ = one fourth =

$\frac{3}{4}$ = ———————— =

$\frac{1}{3}$ = ———————— =

Shahnaz and Mala have prepared some diagrams and figures. What is the value of this coloured part. Write the names below the figures.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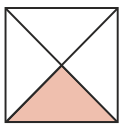
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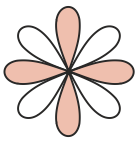
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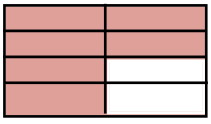
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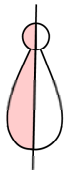
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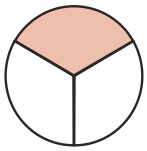
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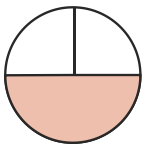
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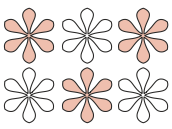
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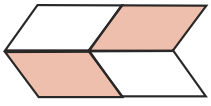
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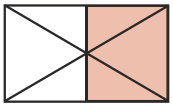
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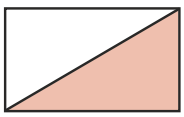
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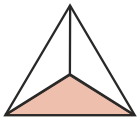
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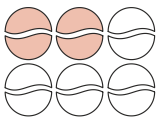
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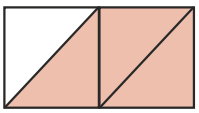
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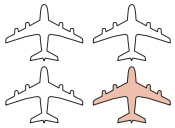
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Numerator and denominator

You must know that in $\frac{2}{8}$, 2 is numerator and 8 is denominator.

Now tell which number is numerator $\frac{3}{4}, \frac{2}{3}, \frac{1}{2}, \frac{1}{3}, \frac{1}{4}$

Numerator	.....
Denominator	.....

Now do the fractions in figures also. If some fraction is exhibited by figure how can you recognize numerator and denominator. Let see the examples .

Example- We can exhibit $\frac{1}{4}$

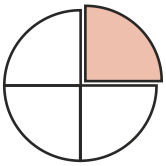
Coloured portion = 1 (numerator)

Uncoloured and coloured portion (total) = 4 means denominator.

In this way do $\frac{2}{3}$, $\frac{1}{2}$, $\frac{1}{3}$ and $\frac{3}{4}$

The total number of divisions of a thing is its denominator and the coloured divisions are numerators

See these figures and tell what is the total number of parts and the number of coloured parts. Then tell the numerator and the denominator.



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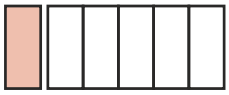

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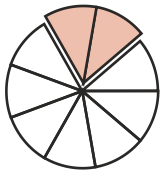

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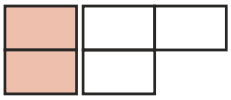

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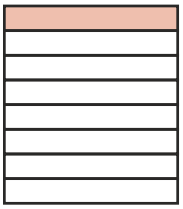
Write in Fraction:

Here we have distributed a piece of paper into 8 equal parts.



One part is coloured.

Coloured part of paper = 1

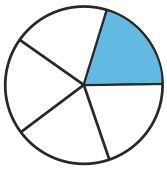
Total number of parts of the paper = 8

Therefore the coloured part is $\frac{1}{8}$ (1 upon 8) of the whole piece of paper.

In the same way if 2 parts of the paper are coloured then the coloured part is $\frac{2}{8}$ (2 upon 8) of the whole piece of paper. Here numerator is 2 and denominator is 8.

- To tell $\frac{3}{8}$ how many parts will you colour ? ——————————
- If we colour 4 parts then what part will be the coloured part of whole piece of paper? ——————————
- If we colour 7 parts of whole piece of paper then coloured part of whole piece of paper? ——————————
- 5 parts of whole piece of paper? ——————————
- If all parts of whole piece of paper is coloured, then write in fraction. ——————————

Write the coloured parts as fraction in the figure given below –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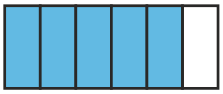
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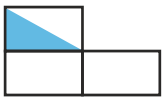
——————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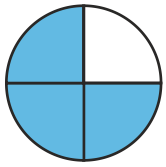
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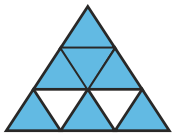
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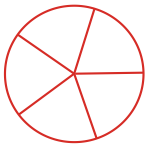
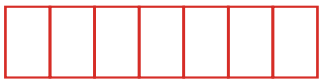
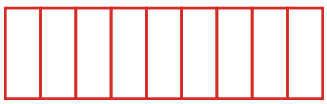
Some fractions are given below. Exhibit them in the figure :

$\frac{3}{5}$ 

$\frac{5}{7}$ 

$\frac{4}{9}$ 

$\frac{3}{8}$ 

$\frac{1}{2}$ 

$\frac{2}{3}$ 

$\frac{5}{5}$ 

$\frac{5}{6}$ 

Write as directed:

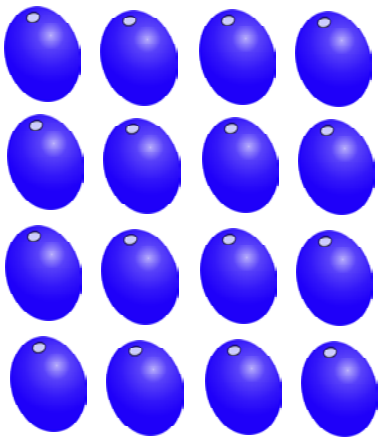
1. A fraction in which denominator is 8 & numerator is 5 ——————————
2. A fraction in which denominator is 5 and numerator is 13 ——————————
3. Three fractions in which denominator is double of numerator _____
4. Two fractions of equal denominators ——————————
5. Two fractions in which numerators are same but denominators are different. ———————

Division is also fraction

Do you know that collection of things can be divided into equal parts. You may have divided things equally between your two friends, this means both of them have taken the things half-half.

Sushila and Chandar collected 16 jamuns. If they distributed it equally between themselves. How many jamuns will each get.

We can explain this as follows –



Total number of jamuns was 16

equally divided in two parts

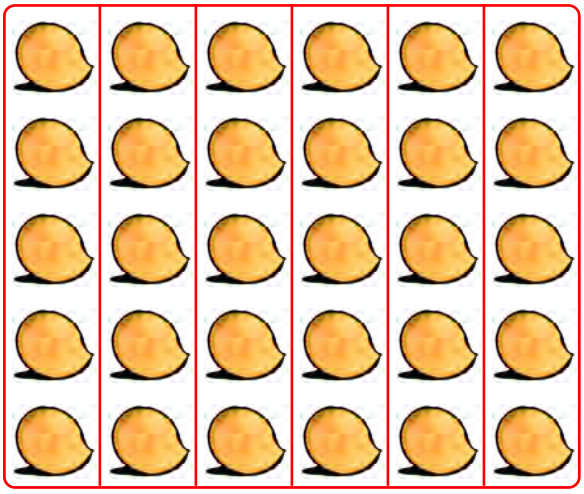
Sushila's share is half of the total or $\frac{1}{2}$ 1

Chandar's share is half of the total or $\frac{1}{2}$ 1

Each portion have 8 jamuns

Therefore half of 16 = 8 or $\frac{1}{2}$ of 16 = 8

Now you do



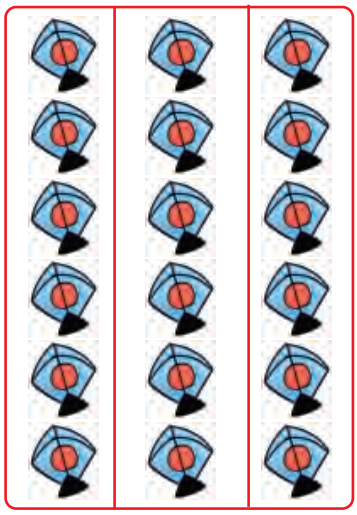
Total number of mangoes ———————

How many equal portion of mangoes were made? ———————

What part of total number is represented by each protion? ———————

What is the number of mangoes in each portion? ———————

There fore $\frac{1}{6}$ of 30 = 5



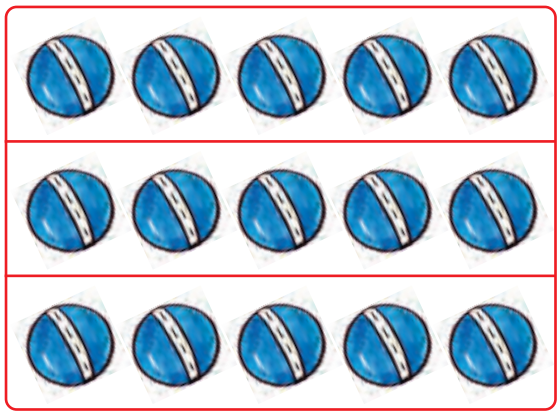
Total number of kites ----------

In how many equal portions it is divided ----------

How will you write each portion in fraction ----------

Number of kites in each portion ----------

Therefore $\frac{1}{3}$ of 18 = ----------



Total number of balls ———————

In how many equal parts it has been divided ———

How will you write one part in fration?———————

How will you write two parts in fration?———————

State the number of balls in two parts ———————

Therefore $\frac{2}{3}$ of 15 = ———————

Now do it (Draw the figure first, if needed)

- There were 16 bananas out of which I ate 4. Tell what fraction of bananas are left?
- In a basket there are 6 mangoes, 4 bananas and 5 apples. What is the fraction of the apples among the entire friuts?
- Kailash has 10 biscuits. Out of which he gave 2 bisucuits to Shubha. Tell what fraction did Shubha get ?

Big & Small Fraction

In your previous class you read about half $(\frac{1}{2})$, quarter $(\frac{1}{4})$, three fourth $(\frac{3}{4})$ and one third $(\frac{1}{3})$. These words are also used in other examples.

Where do you use these words in daily life?

——————— ——————— ——————— ——————— ——————— ———————

If you got $\frac{1}{2}$ of a guava and your friend got $\frac{1}{4}$ th, who got more?

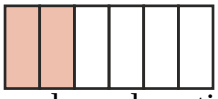
Which is a greater fraction: $\frac{1}{2}$ or $\frac{1}{4}$?

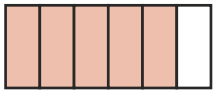
You got it right : $\frac{1}{2}$ is greater than $\frac{1}{4}$

Let us find which is the greatest fraction among $\frac{1}{6}$, $\frac{2}{6}$ and $\frac{5}{6}$?

See these figures -

Here coloured portion is $\frac{1}{6}$ of the whole.Here uncoloured portion is ..... of the whole.



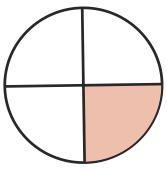


Here coloured portion is ..... of the whole.

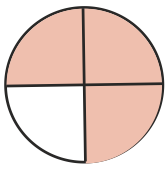
Among all of these, which figure has maximum coloured part? Which fraction exhibits the maximum coloured part ? ————————

This fraction is the greatest fraction among all three.

Now see the figures and fill which fraction is greater and which fraction is smaller ?



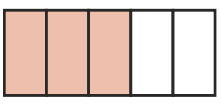
$\frac{1}{4}$



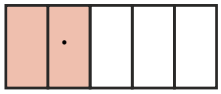
$\frac{3}{4}$

Between these two fraction $\frac{1}{8}$ is smaller than $\frac{3}{4}$

It can be shown as $\frac{1}{4} < \frac{3}{4}$

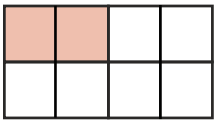


$\frac{3}{5}$

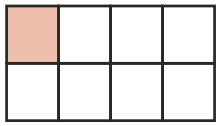


$\frac{2}{5}$

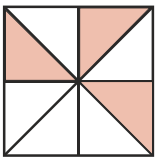
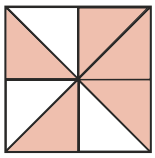
.....

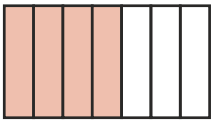
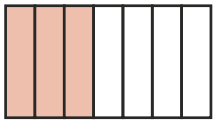


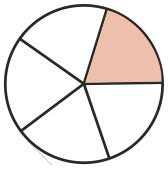
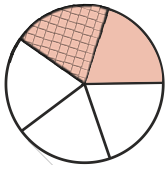
$\frac{2}{8}$

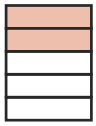
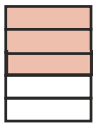


$\frac{1}{8}$

 $\frac{3}{8}$  $\frac{5}{8}$ .....

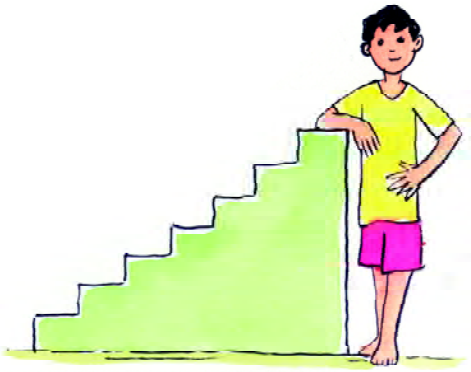
 $\frac{4}{7}$  $\frac{3}{7}$ .....

 $\frac{1}{5}$  $\frac{2}{5}$ .....

 $\frac{2}{5}$  $\frac{3}{5}$ .....

If denominator of two fractions are equal then the fraction having greater value of numerator is a greater fraction.

Arrange the numbers in order



You have already arranged the number like 1, 2, 3, 4, and 98, 99, 100, 101, 102, ... etc.

Now arrange the fractions in increasing order.

$\frac{8}{9}, \frac{6}{9}, \frac{5}{9}, \frac{3}{9}, \frac{1}{9}, \frac{4}{9}, \frac{7}{9}, \frac{2}{9}$

You can also write them by using the sign - <, >

For example– $\frac{1}{9} < \frac{2}{9} <$ ————————————————————————————

Or

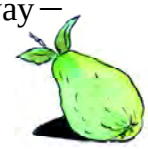
$\frac{8}{9} >$ ————————————————————————————

Which is the greatest and the smallest fraction among these ?

Addition of Fraction

Mother gave guava to Seema. Seema told "I want to eat half $(\frac{1}{2})$ only." She ate half $(\frac{1}{2})$. The guava was sweet, so she took the other half also and ate that also.

We can show the guava, which Seema ate, in this way –

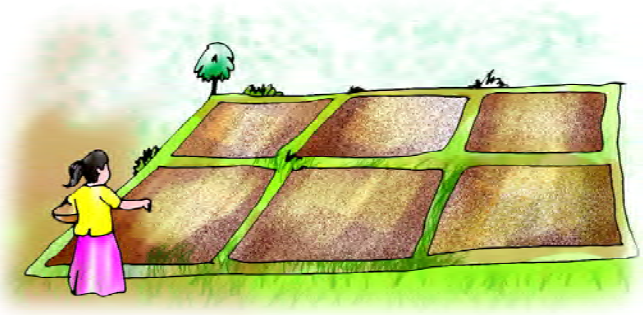
 +   $\frac{2}{5}$

ate first ate after It means ate both the parts (a whole Guava)

We can also write this in following way –

$$\frac{1}{2} + \frac{1}{2} \quad \frac{\text{ate both the portions}}{\text{In all 2 portions were made}} = \frac{2}{2} = \frac{1+1}{2}$$

Let us see one more example -



Sakina started sowing the field. The field was big so it cannot be completed within a day. She divided the field in 6 equal portions.

She thought that she would sow one portion of the field every day. She did the same.

The sowing done in first day $\frac{1}{6} = \frac{\text{Sowed portions}}{\text{Total portions of the field}}$

Sowing done till second day. $\frac{1}{6}+\frac{1}{6}=\frac{1+1}{6}=\frac{2}{6}$

Sowing done till 5th day $\frac{1}{6}+\frac{1}{6}+\frac{1}{6}+\frac{1}{6}+\frac{1}{6}=\frac{1+1+1+1+1}{6}=\frac{5}{6}$

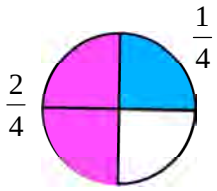
And sowing done till 6th day $\frac{1}{6}+\frac{1}{6}+$ .....+.....+.....+.....

=..... = ...

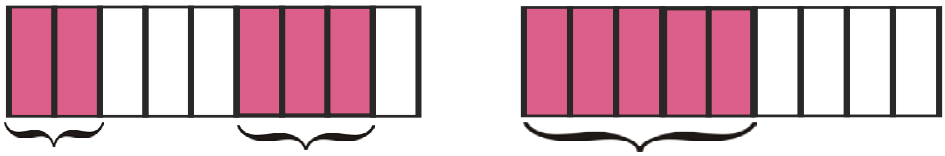
It means sowing is done in the whole field.

Now add the fraction :

One of the two fractions is divided into four parts. If you add one fourth part to two-fourth part it becomes three fourth part.



$\frac{2}{4} + \frac{1}{4} = \frac{3}{4}$



$\frac{2}{9} + \frac{3}{9} = \frac{5}{9}$

$\frac{1}{6} + \frac{2}{6} =$ .....

..... + ... = ...

The fraction you have just seen had equal denominators. If denominator is equal it means the portions of both the fractions are equal.

Subtraction of Fraction :

A sugar cane seller cut the sugarcane into 10 equal parts. He gave 7 parts i.e. $\frac{7}{10}$ part of the sugar cane to Jayant. He gave the remaning part i.e. $\frac{3}{10}$ part of the sugar cane to Sweety. Now tell how much part is with Jayant than Sweety ?

How much more did Jayant get = Jayant's portion - Sweety's portion

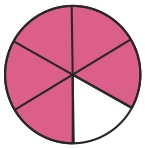
$= \frac{7}{10} - \frac{3}{10}$

$= \frac{7-3}{10}$

$= \frac{4}{10}$

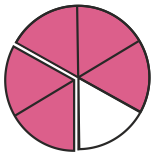
Jayant has $\frac{4}{10}$ part more than sweety.

Now see them :



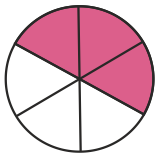
$\frac{5}{6}$

5 shaded part of the circle



$\frac{5}{6} - \frac{2}{6}$

5 shaded part of the circle − 2 shaded part



$\frac{5}{6} - \frac{2}{6} = \frac{5-2}{6} = \frac{3}{6}$

Remaining 3 Shaded part

In the same way

$\frac{4}{5} - \frac{1}{5} = \frac{4-1}{5} = \frac{3}{5}$ $\qquad$ $\frac{8}{9} - \frac{3}{9} = \frac{8-3}{9} = \frac{5}{9}$

Fill in the blanks given below :

A) $\frac{5}{8} - \frac{4}{8} = \frac{5-4}{8} = \frac{\square}{8}$

B) $\frac{7}{10} - \frac{3}{10} = \frac{7-3}{10} = \frac{4}{\square}$

C) $\frac{6}{7} - \frac{2}{7} = \frac{\square - \square}{\square} = \frac{\square}{\square}$

D) $\frac{3}{4} - \frac{1}{4} = \frac{\square - \square}{\square} = \frac{\square}{\square}$

Subtract −

A) $\frac{1}{3}$ from $\frac{2}{3}$

B) $\frac{1}{8}$ from $\frac{4}{8}$

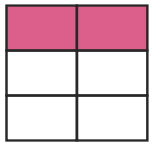
C) $\frac{5}{7}$ from $\frac{6}{7}$

D) $\frac{1}{10}$ from $\frac{3}{10}$

Fractions which are equal

You have read about big and small fractions and did some exercises also. Here some more diagrams along with fractions are given.

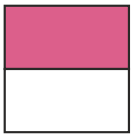
$\frac{1}{3} = \frac{\text{coloured portions}}{\text{total portions}} = \frac{2}{6}$



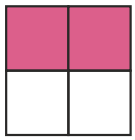
Colour one part of a rectangle which is divided into 3 equal parts. If you had 6 parts of the same rectangle, colour 2 parts of it. In both the conditions the coloured parts are equal.

Therefore $\frac{1}{3} = \frac{2}{6}$

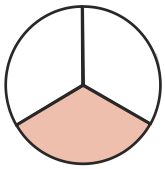
Thus



$\frac{1}{2} = \frac{2}{4}$



Write the fraction of the diagrams given below. Then join the equal fractions with lines.



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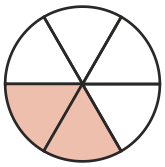

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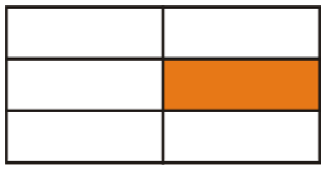

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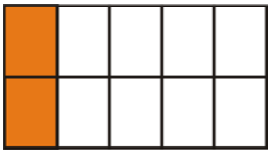

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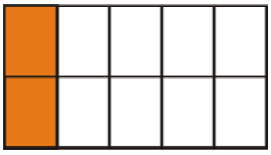

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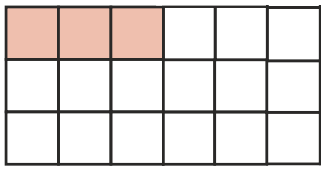

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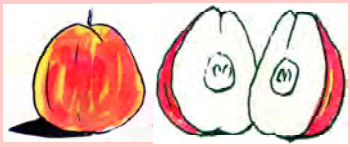
Fraction more than one

Suppose we have two apples. If you ate half of an apple what part is left with us ?



Only half $1/2$ apple is left from the apple which you ate.

The other apple remains unused. Divide the other apple into two equal halves. Then it is equal to 2 halves of an apple.

We are left with – half of the first apple and two halves of the other apple.

It means total three halves.

$$= \frac{1}{2} + \frac{1}{2} + \frac{1}{2}$$

$$= \frac{1 + 1 + 1}{2}$$

$$= \frac{3}{2}$$

We are left with $\frac{3}{2}$ apples.

Unit 5

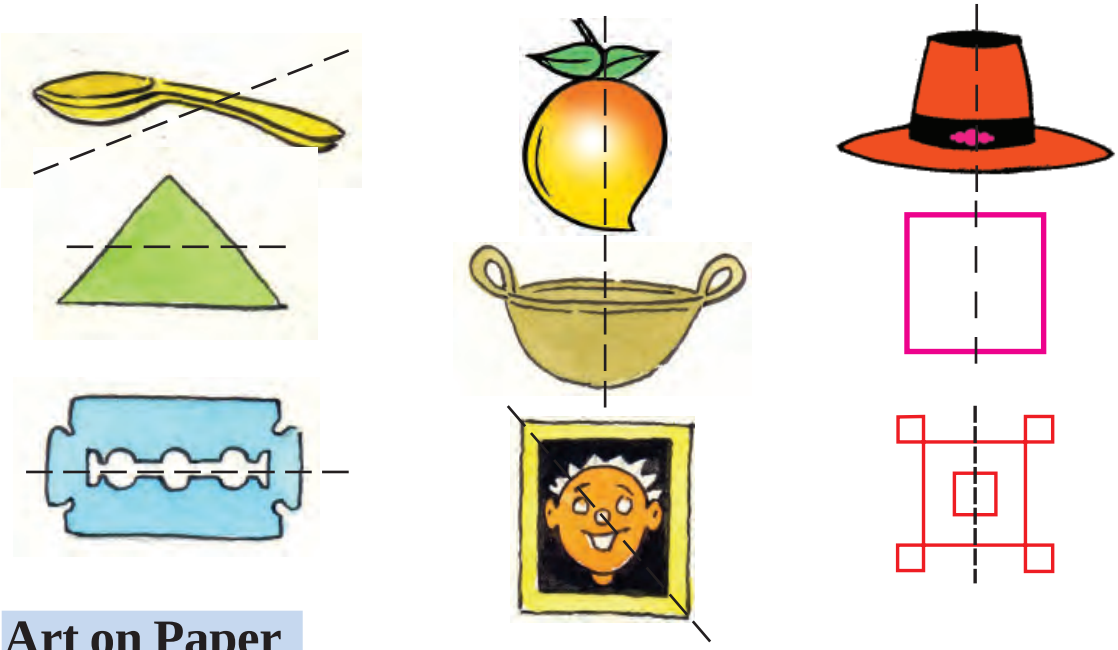
Symmetry

See the figures given below

In the middle of each figure one line is drawn.

Are the figures in both side of the line alike (same)? ----------

There are some more figures given below. Lines are also drawn in these figure. Some figures are alike. On both sides of the line. Recognize them and colour them.



Art on Paper

- Fold a piece of paper from the center.
- Open the paper and pour some drops of ink on it.
- Again fold the paper in the same way and press it.
- Now open the paper and you will get some figures on both the sides.

Here one figure is made for you.

Are this figure and the figure made by you both symmetrical figures?

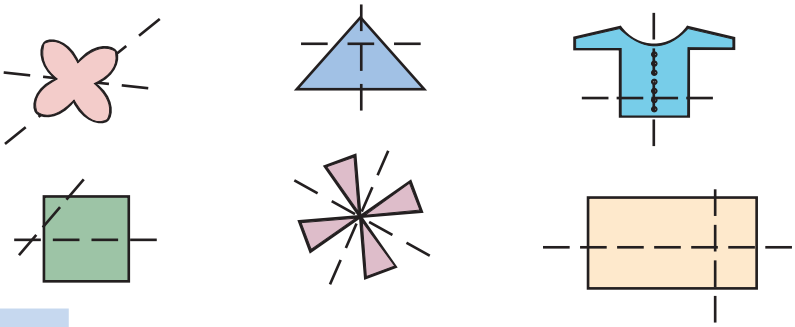
Now do this:

Fold a piece of paper from the middle or (centre). Take one thread and dip it in ink. Now put the thread on the centre of the paper. Now press the paper with the one hand and pull out the thread with the other hand. Open the paper and see. Is the figure same on both sides of the paper?

Now you see, after doing all these activities you get similar figures. So these figures are symmetrical figures. The line on which similar figures are drawn in both sides is known as symmetrical axis.

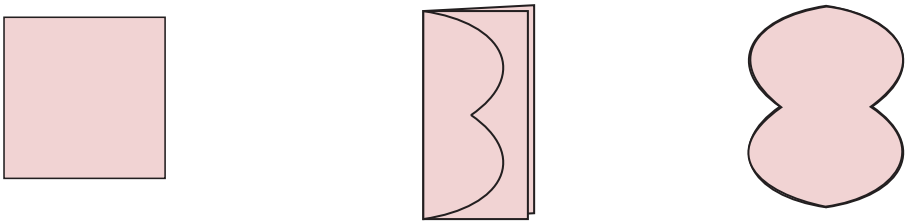
Practice

Identify the symmetrical axis and draw line with pencil over it.



Do and see

Take a piece of coloured paper and fold it from the centre cut any figure with scissors from the figures given below. Open the piece of paper and see.



Have you ever seen any one cut paper like this ? Where?

Try the same by folding the paper several times. You will get funny figures. Which You can use this to decorate your class room or your room.

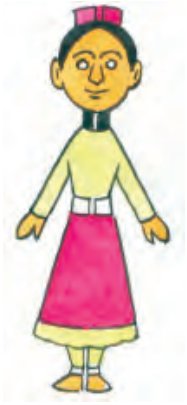
Come let us make mask:

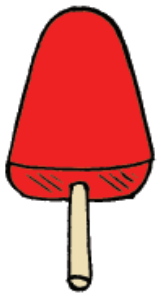
1. Fold a paper from the centre.
2. Draw half figure of a face with the help of a pencil.
3. Cut the eye and ear with the help of a scissor.
4. Open the paper and the mask is ready.

In the same way you can prepare different masks in different shapes

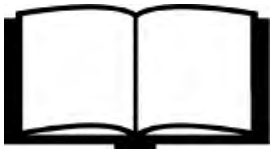
Practice

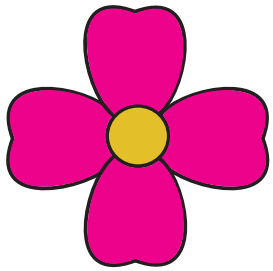
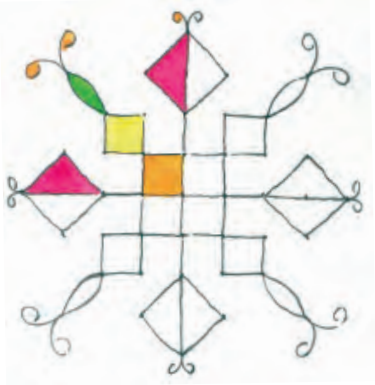
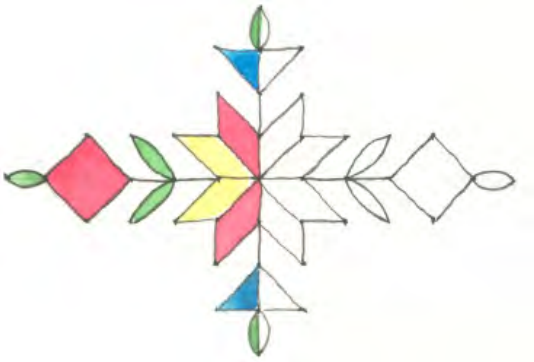
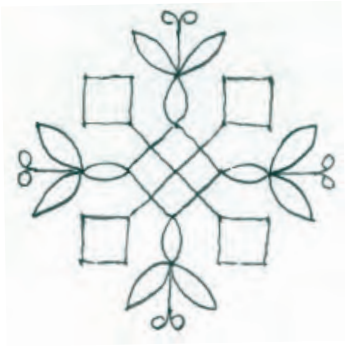
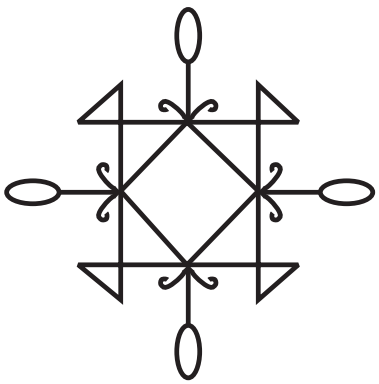
Draw symmetrical axies in the figures given below.






Fill Colour -



Unit 6

Measurement

Length

Let's play some game

Collect these things with the help of your friends

. cap of a small bottle . match box . a piece of tile

Now make a mark on the ground and put one of these thing on it. Now hit the item with your finger. Mark that place with a chalk where the item stops. Measure the distance between both the marks and write it in the following table.

Name of the player	First attempt	Second attempt
.....	..... cm	..... cm
.....	..... cm	..... cm
.....	..... cm	..... cm

Lets do long jump

All the students of the class go to the field with your teacher. Draw a line on the field. Every student does long jump by turns. Measure the distance covered by each student by metre scale and show it to your teacher. The student who jumps the longest will be the winner.

Name	Make it dear
.....	.....mts.....cm
.....	.....mts.....cm
.....	.....mts.....cm

Guess and write the length of the things written in the table:

Items	Length (approx)	Length(after measurement)
Book	..... cm	.....
Slate	..... cm	.....
Rubber	..... cm	.....
Pencil	..... cm	.....
Rope	..... mtr .....cm	.....
Door	..... mtr .....cm	.....
Table	..... mtr .....cm	.....

Now take one metre scale or measuring tape used by tailors. Measure all the things one by one with the help of your teacher and write them in the table.

Now measure the things and see how much close is the guessed measurement to the actual measurement.

You have read in class III

1 metre = 100 cm
100 cm = 1 metre

Let's convert (change) 4 metres into centimetre

4 metre = 1 mtr + 1 mtr + 1 mtr + 1 mtr

= 100cm + 100 cm+100cm+100 cm

= 100 × 4 centimetre or 4 × 100 centimetre

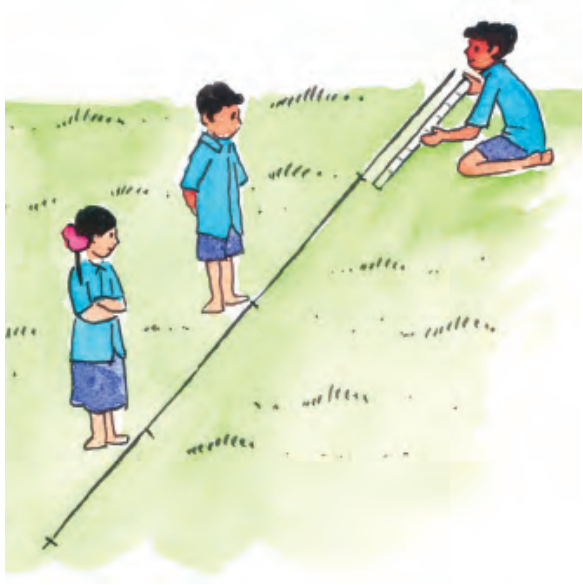
= 400 centimetre

What is the distance ?

Take 1 mtr of measuring tape used by tailor. Go out in the field. Insert one nail on the ground. Draw a six metre long line from here. Now mark at every 50 cm distance on the line. Make one child stand on every mark.

Now tell :

- Who is standing at 2 metre distance from the nail
- What is the distance between the child standing on the third and fifth position.
- Who is standing at 500 cm distance from the nail.



Fill in the blanks

3 mtr	= 3 × 100 cm	or	300 cm
5 mtr	= ..... × ..... cm	or	..... cm
8 mtr	= ..... × ..... cm	or	..... cm
9 mtr	= ..... × ..... cm	or	..... cm
6 mtr	= ..... × ..... cm	or	..... cm

Example : Rama has 5 metres and 75 centimetres long cloth. How will you convert this measurement into centimeter?

Let us do and see: 5 mtrs 75 centimetres

= 5 mtr + 75 cm
= 5 × 100 cm + 75 cm
= 500 cm + 75 cm
= 575 cm

There are six houses in a colony of Asna village. The length of the courtyards of these houses are given in metres and centimetres. Convert the length in centimetres and write it in your copy.

1.	5 mtr 25 cm	2.	7 mtr 87 cm
3.	9 mtr 5 cm	4.	14 mtr 50 cm
5.	20 mtr 95 cm	6.	21 mtr 27 cm

Example: Convert 300 cm into metre

300 cm = 100 cm + 100 cm + 100 cm
= 1 mtr + 1 mtr + 1 mtr
= 3 metres

Given below are the lengths of different ropes in centimeters. Convert them and write in metres and centimetres

400 cm	= ..... mtr
500 cm	= ..... mtr
700 cm	= ..... mtr
340 cm	= ..... mtr .....cm
930 cm	= ..... mtr ..... cm
1125 cm	= ..... mtr ..... cm

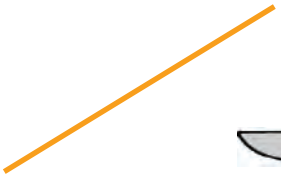
Some lines and diagrams are given below. Measure their length with the help of your small scale.

.....

.....

.....

.....



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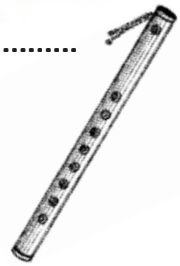

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How to add:

Example:

Reeta's house is 42 mts and 35 cm far from the well. Rekha's house is 25 mtr 40 cms from Reeta's house. How far is Rekha's house from the well?

	42	mtr	35 cm
+	25	mtr	40 cm
	67	mtr	75 cm

Therefore Rekha's house is 67 mts 75 cms from the well.

Exercise

1. 12 mtr 40 cm
   + 25 mtr 27 cm

2. 36 mtr 75 cm
   + 15 mtr 15 cm

3. 22 mtr 35 cm
   + 19 mtr 40 cm

4. 50 mtr 25 cm
   + 35 mtr 55 cm

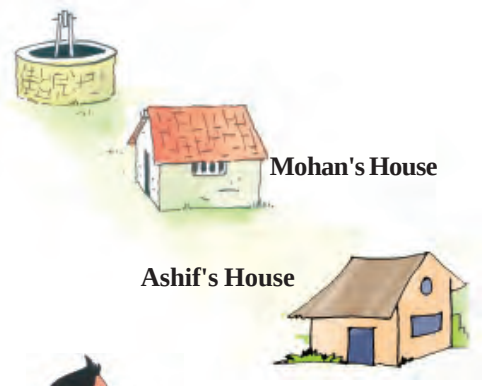
Guess the sum :

1. 42 mtr 35 cm + 57 mtr 20 cm
2. 64 mtr 21 cm + 27 mtr 49 cm
3. 25 mtr 31 cm + 65 mtr 29 cm

Now verify your guess.

Example

Mohan's house is 25 mts and 90 cm from the well. Asifs house is 37 mtr 65 cm from Mohans house. What is the distance of Asif's house from the well ?



25 mts 90 cm
+ 37 mts 65 cm
62 mts 155 cm

But 100 cm = 1 mts
Therefore 62 mts 155 cm
= 62 mts & 1 mts 55 cm

Thus the distance of Asifs house is 63 mts 55 cms from the well.

This sum (question) can be solved in the given manner also.

25 mts 90 cm
+ 37 mts 65 cm
63 mts 55 cm

First guess then add and answer

1. 43 mts 45 cm & 32 mts 75 cm
2. 26 mts 85 cm & 18 mts 35 cm
3. 148 mts 55 cm & 71 mts 45 cm
4. 65 mts 25 cm & 25 mts 75 cm

Now check your guess

One more example

45 cm 9 millimetre
+ 12 cm 7 millimetre
57 cm 16 millimetre
57 cm 16 millimetre
= 57 cm & 1 cm 6 millimetre
= 58 cm 6 millimetre

Add:

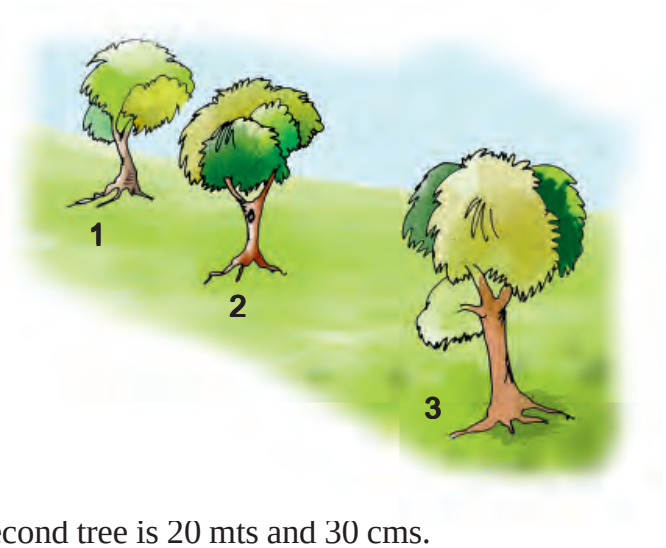
1. 45 cm 3 millimetre & 18 cm 6 millimetre
2. 86 cm 7 millimetre & 53 cm 8 millimetre
3. 39 cm 5 millimetre & 28 cm 5 millimetre
4. 68 cm 4 millimetre & 30 cm 9 millimetre

How to subtract

Example

First tree is 45 mts 50 cms far from third tree. Second tree is 25 mts 20 cms far from the third tree.

Answer what is the distance between first and second tree?



45 mts 50 cm
− 25 mts 20 cm
20 mts 30 cm

Thus the difference between first and second tree is 20 mts and 30 cms.

How to subtract these :

72 mts 10 cm
_ 32 mts 25 cm

you cannot subtract 25 cms from 10 cms
− 32 mtr 25 cm therefore change into centimetre
1 mtr = 100 cm
Therefore 72 mtrs 10 cms will be 71 mtrs 110 cm

Now you can subtract easily

71 mts 110 cm
− 32 mts 25 cm
39 mts 85 cm

First guess then subtract and answer:

1. 25 mts 20 cm from 48 mts 40 cm
2. 13 mts 75 cm from 31 mts 65 cm
3. 12 mts 90 cm from 18 mts 60 cm
4. 52 mts 70 cm from 85 mts 50 cm

One more example :

The length of a mat is 18 mts 45 cms. What will be the total length of four such mats ?

Solution: You know how to solve this question. We have to do multiplication.

18 mts 45cm × 4

First 45 cm is multiplied by 4 then 18 mts

is multiplied by 4 That comes to

72 mts 180 cm

But you know :

180 cm = 1 mts 80 cm

Therefore 72 mtr 180 cms is 73 mts and 80 cms

Thus the total length of four mats will be 73 mts 80 cms.

First guess then solve :

1. Multiply 15 mts 50 cms by 3
2. Multiply 19 mts 62 cms by 2
3. Multiply 22 mts 56 cms by 5
4. Multiply 29 mts 44 cms by 2

Some questions :

1. One roll of cloth contains 25 mts 45 cms cloth. How many metres will be there in eight such rolls?
2. Prachi has 42 mts 70 cms rope for making flag .Nisha has 38 mtr 85 cms rope. Tell what is the total length of the rope both have?
3. Rekha has to tie 8 ropes in her room. If the length of the room is 4 metre 16 cm , then what is the minimum length of rope she will require?
4. One shopkeeper sells 18 mts 50 cms of cloth from a roll of 32 mts 46 cms. Tell how much cloth will remain with him?
5. To make a mosquito net 5 mts 75 cms cloth is required. How much cloth will be required to make 20 mosquito nets?
6. 15 pipes are needed for tap connection to a house. If length of each pipe is 5 mts 95 cms. Tell the distance of the house from main pipe?

Weight

Take one kilogram weight in your hand. Now feel its weight. Now find out some items from your neighbourhood which weighs 1 kilogram.

Write the names of the items which weigh equal to the weight given in the following table:

Weight	Names of items
1 kilogram	
500 gms	
200 gms	
100 gms	one apple
50 gms	2 lemons

Names of some items are given below. First guess and tell their weight. Then weigh these items in a weighing machine and write their actual weight in front of the items :

Name of item	Weight by guess (in Kilogram or gram)	Actual weight (in Kilogram or gram)
Maths book		
Duster		
Bell		
Lock		
Slate		
A box of chalk		

1 Kilogram = 1000 gms

$\frac{1}{2}$ Kilogram = 500 gms

$\frac{1}{4}$ Kilogram = 250 gms

Tell how much

5 Kilogram 250 gms	5250 gms
17 Kilogram 400 gms	————
28 Kilogram 50 gms	————
35 Kilogram 850 gms	————
45 Kilogram 800 gms	————
98 Kilogram 950 gms	————

Some more questions :

7300 gms = ———— Kilogram ———— gms

18350 gms = ———— Kilogram ———— gms

17800 gms = ———— Kilogram ———— gms

35050 gms = ———— Kilogram ———— gms

65000 gms = ———— Kilogram ———— gms

Example : Two bags of paddy were weighed. In one bag it was 17 kgs 450 gms and in the other it was 16 kgs 700 gms. If we mix the paddy of both the baskets then tell what is the total weight of the paddy ?

Kilogram	gms
17	450
+ 16	700
33	1150

Total weight of the paddy = 33 Kilogram 1150 gms

= 33 Kilogram + **1000 gms** + 150 gms

= 33 Kilogram + **1 Kilogram** + 150 gms

= 34 Kilogram 150 gms

1000 gram = 1 Kilogram

First guess the sum and then add properly and tell the total weight of the following :

1. 28 Kilograms 250 gms & 19 Kilograms 850 gms
2. 67 Kilograms 300 gms & 25 Kilograms 800 gms
3. 9 Kilograms 650 gms & 26 Kilograms 750 gms
4. 34 Kilograms 900 gms & 17 Kilograms 350 gms
5. 52 Kilograms 250 gms & 33 Kilograms 700 gms

What is the difference between your guess and the addition done by you ?

Example: One shopkeeper purchased 80 kgs 950 gms of rice. Out of this he sold 46 kg 750 gms of rice. Tell how much quantity of rice is left with him.

Kilogram	**gms**
80	950
− 46	750
34	200

First guess, then by subtracting tell how much is left :

1. 32 Kilogram 650 gms from 68 kilograms 700 gms.
2. 56 Kilogram 200 gms from 175 kilograms 450 gms.
3. 85 Kilogram 500 gms from 337 kilograms 500 gms.
4. 25 Kilogram from 85 Kilogram.
5. 115 Kilogram 100 gms from 228 Kilogram 350 gms.

What is the difference between your guess and the subtraction done by you ?

Example: A packet contains 1 kg 200 gms toffees. What is the weight of 7 such packets.

Kilogram	gms	
1	200	= 7 Kilogram + 1400 gms
	×7	= 7 Kilogram + 1000 gms + 400 gms
7	1400	= 8 Kilogram + 400 gms

How much :

1. 8 kgs 500 gms multiplied by 7
2. 4 kgs 600 gms multiplied by 2
3. 12 kgs 300 gms multiplied by 3
4. 20 kgs 200 gms multiplied by 4
5. A sack contains 47 kgs 500 gms of rice. Tell, how much quantity of rice will be there in 12 sacks?
6. Weight of a biscuit packet is 50 gms. What will be the weight of 50 packets?
7. Weight of a basket of oranges is 12 kgs 650 gms. What will be the weight of 7 baskets of oranges?
8. 25 kgs 800 gms potatoes and 28 kgs 700 gms tomatoes are grown in Rahul's field. Find the total weight of the vegetables.
9. Rekha went to market with 15 kgs 250 gms groundnut. She sold 12 kgs 750 gms of groundnuts during the whole day. Tell how much groundnut is left with her.
10. Rehana filled 2 kg 800 gms of cotton in a quilt and 4 kg 500 gms in a mattress. What was the total quantity of cotton filled in quilt and mattress?

Capacity

In the previous class you filled a 1 litre container with 500ml, 200ml, 100ml, measuring cans of water. Do it once more.

Container of 1 litre

- How many 500 ml cans can fill the 1 litre container? …….times
- How many 200 ml cans can fill the 1 litre container? ……..times
- How many 100 ml cans can fill the 1 litre container? ……..times

Can you tell, how much water can be there in a container of 1 litre? Now tell us 1 litre equals to how many millilitres?

———————————————————————————————

In the morning Ramu's mother was doing her work. Then the milkman came. Ramu's mother told Ramu to bring one container and take two litres of milk. As soon as Ramu went to the milkman the milkman said "Son it will not contain two litres of milk". Tell why the milkman told this to Ramu? .....

Let's find it

Collect the items given below with the help of your friends

buckets, jug, glass and cup.

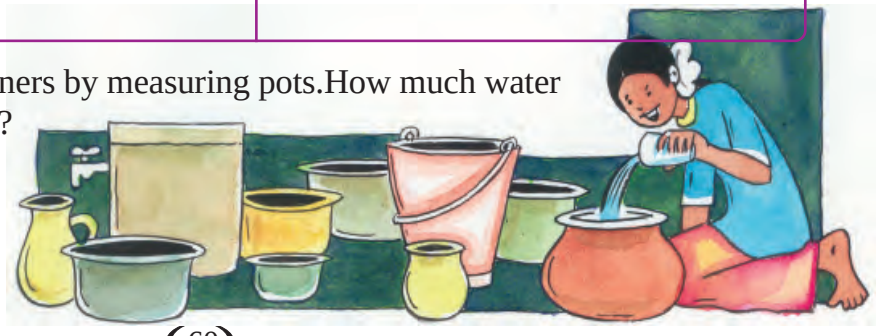
Guess - How much of water will bucket, jug, glass and cup contain ?

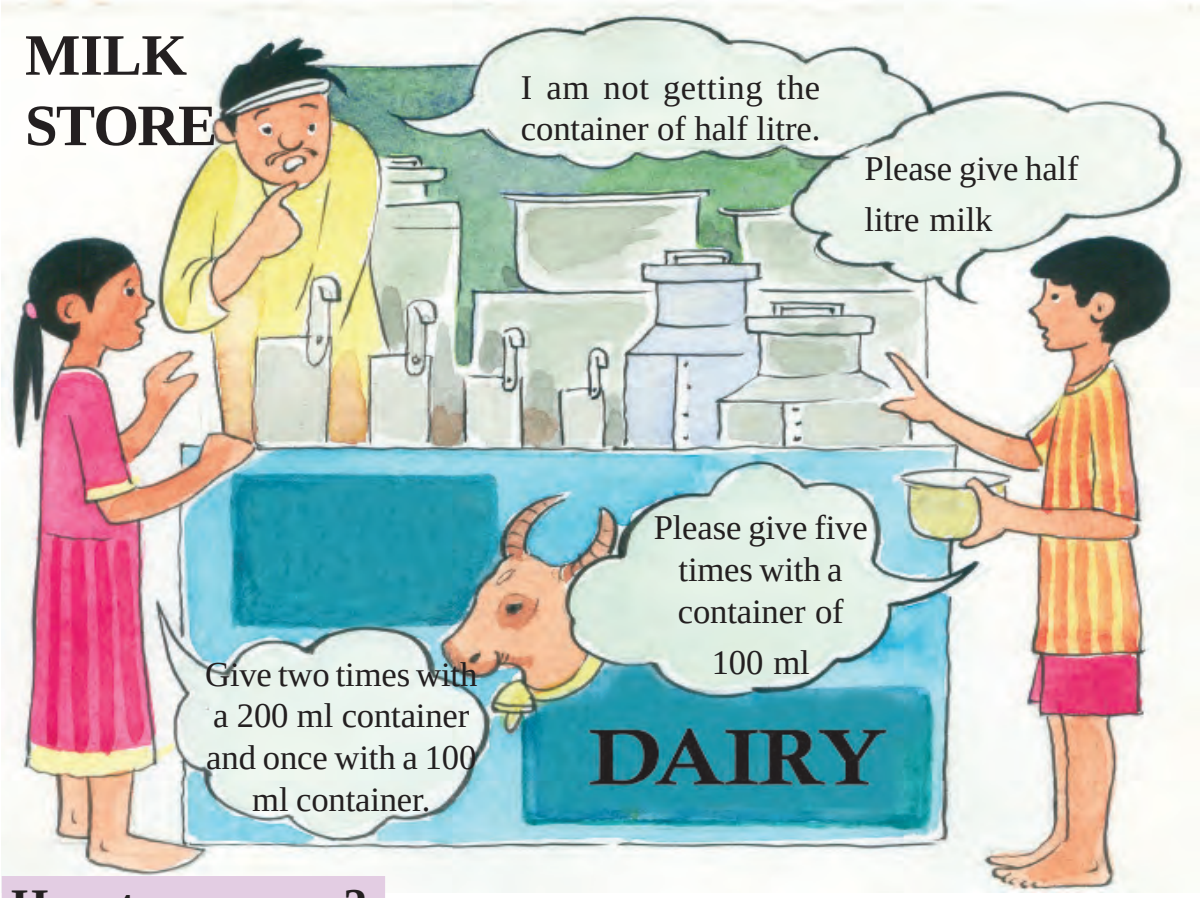
Write your guess in the table given below:

Item	Capacity (by guess)	Capacity (by measuring)	Difference
Bucket			
Jug			
Glass			
Cup			

Now fill water in these containers by measuring pots.How much water does each container have? Write in the table .

Find out what is the difference between your guess and actual measurement.





How to measure?

Measurement	1 litre	500 ml	200 ml	100 ml	50 ml
1. 800 ml water	0	1	1	1	0
2. 250 ml milk					
3. 950 ml oil					
4. 50 ml medicine					
5. 3 ltr 650ml diesel					
6. 7 ltr 150 ml petrol					

Tally your table with your friends table

Fill in the blanks with litre and millilitres:

1. 200……of medicine is there in a medicine bottle.
2. 1…….of kerosine oil is there in stove.
3. 500……of kerosine oil is there in lamp.
4. 25…….of diesel is there in tractor tank.

Example: Convert 3 litre into millilitre

3 litres = 1 litre + 1 litre + 1 litre

= 1000 millilitre + 1000 millilitre + 1000 millilitre

= 1000 × 3 millilitre

= 3000 millilitre

Example: Convert 5 ltrs 250 ml into millilitres

= 5 litres + 250 millilitre

= 5 × 1000 millilitre + 250 millilitre

= 5000 millilitre + 250 millilitre

= 5250 millilitre

Exercise :

Some units of litre are given below . Convert them into millilitre

1. 6 litres
2. 8 litres
3. 2 litres 300 millilitre
4. 3 litres 50 millilitre
5. 7 litres
6. 5 litres 425 millilitre

Conversion of millilitre into litre

Example: Convert 2000 ml into litres

2000 millilitre = 1000 millilitre + 1000 millilitre

= 1 litres+ 1 litres

= 2 litres

Example: Convert 4430ml into litres

4430 millilitre = 4000 millilitre + 430 millilitre

= 4 litres + 430 millilitre

= 4 litres 430 millilitre

Convert the followings :-

1. 2350 millilitre
2. 7800 millilitre
3. 9650 millilitre
4. 4270 millilitre
5. 3020 millilitre
6. 1030 millilitre

Example: Rambharose takes out 9 ltr 550 ml kerosene oil on the first day and 7 ltrs 250 ml on the second day from a drum.What is the total quantity of kerosin oil he took out ?

litres	millilitres
9	550
+ 7	250
16 litres	800 millilitres

Example: Mukesh purchased 10 ltrs 500 ml of diesel. He poured 6 ltrs 200 ml of diesel in his tractor. Tell how much diesel is left with him ?

litres	millilitres
10	500
− 6	200
4 litres	300 millilitres

Example: A glass can contain 250 millilitres of milk.Tell how much milk can be there in 7 glasses.?

Milk in 7 glasses = 250ml × 7

= 1750 millilitres

= 1 litres 750 millilitres

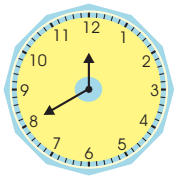
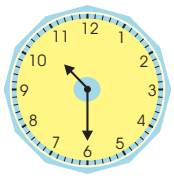
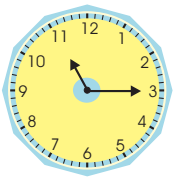
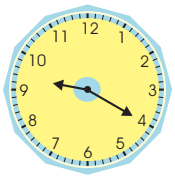
Exercise :

1. There is a buffalo and a cow in Salma's house. The buffalo gives 6 litres 550 ml and the cow gives 5 litres and 325 ml of milk. Tell how much quantity of milk is there in Salma's house ?
2. A barrel contains 13 litres 800 ml of oil. Out of this 6 ltrs 900 ml is sold. Tell how much oil is left in the barrel ?
3. If a bottle is filled with water by a 10 ml spoon it takes 20 spoons to fill the bottle . What is the capacity of the bottle ?
4. Raju drinks 250 millilitres milk everyday and Mina drinks 150 ml milk everyday. How much milk will they drink in five days ?
5. Which quantity is greater between 9 ltrs 500 ml and 9850 ml by how much more ?

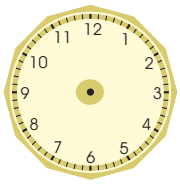
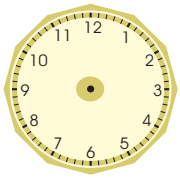
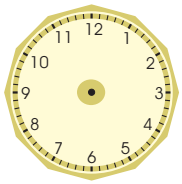
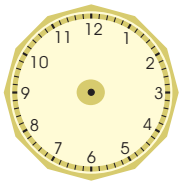
Unit 7

Time

Look at the pictures and tell the time:

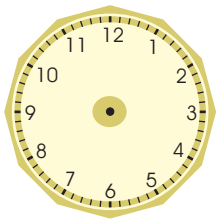
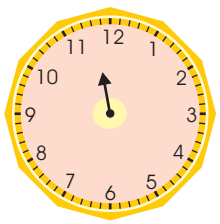
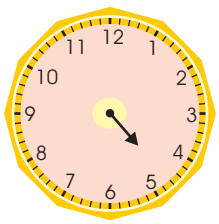
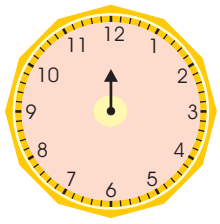





Draw the needle of the clocks for the given time

30 minutes past 5 O'clock	15 minutes past 4 O' clock	11 O' clock	20 minutes past 4 O' clock

The hours needle is drawn in the clock. You draw the minute needle

10 minutes past 10 O'clock	30 minutes past 11 O'clock	45 minutes past 4 O'clock	12 O'clock

It is going to be 10 O'clock. Don't you have to go to school.

It is going to be 10 O'clock. We will play kho kho in the recess.

It is already 3 O'clock. 7 th period has not started yet.

Oh it is already 6 O'clock. I have not gone to play till now.

How much time do you take to do these works :

Eating food ——————————————

Offering prayer in school ——————————

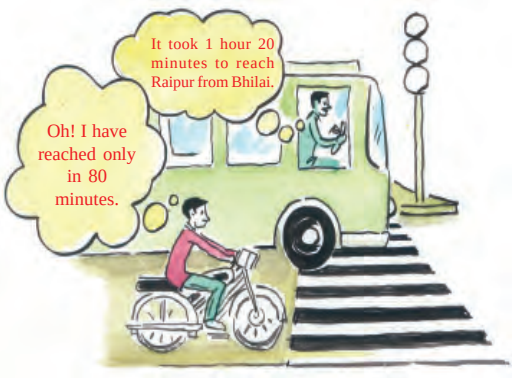
Playing in the evening ————————————— In taking bath ————————————

How much time do you take to do these activities ?

	By guess	**Actual**
Time taken in eating food	————————	————————
Time taken in offering prayer	————————	————————
Playing in the evening	————————	————————
In taking bath	————————	————————
In wearing your shoes	————————	————————

Put a (✓) sign on the time which is more

2 hours & 30 minutes	170 minutes
70 minutes	1 hour
5 hours & 25 minutes	350 minutes
1 hour 40 minutes	140 minutes



Change and write

2 hours	=	120 minutes
1 hour & 10 minutes	=	————————
————————	=	130 minutes
2 hours & 50 minutes	=	————————
————————	=	90 minutes

There are several ways to tell the time which are different from these ways. You can see one way on the board.

Do you know the meaning of am and pm

Lets See.

1.	12 O'clock in the daytime	afternoon or noon
2.	12 O'clock in the afternoon to 12 O'clock in the midnight	pm
3.	12 O' clock in the midnight	midnight
4.	12 O'clock in the midnight to 12 O'clock in the afternoon	am

a.m. is called ante meridiem and

p.m. is called post meridiem.

Write the time in am and pm

5:30 in the morning	=	5.30 am
6.15 in the evening	=	6.15 pm
10.00 at night	=	…….
8.45 in the morning	=	……
4.00 in the evening	=	4.00 ……
11 in the morning	=	…….
8.30 in the evening	=	……
2.30 in the afternoon	=	2.30 ……
11.15 at night	=	……..

See and understand:

Football match started at 9.00 am
And ends at 11.00 am
Tell how much time it took to complete the match?
From 9.00AM to 11.00am
= 11.00 – 9.00 = 2 hours
Therefore it took 2 hours to complete the match

A train starts from Raigarh at 6.00 PM and reaches Raipur in 5 hours. At what time the train reaches Raipur ?
From 6.00AM + 5 hours
6.0 + 5.00 = 11.00 AM
Therefore the train reaches Raipur At 11.00 AM

Are these watches like your watch?
Can time be known (seen) from these?

Watches like thses are known as 24 hours watches.

Time according to you watch (12- hours watch)	**Time according to 24 hour watch**
1: 00 o'clock in the afternoon	13: 00 o'clock
2: 00 o'clock in the afternoon	14: 00 o'clock
3: 30 o'clock in the afternoon	15: 30 o'clock
6: 00 o'clock in the evening	18: 00 o'clock
9: 00 o'clock at night	21: 00 o'clock

Now answer -

Time according to (12- hours watch)	**Time according to 24 hour watch**
1: 30 o'clock in the afternoon	.....
3: 00 o'clock in the afternoon	.....
5: 45 o'clock in the evening	.....
7: 00 o'clock in the evening	.....
10: 00 o'clock at night	.....
12: 00 o'clock at night	.....

Practice

1. Nehas school starts at 7.00 am and gets over at 11.00 am. Tell for how much time the school runs ?
2. A bus starts from Ambikapur at 4.00 am and reaches Jashpur in 7 hours. Tell at what time the bus reaches Jashpur ?
3. A drama starts at 8.00 pm and ends at 11.00 pm . Tell for how much time did the drama continue ?
4. Suniti starts her homework at 6.20 pm and completes it by 8.20 pm . Tell how much time did Suniti takes to complete her homework ?

The calendar for the month of January is given. Please go through it and answer the questions given below :

January 2009

Sun		4	11	18	25
Mon		5	12	19	26
Tue		6	13	20	27
Wed		7	14	21	28
Thu	1	8	15	22	29
Fri	2	9	16	23	30
Sat	3	10	17	24	31

1. In January 2009 which are the dates that come on Monday ?

   _____

2. The first Sunday is on 4th January, what will be the date of second Sunday

   _____

3. The third Wednesday is on 21 th., January , then what was the date on second Wednesday ?

   _____

4. In this month which day comes four times ?

   _____

5. In this month which day comes five times ?

   _____

6. In this month which day comes three times ?

   _____

7. In this month which day comes six times ?

   _____

8. Can any day come 3 or 6 times in a month ?

   _____

कैलेण्डर 2007

जनवरी

रवि		7	14	21	28
सोम	1	8	15	22	29
मंगल	2	9	16	23	30
बुध	3	10	17	24	31
गुरू	4	11	18	25	
शुक्र	5	12	19	26	
शनि	6	13	20	27	

फरवरी

रवि		4	11	18	25
सोम		5	12	19	26
मंगल		6	13	20	27
बुध		7	14	21	28
गुरू	1	8	15	22	
शुक्र	2	9	16	23	
शनि	3	10	17	24	

मार्च

रवि		4	11	18	25
सोम		5	12	19	26
मंगल		6	13	20	27
बुध		7	14	21	28
गुरू	1	8	15	22	29
शुक्र	2	9	16	23	30
शनि	3	10	17	24	31

अप्रैल

रवि	1	8	15	22	29
सोम	2	9	16	23	30
मंगल	3	10	17	24	
बुध	4	11	18	25	
गुरू	5	12	19	26	
शुक्र	6	13	20	27	
शनि	7	14	21	28	

मई

रवि		6	13	20	27
सोम		7	14	21	28
मंगल	1	8	15	22	29
बुध	2	9	16	23	30
गुरू	3	10	17	24	31
शुक्र	4	11	18	25	
शनि	5	12	19	26	

जून

रवि		3	10	17	24
सोम		4	11	18	25
मंगल		5	12	19	26
बुध		6	13	20	27
गुरू		7	14	21	28
शुक्र	1	8	15	22	29
शनि	2	9	16	23	30

जुलाई

रवि	1	8	15	22	29
सोम	2	9	16	23	30
मंगल	3	10	17	24	31
बुध	4	11	18	25	
गुरू	5	12	19	26	
शुक्र	6	13	20	27	
शनि	7	14	21	28	

अगस्त

रवि		5	12	19	26
सोम		6	13	20	27
मंगल		7	14	21	28
बुध	1	8	15	22	29
गुरू	2	9	16	23	30
शुक्र	3	10	17	24	31
शनि	4	11	18	25	

सितम्बर

रवि	30	2	9	16	23
सोम		3	10	17	24
मंगल		4	11	18	25
बुध		5	12	19	26
गुरू		6	13	20	27
शुक्र		7	14	21	28
शनि	1	8	15	22	29

अक्टूबर

रवि		7	14	21	28
सोम	1	8	15	22	29
मंगल	2	9	16	23	30
बुध	3	10	17	24	31
गुरू	4	11	18	25	
शुक्र	5	12	19	26	
शनि	6	13	20	27	

नवम्बर

रवि		4	11	18	25
सोम		5	12	19	26
मंगल		6	13	20	27
बुध		7	14	21	28
गुरू	1	8	15	22	29
शुक्र	2	9	16	23	30
शनि	3	10	17	24	

दिसम्बर

रवि	30	2	9	16	23
सोम	31	3	10	17	24
मंगल		4	11	18	25
बुध		5	12	19	26
गुरू		6	13	20	27
शुक्र		7	14	21	28
शनि	1	8	15	22	29

See the calender and say

1. Which are the months which have thirty days ?

   _____

2. Which are the months which have thirty-one days ?

   _____

3. How many days are there in February ?

   _____

Tally the months in year 2006 with the months in year 2007 from the calendars.

In 2006 , the months which have 30 days, in 2007 do they have 30 days.

Does the months having 31 days in 2006 have the same days in 2007 ?

Now tell these also:

1. In Dussehra the holidays were given on 17, 18 and 19. Tell how many holidays were given

   _____

2. In Chandu's school Annual Sports was held from 10th January to 14th January. Write the dates on which sports were held. Tell for how many days the sports was held ?

   _____

   _____

3. Half yearly exams was from 8th December to 12th December. Tell for how many days were the exams conducted?

   _____

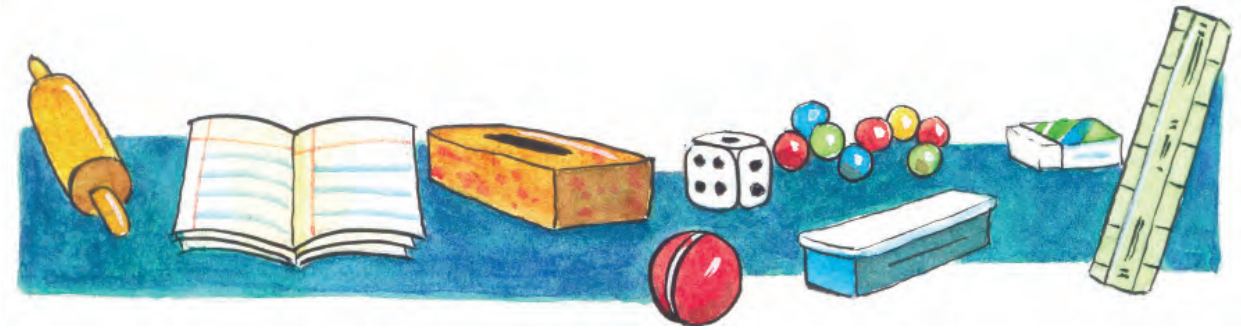
4. In school the preparations for cultural programmes was from 21st January to 25th January. Tell for how many days did the preparations go on.

   _____

Unit 8

GEOMETRY

Surface



Collect the items given in the picture.

Roll all these items on the table one by one

Name are the items which rolled ——————, ——————, ——————, ——————, ——————,

Name are the items that didn't roll——————, ——————, ——————, ——————, ——————,

Can the books be kept one above the other? Try and see.

Can the dice be kept on a book? Can a marble be kept on a ball? Try and see.

Can you place a ball on a ball? Try and see.
Can a marble be kept on a ball? Try and see.
Can you tell why this happens ?

Now feel with your hand the surface of the book, dice and ball. The surface of the book and dice is flat that's why we can keep them one on the other and we can't roll it. This type of surface is known as **plain surface.**

The surface of the ball is round. That is why we can not keep them one above the other. This can roll of. This type of surface is called spherical or **round surface.**

One glance on the glass

Take one glass. Keep it as shown in the figure. Roll it and see…

Which are the kinds of surfaces in a glass ?

———————————————————————————————————

Write name of three items which have both plain surface and spherical surface.

1. ..... 2. ..... 3. .....

Some items are drawn in the table given below. What are the surfaces in these. Write the name of the surfaces.

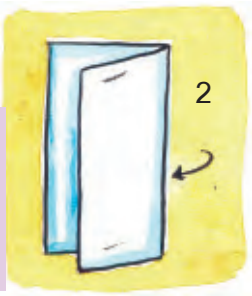
Items	surface
	

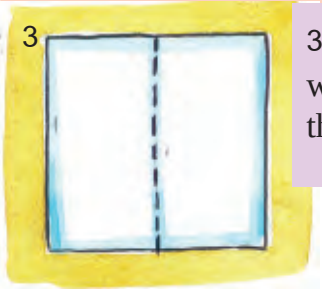
Think and tell which is the biggest surface.

Let us make a dice.

1. Cut six square pieces from a drawing sheet

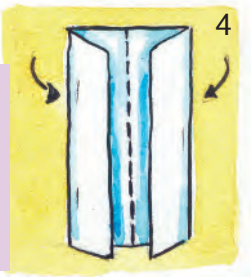
2. Take one of the pieces and fold it at the centre.

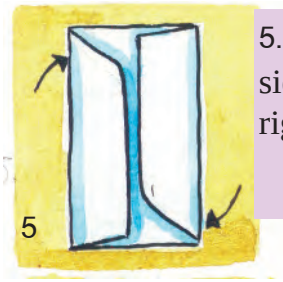




3. Open it , you will get a mark at the centre.

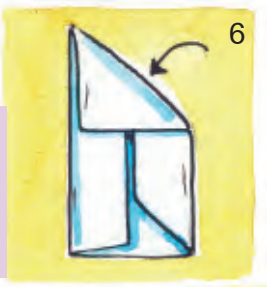
4. Now fold the edges in such a way so that both the edges remain close to each other.

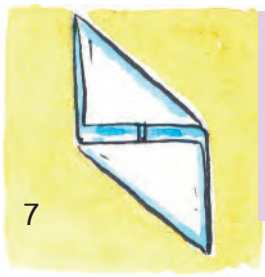




5. Fold upper portion of left side and the lower portion of right side

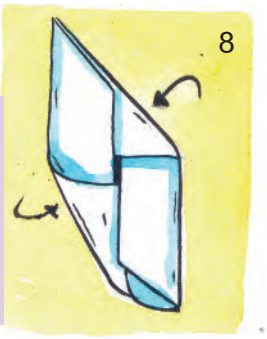
6. Now fold the right edge as shown in the figure.

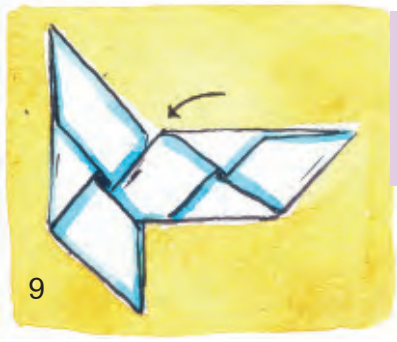




7. Now fold the left side as shown in the figure.

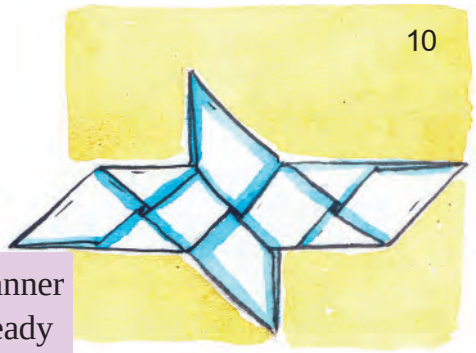
8. Press the folded edges inside In this way fold total six pieces





9. Join the pieces according to the diagram

10. In this manner your dice is ready



Can you tell how many surfaces are there in the dice made by you ? .....

Upto which number that can be written on its surface starting from 1 ?.....

Write one in any surface of the dice and write 6 just at the back of it. In the same way write 5 at the back of 2 and 4 at the back of 4.

Now the dice is ready for your game.

Now you make things made up of clay and paper in which there is only plain surface, in which there is only spherical surface and in which both spherical and plain surfaces are there.

LINE & LINE SEGMENT

Point

Take one sharp pencil, now put a mark on a page of the copy. Look at it. This mark is known as a **point**. Sharper the pencil the more accurate would be the mark (the point).

Line Segment

Draw two points in your copy with a pencil. Write their names A and B. Join them with the help of a scale.

A Line Segment B

This is a line segment. This is called line segment AB.

Measure the line segment in this way

Draw a line segment of 5 cm.

According to the figure keep the scale on the paper. Now draw a point at zero with pencil. Draw the second point at 5 cm mark on scale. Join both the points with the help of a scale.

Remove the scale . This is a line segment of 5 cm.

Now Construct line segments of following lengths

1. 6 cm
2. 8 cm
3. 7 cm
4. 2 cm
5. 4 cm
6. 5 cm

If line segment is drawn on paper how will you measure that line segment ?

A B

Lets measure this line segment AB. Place the scale and the line segment AB in such a way that zero of the scale lies at A.

Now let us find where B lies on the scale ? Read the mark of the scale against B ?

Therefore the length of line segment A B = …….cm

Excersise

Find the length of the line segments given below and write them:

1. P ——— Q
2. X ——— Y
3. A ——— B
4. X ——— Y
5. A ——— B
6. M ——— N

Line

A Line segment is given below

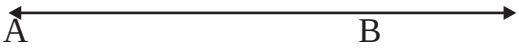
A ——— B

If we extend one side of the line segment to infinity then we get the shape of a ray.

A B is a ray

Can the other end of the ray extend upto infinity?

Extension of line segment, to infinity, on both sides is called line.



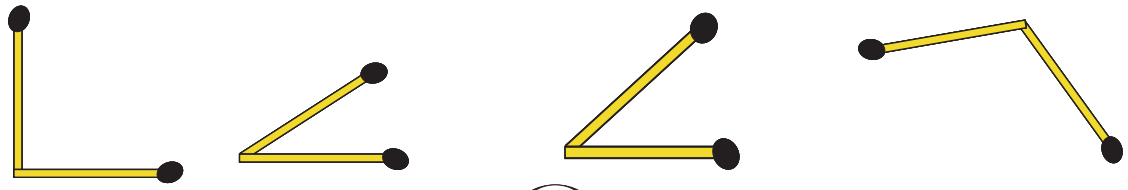
A B is a line

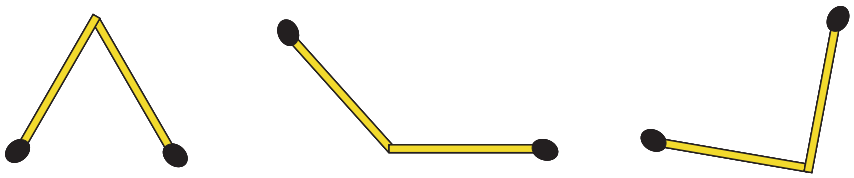
The arrow mark on both sides indicate its infinite extension.

Line segment is a part of line

ANGLE

Given below are figures made out of match sticks. You can also make similar figures with the help of match sticks.





All the figures made by you depict angles.

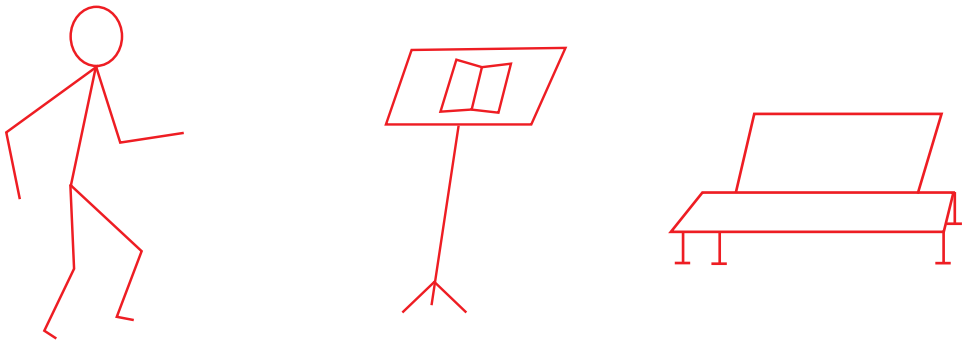
Now tell

- How many match sticks were required for one figure .....
- Do the match sticks meet at some point? If we imagine a match sticks as a ray we can say:

Two rays arising from one point form an angle.

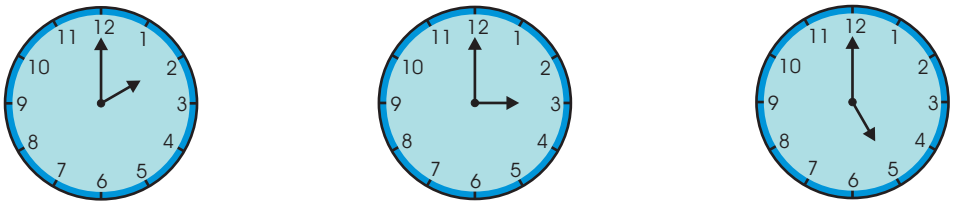
Observe the items around you and tell where you find angular objects.

The diagram below has some angles. Recognise these and mark them with a pencil.



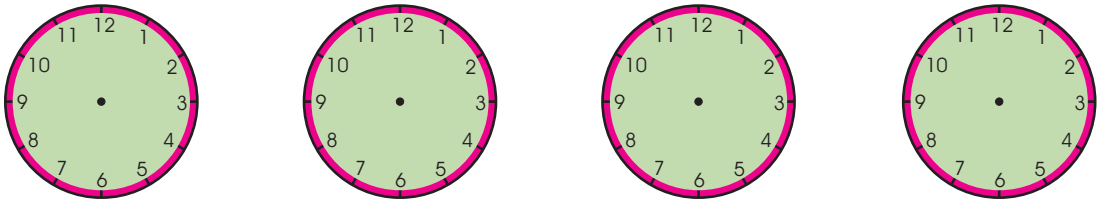
Angle in a watch

Observe the small and big hands of the watch. The hands of the clock also make an angle.



By changing the position of the hands of the watch the angles also change.

Some figures of watch are given below. Change the position of the hands and make different types of angles.



Angle with a nail

Insert a nail in the ground. Take a long thread and tie it to the nail in a manner that it has sufficient length on both the sides. Now hold both the ends of the thread and stretch it. Keep the thread stretched.

Observe minutely: does the piece of thread form an angle?

Can you make it small or big ? How will you make the smallest angle ? How will you make the biggest angle ?

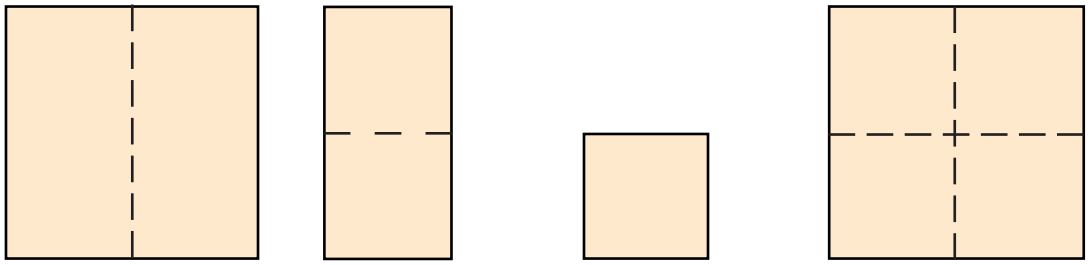
Observe the angle in objects around you such as books, black board wall etc. The figures which have ∟ shape are called rightangle.

Sometimes the hands of the watch also form rightangle.

See the watch and tell at what time the hands of the watch form right angles.

———————————————————————————————————

Now take a piece of paper and fold it as shown.



On folding for the first time

On folding for the second time

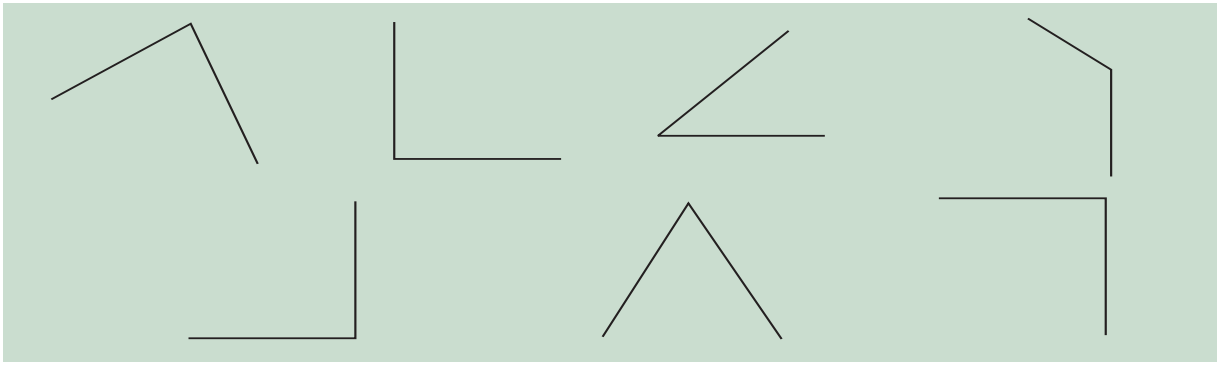
On Opening

Now open it. You will find that two lines are formed on the paper. They intersect at one point. An angle is formed at this point. There are four equal angles, on the paper. All the angles are called right angles.

See whether the same type of angles are formed on the four corners of the paper.

From the below given angles mark the angles which are right angle.

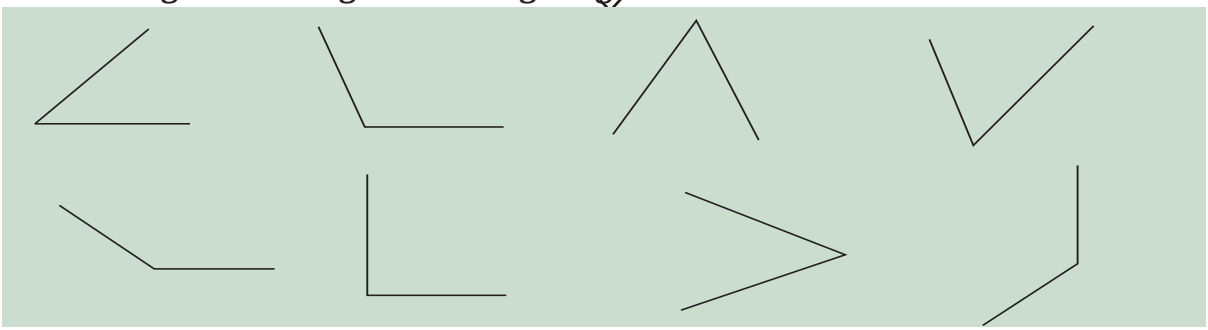
Take a square piece of paper or hard board. (Each angle of the square is a right angle) Compare with the figures given below. The angles which are smaller than corner of the piece put '×' mark over them. The angle which are bigger than corner of piece put '✓' mark over them.

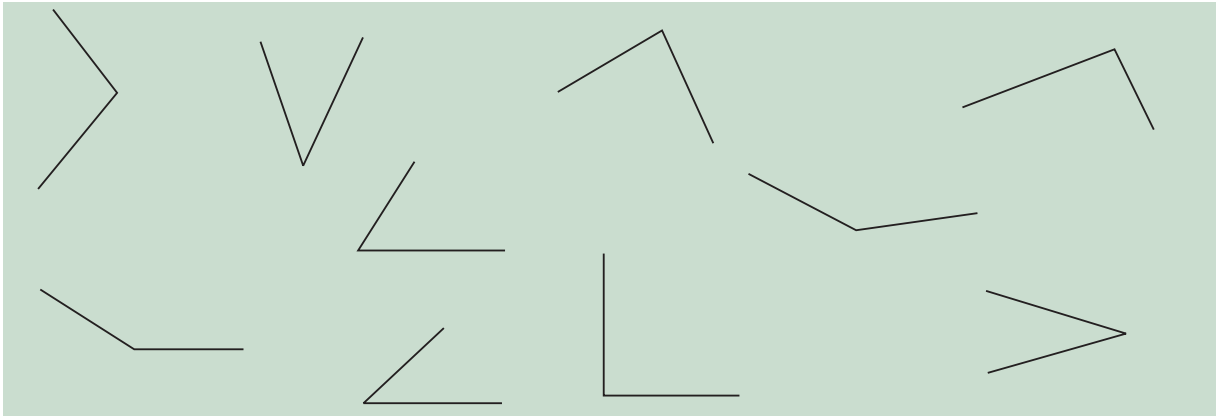


The angle on which you had put × mark are acute angles. And the angles on which you have put ✓ mark they are called obtuse angle.

Angles which are greater than right angle are called Obtuse angles and the angles which are smaller than right angle are called acute angles.

Recognize the angles in the figure given below. Write their names.





Circle

Take a circular coin. Keep it on a page of your copy and draw an outline of it. Now remove the coin and see the drawn shape. Can you make this type of shape from other object ? Write their names-

_____

_____

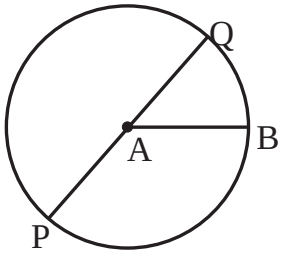
Now take any two items and draw this type of shape. Let us now draw this type of figure in the field. Take a nail, a stick and a rope in the ground. then tie (fasten) the nail with one end of the rope and fasten the other end of the rope at the middle of the stick. Now draw an out line of the nail with the help of stick. Be careful while drawing the out-line make sure that the rope is stretehed. What type of shape you get ?

The out-line you get from the coin and the out line you get from drawing a figure by stretching a rope attached to the nail is called a circle:

In the same way you can draw circle by using compass (rounder)

Open a page of your copy keep the compass on the page as shown in the figure. Fix its pointed side at a place and move the pencil around it.

Come lets now know some facts about circle.



While drawing a circle where you placed the pointer of the compass that point is called the **centre**.

In the figure 'A' is the centre of the circle.

The line segment that join centre with any point of the circle is called **radius**. In the given figure A B is the radius of the circle.

The line segment that joins two points on the circle which passed through the centre of the circle is called diameter.

Line segment P Q is the diameter of the circle.

Give answer :

Just now you have drawn a circle by fixing a nail and rope. Where is the centre of that circle ? Draw one radius of that circle measure it. In same way draw a diameter and measure it also.

Draw Circle

Tie a chalk on both ends of the thread.

Fix a chalk on the blackboard with your left hand.

Now draw a line with your write hand.

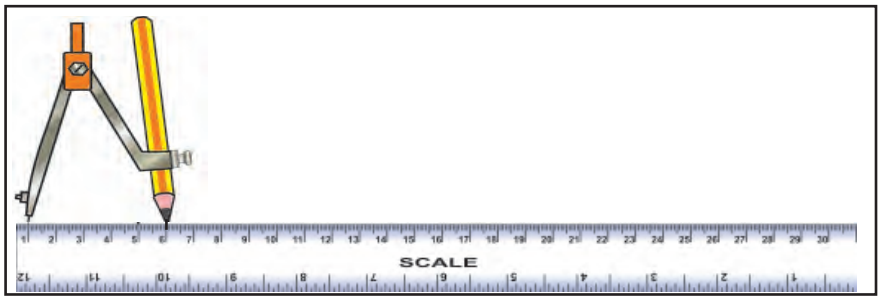
Be careful that the thread should be stretched.

What shape do you get on the black board ? Write the names of the parts.

Make circles of different radic now do this-

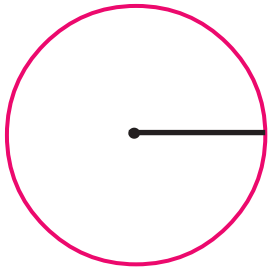
Take out scale, rounder and pencil from you compass box. Now insert the pencil in the rounder. Level the tip of the pencil and the rounder on the notebook.

Now make the distance of 5 c.m. between tip of the pencil and pointed end of the rounder using the c.m. side of the scale.



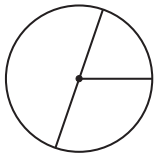
Now draw a circle on your notebook revolving the rounder.

Now measure the radies of the circle and write it.

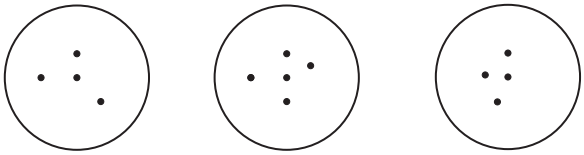


Exercise :

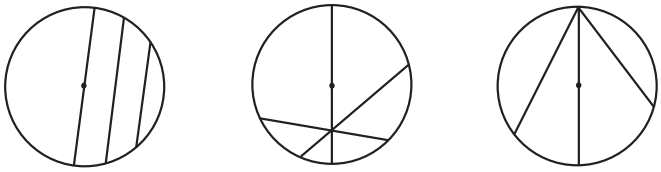
1. Write names of the parts in given figure –



2. Find out (identify) the centre of the circle in given figure.



3. Identify the diameter in the given figures.



4. Draw a cercle of radius 7 cm.

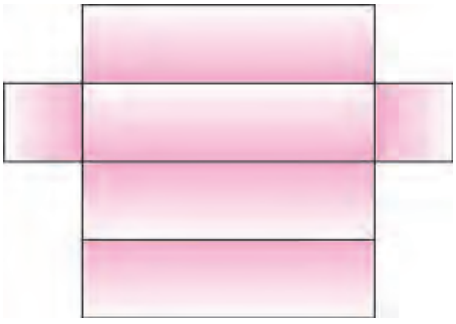
5. Draw a cercle of radius 3 cm.

6. Draw a cercle of radius 10 cm.

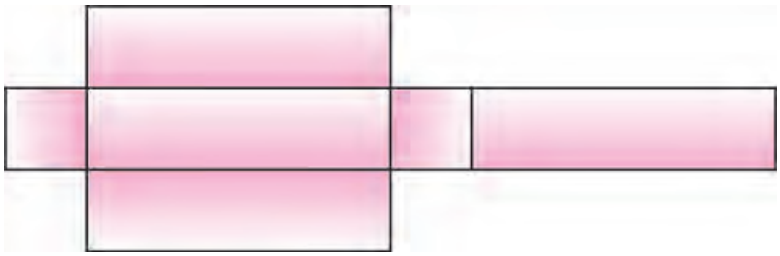
Making Cubes, cuboids -

Objects like bricks, chalk boxes, tooth paste boxes etc have cuboids shapes they have 6 rectanguler faces.

Take a chalk box / tootpaste box. Cut it and open as shown in the given figure . You will get a net by opening it.

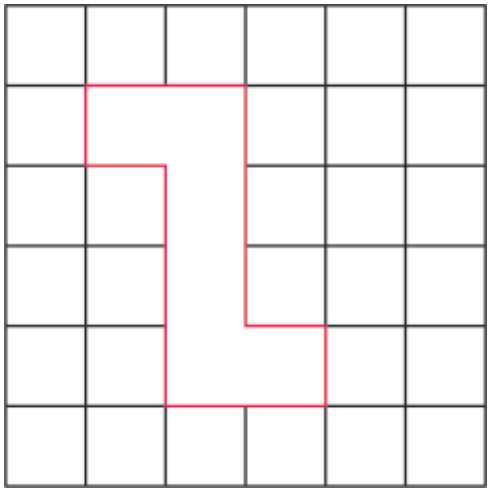


There could be other ways of cutting and opening this box. One of the ways is given here as an example -



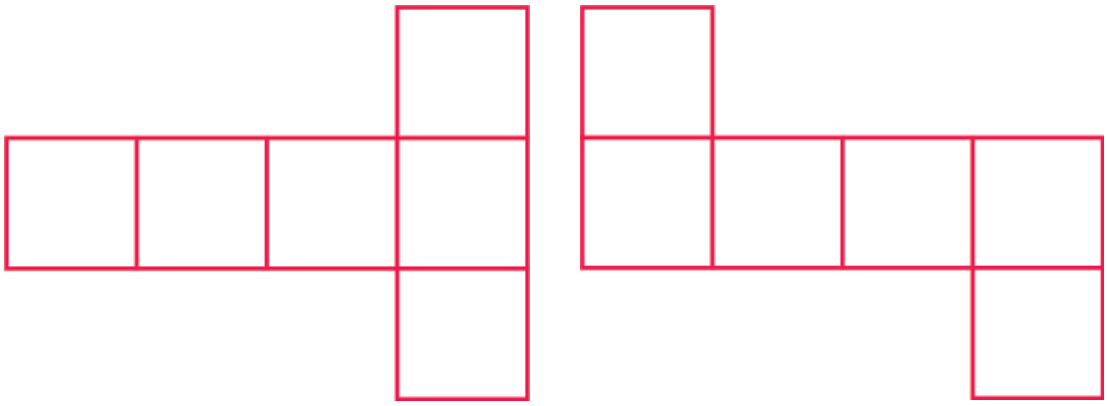
You find some other way and draw its net in your notebook.

Now take a drawing sheet and cut it according to the diagram. Now fold and make a box out of it. Are all the faces equal and square objects like this of having six square phases are cubes in shapes. For is - dice.



Make cubes from the given net -

All the boxes or the objects are not necessarily cubes or cuboids in shapes.Make cubes from the given net -

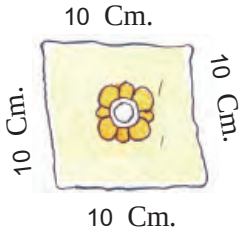


All the boxes or the objects are not necessarily cubes or cuboids in shapes.

Unit 9

PERIMETER

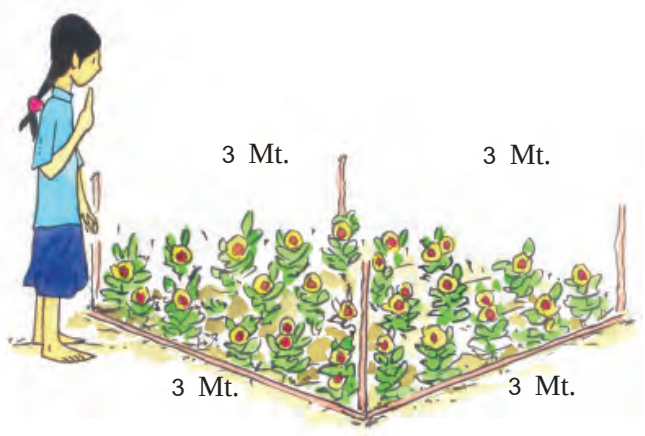
Deepa's mother is stiching on four sides of a handkerchief. By looking at the picture tell how much more stitching she has to do.

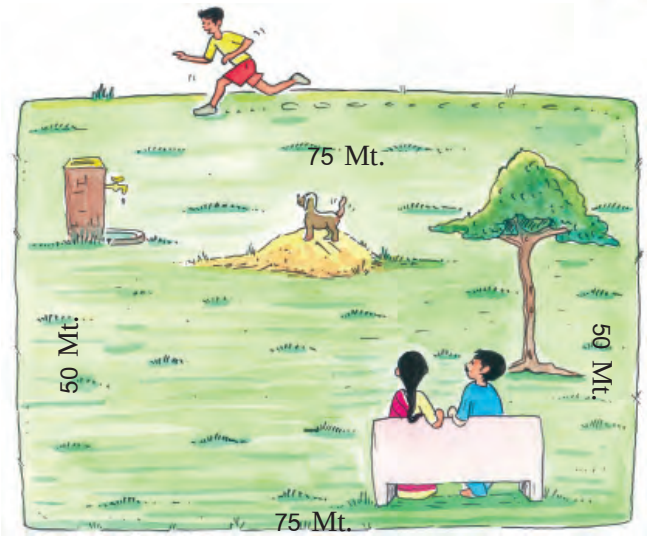


How much stitching does she have to do? How will you find out ?

Meeta has planted flowering plants in her courtyard . To save it from animals she wants to make a wire fencing on all four sides.

Can you tell the length of the wire Meeta needs to make the boundary. How will you find out ?

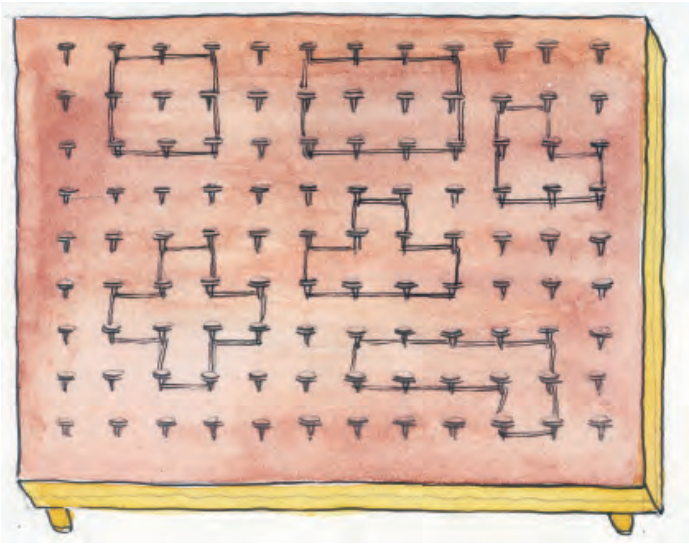




Monu runs on the field daily. Tell how much Monu has to run to take a complete round of the field ?

If he takes 10 rounds of the field how much distance he will cover ?

In the figure given below, some shapes are made by thread. The distance between the horizontal and vertical nails is 1 cm.. Now count and tell what length of thread will be required to make the shapes.



Like the length of the threads needed for the first shape is :

2cm + 2cm + 2cm+2cm = 8 cm

Draw such shapes on the board. Calculate the length of pieces of thread to make these shapes.

The length of the thread needed to make the shapes in the figure is the perimeter of the figure.

Perimeter of slate

What is the perimeter of your slate ?

To know this, keep the slate on the ground and draw its shape on the floor. Now remove the slate and fix nails on all the four sides.

Starting from one nail, take the thread to the second nail, then third, then fourth and again bring it back to the first nail.

Make a mark on the point where the thread comes back to the first nail and by stretching the thread measure its length. The length of the thread is the perimeter of your slate.

In this way find out the perimeter of the things given below:

1. Matchbox
2. Your book
3. Compass box

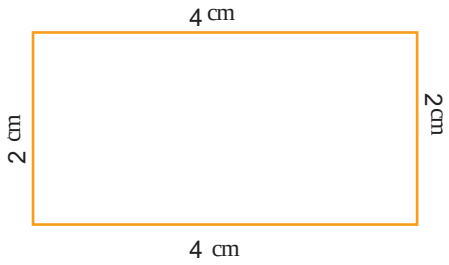
Now with a measuring tape used by a tailor , find our the perimeter of the following :

1. your wrist
2. Bangle
3. Ringball
4. your friend's head
5. bottom of a bottle

Perimeter of a rectangle

Till now you have found out the perimeter of many things. Now lets see how we can we find out the perimeter of any shape without using a thread.

What is the perimeter of this rectangle ?



Place a piece of thread on its four sides. The required length of the thread would be

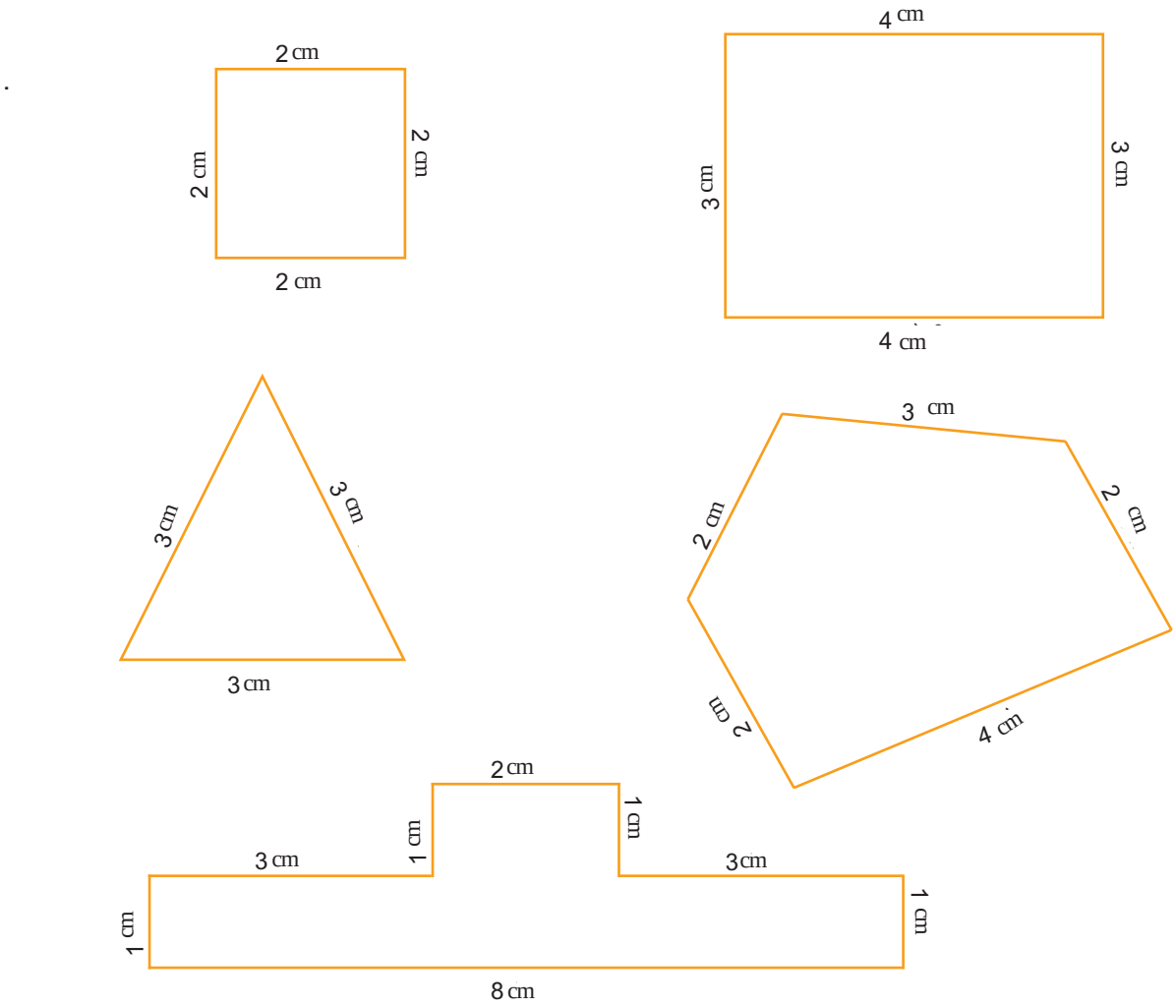
4cm + 2 cm + 4 cm + 2 cm = 12 cm

Now we can say the perimeter of the given rectangle = 12 cm

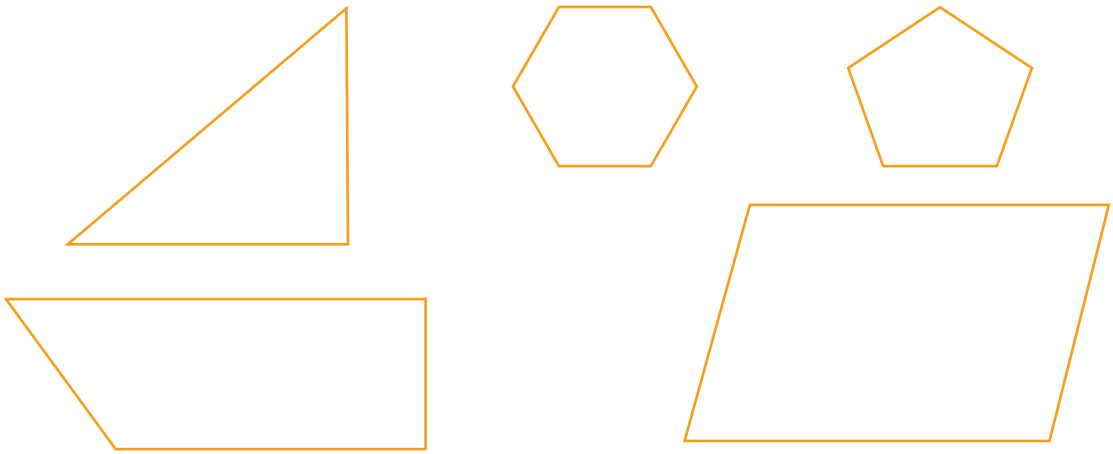
Now say what we have done to find out the perimeter of this rectangle

———————————————————————————————————

Find the perimeters of figures given below:



Measure the sides of the figures with a scale and find the perimeters.

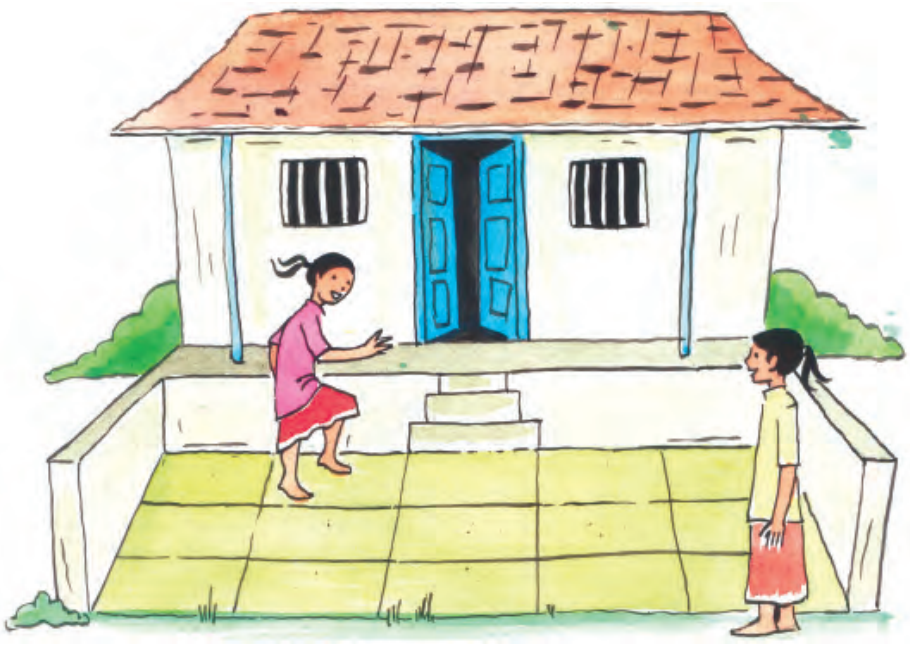


Find Out

1. You have to do fencing on the four sides of your class. What will be the length of rope required to make the fencing. Measure and tell.

Do it and see

1. Find out the perimeter of the kabaddi ground ?
2. Find out the perimeter of the kho kho ground ?
3. Can you tell the distance covered by a cycle wheel in one revolution ?
4. Collect some items from your surrounding and find out its perimeter
5. The picture of the courtyard of my house is given below. There are 15 stones in it. Each stone is 1 metre long and 1 metre broad.



You have to find out what is the perimeter of the courtyard ?

Find out the area of the courtyard also .

Unit 10

AREA

One day the teacher came with some packets to the class and told Raju to arrange them on the table but ensure that no packets are kept on top of one another.

Raju saw that all the packets were alike. He started arranging the packets but after arranging 12 packets the surface of the table was totally covered.

Thus we can say that surface of the table = surface of 12 packets

Now tell :

- Why Raju was not able to arrange all the packets on the table ?
- If the packets would have been smaller then could have Raju arranged more than 12 packets ?
- If the packets would have been larger , then what would have happened ?

Measurement by matchbox:

Collect empty match boxes. Arrange these boxes on the surface of your book

How many boxes were arranged ? ––––––––
It means surface of book = ––––––––– Surface of boxes

If you have only one match box then can you measure the surface of your book? How will you measure? Measure and see.

In the first example the table was = the surface of the 12 packets.

In this way the surface of the book = …….. surface of match boxes.

The surface covered by any shape is called its surface area.

Like in the first example the surface area of the table is equal to the surface area of the 12 packets

Measure the surface of the items given below according to the instructions:

	Items	Measure by what	Measure of surface
1.	Surface of table	Book	——— Book
2.	Book	Match Box	
3.	Exercise Book	Match box	
4.	Calendars / chart	Page of the copy	
5.	Upper surface of box	Copy	

Compare your measurements with your friend's measurements. Did you find any difference ? Think and answer. Why and how did this happen ?

Measurement with bangles

You have seen arranging the matchboxes on the book. Now you try to arrange the bangles on the book.

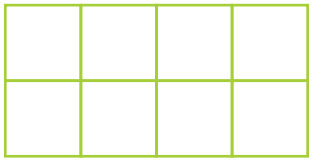
- How many bangles are arranged ? .....
- Is the surface of the book covered completely by bangles ?

  .....

- Was there any blank space while arranging the match boxes on the surface of the book
- Can bangle like shapes be used in measuring the area ?

Let's count the boxes and find out the area.

1 . &

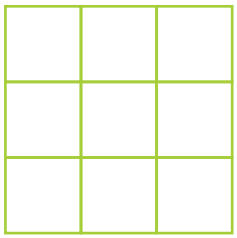


In this figure there are 8 boxes like this ☐ or (1 cm length 1 cm breadth)

Thus the area of this figure = 8 boxes

Tell the area of these figures in terms of small squares :

1.

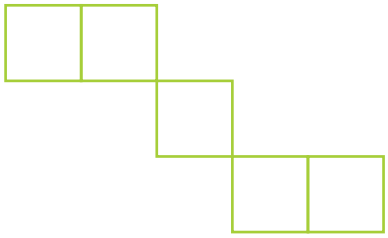


———————————

2.

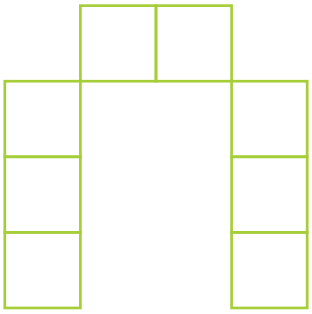
———————————

3.

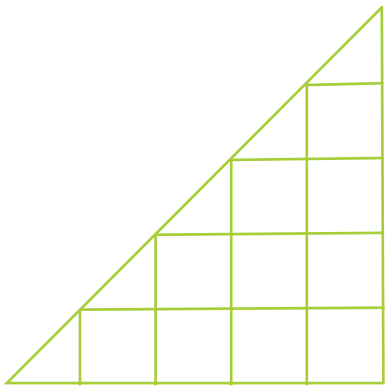


———————————

4.



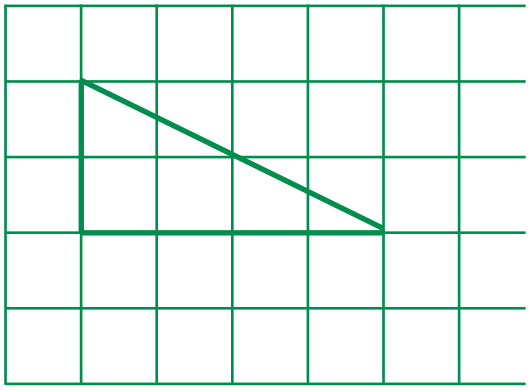
———————————



Can you tell the area of the figure given below by counting the boxes ?

Is there any problem ? Tell how can you find out the area of it ? If you cannot understand then take the help of your teacher.

What is the area of this triangle ?



Colour the boxes green which cover less than half the area in the triangle.

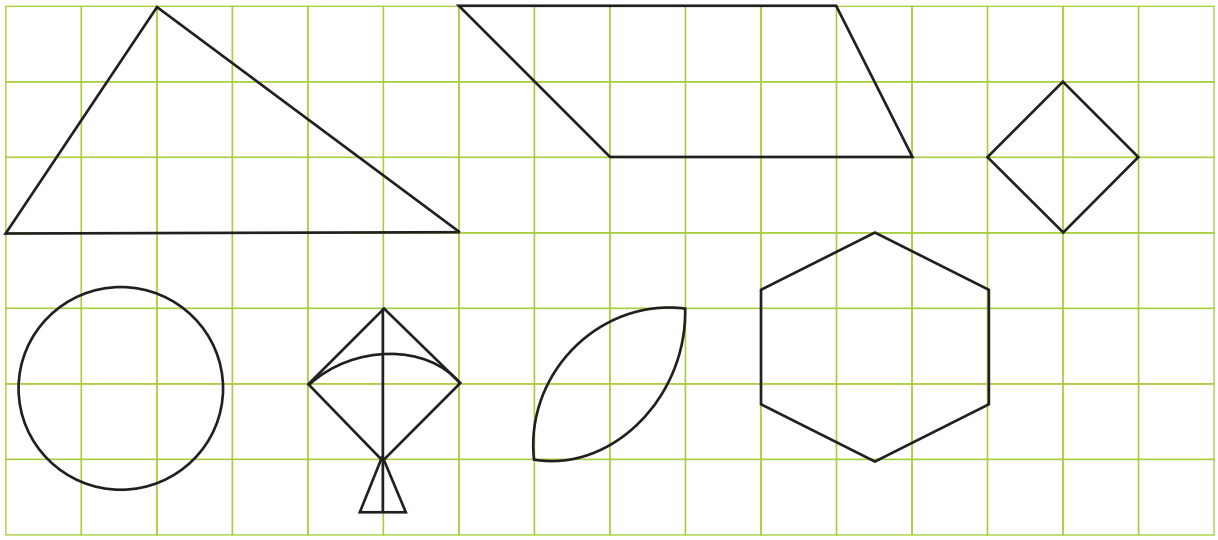
Now fill blue colour in the remaining boxes in the triangle.

The maximum portion inside the triangle is filled with blue colour, so we can say the area of the triangle is almost equal to the number of blue boxes.

Area of triangle = …….boxes

When we measure the area by counting boxes, then we do not count the boxes which cover less than half the area. We count the remaining boxes..

Now you tell the area by filling colours.



Area of a leaf

Collect some leaves. Keep the leaves on the grid drawn on the book and draw its outline. Now tell the area of each leaf by counting the boxes.

Leaf	Mango	Peepal	Palash
Area	————————	————————	————————

Can you find out the area of your palm. Use the boxes given above. Collect some items according to your wish and also find out there areas.

Unit 11

Money

You have learnt a chapter on money in class - 3. You made a lot of coins and notes with your friends

Answer

How many 50 paise coins will you get for ₹ 1

How many 25 paise coins will you get for ₹ 1

You saw that for ₹ 1 you get 2 coins of 50 paise i. e. (that is)

50 p. + 50 p. = 100 p.

For ₹ 1 you get 4 coins of 25 paise i. e.

25 p. + 25 p. + 25 p. + 25 p. = 100 p.

You have known that

100 p. = 1₹

or

1₹ = 100 p.

Now answer

How many coins of 50 paise ?

1 ₹ = ...coins

2 ₹ = ...coins

3 ₹ = ...coins

4 ₹ = ...coins

5 ₹ = ...coins

6 ₹ = ...coins

7 ₹ = ...coins

How many coins of 25 paise ?

1 ₹ = ...coins

2 ₹ = ...coins

3 ₹ = ...coins

4 ₹ = ...coins

5 ₹ = ...coins

6 ₹ = ...coins

7 ₹ = ...coins

Fill in the blanks -

25 p + 50p + 50p = ...₹ .....p

2₹ + 5 ₹ + 20p + 20p = ...₹ .....p

10 p + 10 p + 10₹ + 2₹ + 50p = ...₹ .....p

10 ₹ + 5 ₹ + 2 ₹ + 25 p + 50 p + 25 p = ...₹ .....p

10 p + 20 p + 25 p + 50 p = ...₹ .....p

5 ₹ + 10 ₹ + 10 ₹ = ...₹ .....p

10 ₹ + 50 ₹ + 50 ₹ = ...₹ .....p

20 p + 20 p + 50 p + 3 ₹ = ...₹ .....p

1 ₹ + 2 ₹ + 5 p + 50 p = ...₹ .....p

Think and answer (oral)

1. Samir wants to buy a pen . The cost of the pen is ₹ 5 . How many 50 p coin will samir have to give ?

2. Suman has 8 coins of 25 p. She has to buy a chocolate of wich costr ₹ 1 each. How many coins will she give to the shopkeeper ?

3. Gulshan bought an earaser which costs 50 p. each. She gave ₹ 10 coin. How much amount will the shop keeper return ?

4. How many ₹ 2 coins can we get for ₹ 10.

5. A ball costs ₹ 12 . shourya has ₹ 5. How many more rupees does he need to buy a ball.

6. Sonu has three 5 ₹ note and one 10 ₹ note. How many rupees need to be added to make it ₹ 30 ?

7. Raja has 3 coins of 50 p Gauri has 5 coins 25 p and karan has 4 coins of 20 p. If we add them how much amount will there be?

8. A pencil costs ₹ 2.How much amount needs to be given to buy 7 pencils.

9. Sagar has 10 coins of 20 p. After spending 3 coins, how much amount in rupees and paise will be left.

10. Carrot costs ₹ 30 per kg. How much money will you pay to buy half a kg of carrot.

Lets know this -

How many notes ?

For ₹ 50 ..... notes of ₹ 10

For ₹ 100 ..... notes of ₹ 50

For ₹ 100 ..... notes of ₹ 10

For ₹ 500 ..... notes of ₹ 100

For ₹ 500 ..... notes of ₹ 50

For	₹ 500	.....	notes of ₹ 10
For	₹ 50	.....	notes of ₹ 10
For	₹ 2000	.....	notes of ₹ 500
For	₹ 2000	.....	notes of ₹ 100
For	₹ 2000	.....	notes of ₹ 50
For	₹ 2000	.....	notes of ₹ 10

जेब्रा क्रासिंग

जेब्रा क्रासिंग सड़क पर पैदल यात्रियों के सुरक्षित तरीके से रोड पार करने हेतु होता है। हमेशा जेब्रा क्रासिंग पर चलकर रोड पार करना चाहिए। जेब्रा क्रासिंग काले एवं सफेद रंग की पट्टी होती है जो चौक के चारो तरफ पैदल यात्रियों के सुरक्षित रोड पार करने हेतु बनायी गयी होती है।

यदि सड़क पर जेब्रा कासिंग ना हो तो सड़क पार करते समय दाये बांये देखे मोटर गाड़ी न आने पर ही रोड पार करें।

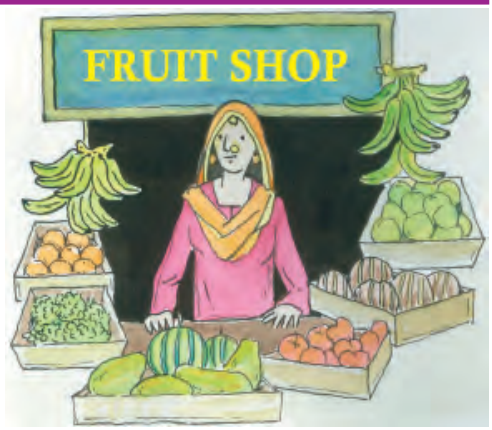
छोटे बच्चों को अकेले सड़क पार नही करना चाहिए। हमेशा अपने बड़ो का हाथ पकड़ कर ही रोड़ पार करें।

लाल बत्ती जलने पर ही जेब्रा क्रासिंग से सड़क पार करें।

Unit 12

PICTORIAL REPRESENTATION OF DATA

Hamida has a fruit shop. Today she sold many fruits during the day time. Some fruits were left with her. We have drawn these remaining fruits in the table given below:



Remaining fruits	Number
	
	
	
	
	

See the table and give the answer –

- What is the total number of remaining fruits ? ——————————
- Which left over fruit is maximum in number ? ——————————
- How many more guavas are there than oranges ? ——————————

Write two more questions which can be answered by seeing the table given above.

- ——————————————————————————————————————
- ——————————————————————————————————————

Your own liking

Find out the colours liked by each student and complete the table given below

Colour	Name of student

Look at the table and give the answers–

- How many students like blue colour ? ————————————
- Which colour is liked by maximum number of students ? ————————————
- Which colour is liked more by the student, red or green ? ————————————
- Which colour is liked by minimum number of students ? ————————————

Counting in lane

Sit outside your house for 30 minutes and watch how many men, women and children come out while you sit there. For each one draw a line (|) in front of their box in the given table. Count them and write the total number of lines in the table.

Who are the passers by	draw lines	total number of lines
Men		
Women		
Boys		
Girls		

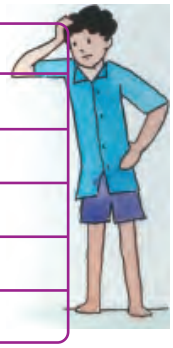
- How many people passed from there ? ——————————
- Boys were more or girls ? ——————————
- You also form three such questions -

1. ——————————————————————————————————
2. ——————————————————————————————————
3. ——————————————————————————————————

How many students are on leave

How many students of class 1,2,3,4 and 5 are on leave . Find out and write in the following table. This time you use ☺ to indicate each child.

Class	Children on leave
1	
2	
3	
4	
5	

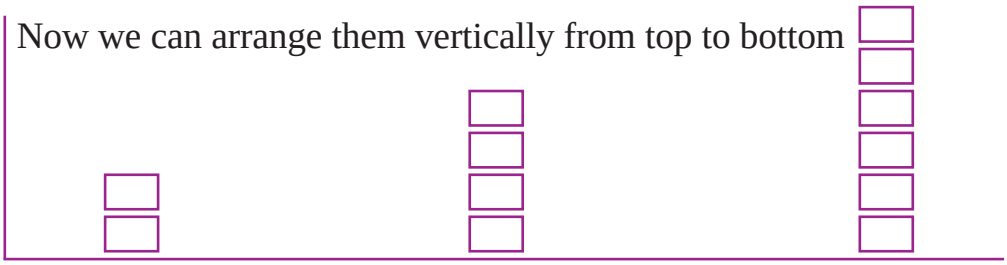


Tell how many students of class 1 are absent. ?
You can make such questions and give this to a group to solve.

Till now you have collected different types of facts and arranged them horizontally (left to right) .

Fruits	Liked by number of students
Guava	☐☐
Banana	☐☐☐☐
Orange	☐☐☐☐☐☐

Now we can arrange them vertically from top to bottom



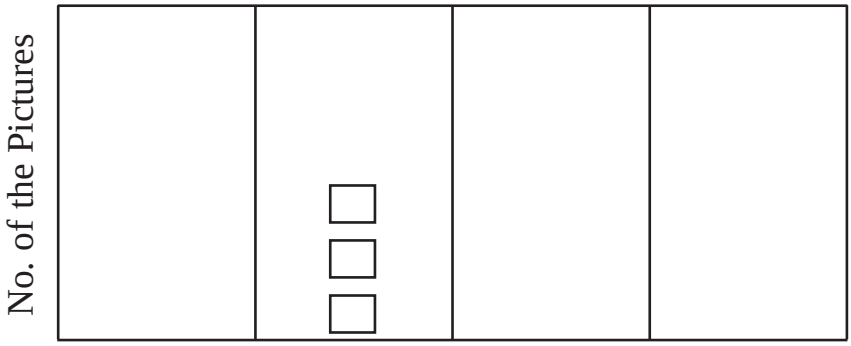
Guava Banana Orange

Meena has drawn the figure

Mina was drawing figures. The number of pictures she made have been represented by ☐ given below in the table.

Pictures	No. of the Pictures
Animals	☐ ☐ ☐ ☐ ☐
Toys	☐ ☐ ☐
Flowers	☐ ☐ ☐ ☐ ☐ ☐
Trees	☐ ☐ ☐ ☐

Now arrange these information in descending words.



Tell how many drawings did Meena make ? ——————————

Who has made the highest number of drawings ?——— How many? ———

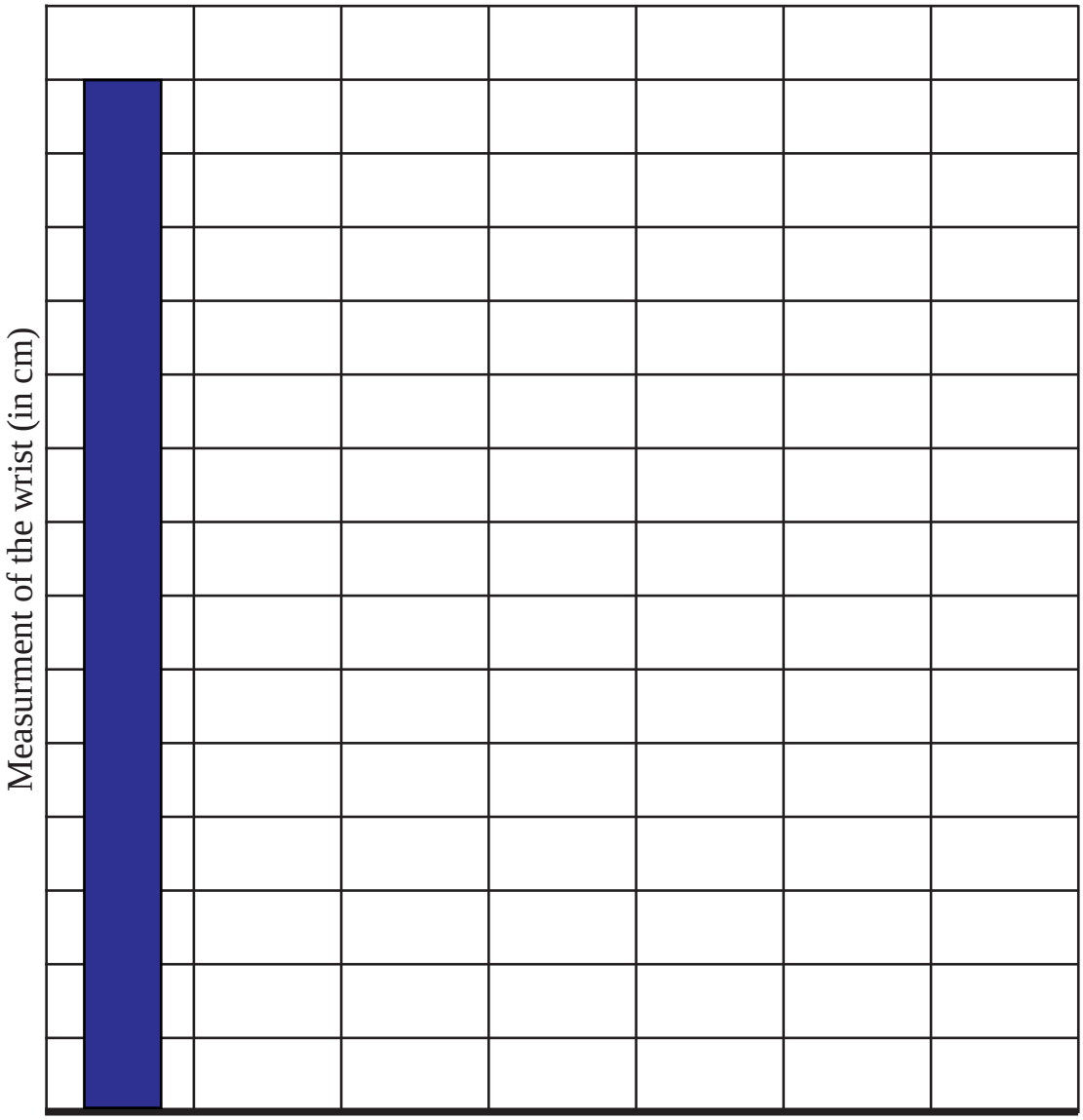
Which of the drawing are least in number?——— How many? ———————

By how much is the number of drawings of flowers are more than the number of drawing of animals ? ———————

Which is more: drawings of trees or toys ? ——————————

Measure of Wrist

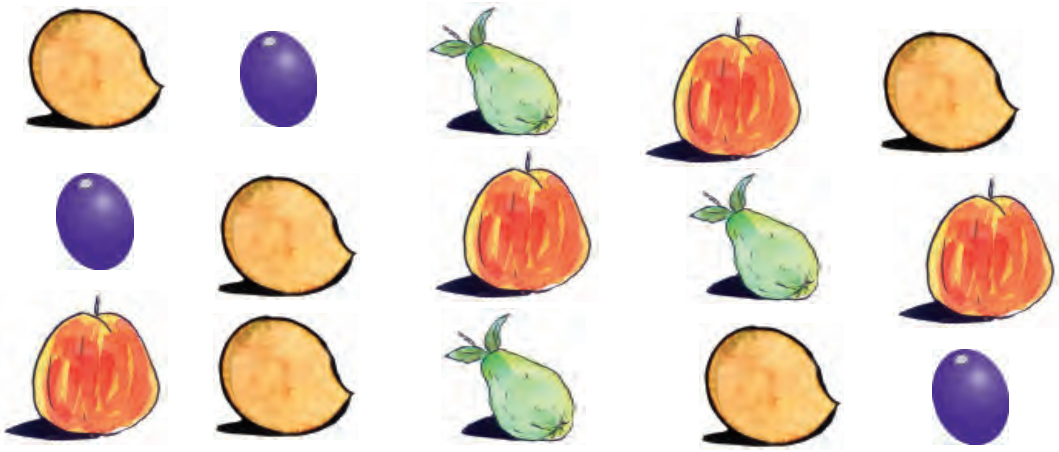
Sit with your friends. Now cut a strip of paper equal to your wrist and stick it on the bold line given below -



Rohit's strip ....

- Also tell whose strip is biggest, whose strip is the smallest and whose strips are equal.

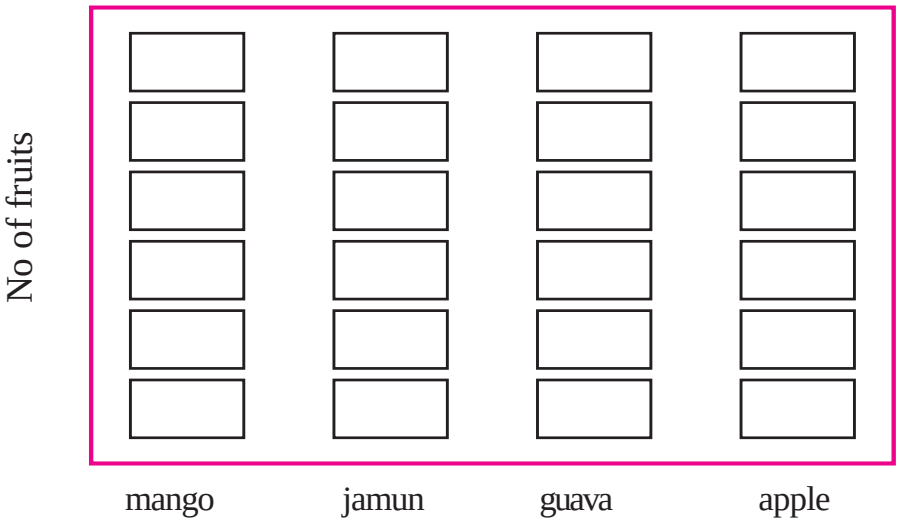
Some pictures of fruits are given below -



Count the similer fruits and complete the table -

Fruits				
Count				

Now colour no of boxes equal to no of shapes.



By colouring the boxes in this manners no of various shapes will be shown as rectangular stripes for each shapes a box of equal length will be shown and the width of all the bars is equal.

This kind of representation of information is called **Bar Diagram**

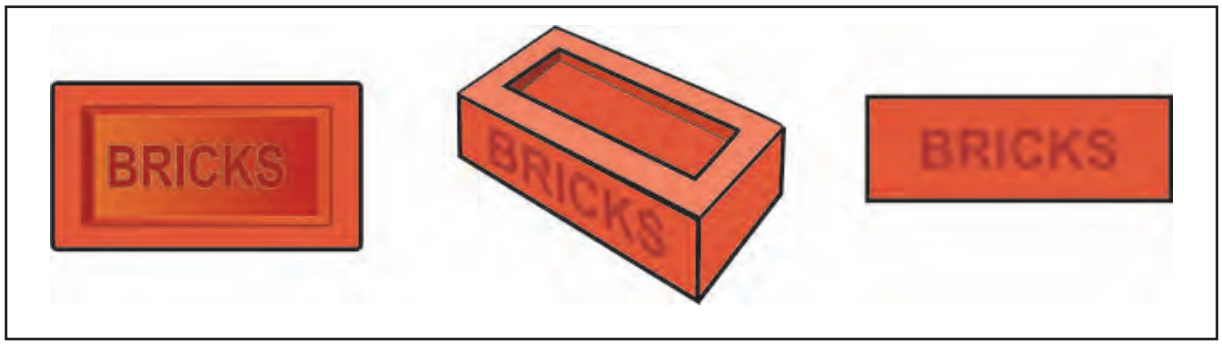
Unit 13

HOW DO THINGS LOOK ?

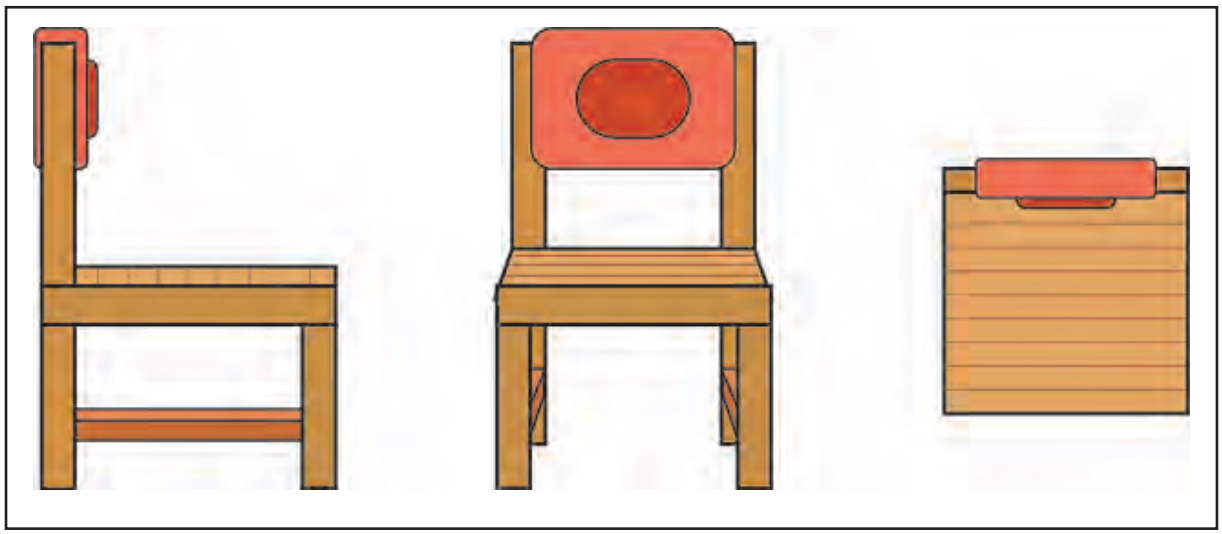
Look carefully the following pictutres

Put a tick mark

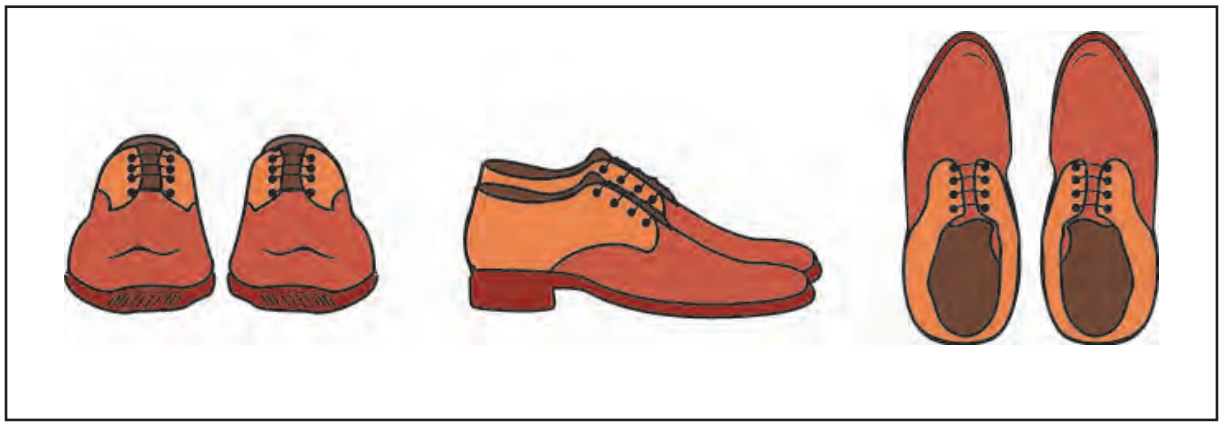
How wil the brick look from the top?



How wil the chair look from the frunt?



How wil the shoe look from the side?



Now do it

Collect some objects like chappals, duster, plate, compass, eraser, bowl etc. Now put these objects one by one on the floor and observe their front view, top view and side view. Try to make their figures.

How did the objects look from the front view? Draw the figures.

How did the objects look from the top view? Draw the figures.

How did the objects look from the side view? Draw the figures.

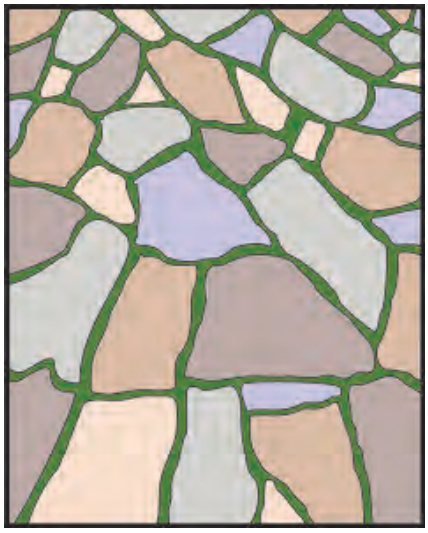
Is this any object which looks the same from all the sides?

Unit 14

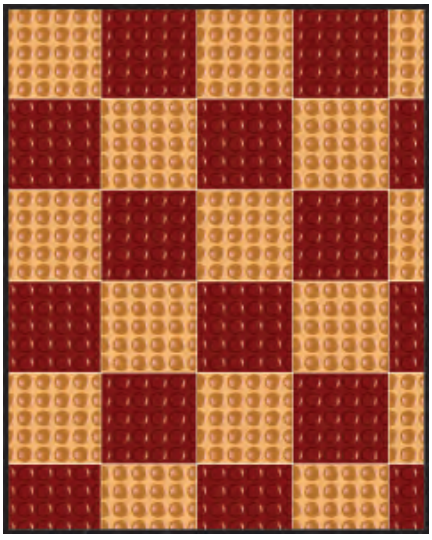
PATTERNS & RIDDLES

You must have seen tiles fixed on houses, footpaths, railway station, garden etc. In this unit we will see the different arrangments of tiles.

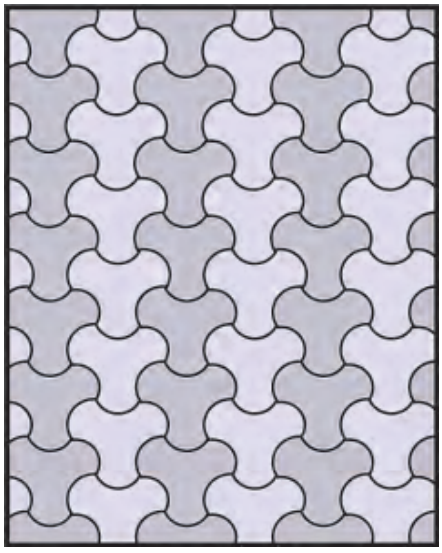
Tiles of different shapes-



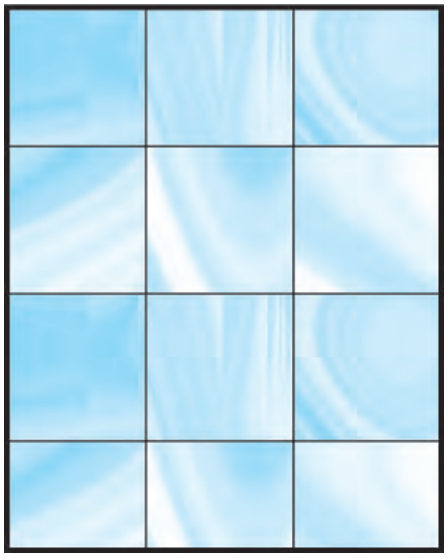
Tiles on the garden



Tiles on the railway station



Tiles on the footpath

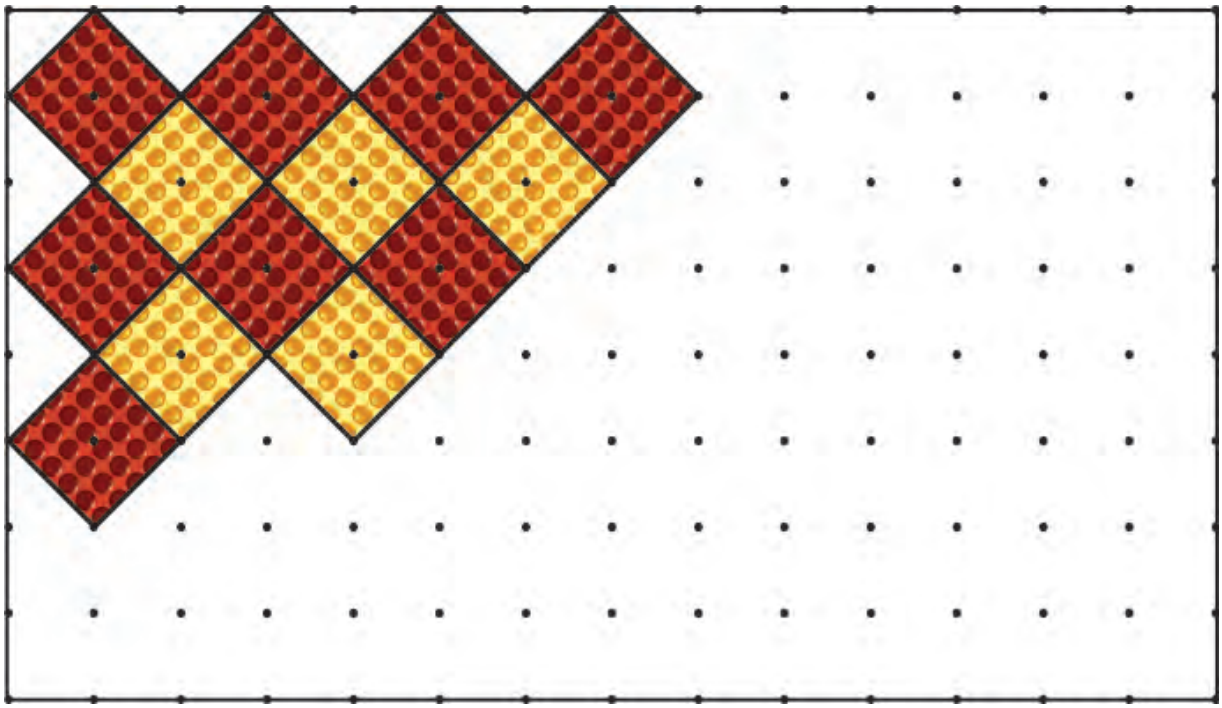


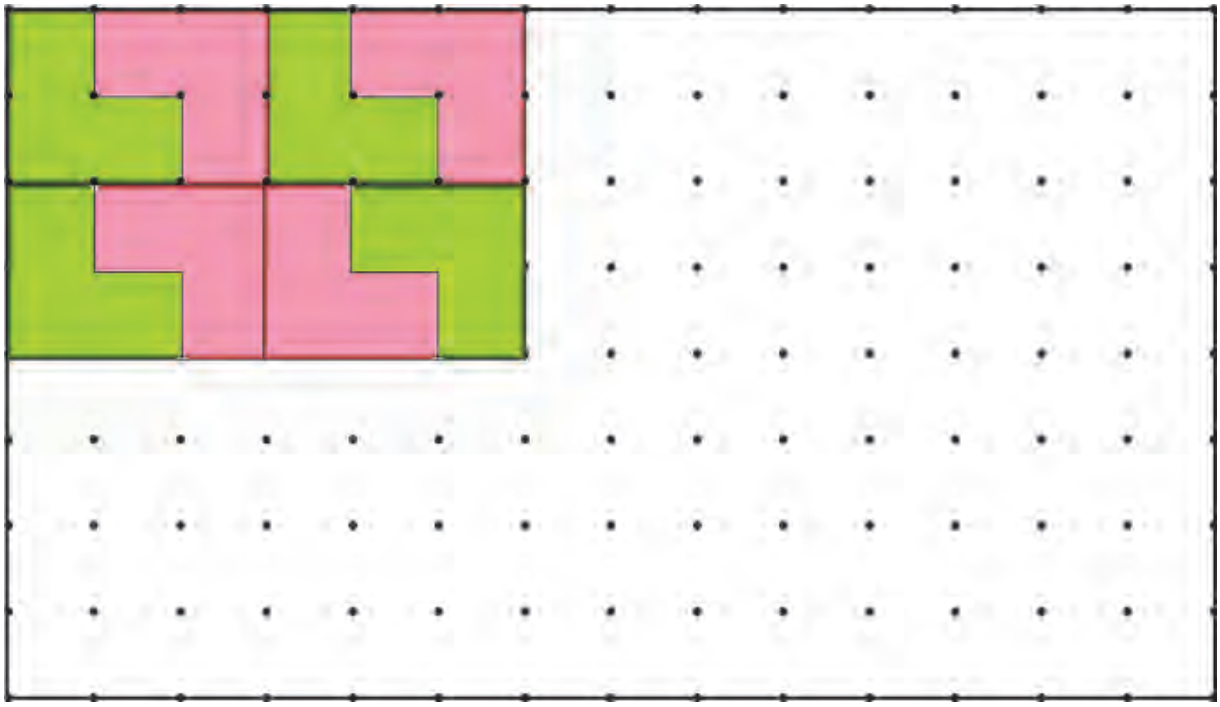
Tiles on the houses

Tiles of different shapes-

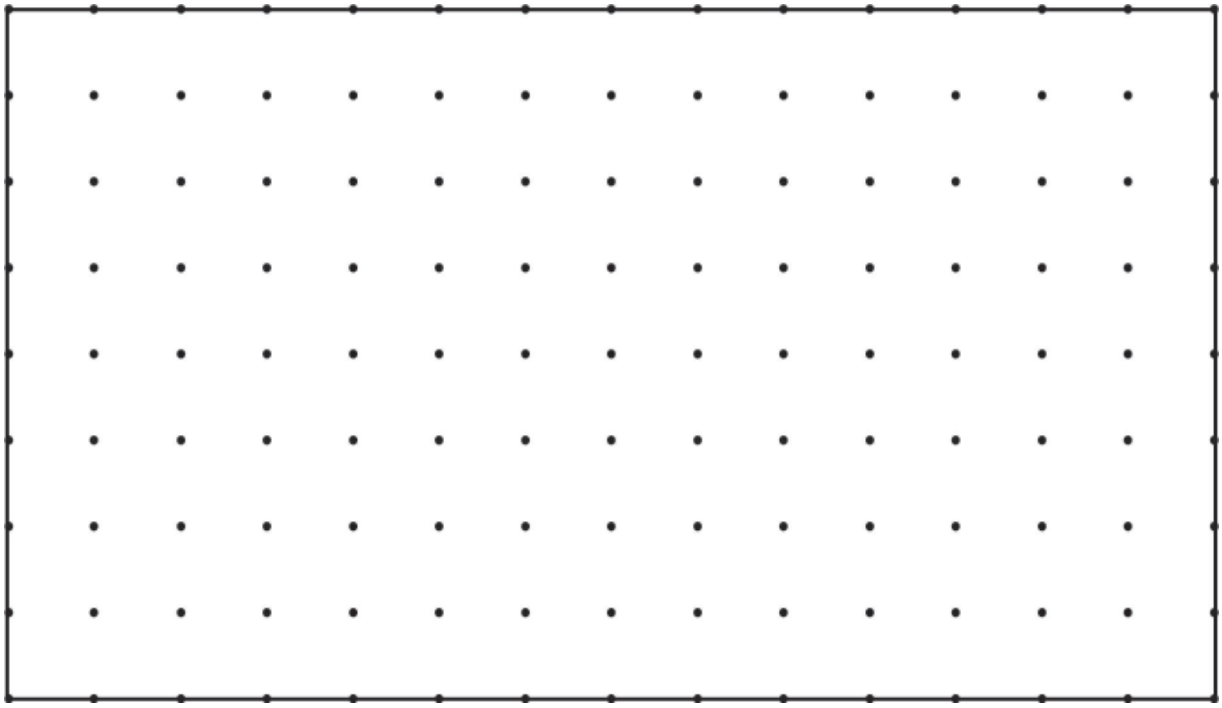
The tiles are fixed on floor in such a way that it cover the whole floor and no empty space is left.

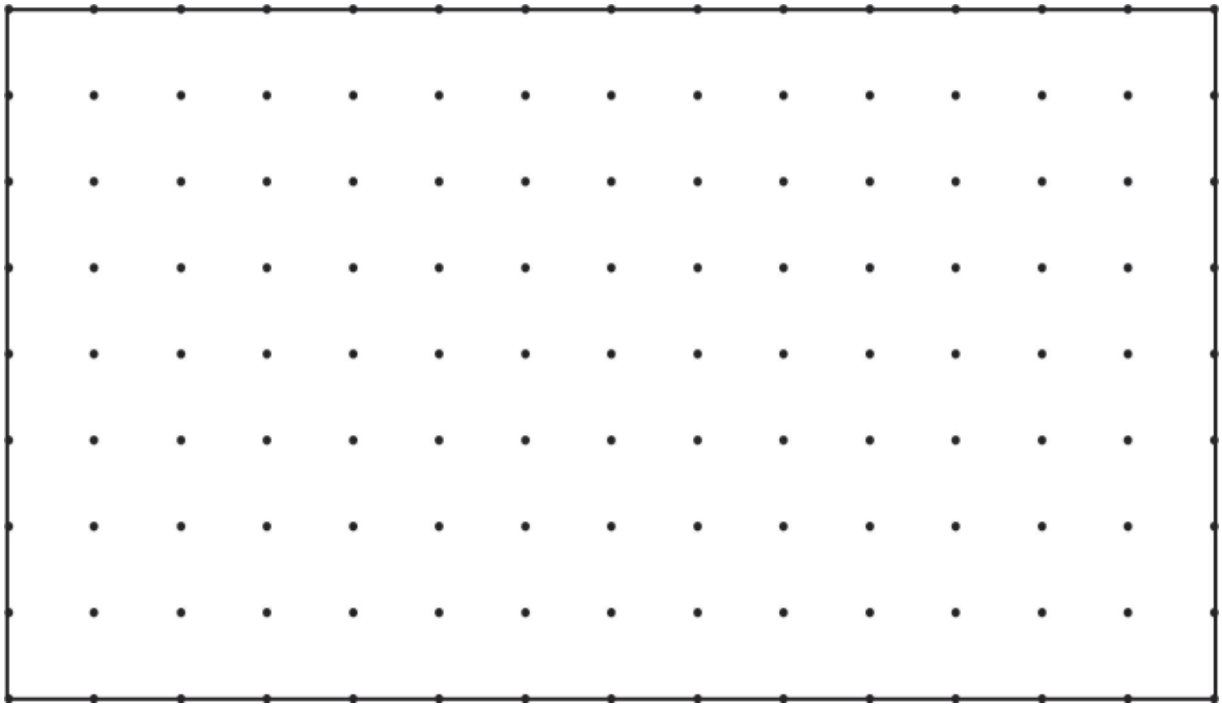
Now you fill the floor with the given tiels.





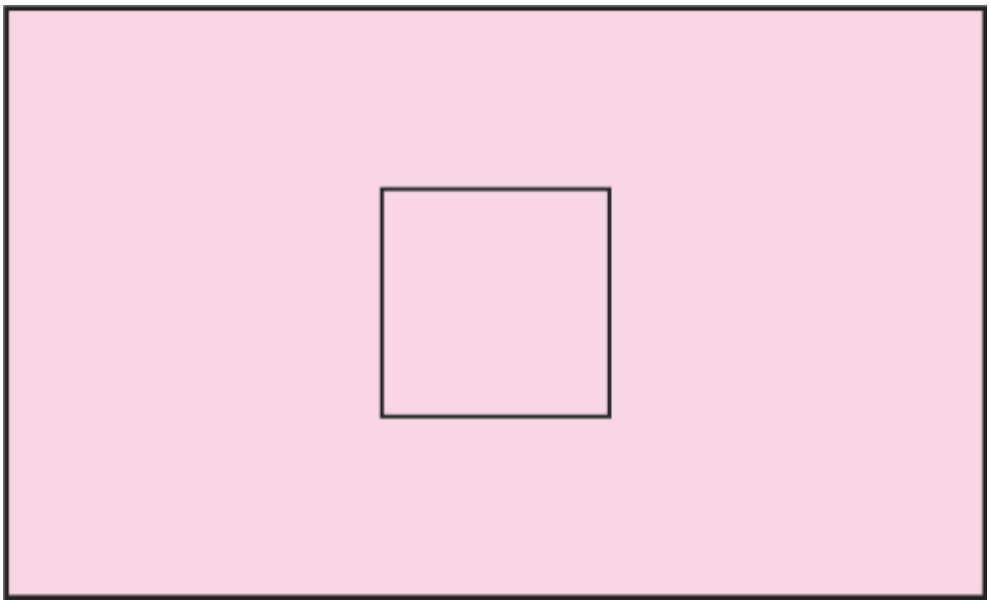
Make tiles of your choice and color them.



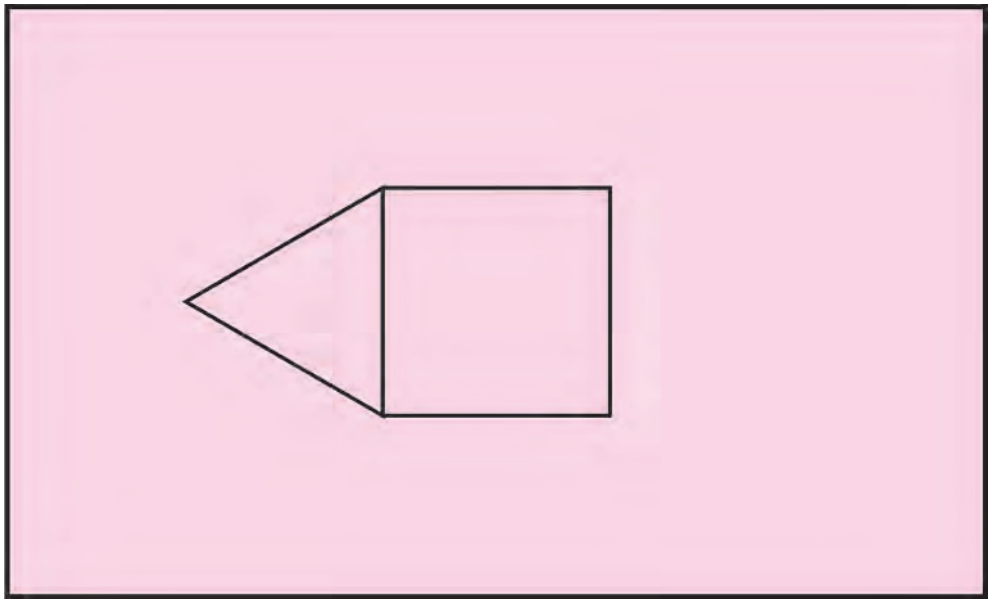


Make your own tiels -

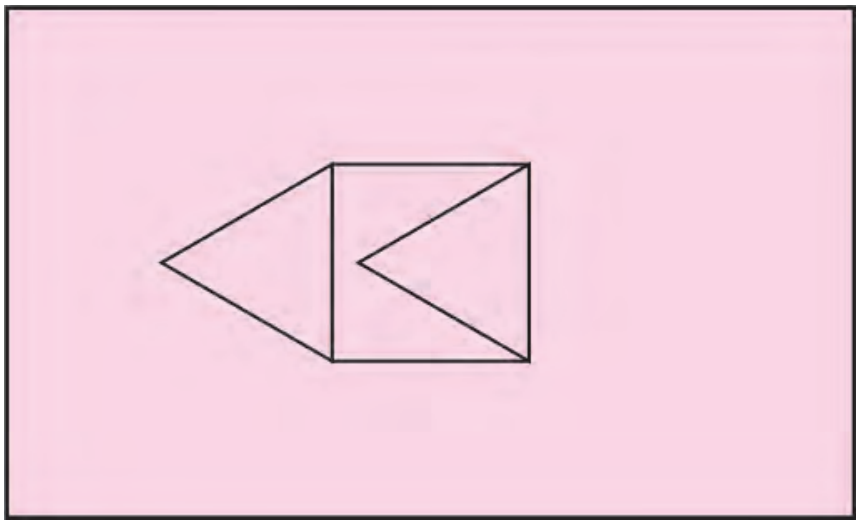
Take a piece of thick paper. Make a square of 3 c.m.



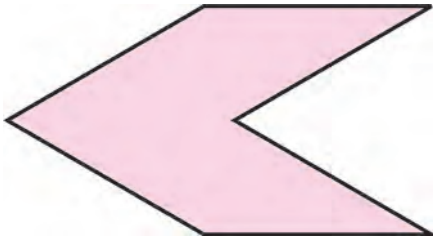
Make a triangle on any of the sides of the square.



Make another triangle on the other side of the square with the same measurement.

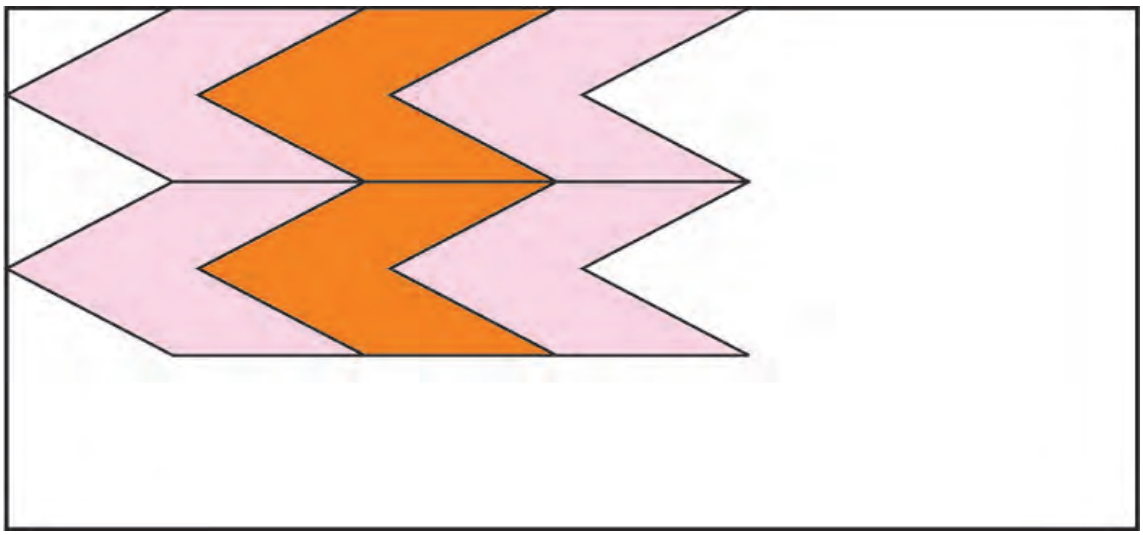


Now cut it, your tile is ready.



Keep this tile on the drawing sheet, page and make an outline using a pencil. Similerly make one after the other keeping in view that no empty space is left in between.

The pattern will look like this-

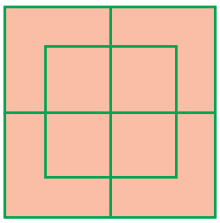


RIDDLES

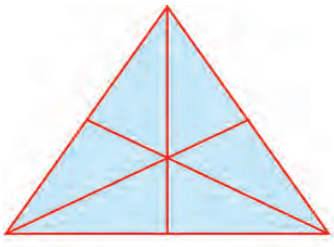
1. Make a shape with 8 match sticks as shown in the figure. Now change the position of three matchsticks in such a manner that the direction of the figure is reversed.

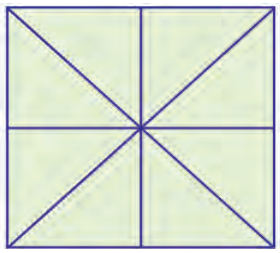
2. Change the position of 3 circles in such a way that the direction of the figure is reversed.

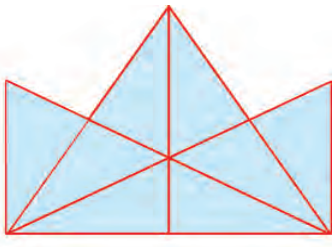
3. How many squares are there in the figure ?



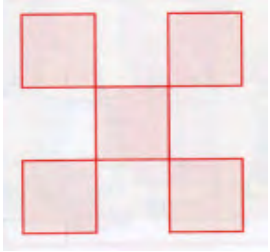
4. Tell the number of triangles in each figure ?







5. 5 squares are there. Change the position of any four sides in such a way so that they become 7 squares.

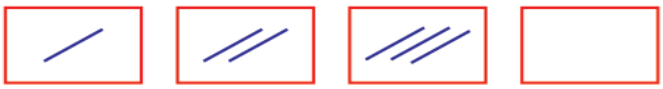


6. Place 10 stones in five columns in such a way that 4 stones are there in each column.

In children's magazines such riddles are given. Solve them. You can also make riddles and give it to your friends to solve it.

BRAIN EXERCISE

What will be in the last box?

1. 

2. 

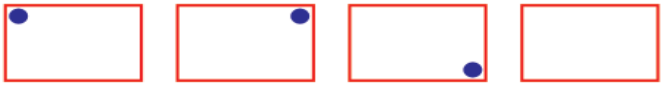
3. 

4. 

5. 

6. 

7. 

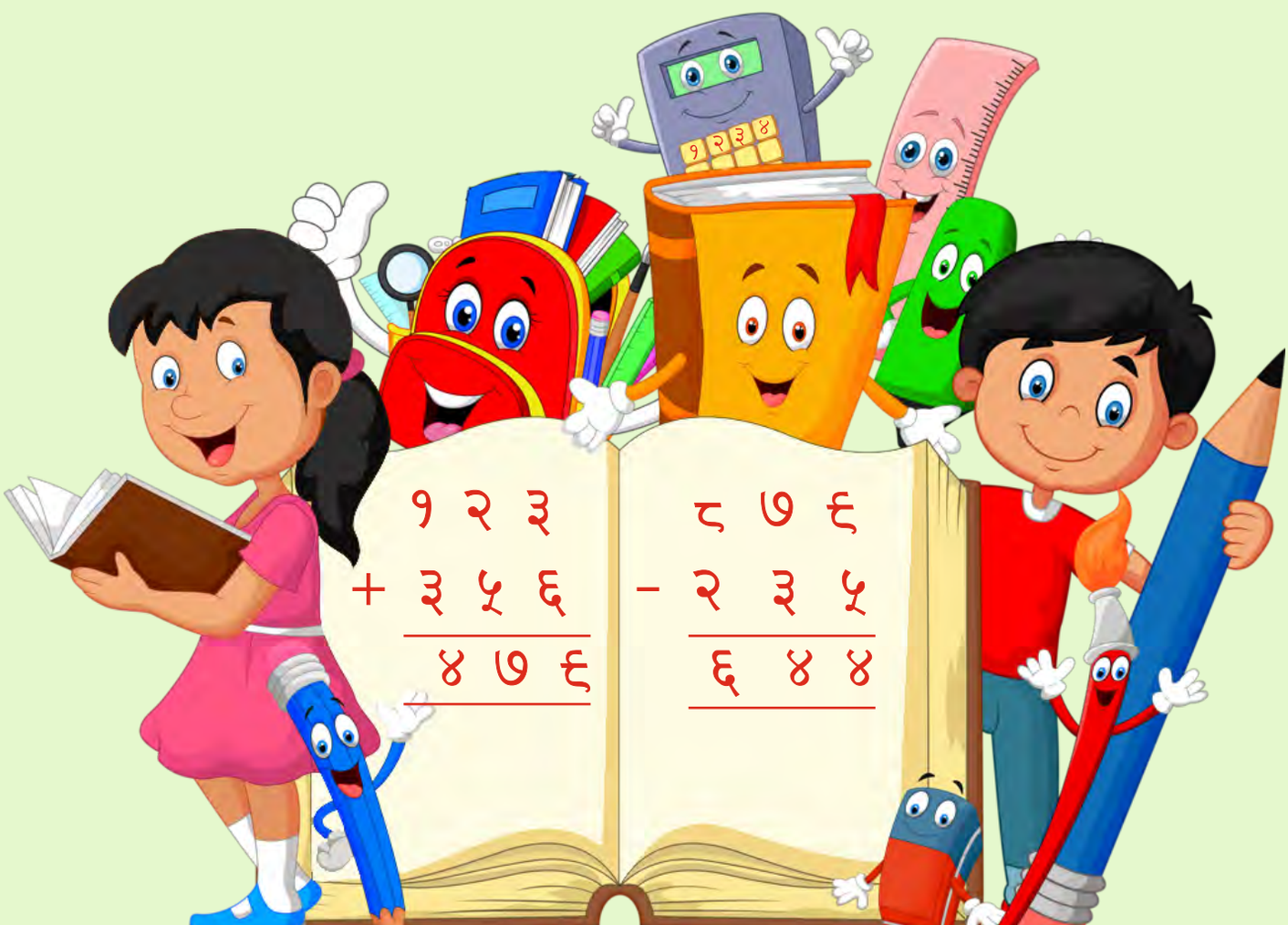
8. 

9. 

10. 

OUR
Devanagari Numerals

Introduction and Exercises



Our Numerals

Pihu's grandmother was doing some calculations on the table. Pihu looked her calculation but couldn't understand it, they seem to be some new digit to Pihu. She asked her grandmother about them.

१.	Sugar	१Kg.	३५ Rupees
२.	Potato	३Kg.	६० Rupees
३.	Onion	२ Kg.	२४ Rupees
४.	Soap	१Pieces	१८ Rupees
५.	Oil	१Litter	८५ Rupees
६.	Dal/ Pulses	१/ २Kg.	३८ Rupees
७.	Salt	२Packet	२० Rupees
		Total :	२८० Rupees

Grandmother said that these are also numerals, we learnt mathematics with these numerals. Grandmother also showed Pihu a calendar with these numerals.

Pihu wanted to ask more about the numerals, but grandmother was busy for her work. So, she told Pihu to asked more about them from her teacher.

Next day Pihu asked more about the numerals to her teacher in the class. Teacher said –
"These are the numerals of Devanagari script." These numerals are also used to write numbers.

These digits are like 0, 1, 2, 3, 4, 5, 6, 7, 8, & 9 which are just as to write numbers. In Devanagari digits these are written as ०, १, २, ३, ४, ५, ६, ७ ८ & ९

Numbers

In order to write numbers we make use of numerals such as 0, 1, 2, 3,..... These are known as international numerals . We can also write numbers in the Devanagari numerals. Let us see the numerals as they are written in both the scripts :

International numerals	0	1	2	3	4	5	6	7	8	9
Devanagari numerals	०	१	२	३	४	५	६	७	८	९

The following table has numbers written in figures and in words. Learn to identify each number and read its name :

1	१	एक	26	२६	छब्बीस	51	५१	इक्यावन	76	७६	छिहत्तर
2	२	दो	27	२७	सत्ताईस	52	५२	बावन	77	७७	सतहत्तर
3	३	तीन	28	२८	अट्ठाइस	53	५३	तिरपन	78	७८	अठहत्तर
4	४	चार	29	२९	उनतीस	54	५४	चौवन	79	७९	उन्यासी
5	५	पाँच	30	३०	तीस	55	५५	पचपन	80	८०	अस्सी
6	६	छः	31	३१	इकतीस	56	५६	छप्पन	81	८१	इक्यासी
7	७	सात	32	३२	बत्तीस	57	५७	सत्तावन	82	८२	बयासी
8	८	आठ	33	३३	तैंतीस	58	५८	अट्ठावन	83	८३	तिरासी
9	९	नौ	34	३४	चौंतीस	59	५९	उनसठ	84	८४	चौरासी
10	१०	दस	35	३५	पैंतीस	60	६०	साठ	85	८५	पच्चासी
11	११	ग्यारह	36	३६	छत्तीस	61	६१	इकसठ	86	८६	छियासी
12	१२	बारह	37	३७	सैंतीस	62	६२	बासठ	87	८७	सत्तासी
13	१३	तेरह	38	३८	अड़तीस	63	६३	तिरसठ	88	८८	अठासी
14	१४	चौदह	39	३९	उनचालीस	64	६४	चौंसठ	89	८९	नवासी
15	१५	पंद्रह	40	४०	चालीस	65	६५	पैंसठ	90	९०	नब्बे
16	१६	सोलह	41	४१	इकतालीस	66	६६	छियासठ	91	९१	इक्यानवे
17	१७	सत्रह	42	४२	बयालीस	67	६७	सड़सठ	92	९२	बानवे
18	१८	अठारह	43	४३	तैंतालीस	68	६८	अड़सठ	93	९३	तिरानवे
19	१९	उन्नीस	44	४४	चौवालीस	69	६९	उनहत्तर	94	९४	चौरानवे
20	२०	बीस	45	४५	पैंतालीस	70	७०	सत्तर	95	९५	पंचानवे
21	२१	इक्कीस	46	४६	छियालीस	71	७१	इकहत्तर	96	९६	छियानवे
22	२२	बाईस	47	४७	सैंतालीस	72	७२	बहत्तर	97	९७	सत्तानवे
23	२३	तेईस	48	४८	अड़तालीस	73	७३	तिहत्तर	98	९८	अट्ठानवे
24	२४	चौबीस	49	४९	उनचास	74	७४	चौहत्तर	99	९९	निन्यानवे
25	२५	पच्चीस	50	५०	पचास	75	७५	पचहत्तर	100	१००	सौ

Raju and Chanda are also trying to know

There are nine beads in the ones, tens and hundreds column of the abacus. In this way it exhibits the number nine hundred ninety nine. What will happen if one bead is increased in ones place.

If we try to put one more bead in the column of ones it will not come on it because only 9 beads can be there.

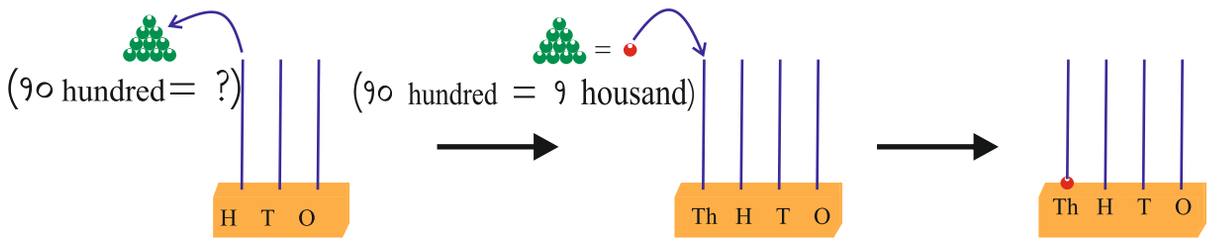
Then we have to vacate the ones columns, In place of these ten beads and put one bead in tens column.

But already there are nine beads in the tens column. So vacate the tens column and in place of these ten beads put one bead in hundreds column.

Oh , but already there are 9 beads in hundreds column. Now what to do?

Now tell what will Raju and Chanda do?

Vacate the hundreds column and in place of these nine beads we have to put one bead in next column. Thus we need a new column. This means a new place. This new place is called thousands. Therefore in place of ten beads of hundreds we put one bead in thousands column.



Now answer

What will be the number if you add १ with ६६६? .....

In the same way

१ + १ + १ + १ + १ + १ + १ + १ + १ + १ = १०

i.e. ten ones = ... ten

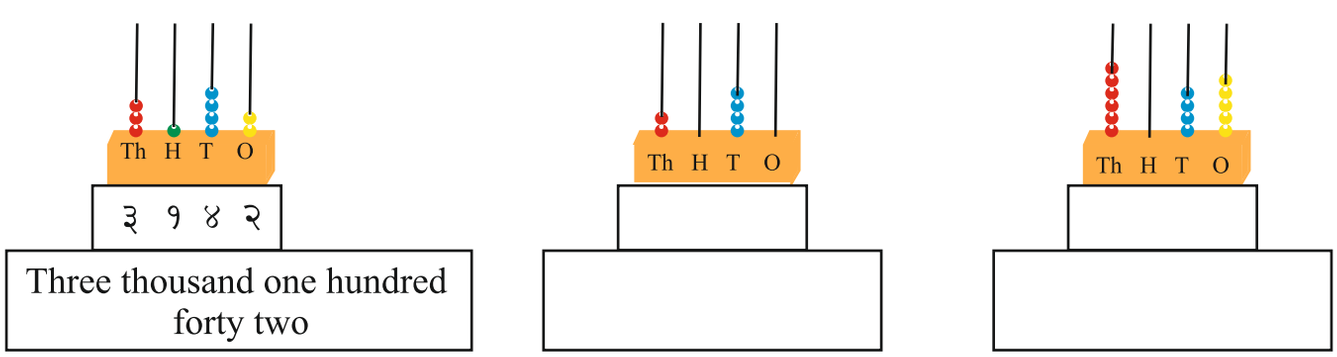
१० + १० + १० + १० + १० + १० + १० + १० + १० + १० = १००

i.e. ten tens =.....hundreds

In the same way

१०० + १०० + १०० + १०० + १०० + १०० + १०० + १०० + १०० + १०० = १०००

Ten hundreds =_____thousands



Write the numbers in figures and words.

১. ৪৩২১ .....

২. ১২৩৪ .....

৩. ২২২২ .....

৪. ..... six thousand nine hundred fifty

৫. ৩০৮৫ .....

৬. ..... eight thousand six hundred two

৩. ..... nine hundred ninety

৮. ৯০০৩ .....

৫. ৫৬৩১ .....

১০. ..... six thousand seven hundred sixty one

Circle on the correct number

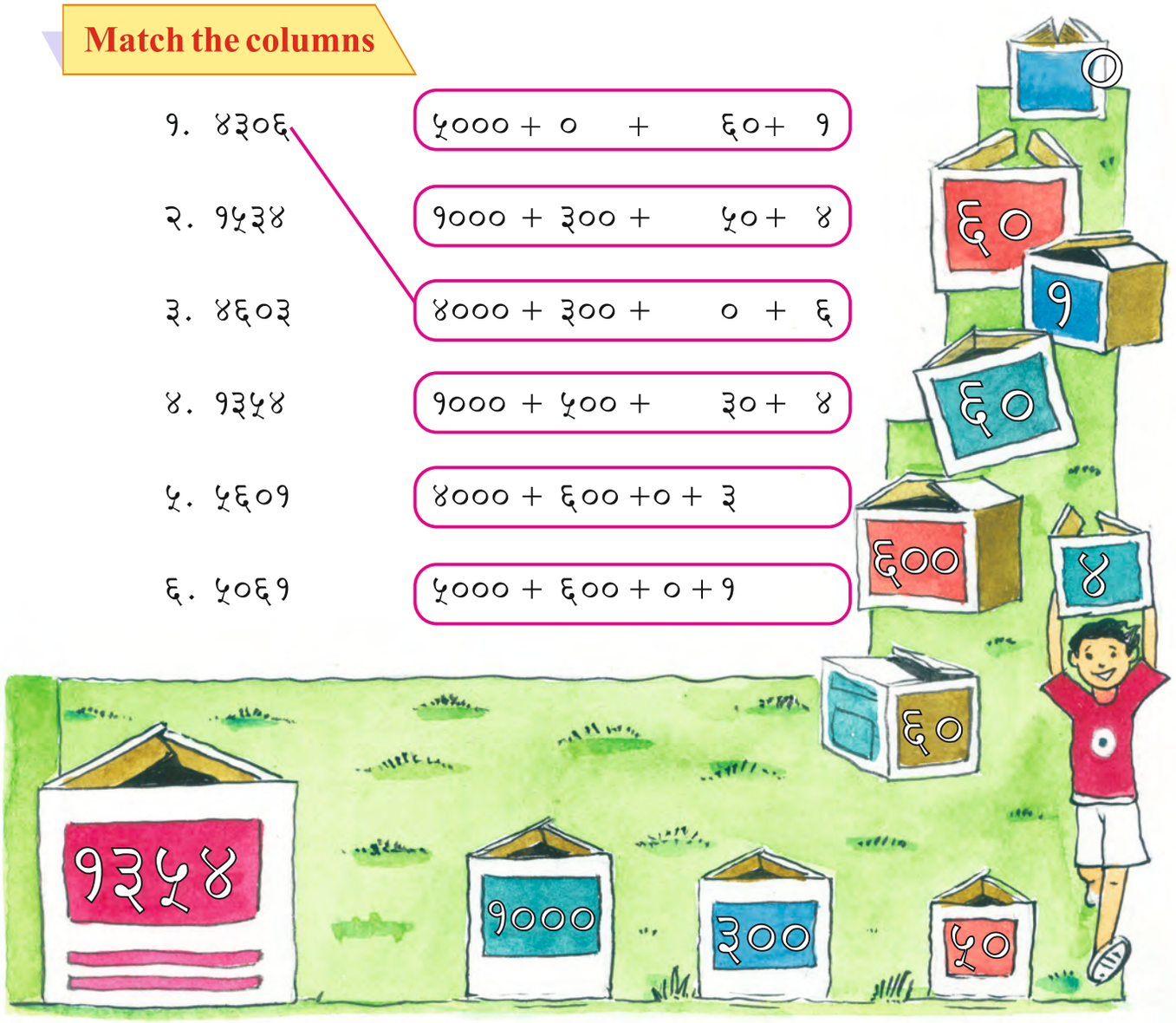
Three thousand seven hundred fifty nine	৩৬৫	৯৩৫৫	৯৫৫৩	৯৫৩৫
Five thousand three hundred twenty	৫৯০২	৫২০৯	৫৯২০	৫০২৯
One thousand two	১০০২	১০২০	১২০০	১০০০
Six thousand ten	৬০০১০	৬০১০	৬১০০	৬০০১
Two thousand three hundred sixty nine	২৯৬৫	২৫৬৯	২৯৩৫	২৯০০৬৫
Four thousand two hundred ten	৪০২১০	৪২১০	৪০১২	৪০১২০

Match the columns

౧. ౧౨౩౪	=	౧ Th.	+	౨ H.	+	౩ Tens	+	౪ Ones	=	౧౦౦౦	+	౨౦౦	+	౩౦	+	౪
౨. ౨౪౩౦	=		+		+		+		=		+		+		+	
౩.....	=		+		+		+		=	౩౦౦౦	+	౧౦౦	+	౦	+	౫
౪.....	=	౬ Th	+	౦ H.	+	౮ Tens	+	౮ Ones	=		+		+		+	
౫.....	=		+		+		+		=	౫౦౦౦	+	౪౦౦	+	౦	+	౦
౬.....	=	౬ Th.	+	౦ H.	+	౦ Tens	+	౧ Ones	=		+		+		+	

Match the columns

౧. ౪౩౦౬	౫౦౦౦ + ౦ + ౬౦ + ౧
౨. ౧౫౩౪	౧౦౦౦ + ౩౦౦ + ౫౦ + ౪
౩. ౪౬౦౩	౪౦౦౦ + ౩౦౦ + ౦ + ౬
౪. ౧౩౫౪	౧౦౦౦ + ౫౦౦ + ౩౦ + ౪
౫. ౫౬౦౧	౪౦౦౦ + ౬౦౦ + ౦ + ౩
౬. ౫౦౬౧	౫౦౦౦ + ౬౦౦ + ౦ + ౧



Complete the series

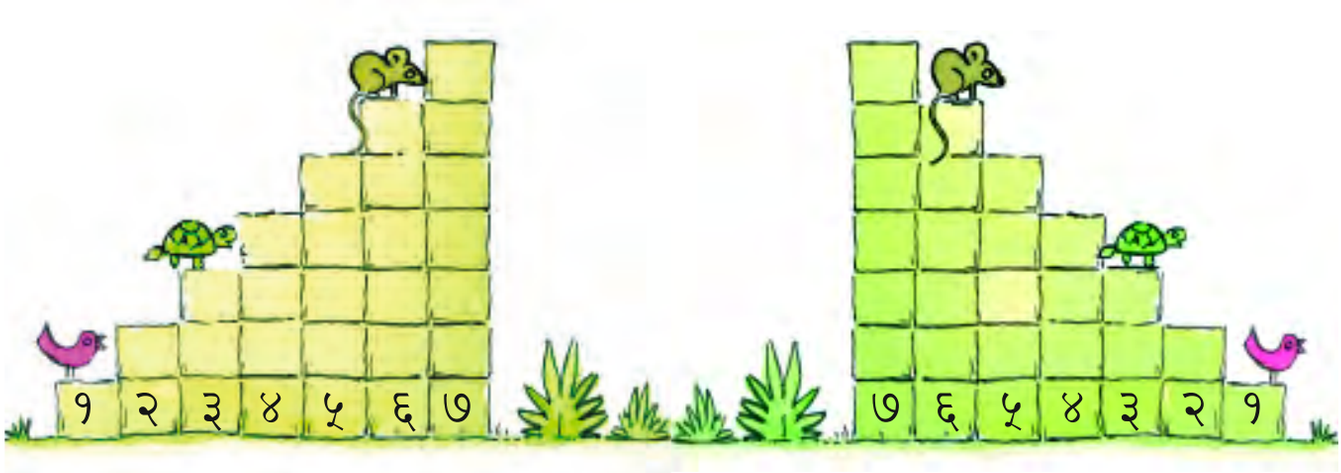
১. ১২০৩, ..., ১২০৫, ..., ১২১১, ...

২. ২০৩, ৩০৩, ৪০৩, ..., ..., ..., ...

৩. ২৩৫৫, ..., ২৪০১, ..., ..., ...

৪. ৩৫৫, ৩৪৫, ৩৩৫, ..., ..., ..., ...

৫. ৫৫৫, ৮৮৮, ৩৩৩, ..., ..., ..., ...



Write the greater number

	Greater number	How do you come to know?
১. ৫৩৩৬ and ২৩৩৬		
২. ২১৩৫ and ২১৫৫		
৩. ১৫২৩ and ১৩২৩		
৪. ৩৪২৩ and ৩৩৪৩		

Find out the wrong statement and right statement. Correct the wrong statement

For example: ५३५६ > ४२१३ > ३६१५ > २६६६ (right)

१. १५१५ < ५१५१ < ६३४५ < ७१३५ ( ) .....

२. १२३६ < १०४२ < १०४३ > १०५१ ( ) .....

३. ८६७६ < ८७६६ > ७३२१ > ५४३२ ( ) .....

४. ५६०१ < ६५१० ಠ ७३४५ < ८३४२ ( ) .....

५. ४२५६ < ५६४२ > ६७२४ > ६२४३ ( ) .....

Select any five numbers. Arrange them in descending order first and then in ascending order using lesser than or greater than sign.

Without repeating the numbers read and write as many numbers as you can

१. Make two digit numbers with ३ and ८ and read -

.....

२. Make two digit number with २ and ४ and read -

.....

३. Make three digit number with १, २ and ४ and read -

.....

४. Make three digit number with ५, ६ and ० and read -

.....

५. Make four digit numbers with ३, ४, ७ and ६ and read -

....., ..., ..., ..., ...,

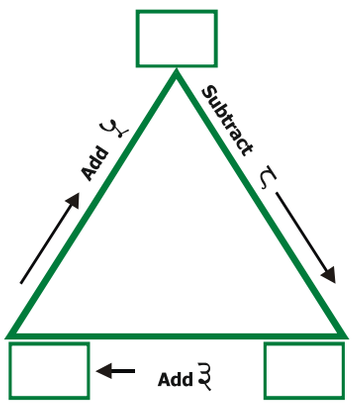
....., ..., ..., ..., ...,

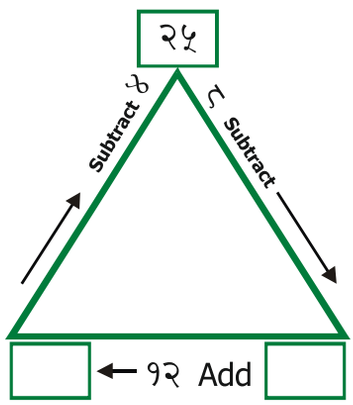
....., ..., ..., ..., ...,

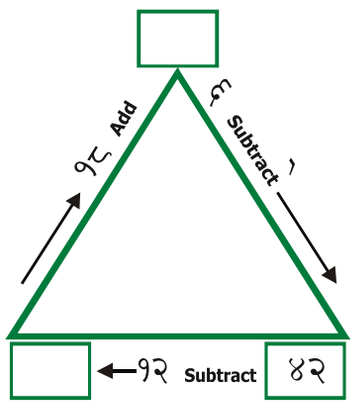
....., ..., ..., ..., ...,

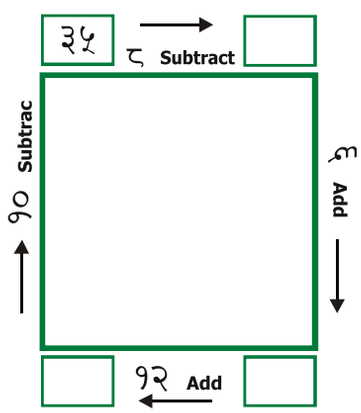
Addition & Subtraction

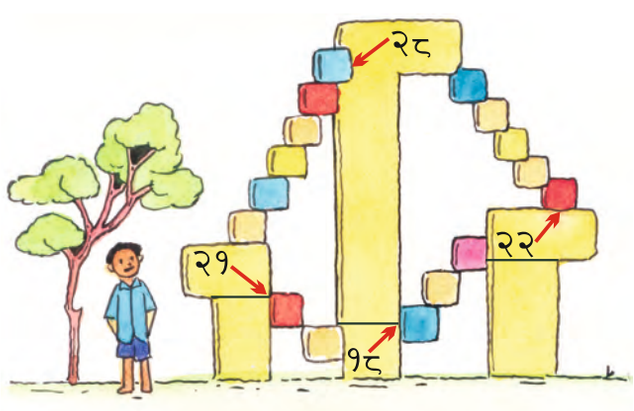
Write numbers in the boxes as shown.

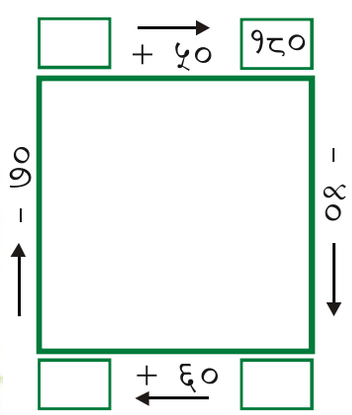


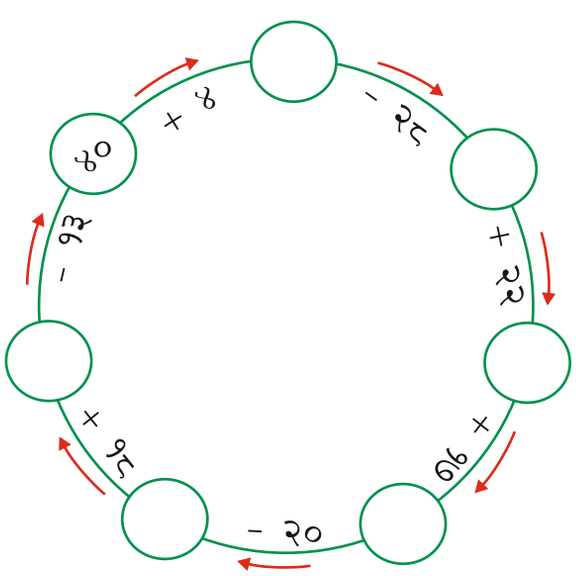


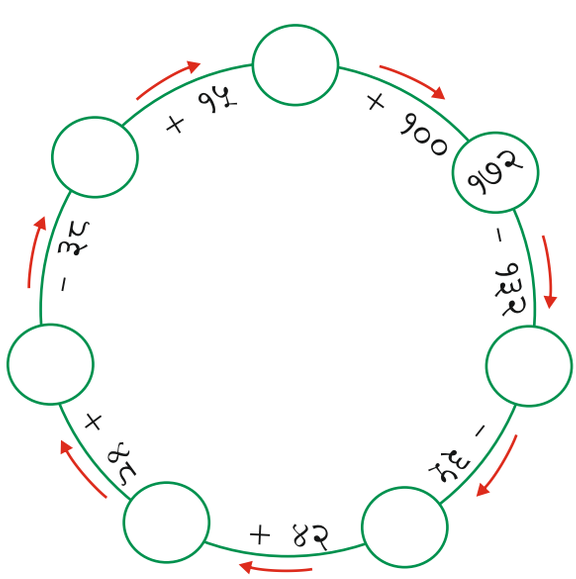












Understand the pattern and proceed

१ + २ + ३ = ६
२ + ३ + ४ = ९
३ + ४ + ५ = १२

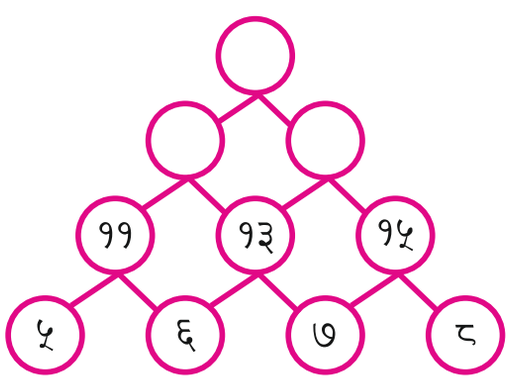
१ + २ + ३ = ६
४ + ५ + ६ = १५
७ + ८ + ९ = २४

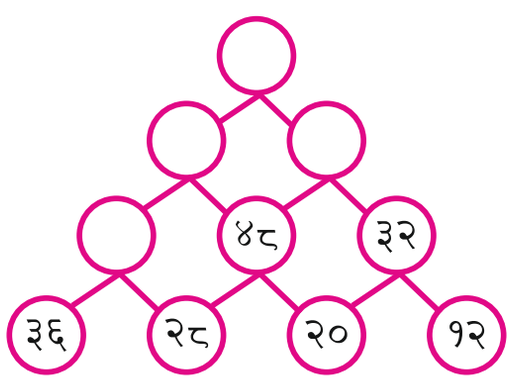
---

२ + ४ + ६ = १२
८ + १० + १२ = ३०

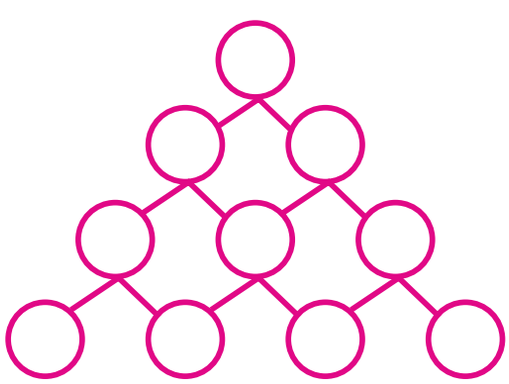
---

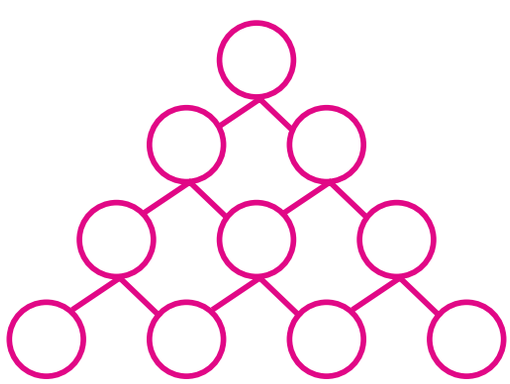
१ + ३ + ५ = ९
७ + ९ + ... =





In the same way you also make two patterns





Number game

Select any number from the table. Do calculation using other numbers from the table to get the number you have selected :

४३	१२	६६	५	५१	८५
२४	४५	६४	४६	३६	५६
१६	१५	१०	१६	७३	३४
१४	६	७	२८	५२	३१
३८	१३	२१	४३	४	६०
७६	६०	३२	१७	६	४०

By selecting the number ६४ you find the number in this way:

६० + ४ = ६४,

७३ - ६ = ६४,

६६ - ५ = ६४

- Add numbers the result of which will be ३४.
- Subtract numbers the result of which will be ३४.

Some answers are given below. Form questions from these numbers

- Answer is ३५
- Answer is ४४
- Answer is २१
- Answer is १२

If the answer is १८ then the question may be as follows

- What will you get by adding ६ to ६ ?
- One basket carries ६ mangoes. How many mangoes will be there in such two baskets?
- What is the answer of २५-७ ?
- What is two times of ६ ?
- ६ × २ = ...

Add and subtract in the following boxes

+	७३१	६०५	६१५
२१०	६४१		
३१८			
६०५			

-	८८१	७००५	६३८२
६१३		६३६२	
७८०			
१०३			

Addition of numbers having 3 digits

Example :

Add १४७, २५३ and २६८

	H.	T.	O
		१	
	१	४	७
+	२	५	३
+	२	६	८
			८

	H.	T.	O
	१	१	
	१	४	७
+	२	५	३
+	२	६	८
		६	८

	H.	T.	O
	१	१	
	१	४	७
+	२	५	३
+	२	६	८
	६	६	८

Brief form

	१	१	
	१	४	७
+	२	५	३
+	२	६	८
	६	६	८

Solve these

१.

	१	२	७
+	२	१	०
+	२	४	२

२.

	१	२	४
+	२	६	७
+	७	१	३

३.

	१	४	५
+	२	४	६
+	१	३	२

४.

	१	१	५
+	१	०	६
+	७	०	३

Solve these

१. ४ ३ ८ ५
+ २ ८ ७ ६

२. ५ ७ ३ ८
+ २ ५ ७ ५

३. ३ ४ ७ ५
+ ३ ६ ८ ७

४. ६ ३ ४ ६
+ २ ८ २

५. ३ ४ ३ ६
+ २ ० ८

६. ५ ७ ८ ५
+ ३ ५ १ २

७. ७२१३ + २५८७

८. १११९ + ११६६

९. ५७८६ + ३१२२

१०. ४७४७ + ४३६३

११. ६८६ + ४६७८

१२. ७१७२ + ६३८

The subtraction of 4 digit number

Example : Substract ६८५३ from ८३२७

T.	H.	T.	O
~~८~~ ७	~~३~~ १२	~~२~~ १२	७
– ६	८	५	३
१	४	७	४

Solve these

१. ५ ० ७ ८
– २ ७ ८ ४

२. ७ ६ ८ १
– २ ५ ० ३

३. ५ ६ ७ २
– ३ २ ४ ०

४. ३ ५ ६ ३
– २ ७ ० ६

५. ६ २ ३ ०
– २ ४ ५ १

६. २ ५ ० ८
– १ ३ ६ २

७. ५६४३ – २१५४

८. ६६३४ – ५०७१

९. ५००० – २५५०

१०. ७१११ – ५२२२

११. ४४४४ – २१६५

१२. ८१०० – ७८६६

Addition & Subtraction

१. Government Primary School Bijarbhantha got ५३५ Hindi books, ४१२ Maths books and 138 books of English. How many total books the school got?

२. From two farms of papaya, plucked ३५४ and २५५ papayas respectively. Tell how many more papayas were plucked from first farm than second farm?

३. १३३ children go to school from higher colony and ८७ from lower colony. How many more kids go to school from higher colony as compared to lower colony?

४. ४५३, ३३८ and ४८५ fishes were caught from a pond of Temari. How many fishes were caught in all?

५. Population of Shankarpur is ८१७६. If ४२३३ of them are men, then how many are women?

६. A refrigerator costs ८७६० rupees, meanwhile the same refrigerator costs ७६६० rupees in another shop. Tell the difference in the cost of fridge from the two shops?

See the picture and say who has spent how much money to purchase things at the following price :

Harpal purchased cycle and T.V. ( )
Dinesh purchased bat ball, radio and mobile. ( )
Raju purchased bucket, mug, almirah and telephone. ( )
Salma purchased hockey stick, radio and mobile. ( )
Reeti purchased bucket, mug, radio and almirah. ( )

If every person has Rs. 9,500 then what amount of money would be left with each one?

Now tell

१. Who has spent more: Harpal or Dinesh ?

२. Who has spent more: Dinesh or Reeti ? By how much ?

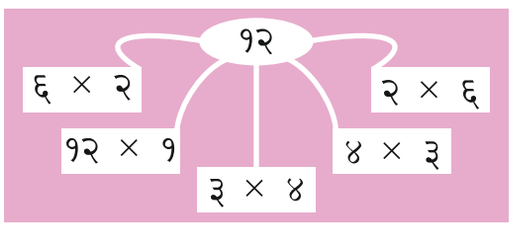
३. What is the total amount spent by Raju and Salma both?

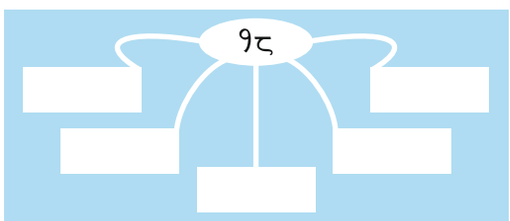
४. How much less was spent by Salma than Harpal ?

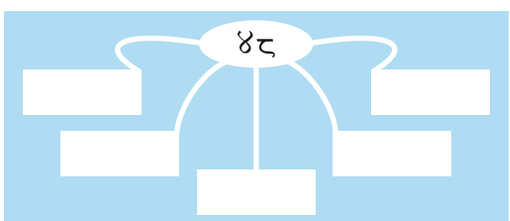
Now you ask your friends about their favourite things and find out their cost.

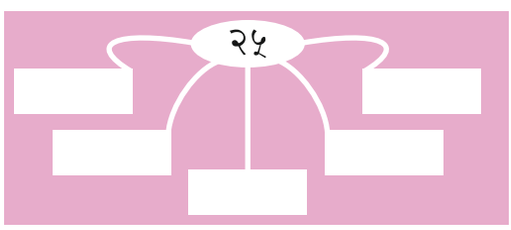
Multiplication

Form question from the given answer









Game of tables (Tables game)

If you know the tables from one to ten then you can form tables beyond ten: Let us develop table of १३ :-

Table of १०	१०	२०	३०	४०	५०	६०	७०	८०	९०	१००
Table of ३	३	६	९	१२	१५	१८	२१	२४	२७	३०
Table of १३	१३	२६	३९	५२	६५	७८	९१	१०४	११७	१३०

To form table of १३ first we wrote table of १० and then table of ३ then added them and we get the table of १३ , ७ + ६ =१३ what will happen if we add tables of ७ and ६ ?

Let us do and observe :

Table of ७	७	१४	२१	२८	३५	४२	४९	५६	६३	७०
Table of ६	६	१२	१८	२४	३०	३६	४२	४८	५४	६०
Table of १३	१३	....	....	....	....	....	....	....	....	....

Do you get the table of १३ ?

Can you develop the table of १३ by using other numbers? Which are those numbers??

१. ....., ... २.. ....., ...

३.. ....., ... ४. ....., ...

You have already formed table of १३ In the same way develop tables of ११, १२, १४ .

.....२०.

Some more sums

१. In a garden there are ७ rows. In each row १५ rose plants are planted. How many total rose plants are there?

२. There are २५ oranges in a basket. How many oranges will come in such ५ baskets ?

३. A tailor stiches १२ shirts in one day. How many shirts does he stitch in ४ days?

You should try some more such problems and solve it in different ways. Try at least ४ & ५ processes for each problem.

How to solve?

In previous class you solved problems like ३४ × ७, १२६ × २

Now we will see ३२ ×१६

	१	Whenever you multiply a number with some two digits number,
	३२	first you multiply ones number.
×	१६	In this number ones digit is 6 therefore ३२ × ६ = १९२
	१९२ (३२ × ६)	Now the second digit, १ tens i.e. १० is multiplied by ३२
+	३२० (३२ × १०)	३२ × १०= ३२० Now you add both (१९२ +३२०). The answer
	५१२	will be ५१२.

There is one more process for multiplication

We can write it ३२ = ३० + २ & १६ = १० + ६

×	३०	२
१०	३० × १० ३००	२ × १० २०
६	३० × ६ १८०	२ × ६ १२

Now add all the four numbers.

३०० + १८० + २० + १२ = ------

Is the answer the same as it was in previous process?

Now solve the sums given below in both the processes :

१. ४५ × २३ २. ६५ × ८६ ३. ६७ × ७२

४. ५७ × ६६ ५. ३० × २६ ६. १५ × ४६

Observe and understand

$३४६ \times २५ = ?$ other process to solve it

$३४६ = ३०० + ४० + ६$ & $२५ = २० + ५$

×	३००	४०	६
२०	३०० × २० ६०००	४० × २० ८००	६ × २० १२०
५	३०० × ५ १५००	४० × ५ २००	६ × ५ ३०

$$\begin{array}{r} ३४६ \\ \times\ २५ \\ \hline १७३० \quad (३४६ \times ५) \\ +\ ६९२० \quad (३४६ \times २०) \\ \hline ८६५० \end{array}$$

Thus $३४६ \times २५ = ६००० + १५०० + ८०० + २०० + १२० + ३०$

Or $३४६ \times २५ = ८६५०$

Solve these

१. १३२×९५ २. ४६५×३८ ३. २७८×४७

४. ९२१×६६ ५. ७६०×१९ ६. ८०३×४५

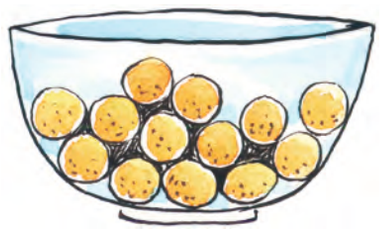
Problem Sums

- There are ६५ students in a school. Each deposited Rs १५ for picnic. What is the total amount deposited?
- Radha is in need of १४ copies. If each copy costs Rs. १६. How much money does Radha require?
- In a small box १२ ice cream cups can be kept. In a big box १५ times more icecream cups can be kept. Answer how many icecreams can be kept in big box?
- A saree has २५ different designs. Every design has १६ colours. A shopkeeper wants to purchase one piece of each type of saree for his shop. How many sarees the shopkeeper has to purchase for shop?
- One chair costs Rs. ४३६. What will be the cost of ३५ chairs?
- Ramesh went to the market with Rs. ३०००. He purchased १२ sets of books at the rate of Rs. १७५. How much money is left with him?

Division

Remainder

Can ১৩ sweets be divided equally among ৪ children.



$$\begin{array}{r} 3 \\ 4\overline{)13} \\ 12 \\ \hline \times 1 \end{array}$$

You know:
Here ৪ divisor
১৩ dividend
and ৩ quotient

This means that when ১৩ sweets were distributed equally among ৪ children then each child got ৩ sweets and one sweet was left. Here remainder = ১.

Remainder = ১

Now solve the questions given below.

১. ২৫ ÷ ৪ ২. ৩৫ ÷ ৬ ৩. ৫৩ ÷ ৮

৪. ৩)৫২৫ ৫. ৫)৩৫৩ ৬. ৩)৬৫৪

৭. ৮৪ ÷ ৪ ৮. ৪৫ ÷ ৩ ৯. ৫৩ ÷ ৬

Write the divisor, dividend, quotient and remainder separately. Write the questions, which have a remainder of '০' in your copy and make a problem sum of these question. Two problem sums are given here –

১. ২৫ ÷ ৪

The teacher took out ২৫ books and distributed them equally among ৪ children. Tell how many books each child would get and how many books would be left.

২. ৩)৬৫৪

The cost of ৩ chairs is Rs ৬৫৪. Then what is the cost of one chair?

Make questions and solve

৪৮৪ ÷ ৪

The cost of ৪ sarees .....

.....

How to solve

You have already done division in previous classes. Can you tell ३७२ ÷ १२ = ?

```
      ३
१२ ) ३७२
   - ३६     (१२ × = ३६)
     १२
   - १२
     ०
```

Here ३७२ is to be divided by १२. You can not distribute ३ hundreds into १२ parts. So convert 3 hundreds into tens

In this way ३० tens + ७ Tens makes ३७ tens.

What will be the divisor of ३७ by १२ Let us read

१२ × १ = १२

१२ × २ = २४

१२ × ३ = ३६

१२ × ४ = ४८

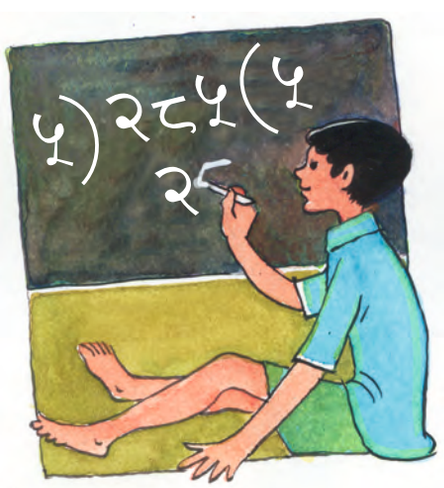
४८, is greater than ३७. So we read table of १२ only three times and subtract ३६ from ३७. १ tens will be remainder which we convert into ones. In this way १० + २= १२ Ones

Now dividing १२ by १२ is equal to १.

This can also be done in this way:

```
      २० + ५ + ६
१२ ) ३०० + ७२
   - २४०          (१२ × 20)
     ६०
   - ६०           (१२ × 5)
     ००
        ७२
      - ७२        (१२ × 6)
      - ००
```

२० + ५ + ६ = ३१



Now solve these questions

१. One rope is १३२ m long. If we cut the rope into pieces of १२ meter each. How many pieces can be cut?

२. One box contains १७ bottles. Then how many bottles will be there in १२ boxes?

Multiplication & Division

૧. A halwai takes out ૧૨ Jalebis at a time. How many Jalebis will he takes out in ૬ times?

૨. A bowl has ૨૬ Jamun. How many Jamuns will have in ૫ such bowls?

૩. A fisherman makes ૬ nets in a month. So how many nets he will make in8 months.

૪. One shop have different ૨૪ designs of caps. Each design has ૧૫ colours. A shopkeeper wants to buy cap of every design. How many number of caps he has to buy.

૫. ૬૪ students are there in Primary Government School Dongripali. Each student deposit ૧૪ rupees for picnic. Tell the total amount deposited.

૬. A basket has ૨૫૨ berries. These berries has to divide among ૧૮ people. How many berries each people get?

૭. ૧૨ girls of Primary Government School gets Rs. ૬૦૦ in total, as the scholarship. Now calculate how much amount each girl get?

૮. From a pond, ૬૦ fisherman collected ૧૨૬૦ fishes. So how many fishes each fisherman get?