MATHEMATICS

Class - 3

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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

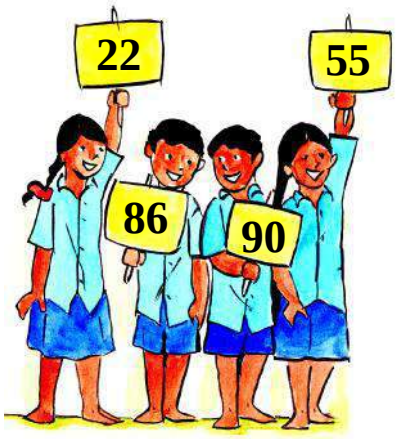
Raipur (Chattisgarh)

Contents

CHAPTER 1

Lets Review

Write in words the number written on -



Rina Raju Anwar Tina

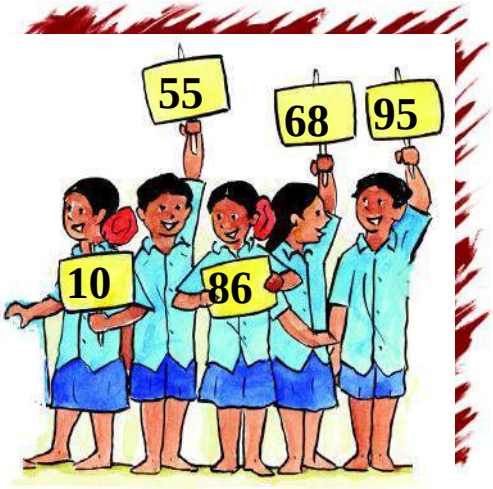
Rina's card

Tina's card

Raju's card

Anwar's card

Write the name of the person holding a card with -



Rekha Naushad Meera Soni Raju

Ten written on it

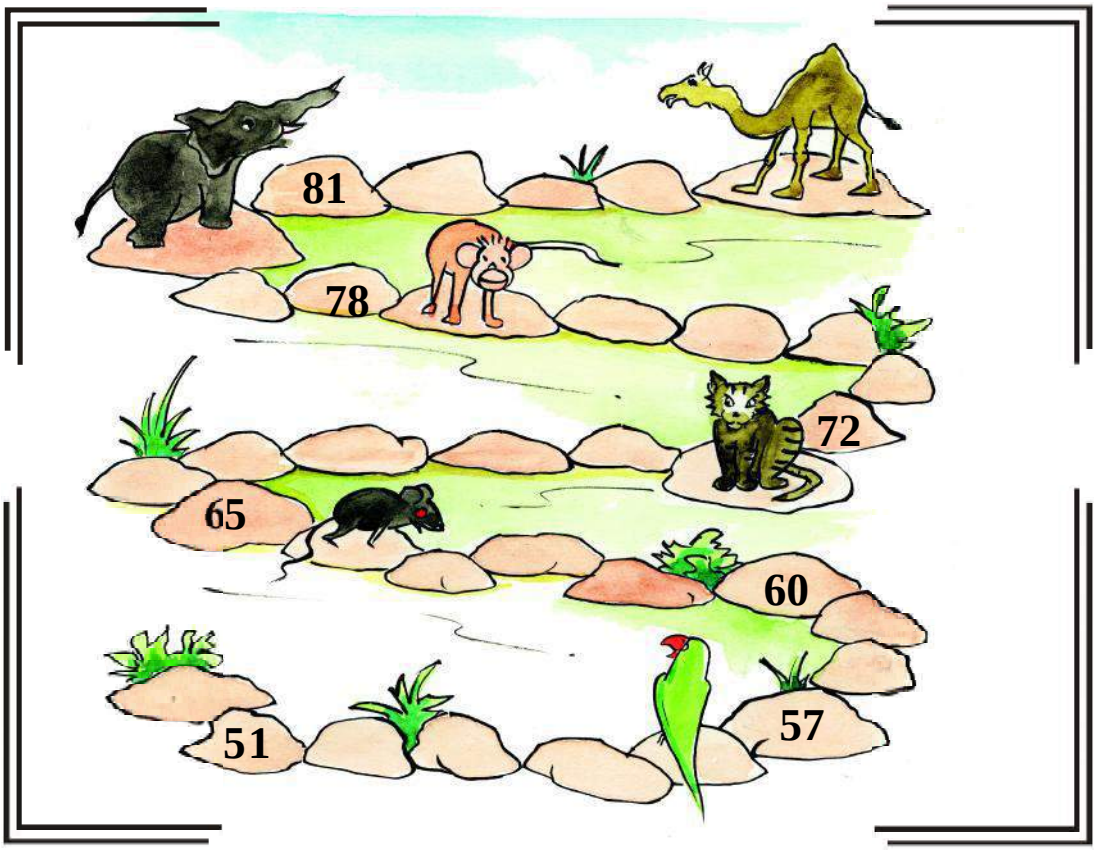
Fifty five written on it

Eighty six written on it

Sixty eight written on it

Ninety five written on it

Look at the given picture and fill in all the missing numbers on the rocks –



Now answer these

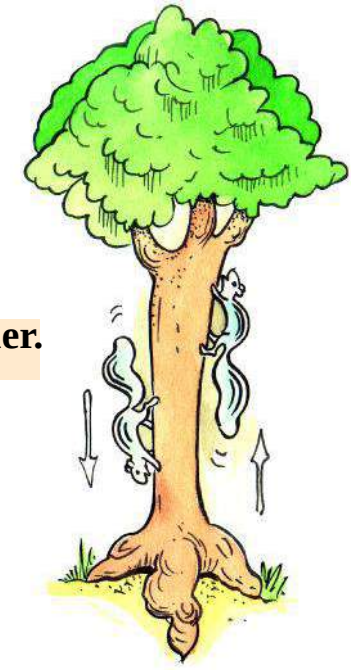
- What is the number of the rock on which the cat is sitting?
- How many numbers are there between the rock on which the mouse is sitting and the cat's rock?
- What is the number of the rock on which the monkey is standing?
- Which number of rock is closer to sixty, the parrot's or the cat's?
- Which number is one less than eighty ?
- Which number will come on the rock which is two rocks after the one on which the camel is standing?

Match the bundles with the given numbers.

12 39 57 25 65 68 37

Write in the increasing order.

19	8	15	
21	30	25	
35	16	9	
36	55	75	
45	99	22	
30	90	70	40



Write in the decreasing order.

18	7	11	
6	25	35	
19	31	49	
92	25	2	
60	20	70	
98	49	95	89

Can you write the digit in the

One's place of 19 ☐

Ten’s place of 57 ☐

One's place of 75 ☐

One's place of 90 ☐

Now write the number which has

The digit 2 in the one's place ☐

The digit 3 in the ten’s place ☐

The digit 0 in the one's place ☐

The digit 4 in the one’s place and the digit 2 in the ten’s place ☐

The digit 0 in the one’s place and the digit 6 in the ten’s place ☐

In the following table put a ◯ around the numbers which are even -

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

How did you decide which numbers are even?

_____

_____

List the odd numbers between 56 and 75

_____, _____, _____, _____, _____

Write in decreasing order all the even numbers less than 16.

————————, ————————, ————————, ————————, ————————

Write in decreasing order all the odd numbers less than 15.

————————, ————————, ————————, ————————, ————————

Observe the pattern and fill in the blanks.

1,	3,	5	.....,	.....,	.....,	.....,
2,	4,	6	.....,	.....,	.....,	.....,
3,	7,	11	.....,	.....,	.....,	.....,
10,	18,	26	.....,	.....,	.....,	.....,

Solve these

12 + 13	32 + 17	00 + 14	88 − 17	66 + 33
74 − 13	59 − 28	14 + 19		
79 − 25	21 − 14	54 − 15		
62 − 13	50 − 13	64 + 00	26 + 35	78 − 00

Fill in the blanks with the appropriate correct number.

$9 + 9 = 9 \times 2 = 18$

$6 + 6 + 6 + 6 = \_\_\_ \times 4 = \_\_\_$

$5 + \_\_\_ + \_\_\_ = \_\_\_ \times 3 = 15$

$8 + 8 + 8 + \_\_\_ = 8 \times \_\_\_ = 32$

$9 \times 5 = \_\_\_ + \_\_\_ + \_\_\_ + \_\_\_ + \_\_\_ = 45$

$6 \times 6 = \_\_\_ + \_\_\_ + \_\_\_ + \_\_\_ + \_\_\_ + \_\_\_ = 36$

$20 = \_\_\_ + \_\_\_ + \_\_\_ + \_\_\_ + \_\_\_ = 4 \times \_\_\_$

$12 = 3 + \_\_\_ + \_\_\_ + \_\_\_ = 3 \times \_\_\_$

Solve the following.

1. The students of class III planted 10 pipal trees, 17 neem trees and 21 mango trees in their school. How many trees were planted in all?
2. A bag can contain 15 books. 7 books are already in the bag. How many more books can be put in the bag ?
3. Shyam has 4 members in his family. Each member drinks 3 glasses of water each in the morning. So how many glasses of water is drunk by all the members totally.
4. The tap in my school leaks. In 1 hour, about 2 buckets of water is wasted. In 5 hours the whole tank gets empty. So how many buckets of water were wasted?
5. In Rajni's school, there are 15 children in class III, 23 in class IV and 45 children in class V. How many children all togather are there in these three classes?
6. In a certain school, 7 kilograms of rice were needed daily for the mid day meal. How many kilograms of rice would be needed for 5 days?

7. To go on a picnic, the expense per child would be Rs. 8. What would be the expense on 10 children?
8. There are 16 birds sitting on a tree. Out of these, 4 birds fly away. How many are left behind?
9. Sonu has 7 notes of Rs. 5 each. How much money does Sonu have in all?
10. Meera takes 2 minutes to solve 1 question. How much time would she need to solve 8 such questions?
11. Gopi bought pencils worth Rs. 7. He still has Rs. 5 left with him. How much money did he take to the market?
12. Rekha had 16 mangoes, Rakesh had 17 mangoes and Raju had 26 mangoes. Rekha and Raju kept their mangoes in a basket. How many mangoes are there in the basket?
13. Neelu had 55 laddoos. She gave 25 of these to her friend. How many laddoos are left with her?

Fill in the blanks with the correct operation/Signs (+, –, ×)

12 [+] 5 = 17

5 [ ] 2 = 10

8 [ ] 7 = 56

0 [ ] 10 = 10

5 [ ] 3 = 8

8 [ ] 3 = 5

12 [ ] 0 = 12

13 [ ] 8 = 5

3 [ ] 7 = 10

12 [ ] 0 = 0

2 [ ] 4 = 8

7 [ ] 5 = 2

9 [ ] 9 = 0

6 [ ] 4 = 10

LESSON 2

Numbers

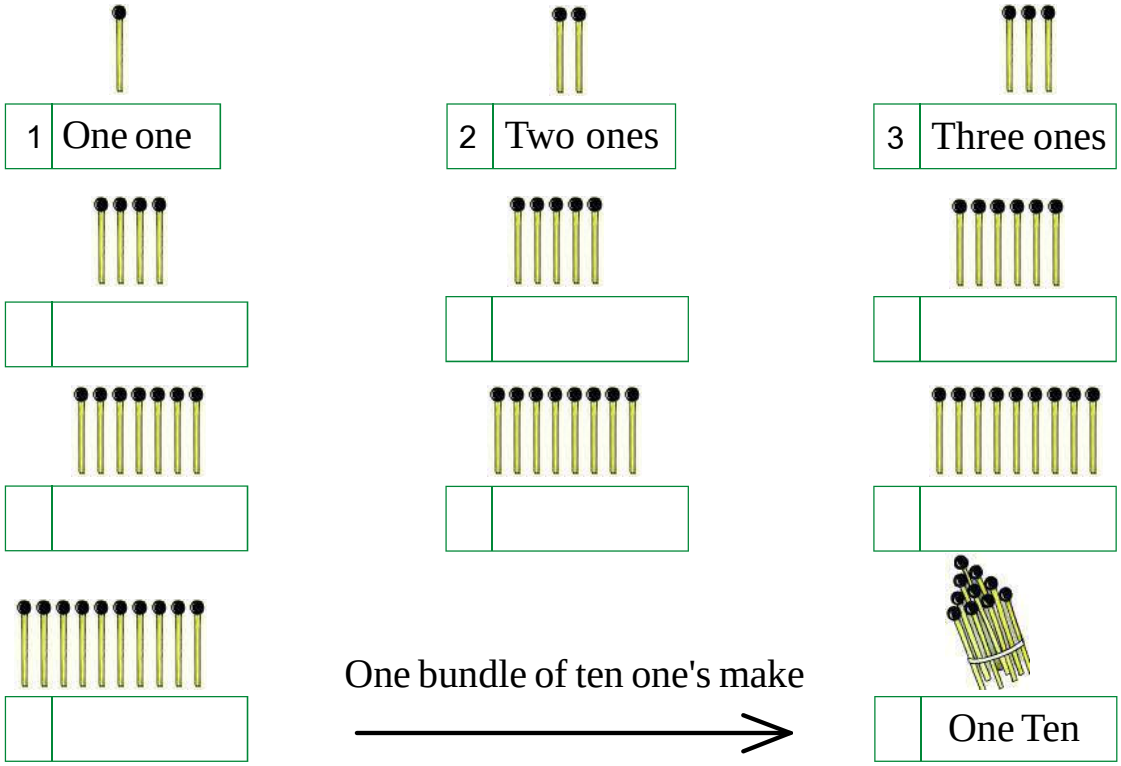
In order to write numbers we make use of digits such as 0, 1, 2, 3,..... These are known as international digits. We can also write numbers in the Devanagri script. Let us see the digits as they are written in both the scripts :

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

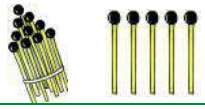
The following table has numbers written in figures and in words. Learn to identify each number and read its name -

1	१	एक	26	२६	छब्बीस	51	५१	इक्यावन	76	७६	छिहत्तर
2	२	दो	27	२७	सत्ताइस	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	उनतालीस	64	६४	चौंसठ	89	८९	नवासी
15	१५	पन्द्रह	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

How many matchsticks ? How many ones do they stand for-



Count the bundles and matchsticks and write their number.

	1 ten	0 one	10	Ten
	1 ten	1 one	11	Eleven
	__ ten	__ ones	____	____
	__ ten	__ ones	____	____
	__ ten	__ ones	____	____
	__ ten	__ ones	____	____
	2 tens	0 one	____	____

Write the numbers.

2 tens	1 one	21	2 tens	5 ones	25
3 tens	3 ones		4 tens	0 one	
4 tens	9 ones		5 tens	7 ones	
6 tens	9 ones		7 tens	8 ones	
8 tens	7 ones		9 tens	9 ones	

How many tens and how many ones?

29	2 tens	9 ones	37	————————	
60	————————		77	————————	
86	————————		53	————————	
93	————————		98	————————	

Write in words

39	Thirty nine	73	————————	79	————————
43	————————	67	————————	87	————————
23	————————	75	————————	59	————————
94	————————	83	————————	38	————————

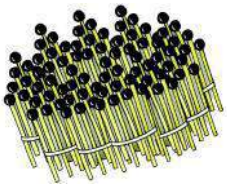
Write in figures.

Nineteen		Twenty three		Thirty four	
Sixty two		Ninety one		Fifty nine	
Ninety six		Seventy nine		Sixty one	
Eighty nine		Forty Seven		Ninety Nine	

Count the bundles and write about them in the given space.

	1 ten	10	ten
	2 tens	20	twenty
	3 tens		
	.... tens		
			
			
			
			
			
			

Makes a big bundle



10 tens or 100 ones → **Makes** → **One hundred**

1 hundred = 10 tens = 100 ones

Lets play a game

Collect the following with your friends

50 stones

One dice

30 cards with 10 written on them 10

6 cards with 100 written on them 100

Make small groups amongst your friends. Sit in one of the groups in a circle and put all the items: stones cards of 10, 100 in the centre.

Now throw the dice and pick as many stones as the number that the dice shows and keep it with you.

Do this by turns. The one who manages to collect 10 stones gets a card of 10, with 10 written on it, Instead of the stones, the stones then should be returned to the pile of stones in the centre.

Continue playing until some person collects 10 cards of 10. These 10 cards should be exchanged for one card of 100 and the cards of 10 should be returned to the pile. Do this until every player has at least one card of 100 and fill the given table

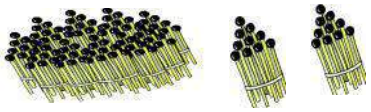
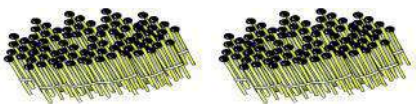
Name	No. of cards of 100	No. of cards of 10	No. of stones

A card of 10 equals how many stones? ☐

A card of 100 equals how many cards of 10? ☐

A card of 100 equals how many stones? ☐

Count the bundles and matchsticks and write the number.

	1 hundred, 0 ten, 1 one	101	One hundred one
	1 hundred, 0 ten, 2 ones	102	One hundred two
			
			
	1 hundred, 1 ten, 0 one	110	One hundred ten
			
			
			
			
			
			

Fill in the blanks. -

2 hundreds, 5 tens, 3 Ones	253
5 hundreds, 3 tens, 1 Ones	
1 hundreds, 0 tens, 9 Ones	
9 hundreds, 3 tens, 4 Ones	
4 hundreds, 4 tens, 7 Ones	
9 hundreds, 9 tens, 9 Ones	

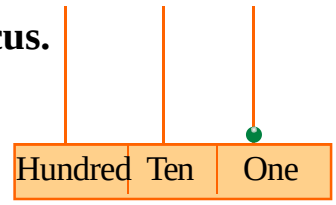
Fill in the form of ones, tens and hundres in each

129 →	1	hundred	2	tens	9	ones
972 →		hundred		tens		ones
738 →		hundred		tens		ones
888 →		hundred		tens		ones
307 →		hundred		tens		ones
600 →		hundred		tens		ones

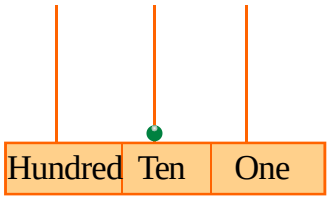
Read and Understand

Representation of numbers on an abacus.

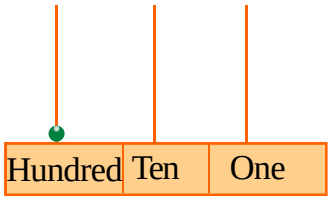
One One →



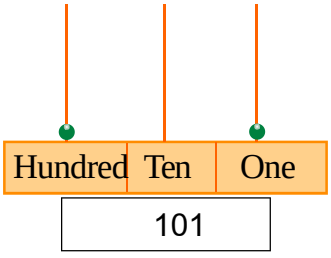
One ten →

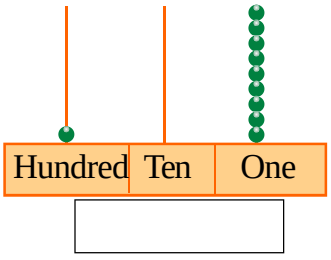


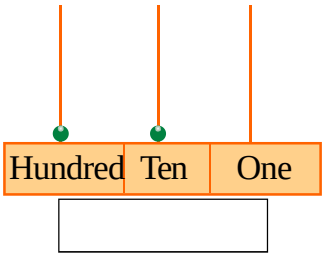
One hundred →

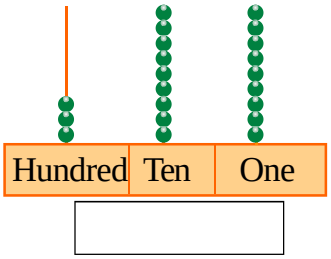


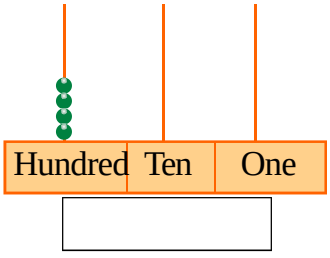
Look at the abacus and write the number being represented by it.

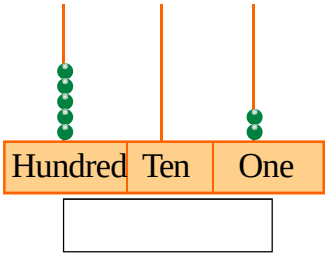


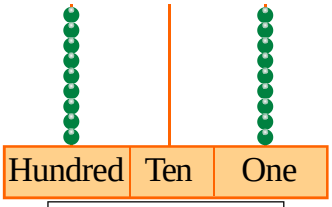


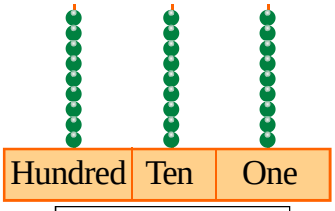




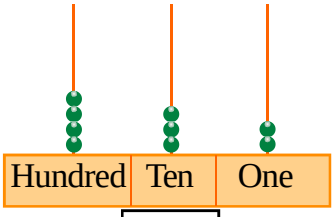






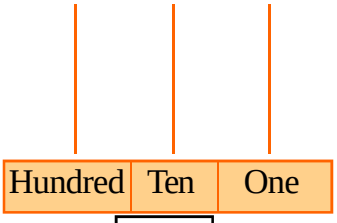


Write the number in words and represent it on the abacus with the correct number of beads.

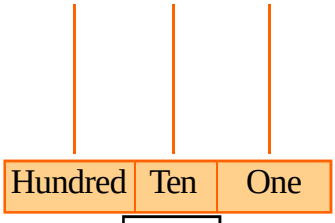


432

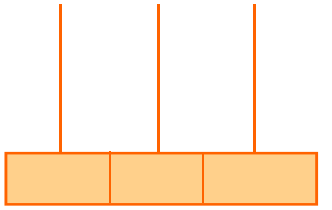
Four hundred thirty two



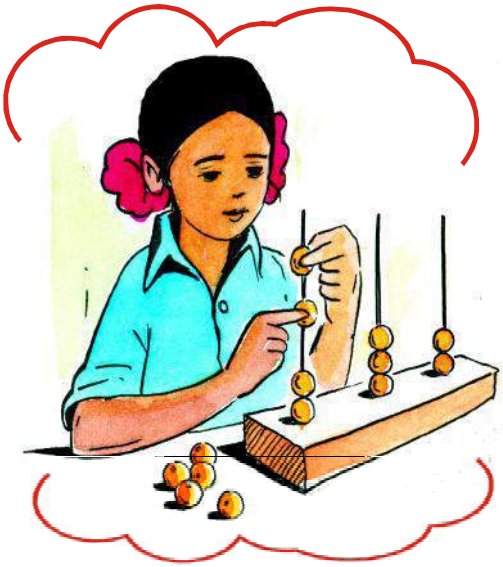
389

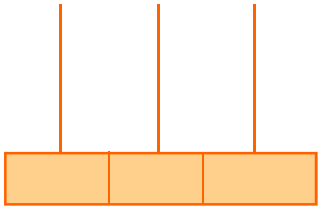


596

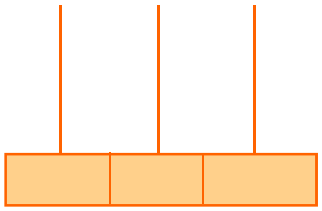


910

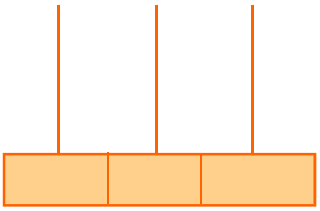




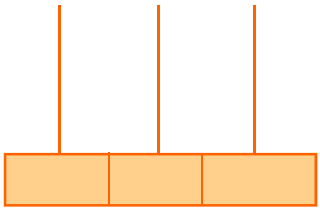
367



999

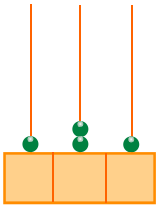


472

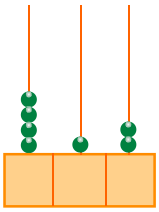


666

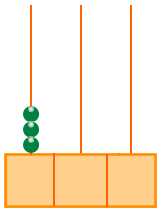
Observe, understand and write



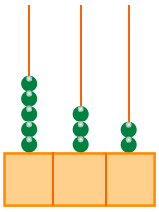
One hundred, **two** tens, one ones 121 One hundred twenty one



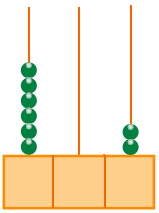
—— hundreds, —— ten, —— ones ☐ ——————



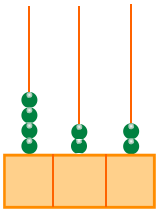
—— hundreds, —— ten, —— one ☐ ——————



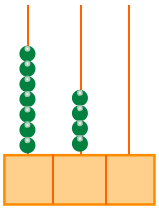
—— hundreds, —— tens, —— ones ☐ ——————



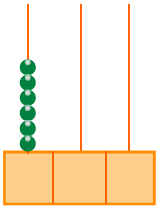
—— hundreds, —— ten, —— Ones ☐ ——————



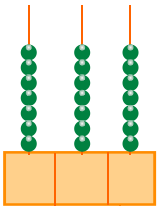
—— hundreds, —— tens, —— ones ☐ ——————



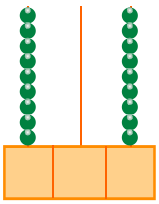
—— hundreds, —— tens, —— ones ☐ ————————



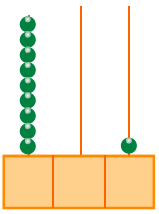
—— hundreds, —— tens, —— ones ☐ ————————



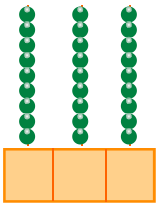
—— hundreds, —— tens, —— ones ☐ ————————



—— hundreds, —— tens, —— ones ☐ ————————



—— hundreds, —— tens, —— ones ☐ ————————



—— hundreds, —— tens, —— ones ☐ ————————

Write the following numbers in words.

221	Two hundred and twenty one
618	
798	
669	
810	
300	
120	
89	
918	

Write in figures.

One hundred and eight		Four hundred and fifteen	
Seven hundred and sixty five		Eight hundred and nineteen	
Three hundred and ninety one		Nine hundred and ninety nine	
Five hundred and fifty nine		One hundred and eighty seven	
Six hundred and twenty four		Seven hundred and seventy seven	

Encircle ◯ the mentioned digit.

Hundred's digit →	(1)0 1
One's digit →	2 0 9
Ten's digit →	5(5)5
One's digit →	7 9(9)
Hundred's digit →	1 9 0
Ten's digit →	1 2 1
Hundred's digit →	4 7 5
One's digit →	7 8 3

Ten's digit →	4 3 9
One's digit →	8 0 8
Hundred's digit →	2 5 9
Ten's digit →	7 5 5
Hundred's digit →	6 8 9
One's digit →	5 6 1
Hundred's digit →	2 8 3
Ten's digit →	9 9 9

Write whether the following are true or false-

427 has { 4 hundreds, 7 ones, 2 tens } — True

209 has { 9 ones, 0 tens, 2 hundreds } — ☐

784 has { 4 tens, 8 hundreds, 7 ones } — ☐

765 has { 5 ones, 6 tens, 7 hundreds } — ☐

321 has { 1 one, 3 hundreds, 2 tens } — ☐

878 has { 8 ones, 8 tens, 7 hundreds } — ☐

555 has { 5 ones, 5 hundreds, 5 tens } — ☐

909 has { 9 ones, 9 hundreds, 0 tens } — ☐

Face value and Place value:

When asked,
How many books do you have ? How many friends do you have? or how many students are there in your class, your answer will be a number. While writing these numbers on your slate or copy you use 0, 1, 2, 3..... 9 digits.

Look at the numbers from 1 to 100 that are written in your book and find out the digits.

Identify and write the digits below which help us in writing counting.

_____

Now consider a number 66.

The digit 6 is written twice - 6 in the one's place and 6 in the ten's place.

You have read that the 6 in one's place represents 6 ones.

Whereas, the digit 6 in the ten's place represents 6 tens, or 60

We can see that the value of 6 differs with its position.

This value due to its position is known as the place value.

Besides this we also have a face value of a digit.

H	T	O
2	0	6

Face value of 6 is 6
Face value of 0 is 0
Face value of 2 is 2

Now, try these.

H	T	O
6	9	5

Face value of 5 is _____
Face value of 9 is _____
Face value of 6 is _____

H	T	O
4	0	5

Face value of 4 is _____
Face value of 0 is _____
Face value of 5 is _____

We have also seen the place value of a two digit number. Let us now see the place values of the digits of a three digit number :

In 728, 8 is in the one's position. So its place value is 8 ones or 8.

2 is in the ten's position. So its place value is 2 tens or 20 ones or 20.

7 is in the hundred's position. It therefore represents 7 hundreds or seven hundred ones or 700. So its place value is 700.

Similarly, in 444

The 4 in the one's position has a place value = 4

The 4 in the ten's position has a place value = 40

The 4 in the hundred's position has a place value = 400

Exercise

1. Write the place value of the underlined digit :

   8 0 **8** ..... **7** 7 0 ..... 6 **4** 0 .....

   8 **8** 8 ..... 5 2 **0** ..... **4** 0 0 .....

2. Write some numbers on your slate and ask your friends to tell you the face value and place value of the digits of the written numbers.

3. Match the following :

The place value of 3 in 532	3
The place value of 0 in 804	600
The place value of the hundred's digit in 666	30
The place value of 3 in 553	40
The place value of ten's digit in 440	0

4. Some numbers are given below in which the place value of some digit is given. You encircle ◯ the digit whose place value is mentioned :

8 8 5	800	311	1	999	900
4 8 4	400	515	500	282	2

5. Write a number which has 2 in the one's place, 5 in the ten's place and 7 in the hundred's place.

   _____

6. Write a number which has 0 in the one's place, 0 in the ten's place and 1 in the hundred's place.

   _____

7. Write the number which has 9 in the one's, ten's and hundred's place.

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

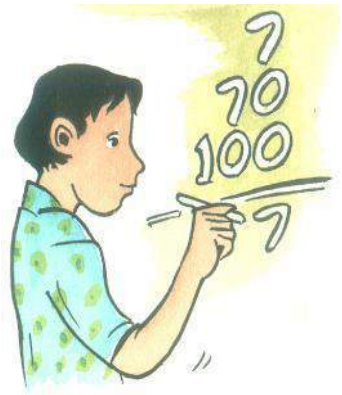
8. Write the place value of 5 in each position in the number 555.
———————————————————————————————

9. Write three numbers which have 0 in the ten's place.
———————————————————————————————

10. What number would you get by inter changing the one's and hundred's digits of the number 901?
———————————————————————————————

Expanded form of numbers:

We have seen how to write the place values of the digits of a given number. What would happen if we were to add the place value of each digit in the given number?



Consider a three digit number 726
The place value of 6 is 6
The place value of 2 is 20
and the place value of 7 is 700
Now add these

```
    6
  2 0
+ 7 0 0
---------
---------
```

What number do we get? ————————————

You can see that by adding the place values of each of the digit of a number, we get the same number.

We can write this as 726 = 700 + 20 + 6
Let us do the same with 258
In 258
Place value of 8 is - _____
Place value of 5 is - _____
Place value of 2 is - _____
Adding we get - _____
Have we got 258?

In the previous example we wrote
726 = 700 + 20 + 6
Here 700 + 20 + 6 is known as the expanded form of 726
Can you now write the expanded form of the number 258?

258 = ———————— + ———————— + ————————

Exercise

1. Write the expanded forms of the given numbers :

393 = 300 + 90 + 3

424 = ——— + ——— + ———

905 = ——— + ——— + ———

766 = ——— + ——— + ———

555 = ——— + ——— + ———

630 = ——— + ——— + ———

339 = ——— + ——— + ———

440 = ——— + ——— + ———

345 = ——— + ——— + ———

987 = ——— + ——— + ———

2. The expanded forms of some numbers are given. Write the number that you get by adding them:

500 + 70 + 8 = 578

900 + 50 + 4 = ———

900 + 70 + 6 = ———

100 + 20 + 2 = ———

300 + 60 + 9 = ———

700 + 50 + 1 = ———

200 + 60 = ———

600 + 90 + 3 = ———

500 + 7 = ———

400 + 30 + 6 = ———

3. The teacher had written the place values of the digits in the given numbers, on cards and placed them next to the number; but some naughty children changed the positions of some cards and erased some of the written place values.

Fill in the erased place values and then rearrange, write the proper expanded form :

561 = [ ] + 500 + 1 = ——— + ——— + ———

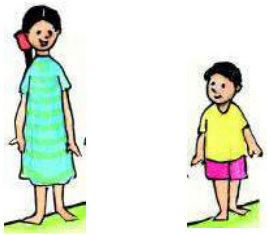
685 = 5 + [ ] + 600 = ——— + ——— + ———

566 = 6 + [ ] + 60 = ——— + ——— + ———

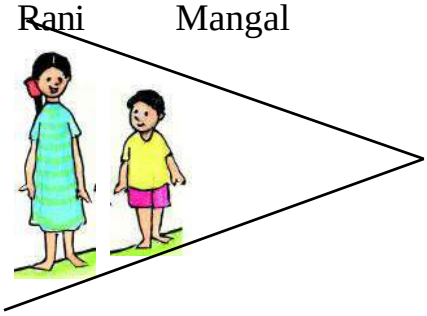
890 = 0 + 90 + [ ] = ——— + ——— + ———

305 = 300 + [ ] + 0 = ——— + ——— + ———

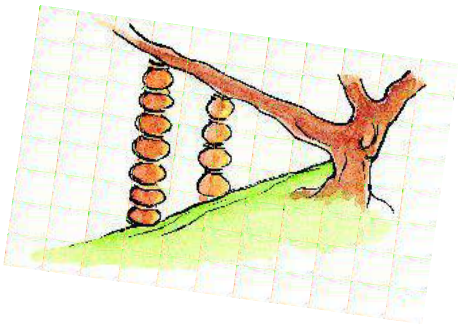
Let us compare



Rani Mangal

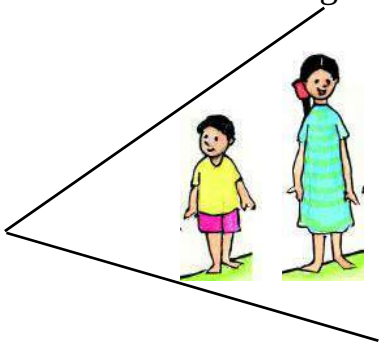


Rani is taller than Mangal

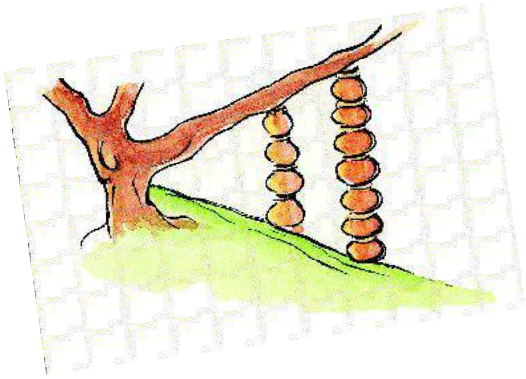


In case of numbers, we say

7 is greater than 4. Written as $7 > 4$



Mangal is smaller than Rani



4 is less than 7 Written as $4 < 7$

Consider another situation :

In numbers 2 equals 2 which is written as 2 = 2 Mangal is as tall as Rani

Read :

12 > 3

12 is greater than 3

116 > 110

One hundred sixteen is greater than one hundred ten

196 < 201

One hundred ninety six is less than two hundred one

.980 < 999

Nine hundred eighty is less than nine hundred ninety nine

< Less than
> Greater than
= Equals to

Exercise

1. Compare the numbers and put the appropriate sign <, > or = in the given boxes.

5	☐	3	40	☐	20	35	☐	53
31	☐	21	61	☐	60	99	☐	100
152	☐	252	307	☐	307	453	☐	453
666	☐	999	799	☐	800	909	☐	909
696	☐	669	450	☐	540	69	☐	96

2. Write the given numbers in a decreasing (descending) order .

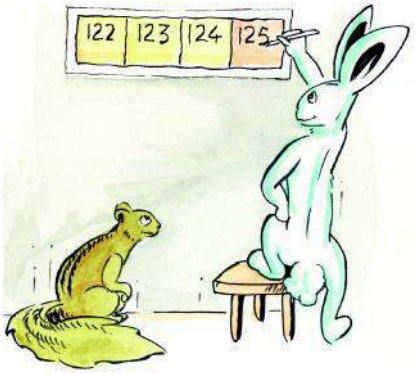
8, 34, 29	34, 29, 8
50, 10, 40	——, ——, ——
121, 139, 61	——, ——, ——
100, 209, 512	——, ——, ——
700, 200, 400	——, ——, ——

3. Arrange the given numbers in an increasing (ascending) order.

7, 45, 21	7, 21, 45
499, 299, 699	——, ——, ——
215, 351, 151	——, ——, ——
601, 309, 700	——, ——, ——
100, 900, 300	——, ——, ——

4. Write the next three numbers as shown.

127	128	129	130
418			
667			
573			
888			



5. Write the preceding three numbers to the given number, as shown.

105	104	103	102
365			
201			
967			
500			

6. Write the number which comes between the two given numbers, as shown.

125	126	127	168		170
778		780	874		876
399		401	555		557
485		487	609		611

7. Write the numbers which come just before and after the given numbers.

98	99	100
	840	
	778	
	515	

	601	
	300	
	499	
	222	

Even and Odd Numbers:

We have seen in the earlier class that :

If we take a number of stones equal to the given number and make pairs of them and no single is left, then the number is even. Also if a stone is left by itself, then the given number is odd.

1. Write the even numbers between 1 to 30 in the boxes given below.

2. Write the one's digit in each of the even numbers you have written above.

3. What are the digits that occur in the one's place of even numbers?

4. Write the odd numbers that occur from 1 to 30.

5. Write the one's digit of each of these numbers.

6. What are the digits which occur in the one’s place of the odd numbers?

7. Now list the even numbers occuring from 31 to 60.

8. Which digits occur in the one’s place of all these numbers?

9. Write the odd numbers from 31 to 60.

10. Write the digits which occur in their one's place.

11. Write the digits which occur in the one's place of all these numbers?

Some numbers have been given. Mark the even numbers with a ◯ , and the odd numbers with a □

4	45	86	97	126	315	221	900
68	37	61	79	501	112	423	995

Write the next two even numbers :

1. 208, 210, 212 —— ——
2. 556, 558, 560 —— ——
3. 114, 118, 122 —— ——
4. 410, 420, 430, —— ——

Do this :

Take 40-50 pieces of paper and write numbers which are greater than 100. Fold them and put them in a box. Now pick up a paper by turn and read the number written on it. Decide whether it is odd or even and each of you make a list of the even or odd numbers that you are reading out.

Even Number	Odd Number

Now check each others notebooks to see if you have done it correctly.

Also try this:

Take any 5 pieces of paper from the box. Read out the numbers written on them. Then ask each of your friend to arrange the number in an increasing (ascending) order.

Now again pick out 5 more chits and arrange the numbers in a decreasing (descending) order.

Observe the pattern and write the next three numbers :

1. 102 104, 106, ———, ———, ————,
2. 113, 115, 117 ———, ———, ————,
3. 220 225, 230 ———, ———, ————,
4. 430 440 450 ———, ———, ————,
5. 72, 82, 92, ———, ———, ————,
6. 499, 599, 699, ———, ———, ————,
7. 389, 379, 369, ———, ———, ————,
8. 392, 382, 372, ———, ———, ————,
9, 100, 200, 300, ———, ———, ————,
10. 111, 222, 333 ———, ———, ————,

Now answer these :

1. Which is the greatest three digit number? ——————————
2. Write the given numbers :
   Smallest one digit number ——————————
   Smallest two digit number ——————————
   Smallest three digit number ——————————
   What will be the smallest four digit number? ——————————
3. Write the following numbers :
   The greatest one digit number ——————————
   The greatest two digit number ——————————
   The greatest three digit number ——————————
   What will be the greatest four digit number? ——————————

Let us make numbers :

1. If we are given two digits 7 and 3, we could make two numbers using these- 73 and 37
2. From 1 and 5, the numbers we get are -
   15 and 51
3. Similarly, if 2, 8 and 5 are given, we could get 6 numbers
   285, 258, 528, 582, 852, 825

Now take nine cards with digits 1 to 9 written on them.

Pick any two cards and make the possible two digit numbers (you would get only two). Let your friends try too.

Now take 3 cards at a time and make the different numbers using these. See who made the maximum numbers?

Learn by doing :

1. Make numbers using the given digits
   (1) 2, 7 ———————, ———————,
   (2) 5, 2 ———————, ———————,
   (3) 8, 3 ———————, ———————,
   (4) 3, 1 ———————, ———————,

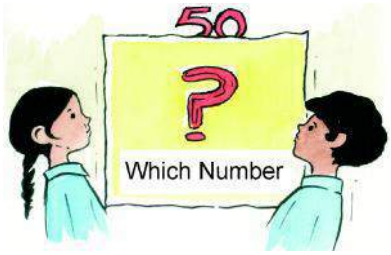
   In each pair that you have formed, encircle the number which is greater.

2. Make numbers using the three given digits
   (1) 3, 4, 1, ——————, ——————, ——————,
   (2) 1, 2, 9 ——————, ——————, ——————,
   (3) 3, 7, 8 ——————, ——————, ——————,
   (4) 0, 5, 6 ——————, ——————, ——————,
   (5) 4, 1, 0 ——————, ——————, ——————,

   From the numbers which you formed, encircle the smallest number.

Word Problems

1. I have 7 hundreds, 8 tens and 9 ones. What number am I ?
   ————————————————————————————————————
2. In a number, the face value of a digit in the one's place is 5 and ten's place is 4, then what is the number?
   ————————————————



3. Which is the first odd number after 90.
———————————————

4. Which is the even number just before 98?
———————————————

5. Which is the number just before 100?
———————————————————————————————————

6. What number do we get by adding 1 to 9 ?
———————————————————————————————————

7. The place value of my one's digit is 5 and ten's digit is 50, then which number am I?
———————————————————————————————————

8. Write the difference between the smallest three digit number and the greatest two digit number.
———————————————————————————————————

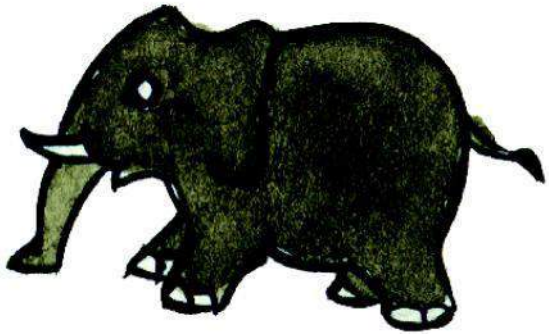
9. I am a three digit number. My one's digit is 4. So am I an even or odd number?
———————————————————————————————————

10. Write the number which comes just before the largest three digit number.
———————————————————————————————————

11. Write five even two digit numbers, which have 5 in their ten's place.
———————————————————————————————————

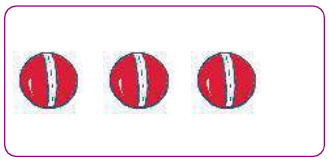
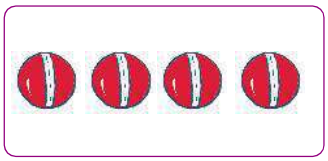
12. Write 5 odd two digits numbers which have 8 in their ten's place.
———————————————————————————————————

13. Write any three numbers in which the one's digit is double the ten's digit.
———————————————————————————————————

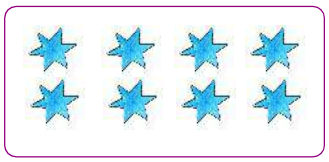
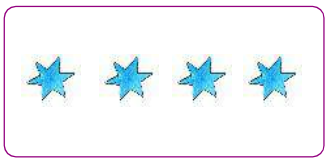


Lesson 3 Addition and Subtraction - I

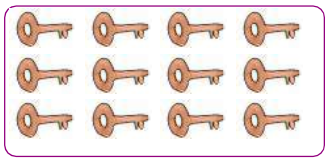
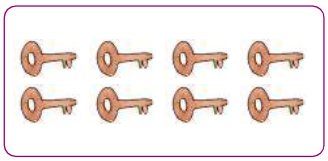
Add and fill the given boxes with that many pictures.

(1)  +  = ☐

3 + 4 = 7

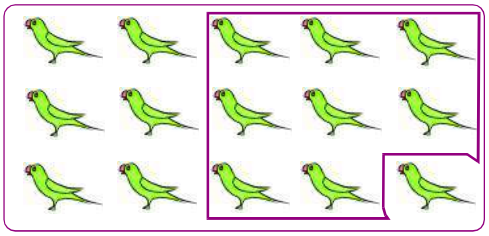
(2)  +  = ☐

☐ + ☐ = ☐

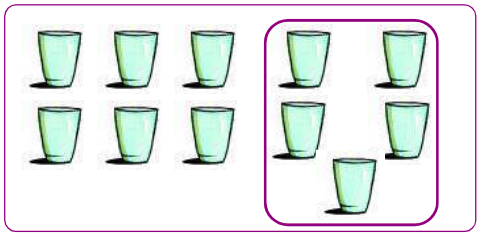
(3)  +  = ☐

☐ + ☐ = ☐

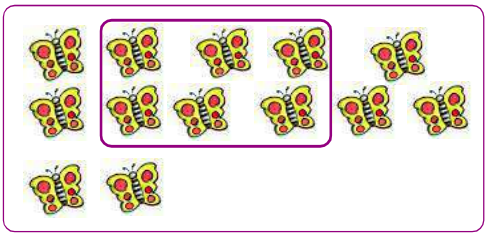
How many are left after subtracting?

(1) 

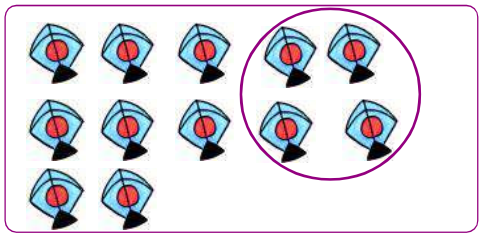
15 - **8** = **7**

(2) 

11 - **5** = ☐

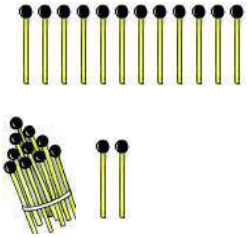
(3) 

☐ - ☐ = ☐

(4) 

☐ - ☐ = ☐

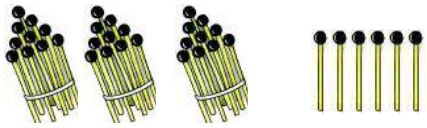
How many bundles and matchsticks?



12 matchsticks

One bundle of 10 matchsticks = 1 ten
and 2 matchsticks = 2 ones

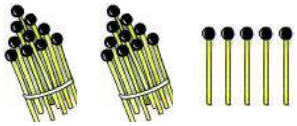
$$\begin{array}{r} 10 \\ +\ 2 \\ \hline 12 \end{array}$$



Three bundles of 10 matchsticks = 3 ten
and 6 matchsticks = 6 ones

$$\begin{array}{r} 30 \\ +\ 6 \\ \hline 36 \end{array}$$

Add and Say

(1)  = 20 + 5 = 25

(2)  = ☐ + 0 = ☐

(3)  = ☐ + ☐ = 29

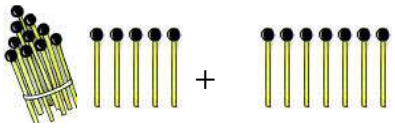
(4)  = ☐ + ☐ = ☐

(5)  = ☐ + ☐ = ☐

(6)  = ☐ + ☐ = ☐

How to Add?

(1) Addition of 15 and 7

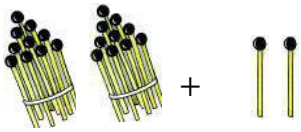


15 + 7

=

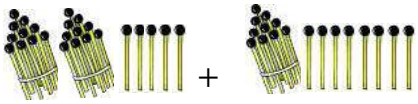
10 + 12

=



20 + 2 = 22

(2) Addition of 25 and 18



25 + 18

=

30 + 13

=

40 + 3 = 43

Add the bundles and the matchsticks

(1)

□ + □ = □ + □ =

□ + □ = □

(2)  +

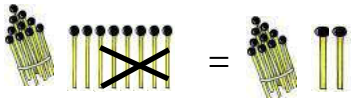
□ + □

 = 

□ + □ = □ + □ = □

How many are left?

18 – 6 = 12



Initially we had 18

Took away 6

How many left 12

27 – 17 = 10

Initially we had □

Took away □

How many left □

Now try these:

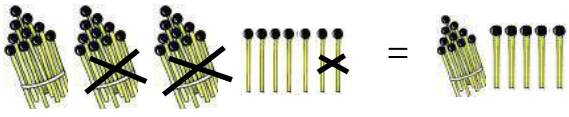
(1) 

□ – □ = □

Initially we had □

Took away □

How many left □

(2) 

□ – □ = □

Initially we had □

Took away □

How many left □

(3)  =

□ − □ = □

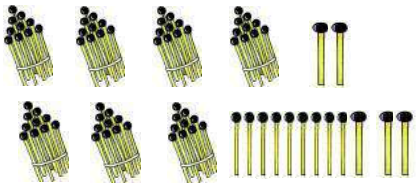
(4)  = 

□ − □ = □

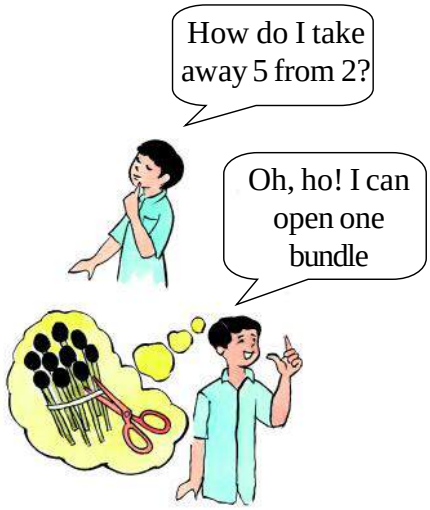
How many are left?

On subtracting 25 from 42

$$\begin{array}{r} 4\ 2 \\ -\ 2\ 5 \\ \hline \\ \hline \end{array}$$



$$\begin{array}{r} \overset{3}{\not 4}\ \overset{12}{\not 2} \\ -\ 2\ 5 \\ \hline 1\ 7 \\ \hline \end{array}$$



Solve these :

(1) $\begin{array}{r} 41 \\ -\ 29 \\ \hline \\ \hline \end{array}$

(2) $\begin{array}{r} 55 \\ -\ 36 \\ \hline \\ \hline \end{array}$

(3) $\begin{array}{r} 56 \\ -\ 32 \\ \hline \\ \hline \end{array}$

(4) $\begin{array}{r} 50 \\ +\ 24 \\ \hline \\ \hline \end{array}$

(5) $\begin{array}{r} 18 \\ +\ 9 \\ \hline \\ \hline \end{array}$

(6) $\begin{array}{r} 89 \\ +\ 15 \\ \hline \\ \hline \end{array}$

You can use bundles and matchsticks to solve the given sums.

Fill in the blanks

(1) 16 + 25 = ...

(2) 38 − 38 = ...

(3) ..... − 50 = 34

(4) ..... + 34 = 96

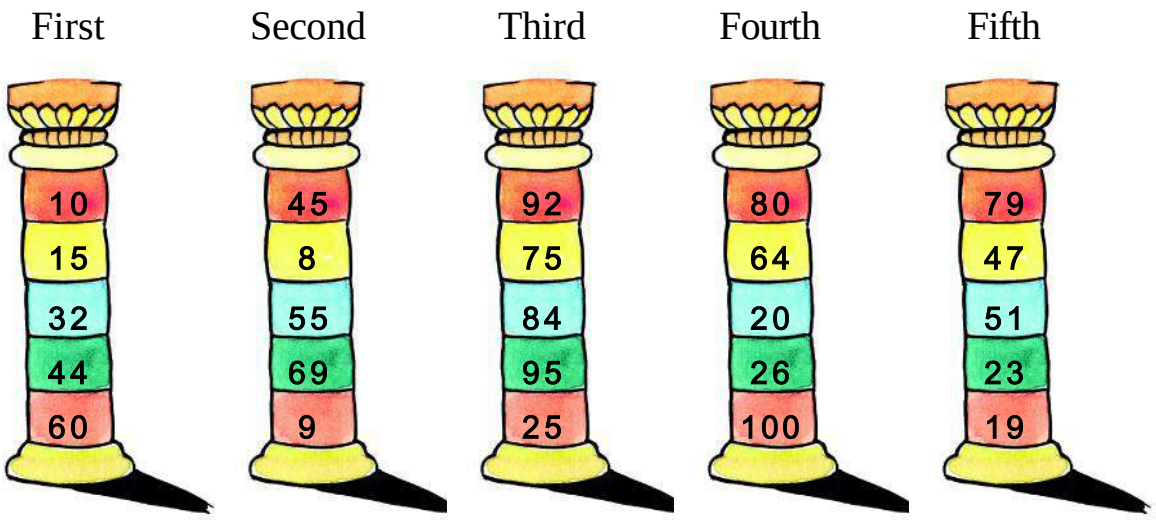
(5) 64 + ... = 86

(6) 44 + 24 = ...

(7) 52 − ..... = 50

(8) 75 − ..... = 0

Find and Solve



1. Find two numbers in the first pillar, which add to give 75.

   _____

2. From the second pillar subtract the smallest number from the largest.

   _____

3. From the third pillar find the numbers, which are greater than 90 and add them.

   _____

4. Write the difference between the topmost and the lowermost number in pillar four.

   _____

5. By how much is the first number of pillar one smaller than the first number of pillar two?

   _____

6. Find the difference between the first number on third pillar and second number on the fourth pillar.

———————————————————————————————

7. Encircle those numbers on the fifth pillar which have 9 in the ones place. Add these numbers.

———————————————————————————————

8. What should be added to the first number on the fourth pillar to get 100?

———————————————————————————————

9. Add those numbers on the second pillar, which have 5 in the one's place.

———————————————————————————————

10. Add the smallest and the greatest number on the fifth pillar.

Counting Chart

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

In the chart see and answer the following

1. Which Number is one box below 35? ————————

2. By how much is this number greater than 35? ————————

3. Which number is two boxes below 35? ————————

4. By how much is this number greater than 35? ————————

5. Find the number, which is three boxes below 35? ————————

6. What is four boxes below 35? ————————

Do this with different numbers in the chart.

As you move down in the counting chart, the number of unit's increases.

Now let us go above the number 35

1. Which number is just above 35? ——————

2. By how much is this number smaller than 35? ——————

3. What number is two boxes above 35? ——————

4. By how much is this number smaller than 35? ——————

5. Find what number is three boxes above 35?

6. What is four boxes above 35?

Do this with the other numbers as well.

As you go above any particular number in the counting chart, its unit digit decreases.

Let us see what happens when we go to the right of a given number

1. Which number comes in the box to the right of 35? ———————

2. By how much is this greater than 35? ———————

3. Which number do we get when we move three boxes to the right of 35?

———————

4. By how much is this number greater than 35? ———————

Do this for some other number also.

When we move to the box to the right of given number, the ten's digit increases.

Can you now say what would happen if we move to the left of a number in the counting chart?

1. What number is there in the box just left of 35? ————————

2. By how much is this number smaller than 35? ————————

3. Which number do we find, when we move two boxes to the left of 35? ————————

4. By how much is this smaller than 35? ————————

Do the similar exercise with some other number also in the couting chart.

As we move towards the left of a number in the counting chart, its ten's digit goes on reducing.

Counting Chart

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

Let us add using the counting chart

12 + 15 = ?

15 has one tens and five units. To increase 12 by five units, we move 5 places below 12 and reach 17. Now to increase one ten in 17 we move one box to the right and reach 27.

thus 12 + 15 = 27

We can also do in this way -

To increase one ten in 12 we move one box towards its right. We reach 22. Then to increase 5 units we move 5 boxes below 22. We therefore reach 27.

In this way, 12 + 15 = 27

Add using the counting chart - 7 and 13

By moving 3 places below 7 we reach 10. Then we increase one ten by moving one box to the right of 10 and so we reach 20.

7 + 13 = 20

Do these yourself

1. 23 and 16

   Move 6 places _____ 23 and we reach _____. Then one place _____ and we reach _____. 23 + 16 = _____

2. 35 and 44

   Move _____ places below 35 and reach _____. Then move _____ places to the right, to reach _____. 35 + 44 = _____

3. 63 and 22

   If we move 2 places _____ 63 we reach _____. Then by going _____ places towards right we reach _____.

   63 + 22 = _____

4. 13 and 56

   If we move _____ places below 13, we reach _____. Then five places towards right and we reach _____. 13 + 56 = _____

5. 42 and 58

   If we move eight places _____ 42 we reach _____ then _____ places towards right, we reach _____. 42 + 58 = _____

Subtracting with the help of counting chart

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

Let Us Solve $25 - 12 = ?$

12 has 1 ten and 2 ones. To reduce 2 ones in 25, we move 2 places above 25 and reach 23. Now to reduce 1 ten in 23, we move one place to the left of 23 and reach 13.

In this way, $25 - 12 = 13$

In this example, if we move one place towards left first and then 2 places above upwards, would we yet reach 13? Find out.

Let Us Do These

(1) $65 - 31 =$ ☐

Move 1 place above 65 and 3 places towards left.

(2) $39 - 30 =$ ☐

Move 3 places towards left of 39.

(3) $78 - 66 =$ ☐

Move 6 places above 78 and 6 places towards left.

(4) $89 - 7 =$ ☐

Move 7 places above 89.

Subtract using the numbers given in the chart

1. 29 – 9 = ...
2. 97 – 17 = ...
3. 42 – 30 = ...
4. 45 – 32 = ...
5. 50 – 40 = ...
6. 73 – 38 = ...
7. 67 – 25 = ...

Make more sums along with your friends. Use the chart for adding and subtracting these sums.

Let Us find Something New

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

1. Move along the line 11, 22, 33 and so on. By how much is the number increasing each time?

2. Move along the line79, 68, 57 and so on. By how much is the number reducing each time? What will be the next numbers?

3. Some more series is shown using arrow marks in the chart. Find by how much is the number increasing or decreasing each time. Find the next number in each series.

Solve these :

1. There were 74 guavas in Ramu's shop. He sold 45 guavas in a day. How many guavas are left with him?
2. Deepa got 42 marks in Language and 46 marks in Mathamatics. How many marks did she get together in these two subjects?
3. Samaru made 50 bundles of Tendu Patta on the first day and 34 bundles on the second day. So in these two days, how many bundles did he make?
4. A box can hold 99 apples. There are 60 apples in it. How many more apples can be put in the box?
5. Mohan had Rs. 70 and Meeta had Rs. 62. How much more money does Mohan have than Meeta?
6. Hemvati has 45 rupees and Sangeeta has 22 rupees. If Hemvati gives her money to Sangeeta, how much would Sangeeta have?
7. After giving 15 rupees to Annu, father had 35 rupees left with him. How much did he have initially?
8. There was 32 kilograms of rice in a sack. It can hold 18 more kilograms of rice. Find how many kilograms of rice can the sack hold?
9. By adding how much to 55 would you get 92?
10. Which number would you get by adding the largest one digit number and the smallest two digit number?

You also make some word problems

You have solved the word problems given in your book. Is it possible that you make some word problems and your friends solve them?

Two examples are given here. You yourself make the next questions.

Example-1

3 + 2 = ?

There were 3 parrots sitting on a tree

Two more parrots came on it.

How many parrots are there now on the tree?

Example-2

5 − 1 = ?

There were 5 parrots sitting on a tree

1 parrot flew away.

How many parrots are left on the tree now?

Given below are some statements. Frame word problems also for these.

1.	7 − 2 = ?	5.	35 + 9 = ?
2.	5 + 2 = ?	6.	11 − 7 = ?
3.	8 + 9 = ?	7.	24 − 12 = ?
4.	3 − 2 = ?	8.	35 + 44 = ?

LESSON 4 Addition and Subtraction - II

Read and Understand:

$74 + 8 = 70 + 4 + 8$

$= 70 + (4 + 8)$

$= 70 + (12)$

$= 82$

$= 70 + 10 + 2$

$= 80 + 2$

$= 82$

$35 + 29 = (30+5) + (20+9)$

$= 30 + 5 + 20 + 9$

$= (30+ 20) + (5+9)$

$= 50 + 14$

$= 64$

$= 50 + 10 + 4$

$= 60 + 4$

$= 64$

Add

(1) $17 + 9 = (10+7) + 9$

$= \_\_\_\_\_$

$= \_\_\_\_\_$

$= \_\_\_\_\_$

$= \_\_\_\_\_$

$= \_\_\_\_\_$

$= \_\_\_\_\_$

$= \_\_\_\_\_$

(2) $23 + 18 = (20+ \ldots\ldots) + (\ldots\ldots+8)$

$= \_\_\_\_\_$

$= \_\_\_\_\_$

$= \_\_\_\_\_$

$= \_\_\_\_\_$

$= \_\_\_\_\_$

$= \_\_\_\_\_$

$= \_\_\_\_\_$

(3) 26 + 37 = ————————

= ————————

= ————————

= ————————

= ————————

= ————————

= ————————

= ————————

(4) 52 + 29

= ————————

= ————————

= ————————

= ————————

= ————————

= ————————

= ————————

(5) 30 + 57 = ————————

= ————————

= ————————

= ————————

= ————————

= ————————

= ————————

= ————————

(6) 48 + 49

= ————————

= ————————

= ————————

= ————————

= ————————

= ————————

= ————————

Read and Understand:

Add 553 and 424

$$\begin{array}{r} 5\ 5\ 3 \\ +\ 4\ 2\ 4 \\ \hline \end{array} \rightarrow \begin{array}{r} 5\ 5\ 3 \\ +\ 4\ 2\ 4 \\ \hline 7 \end{array} \rightarrow \begin{array}{r} 5\ 5\ 3 \\ +\ 4\ 2\ 4 \\ \hline 7\ 7 \end{array} \rightarrow \begin{array}{r} 5\ 5\ 3 \\ +\ 4\ 2\ 4 \\ \hline 9\ 7\ 7 \end{array}$$

Hence, 553 + 424 = 977

Solve these.

(1) 789 and 210	(2) 648 and 301	(3) 457 and 242
(4) 667 and 230	(5) 245 and 102	(6) 246 and 33
(7) 528 and 230	(8) 365 and 4	(9) 49 and 200

Read and Understand:

Subtract 217 from 849

8 4 9	8 4 9	8 4 9	8 4 9
− 2 1 7	− 2 1 7	− 2 1 7	− 2 1 7
	2	3 2	6 3 2

Hence, 849 − 217 = 632

Subtract

1. 244 from 375	2. 215 from 625
3. 303 from 938	4. 604 from 625
5. 556 from 876	6. 5 from 198

Addition with carry over.

497 and 268 Add –

Step–1

	H	T	O
	4	9	7
+	2	6	8

Write the numbers in such away that the ones digit comes is below ones place ten's digit is below ten's place and hundred's digit is below hundred's place.

Step–2

	H	T	O
		1	
	4	9	7
+	2	6	8
			5

Add the one's digits first.
7 ones + 8 ones = 15 ones
But 15 ones = 1 ten + 5 one's
Therefore write 5 in the one's place as a result of addition and write the 1 ten is the ten's column.
This is 1 carried to the ten's place.

Step–3

	H	T	O
	1	1	
	4	9	7
+	2	6	8
		6	5

Now add the digits in the ten place.
1 ten + 9 tens + 6 tens = 16 tens
However 16 tens = 1 hundred + 6 tens
So write the 6 in the column of ten's addition and carry 1 to the hundreds place.

Step–4

	H	T	O
	1	1	
	4	9	7
+	2	6	8
	7	6	5

Finally the addition of hundred's digits
1 hundred + 4 hundred + 2 hundred = 7 hundreds
Write 7 in the column of hundred's addition

497 + 268 = 765

Exercise

Solve:

(1)
$$\begin{array}{r} 3\ 1\ 8 \\ +\ 2\ 3\ 4 \\ \hline \\ \hline \end{array}$$

(2)
$$\begin{array}{r} 2\ 2\ 7 \\ +\ 4\ 3\ 4 \\ \hline \\ \hline \end{array}$$

(3)
$$\begin{array}{r} 3\ 0\ 9 \\ +\ 2\ 6\ 6 \\ \hline \\ \hline \end{array}$$

(4)
$$\begin{array}{r} 1\ 9\ 2 \\ +\ 2\ 2\ 3 \\ \hline \\ \hline \end{array}$$

(5)
$$\begin{array}{r} 3\ 8\ 1 \\ +\ 2\ 4\ 4 \\ \hline \\ \hline \end{array}$$

(6)
$$\begin{array}{r} 3\ 8\ 0 \\ +\ 2\ 6\ 6 \\ \hline \\ \hline \end{array}$$

(7)
$$\begin{array}{r} 4\ 6\ 7 \\ +\ 3\ 3\ 4 \\ \hline \\ \hline \end{array}$$

(8)
$$\begin{array}{r} 3\ 5\ 7 \\ +\ 7\ 7 \\ \hline \\ \hline \end{array}$$

(9)
$$\begin{array}{r} 5\ 8 \\ +\ 2\ 6\ 6 \\ \hline \\ \hline \end{array}$$

Add the given numbers.

(1) 446 and 139

(2) 207 and 505

(3) 373 and 163

(4) 657 and 243

(5) 304 and 217

(6) 73 and 566

Read and Understand:

321+142+438

							①			①	①			①	①	
	3	2	1			3	2	1		3	2	1		3	2	1
	1	4	2	→		1	4	2	→	1	4	2	→	1	4	2
+	4	3	8		+	4	3	8	+	4	3	8	+	4	3	8
								1			0	1		9	0	1

Hence, 321 + 142 + 438 = 901

(1)
```
  2 3 4
  1 3 0
+   4 8
-------
```

(2)
```
  3 3 5
    4 5
+   7 9
-------
```

(3)
```
    4 5
  2 5 6
+ 3 6 7
-------
```

(4)
```
  2 5 7
  1 3 3
+   9 7
-------
```

(5)
```
  3 4 8
  2 0 4
+ 1 5 5
-------
```

(6)
```
  4 5 7
  3 4 8
+ 1 0 2
-------
```

(7)
```
  2 4 6
    9 0
+ 3 3 5
-------
```

(8)
```
  6 3 5
    8 0
+ 1 4 8
-------
```

Let's Learn

We have learnt how to subtract two digit numbers. Now let us learn how to subtract three digit number.

Let us try subtracting 284 from 352.

First we have to subtract 4 from 2.

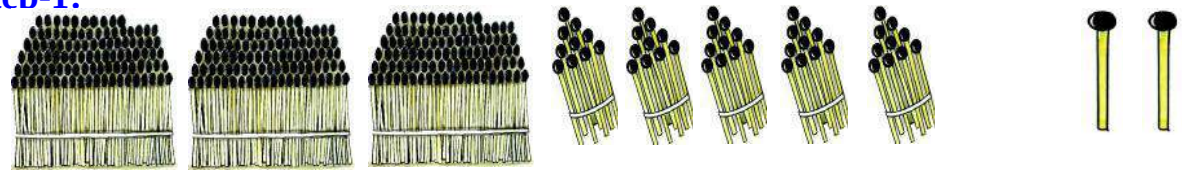
We can not do that, then what do you do in such situation?

You convert tens in to ones

Lets do this with the help of pictures.

	H	T	O
	3	5	2
−	2	8	4

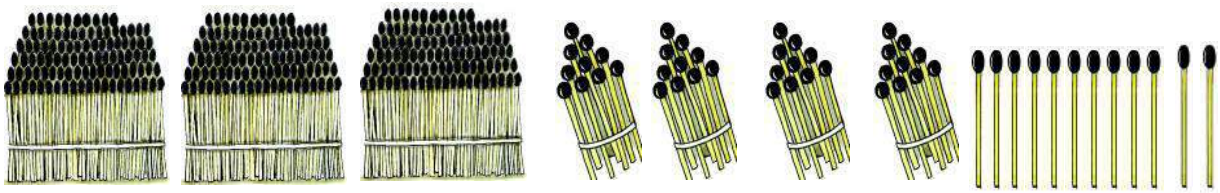
Step-1:



3 bundles of hundred sticks each + 5 bundles of ten sticks each + 2 match sticks

352 = 300 + 50 + 2

When you open a bundle of ten



3 bundles of hundreds each + 4 bundles of ten each + Ten and two match sticks

352 = 300 + 40 + 10 + 2

Now in one's place we have 12 one's instead of 2 one's. We can therefore subtract 4 from 12 to get 8 one's.

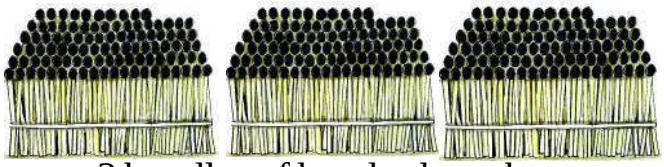
We can write what we have done as follows:

	H	T	O
		4	12
	3	~~5~~	~~2~~
−	2	8	4
			8

Step-2:

Now consider the ten's digits.

We need to subtract 8 tens from 4 tens. We need to break a bundle of 100 and change it to tens.

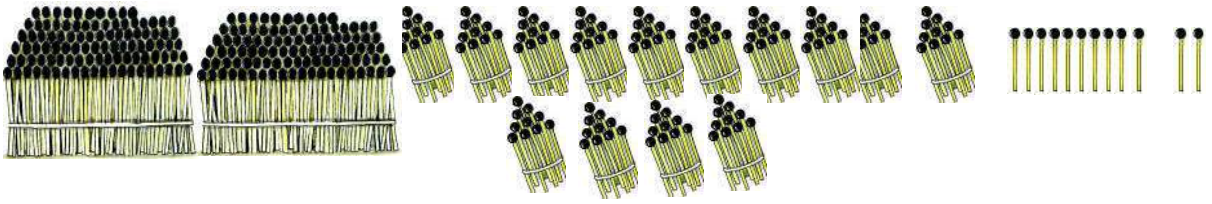


3 bundles of hundreds each

4 bundles of ten each

12 loose matchsticks

When you open a bundle of hundred



352 = 2 bundles of hundred each + 10 bundles of Matchsticks and 4 bundles + 12 loose match sticks

We can also write it as

200	+	140	+	12
2 hundreds	+	14 tens	+	12 Units

Now from the 14 tens we take away 8 tens giving us 6 tens.

	H	T	O
	2	14 ~~4~~	12
	~~3~~	~~5~~	~~2~~
−	1	8	4
		6	8

Step-3:

	H	T	O
	2	14 ~~4~~	12
	~~3~~	~~5~~	~~2~~
−	1	8	4
	1	6	8

Look at the digits in the hundred's place.
Can you subtract
1 hundred from 2 hundred?
We shall get 1 hundred.
Hence, 352 − 184 = 168

Subtract

185 from 275	295 from 412	69 from 729
195 from 364	8 from 154	258 from 642
172 from 302	90 from 130	204 from 510
457 from 946	346 from 816	

Discuss one of the above questions with your friend. Find out how he/she did it?

Let us solve 500 – 225

Look at their one's digits. What are the digits? ————————

Can you subtract 5 ones from 0? ————————

Now look at the ten's digits. What are the digits? ————————

Can you subtract 2 tens from 0? ————————

Let us see how we can do such sums

	H	T	O
	5	0	0
–	2	2	5

5 bundles of hundred match-sticks each = 500 + 0 + 0

5 hundreds + 0 tens + 0 ones

Step-1:

One bundle of hundred opened

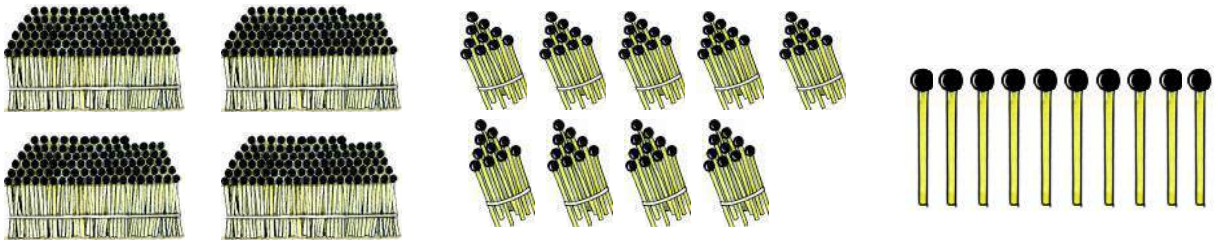
4 bundles of hundred each and 10 bundles of 10 match sticks each

500 = 400 + 100

	H	T	O
	4	10	
	~~5~~	~~0~~	0
–	2	2	5

Step-2:

However as we also need to open one of these for the one's subtraction



4 bundles of hundreds each

9 bundles of tens each

and 10 loose match-sticks

Step-3:

500 = 400 + 90 + 10

Now subtract 225

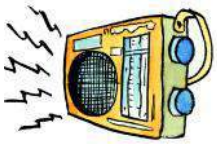
Hence, 500 − 225 = 275

	H	T	O
	4	9 ~~10~~	10
	~~5~~	~~0~~	~~0~~
−	2	2	5
	2	7	5

Let us Subtract some more

174 from 400	36 from 105	305 from 600
70 from 403	154 from 253	336 from 804
380 from 700	275 from 410	
296 from 805	471 from 800	

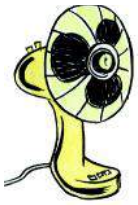
Take any 3 digits and make two numbers. Subtract the smaller from the greater number and show your friends.



Rs. 350

Rs. 175

Rs. 135



Rs. 775

Rs. 82

Rs. 235

1. Seema bought a radio, a watch and a pair of spectacles. How much amount would she have to give to the shopkeeper?
2. Harish initially bought a radio. Later he needed a fan. He returned the radio and took the fan. How much more money did he have to give to the shopkeeper?
3. By how much is the watch cheaper than the spectacles?
4. Sonali bought a frock and a pair of pants. How much money did he spend?

Magic Square

Look at the 3 × 3 square. There are 1 to 9 numbers written in it.

4	9	2
3	5	7
8	1	6

Find the sum of the digits in each row.

Find the sum of the digits in each column.

Find the sum of the digits along the diagonals.

What do you find?

Now check and find which of the following is a Magic Square?

5	10	3
4	6	8
9	2	7

7	1	9
3	8	6
4	5	2

11	16	15
18	14	10
13	12	17

16	11	15
18	14	10
17	12	13

Find the missing numbers in the following Magic Square

Digits 4 to 12

		5
6		10
		9

Digits 3 to 11

6		4
	7	
		8

Digits 2 to 10

9	2	7
	6	

Can you make more Magic Squares? Take different numbers and make your own Magic Sqaure and show your friends.

Now Solve these

1. In a cricket match Sachin made 52, Rahul made 135 and Dinesh made 93 runs. How many runs did they make together?
2. In an orchard there are 125 Mango trees, 100 Neem trees and 160 Lemon trees. How many trees are there in all?
3. In a train compartment there are 72 seats. If there are 112 travellers, then how many did not get seats?
4. Boodru sold 132 coconuts on the first day of the Narayanpur Fair and 96 coconuts on the second day. If he still had 54 coconuts left with him, can you say how many coconuts he had taken to the Fair?
5. There are 350 children in a school. If there are 162 girls in the school, what is the number of boys?

6. The Environmental Science book belonging to Poonam has 136 pages. She read 107 pages out of these how many pages are left for her to read?

Let us help in calculation at home

Roshni and her father bought certain things from the fair. After they returned home her father said "Lets calculate the expenditure".

Roshni said, "I will calculate the expenditure." We had Rs. 300 in the begining. We bought a frock for Rs. 110, a pair of slipper for Rs. 40, a doll for Rs. 20 and sweets for Rs. 30. Roshni wrote it in this way :-

Frock	–	Rs.110
Slippers	–	Rs. 40
Doll	–	Rs. 20
Sweets	–	Rs. 30
		Rs.200

Balance amount

300 Rs. – 200 Rs. = 100 Rs.

Whenever you go to the market, you can also calculate the expenditure in the same way.

How much money did you have when you went to the market?

What did you buy?

How much quantity of each items did you buy ?

How much money did you spend?

How much money was left after purchasing?

LESSON 5 Multiplication and Division-I

Radha and Kamal were going along with their gardener uncle to look at the garden. On the way they saw a plant.

Radha - Oh! What lovely flowers!

Kamal - Yes, they are. And there are so many of them!

Uncle - Can you say how many?

Kamal - One, two ... four. There are four flowers.

Uncle - Let Radha also say something.

Kamal - But she does not know how to count.

Radha - I can count. I can even tell you the total number of petals in all the flowers.

Kamal - Even I can tell you that.

Uncle - All right, both of you tell me how many flowers are there, and how many petals do all these flowers together have!

Kamal - Five fours are twenty. Uncle, there are twenty petals.

Radha - Five and five ten, ten and five fifteen, fifteen and five twenty. Yes, uncle, there are twenty petals in all.

Uncle - Both of you gave the right answer. But Kamal, how did you give the answer so quickly?

Kamal - I multiplied five with four.

Uncle - And Radha, what did you do?

Radha - I added five, four times.

Kamal multiplied five with four and Radha added five four times. Then is multiplication related to addition? Let us see.

Kamal's method $5 \times 4 = 20$

And Radha's method $5 + 5 + 5 + 5 = 20$

Thus both came to the same answer, that is there are twenty petals in all. Both their methods are correct.

So, we can also say

$5 + 5 + 5 + 5 = 5 \times 4 = 20$

Hence, Addition of 5, 4 times = Multiplication of 5 with 4.

Now can you say

$6 + 6 + 6 = 6 \times$ .....

$9 + 9 + 9 = 9 \times 3 =$ .....

So we can say that multiplication means 'addition of the same quantity again and again'

Exercise

1. Some numbers are written below in the form of being added again and again. Write it in the form of multiplication of two numbers.

(1) 3+3+3+3 = 3 × 4 (2) 6+6+6+6 = ...

(3) 5+5+5+5+5 = ... (4) 4+4+4+4+4+4+4 = ...

(5) 5 = ... (6) 0+0+0 = ...

2. Write the multiplication given below in the form of repeated addition of a number.

(1) 9 × 4 = 9+9+9+9 (2) 10 × 1 =

(3) 7 × 5 = (4) 12 × 5 =

(5) 15 × 1 = (6) 0 × 3 =

Lets Make a Table

In the table given below, some numbers are filled. Fill the remaining places:

2	2 × 1 =	2
2+2	2 × 2 =	
2+2+2	2 × 3 =	
2+2+2+2	2 × 4 =	

2+2+2+2+2		=
2+2+2+2+2+2		=
2+2+2+2+2+2+2		=
2+2+2+2+2+2+2+2		=
2+2+2+2+2+2+2+2+2	2 × 9	=
2+2+2+2+2+2+2+2+2+2	2 ×10	= 20

Understand the table given below and write the tables of 4, 5, 6 and 7

Table of 2	Add	Table of 3		Table of 4	Table of 5	Table of 6	Table of 7
2	+ 1	→ 3	+ 1	→			
4	+ 2	→ 6	+ 2	→			
6	+ 3	→ 9	+ 3	→			
8	+ 4	→ 12	+ 4	→			
10	+ 5	→ 15	+ 5	→			
12	+ 6	→ 18	+ 6	→			
14	+ 7	→ 21	+ 7	→			
16	+ 8	→ 24	+ 8	→			
18	+ 9	→ 27	+ 9	→			
20	+ 10	→ 30	+ 10	→			

Make the tables of 3 and above in your copy. After that complete the multiplication list made below.

2	3	4	5	6	7	8	9	10	11	12	13	14	15
		8				16		20					30
	9		15				27					42	
8				24		32		40			52		
10					35				55	60			
	18			36		48			66	72			
			35				63				91		
		32						80				112	
	27												
20	30					80							150

How do we Multiply?

$6 \times 5 = ?$

To do this multiplication, we say the table of 5 till six, that is five sixes are 30. So we write that as the answer.

$6 \times 5 = 30$

We can also write this as

$$\begin{array}{r} 6 \\ \times\ 5 \\ \hline 3\ 0 \end{array}$$

You have made tables before this. Now make use of the tables and write the products of numbers given below:

$6 \times 5 =$	30	10×7	$=$	.....	8×2	$=$	.....
$5 \times 6 =$	.....	1×1	$=$	.....	2×8	$=$	.....
$6 \times 9 =$	.....	7×4	$=$	.....	9×6	$=$	.....

Fill in the Blanks

$4 \times 6 =$	$6 \times$ ..... $= 18$	$7 \times$ ..... $= 14$
$9 \times$ ..... $= 72$	$6 \times$ ..... $= 54$	..... $\times 9 = 18$

Multiply

5	8	5	6	6	7
$\times 6$	$\times 7$	$\times 4$	$\times 1$	$\times 6$	$\times 5$

Let's Play a Game

Make groups of four children each. Each group takes two dice. Now, any child of a group throws both the dice, and then multiplies the numbers on top of the two dice. Also, write the product (answer) in a copy. Other groups then play similarly. After each round, see which group got the highest number after multiplication.

Similarly, make more such games yourself, and also tell your teacher.

How Do We Distribute?

Naresh, Tina and Kamal sat down to have lunch together. They saw that their uncle was coming with some sweets. Naresh said, "Uncle, I love sweets very much so I will eat only sweets."

Tina and Kamal said, "We too will have sweets."

Now uncle wanted to distribute the sweets in such a manner that all three get equal shares. See, how he did that?

At first, uncle put one sweet in each of their plates. The children said, "Why only one? You still have many more sweets with you."

So then, their uncle gave each of them one more sweet. Now each of them had two sweets.

When he distributed the third time, they all had 3 sweets each.

Now, how many sweets were left to be distributed? Count and write _____ .

Could the remaining sweets be distributed again? _____

He distributes those sweets too.

How many times did he have to distribute sweets? _____

Each time he needed how many sweets? _____

How many sweets did each one of them get finally?

Let us see what was done

Total sweets	12	
First time, 3 sweets were distributed	− 3	Each child had 1 sweet.
	9	Sweets left = 9.
Second time, 3 more sweets were distributed	− 3	Each child had 2 sweets
	6	Sweets left = 6.
Third time, 3 sweets were distributed	− 3	Each child had 3 sweets.
	3	Sweets left = 3
Fourth time 3 more sweets were given	− 3	Each now had 4 sweets.
No sweet was left	0	Sweets left = 0

Thus, we saw that when 12 sweets were equally distributed among 3 children each child got 4 sweets.

Can you suggest some other way of distribution?

Find out how many things each person gets.

When 8 balls are equally distributed between 2 people.

When 12 bananas are to be distributed equally among 4 people.

When 15 biscuits are distributed equally among 5 people, then how many will each person get?

Let us see in this example

Satya's father got 10 copies from the market. As soon as he got home, Satya's sister and brother said, "We want five copies each."

Satya said, "Then, I will also take five copies."

Satya said, "Will you give five copies to me first.?"

So papa gave Satya five copies.

Satya's sister also took five copies from papa.

Then, there was no copy left for Satya's brother.

Let's see how this happened -

Papa had brought	10	copies
First, Satya took	− 5	copies
Copies left	5	
Then, Satya's sister took	− 5	
Copies left	0	

So there was no copy left for Satya's brother.

If the distribution had been done the way Naresh, Tina and Kamal did, then would Satya's brother have got a copy?

Each would have got how many copies? _____

After each would have got equal number of copies, would any copy be left? _____ How many would have been left? _____

Now think, what is the difference between these two ways of distribution.

While distributing sweets, we knew among <u>how many people</u> we had to distribute, but we did not know <u>how many sweets each person would get</u>.

When such situations arise, we make use of the process of division.

Let's see how we write the steps for division.

12 things are to be divided among 3 people.

So each gets 4 things.

We write this as $12 \div 3 = 4$ (÷ is the sign for division)

We read it as "12 divided by 3 gives 4."

One more situation could be this. If we knew that there are 12 sweets.

Each person is to be given 4 sweets. Then, it would obvious that only 3 persons would get the sweets.

This is written as $12 \div 4 = 3$

We read it as, "12 divided by 4 gives 3."

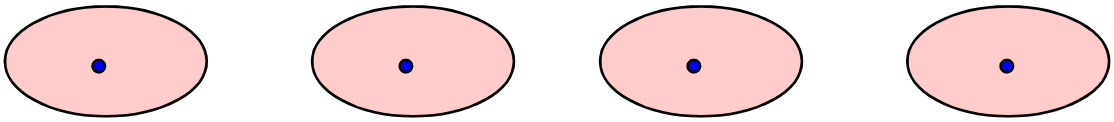
Now write each of the siutation described below, using the sign of division

1. Rehana has 24 toffees. She divided these toffees among 3 friends. So each friend got 8 toffees.
2. Renu had 20 *laddoos*. She distributed those *laddoos* equally among 5 people. So each of them got 4 *laddoos*.
3. Amit had 15 marbles. He distributed these among 5 friends so each got 3 marbles.
4. Rehana had 24 toffees. She gave 8 each to her friends, so only 3 of her friends got equal number of toffees.
5. Renu had 20 sweets. She wanted to give 4 sweets to each friend. She could give the sweets to 5 of her friends.

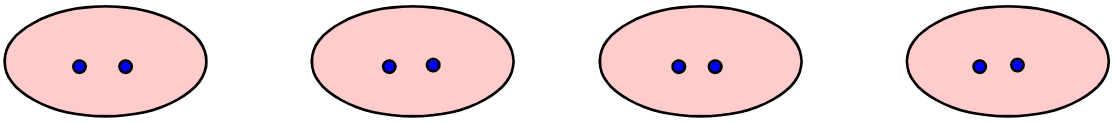
Let us See

$12 \div 4 = ?$

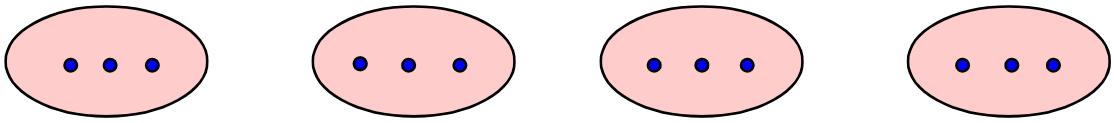
Here we want to divide 12 by 4. Collet 12 stones and make four circles on the ground. Keep a stone in each circle.



This means that we have distributed 4 things. Now we are left with 8 more things. Now, put one more stone in each of the circle.



We are still left with 4 things. Put one more stone in each of the circle.



Hence, when we divided 12 things in 4 equal parts then each part got 3. So 12 ÷ 4 = 3. That is read as, "twelve divided by four gives three."

Now you too make circles, collect stones and do the following divisions.

1. 9 ÷ 3 =
2. 18 ÷ 3 =
3. 10 ÷ 2 =
4. 12 ÷ 4 =
5. 15 ÷ 5 =
6. 16 ÷ 2 =
7. 18 ÷ 9 =
8. 12 ÷ 6 =
9. 25 ÷ 5 =
10. 21 ÷ 7 =

Which of these questions took a longer time for you to solve? You saw that we can divide things by making circles or drawings. But it takes a longer time.

Now let us find a quicker method to solve questions of division.

21 ÷ 3 = ?

Here, we want to divide 21 by 3, so let us say the table of 3 until we get 21 as the answer.

3 ones are = _____

3 twos are = _____

3 threes are = _____

3 fours are = _____
3 fives are = _____
3 sixes are = _____
3 sevens are = _____

This gives us the answer 21. So 21 ÷ 3 = 7

Now, solve the following questions by using tables.

16	÷	2
9	÷	3
24	÷	4
27	÷	9
56	÷	7

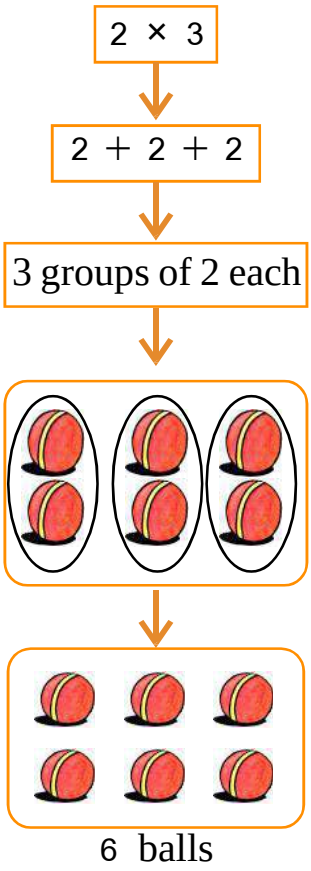
54	÷	9
72	÷	8
36	÷	6
45	÷	5
30	÷	10

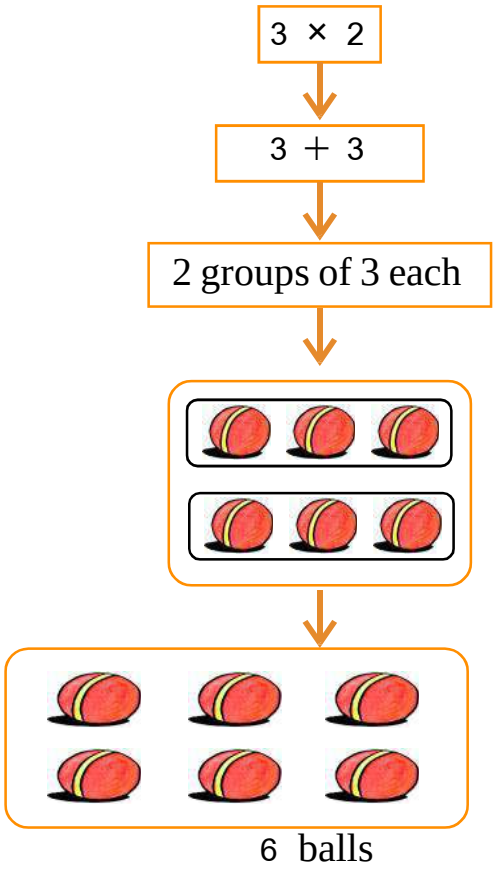
Some More Questions

1. Two children divide 6 toffees equally between them. How many toffees would each child get?
   6 ÷ 2 = 3 toffees.
2. 10 pencils are put in 2 boxes equally. How many would each box have in all?
3. Manoj got 8 guavas from his orchard. He wanted to give 2 guavas each to his friends. How many of his friends would get the guavas?
4. The doctor has told Raju to take 3 tablets every day. Raju has brought 24 tablets from market. In how many days would the tablets be over?
5. Deepika had 20 flowers and she wanted to make 4 bouquets. So how many flowers would there be in each bouquet?
6. Pooja kept 24 envelopes in 3 bags equally. How many envelopes did she keep in each bag?
7. Each child in a school planted 4 plants. How many plants were planted by 9 children in all?
8. One litre milk is available for Rs. 8, how many rupees would you need for 6 litres of milk?
9. One cake of soap costs Rs. 4. So how many cakes would you get for Rs. 36?
10. Priya needs 4 minutes to solve one question. So how much time would she need to solve 5 such questions?

LESSON 6 Multiplication and Division-II

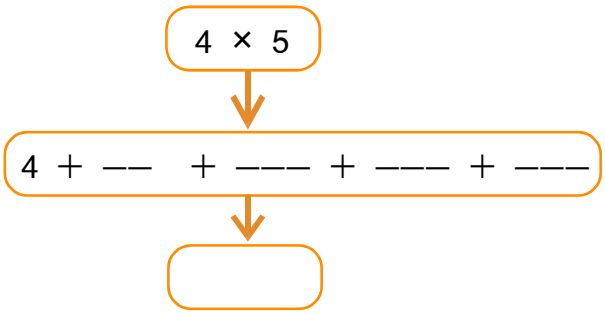
You have seen how to multiply numbers. If we change the order of the numbers, would our answer change? To find out, let us solve 2×3 and then 3×2.

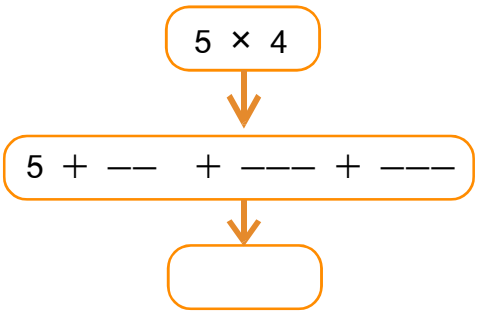




Both give the same answer '6'. Hence $2 \times 3 = 3 \times 2$

Now try the same with 4×5 and 5×4





Are the two answers the same? ————————

Hence 4 × 5 = ——— × ————

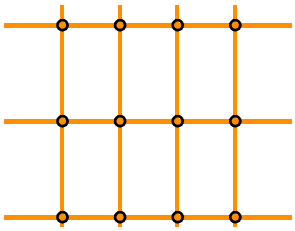
Similarly test the following:

4 × 3 = 3 × 4, 6 × 3 = 3 × 6

7 × 2 = 2 × 7 5 × 4 = 4 × 5

Draw lines and multiply:

In class 2, we have used matchsticks to create tables. Now, let us draw lines instead of matchsticks, and find out the product 3 × 4 and 4 × 3 to see if they are the same.

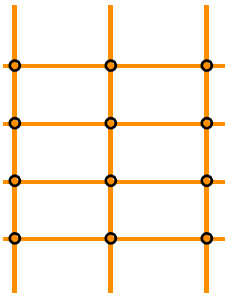


To multiply 3 by 4 (to solve 3 × 4), draw 3 horizontal lines in your copy or slate and then draw 4 verticle lines on these. wherever the two types of lines meet, make the sign as shown in the picture.

Now, count how many signs are there? ————

Write 3 × 4 = ————

Similarly



To solve 4 × 3, draw 4 horizontal and 3 verticle lines. Make 3 verticle lines on these.

Make the signs and count them.

How many signs are there?

Write 4 × 3 = ————

Now can you say 3 × 4 and 4 × 3 are equal?

Do the following multiplication by drawing such lines. Are

2 × 4 and 4 × 2, 3 × 5 and 5 × 3, 7 × 2 and 2 × 7

4 × 4 and 4 × 4, 4 × 6 and 6 × 4, 1 × 6 and 6 × 1

Are 0 × 3 and 3 × 0 equal?

Exercise

Fill in the blanks

$6 \times 4 = \underline{\quad} \times 6$	$3 \times 7 = 7 \times \_\_\_$	$4 \times \_\_\_ = 5 \times 4$
$\_\_\_ \times 3 = 3 \times 4$	$9 \times 4 = 4 \times \_\_\_$	$8 \times \_\_\_ = 3 \times 8$
$5 \times \_\_ = 1 \times 5$	$1 \times 7 = \_\_\_ \times 1$	$9 \times \_\_\_ = 1 \times 9$
$8 \times 6 = \_\_ \times 8$	$6 \times 9 = 9 \times \_\_\_$	$7 \times \_\_\_ = 6 \times 7$

Complete the table

X	1	2	3	4	5
1					
2			2×3=6		
3					
4					
5					

X	1	2	3	4	5
6					
7					
8		16			
9					
10					

X	6	7	8	9	10
6					
7					
8				72	
9					
10					100

X	7	3	5	2	1
8					
4					
6			30		
10					
9					

What are Multiplicand, Multiplier and Product?

Let us understand

A carpenter makes 3 cots in one day

In 7 days, he can make 21 cots

You know that we can write this as $3 \times 7 = 21$

$3 \times 7 = 21$

When we write an example related to multiplication in such a manner, it is called a **multipliaction fact**.

Thus $3 \times 7 = 21$ is a multiplication fact

Here 3 is called a multiplicant

7 is called a multiplier and

21 is called as their product

Now write the multiplicant, multiplier and product in each of these multiplication facts.

$2 \times 5 = 10$	Multiplicant.....	Multiplier.....	Product.....
$9 \times 6 = 54$	Multiplicant.....	Product.....	Multiplier.....
$8 \times 8 = 64$	Multiplier.....	Multiplicant.....	Product.....

In the following multiplication facts, write what the encircled number is, a multiplicand or a multiplier or the product.

In $5 \times (4) = 20$, 4 is a multiplier

In $9 \times 12 = (108)$, is a _____

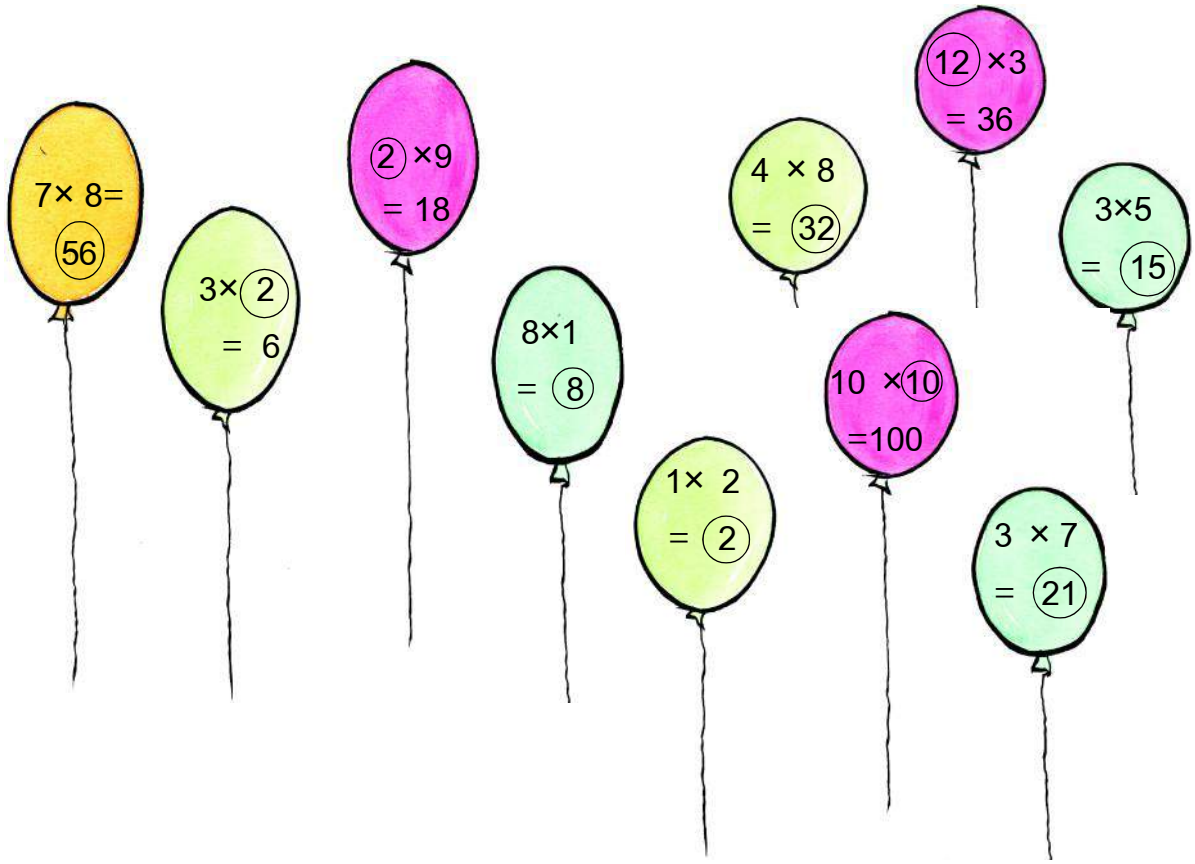
In $(8) \times 3 = 24$, is a _____

In $3 \times (8) = 24$, is a _____

In $4 \times 2 = (8)$, is a _____

Who was holding which of these balloons?

Match with a line

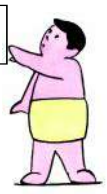


I have encircled the multiplicant

Multiplicant

I have encircled the multiplier

Multiplier



I have encircled the product

Product

Multiplicant –

Multiplier –

Product –

How many biscuits

Monu bought 4 packets of biscuits. He opened one packet and found there were 12 biscuits. He thought how many biscuits would he have, if he puts the biscuits from all the four packets together.

He wrote in his copy $12 + 12 + 12 + 12$

He thought he could also write this in the form of a multiplication fact. 12×4

Now he faced a problem, how should he multiply 12 by 4?

Let us help him.

The number 12 has 2 ones and 1 ten.

So, for multiplying 12 by 4, let us first multiply 2 ones by 4, which gives 8 ones, and write it in the one's place.

Then, we will multiply 1 ten by 4,

We will get 4 tens,

We will write this in the ten's place.

$$\begin{array}{r} 1\ 2 \\ \times\ 4 \\ \hline 4\ 8 \end{array}$$

$2 \times 4 = 8$ ones

$1 \times 4 = 4$ tens

Monu has a total of 48 biscuts in all the four packets.

Solve

(1) $\begin{array}{r} 2\ 1 \\ \times\ 3 \\ \hline \\ \hline \end{array}$

(2) $\begin{array}{r} 3\ 4 \\ \times\ 2 \\ \hline \\ \hline \end{array}$

(3) $\begin{array}{r} 8\ 0 \\ \times\ 1 \\ \hline \\ \hline \end{array}$

(4) 1 1 × 9

(5) 3 0 × 3

(6) 9 9 × 1

(7) 2 9 × 0

(8) 1 3 × 3

(9) 3 2 × 4

Multiplication (which carries)

Multiply 34 by 7

(2)
3 4
× 7
8

First, multiply 4 in the one's place by 7.

4 × 7 = 28 units

28 units = 2 tens and 8 units

So, write 8 in one's place below the line. We will keep the remaining two tens - separate because we will still get few more number of tens. So just write 2 in the tens column, above 3. 2 is the carry over.

(2)
3 4
× 7
238

Now multiply the tens

3 × 7 = 21 tens

After adding 2 tens of the 'carry over'

21 + 2 = 23 tens

23 tens = 2 hundreds and 3 tens

So we write 3 in the ten's place and 2 in the hundred's place

Thus 3 4 × 7

we got 238

Let us do some more sums

1. 45×7

2. 94×3

3. 37×5

4. 69×4

5. 83×6

6. 57×7

7. 30×9

8. 72×6

9. 59×6

Till now you have done multiplication of a two digit, number by a single digit number. Let us do a multiplication involving a three digit number and a single digit number

Let us understand this by an example - Multiply 241 by 2

$\begin{array}{r} 241 \\ \times\ 2 \\ \hline 2 \end{array}$	Multiply 1 in the units place with 2 $1 \times 2 = 2$ units Write 2 in the unit's place.
$\begin{array}{r} 241 \\ \times\ 2 \\ \hline 82 \end{array}$	Multiply 4 in the ten's place with 2 $4 \times 2 = 8$ tens write 8 in the ten's place.
$\begin{array}{r} 241 \\ \times\ 2 \\ \hline 482 \end{array}$	Now Multiply 2 of the hundred's place with 2 $2 \times 2 = 4$ hundreds Write this in the hundred's place. Thus, we get $241 \times 2 = 482$

Now try some more such sums.

3 1 1 × 2	2 0 1 × 4	4 0 8 × 0
1 2 3 × 3	2 1 0 × 4	1 1 1 × 9

Multiplication by 10

Now, we know how to multiply any number with a single digit number.

But, what shall we get when we multiply by 10? (5 × 10 = ?)

You already know 5 × 10 = 10 × 5

Since 10 × 5 = 50 therefore, 5 × 10 = 50 as well.

Now think of some numbers and multiply it by 10

1. ———————— 2. ————————————

3. ———————— 4. ————————————

5. ———————— 6. ————————————

Is there a similarity among these products?

———————————————————————————————

Can you write the products even without knowing the table of 10?

———————————————————————————————

Now write the following products.

1. 10 × 7 = ————— 2. 2 × 10 = —————

3. 9 × 10 = ————— 4. 4 × 10 = —————

Look at the products of the numbers given below, Is multiplication by 100 similar to that of 10?

100 × 4 = 400

100 × 8 = 800

Observe and understand

Multiply 136 by 7

H T O
1 3 6
× 7
2

First we multiply the digits in the one's place.

6 × 7 = 42 Units

42 Units = 4 Tens and 2 Units

2 is written in the answer in the one's place.

4 tens are written at the tens' place above 3.

4 tens is carried over.

H T O
(2) (4)
1 3 6
× 7
5 2

Then we multiply the digits in the tens place

3 × 7 = 21 Tens

Adding the carried 4 tens gives

21 + 4 = 25 Tens

25 tens = 2 hundreds and 5 tens

So 5 is written in the ten's place. 2 hundreds are carried over. It is written above 1 in the hundred's place

H T O
(2) (4)
1 3 6
× 7
9 5 2

Now multiplication of hundreds

1 × 7 = 7 hundreds

Add the 2 hundreds carried over to this place and we get 7+ 2 = 9 hundreds.

Write 9 in the hundreds place

So we get 136 × 7 = 952

Now you try these

1 2 3 × 2	1 0 5 × 3	1 1 0 × 6
2 0 0 × 4	5 6 7 × 1	1 8 5 × 5
1 1 1 × 6	2 0 6 × 4	3 7 2 × 2

Number Game:

Think of any one number 6

Now double it. $6 \times 2 = 12$

Now multiply this by five $12 \times 5 = 60$

You got a number.

Divide it by 10 $60 \div 10 = 6$

Think of any one number ———————

Now double it. ———————

Now multiply this by five ———————

You got a number.

Divide it by 10 ———————

Was the number you got the same as the number you had initially thought of?

Now take more numbers and do the same.

Division

You have seen how to distribute things.

If we were to distribute 35 things among 5 people, then we write it as 35 ÷ 5 is also written as

$5\overline{)35}$

We want to see how many times can 5 be subtracted from 35. This also means - How many times do we have to take 5 things to make a total of 35 things.

You know that to this find out we have to say the table of 5 (Remember that the table should not go beyond 35)

Five ones are five

Five twos are ten

Five threes are fifteen

Five fours are twenty

Five fives are twenty five

Five sixes are thirty

Five sevens are thirty five

(Stop here because we have to distribute thirty five things only.)

By saying the table of five till sevens, we got five sevens are thirty five. We write this as:

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

There were 35 things to be distributed.
They were to be distributed among 5 people.
Each person got 7 things.

In this, 35 things were to be distributed. So 35 is the **'Divident'**.

We are dividing by 5. So that is 5 is the **'Divisor'**.

We got 7 as the answer. So 7 is the **'Quotient'**.

Now practise :

1. 28 ÷ 7 2. 27 ÷ 3 3. 36 ÷ 9

Solution:
$$7\overline{)28}\quad 4,\ -28,\ 0$$

Dividend = 28 Dividend ------- Dividend --------
Divisor = 7 Divisor ------- Divisor --------
Quotient = 4 Quotient ------- Quotient --------

4. 56 ÷ 7 5. 40 ÷ 5 6. 16 ÷ 2

7. 64 ÷ 8 8. 32 ÷ 4 9. 36 ÷ 6

You have seen how to divide by saying tables. Can you do all divisions using this method? Let us divide 84 ÷ 7 and see.

$7\overline{)84}$

Let us say the table of 7
Seven ones are seven
Seven twos are _____
Seven threes are _____
_____
_____
Seven tens are seventy.

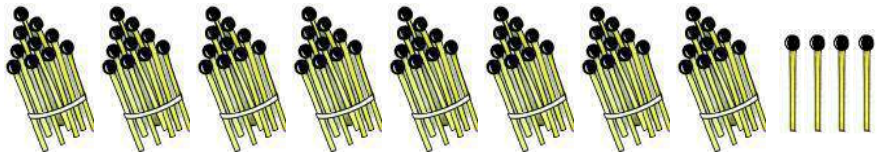
We have not managed to reach 84 at all! and we don't know the tables beyond tens.

So what do we do now?

Either we make tables beyond ten times or we find another way.

Let us try to understand this by the following picture.

If we represent 84 by bundles and matchsticks, then we would have 8 bundles and 4 matchsticks.



We have to distribute this among seven people.

We can do it by two ways, we untie all the bundles, mix all the matchsticks and start distributing the matchsticks one by one,

or distribute 7 full bundles to each person and then open the remaining bundles to further distribute.

You are probably thinking that the second way is a much better way. Then you are right. Let us distribute in that way and see.

We have 8 bundles.
To be distributed among 7 people.
So each persons gets 1 whole bundle,
1 bundle is left.

$$\begin{array}{r} 1 \\ 7\overline{)\,84} \\ -7 \\ \hline 1 \end{array}$$

In other words, we said table of seven for 8 tens. Seven ones are seven. So, we subtracted 7 from 8. Therefore 1 tens was left.

We untied the remaining bundle. so we got 10 matchsticks. When we added 4 loose matchsticks to the 10 matchsticks, we got 14 matchsticks.

$$\begin{array}{r} 1 \\ 7\overline{)\,84} \\ -7 \\ \hline 14 \end{array}$$

Then, we brought down the 4 ones or 4 unit
Adding them to the remaining 1 tens, we got 4 units + 10 units = 14 units or 14 ones.

14 matchsticks were distributed among 7 persons.
So each person got 12 matchsticks each. No. matchstick was left or 0 matchstick remained.

$$\begin{array}{r} 12 \\ 7\overline{)\,84} \\ -7 \\ \hline 14 \\ -14 \\ \hline 0 \end{array}$$

Now for 14 ones, we said the table of 7
7 two's are 14,
Subtracting 14 from 14, we got 0 left.
Therefore, the quotient is 2 bundle and two loose matchsticks, or we got 1 tens and 2 units = 12

Solve and write the dividend, divisor and quotient.

$3\overline{)30}$	$2\overline{)44}$	$7\overline{)77}$	$4\overline{)84}$
$3\overline{)45}$	$2\overline{)48}$	$2\overline{)68}$	$3\overline{)87}$
$4\overline{)68}$	$4\overline{)52}$	$8\overline{)92}$	$7\overline{)87}$

Let us see

639 ÷ 3 = ?

```
   2
3) 639
  - 6
   0
```

First we divide the hundreds' digit.
3 twos are 6.
In the quotient we write 2
Write 6 below 6 and subtract.

```
   21
3) 639
  - 6
   03
  -3
   0
```

Now, we take down 3 of the ten's place,
So we write 1 in the quotient
Write 3 below 3 and subtract.

```
   213
3) 639
  - 6
   03
  -3
    09
   -9
     0
```

Even now we have 9 left with us.
So we take down 9
3 threes are 9
Write 3 in the quotient
Write a below 9 and subtract
Thus we get 213 as the quotient.

Solve

1.	$2\overline{)444}$	2.	$2\overline{)260}$	3.	$3\overline{)369}$
4.	$4\overline{)428}$	5.	$3\overline{)693}$	6.	$5\overline{)555}$
7.	$7\overline{)777}$	8.	$4\overline{)448}$	9.	$4\overline{)884}$
10.	$5\overline{)525}$	11.	$6\overline{)660}$	12.	$2\overline{)660}$

One day Sandhya's father bought 5 packets of colour pencils. He wanted to divide all of these pencils among Sandhya, Sakshi and Shashank.

Shashank said - "Father open the packets and distribute the pencils." Father opened one packet. It had 3 pencils.

Sakshi immediately said, "One packet has 3 pencils, so these five packets will have 15 pencils in total."

Father asked, "How did you find that out?"

Sakshi said, "That is very easy. I multiplied 3 by 5. 3 fives are 15."

$3 \times 5 = 15$

Sandhya said, "Father, if we distribute 15 pencils among 3 of us, then each of us would get 5-5 pencils."

"How can you say this?" her father asked.

She explained, "There are totally 15 pencils and we are three of us who want them. 3 fives are fifteen. So we will divide 15 by 3. 3 fives are 15... we could divide five times. So, each of us would get 5 pencils."

Sandhya a wrote it down as follows, and showed it to her father.

$$\begin{array}{r} 5 \\ 3\overline{)15} \\ -15 \\ \hline 0 \end{array}$$

"Very nice child", said her father.

Shashank was quiet till then. He said, "Father, we can also say that out of 15 pencils if we give away 5-5 pencils, then the pencils would be distributed equally among three people."

This is written in the form of division as $\begin{array}{r} 3 \\ 5\overline{)15} \\ -15 \\ \hline 0 \end{array}$

Father said, " Yes, my child, this is also obsolutely correct. All three of you have done the calculations accurately. Either you multiply 3 by 5 or 5 by 3, you get fifteen as the answer - both ways. Now, if we divide 15 by 3, then we will get 5 or if we divide 15 by 5 we will to get 3.

Shashank wrote these down as –

$3 \times 5 = 15$

$5 \times 3 = 15$

$15 \div 3 = 5$

$15 \div 5 = 3$

Now, some numbers are written below for you. You try to solve these.

1. $6 \times 4 = 24$

   $24 \div 6 = 4$

   $24 \div 4 = \square$

2. $10 \times 5 = 50$

   $50 \div 10 = \square$

   $50 \div 5 = \square$

3. $8 \times 3 = \square$

   $24 \div \square = 8$

   $24 \div \square = 3$

4. $6 \times \square = 42$

   $\square \div 7 = 6$

   $42 \div \square = \square$

5. 4 × ☐ = 20

20 ÷ ☐ = ☐

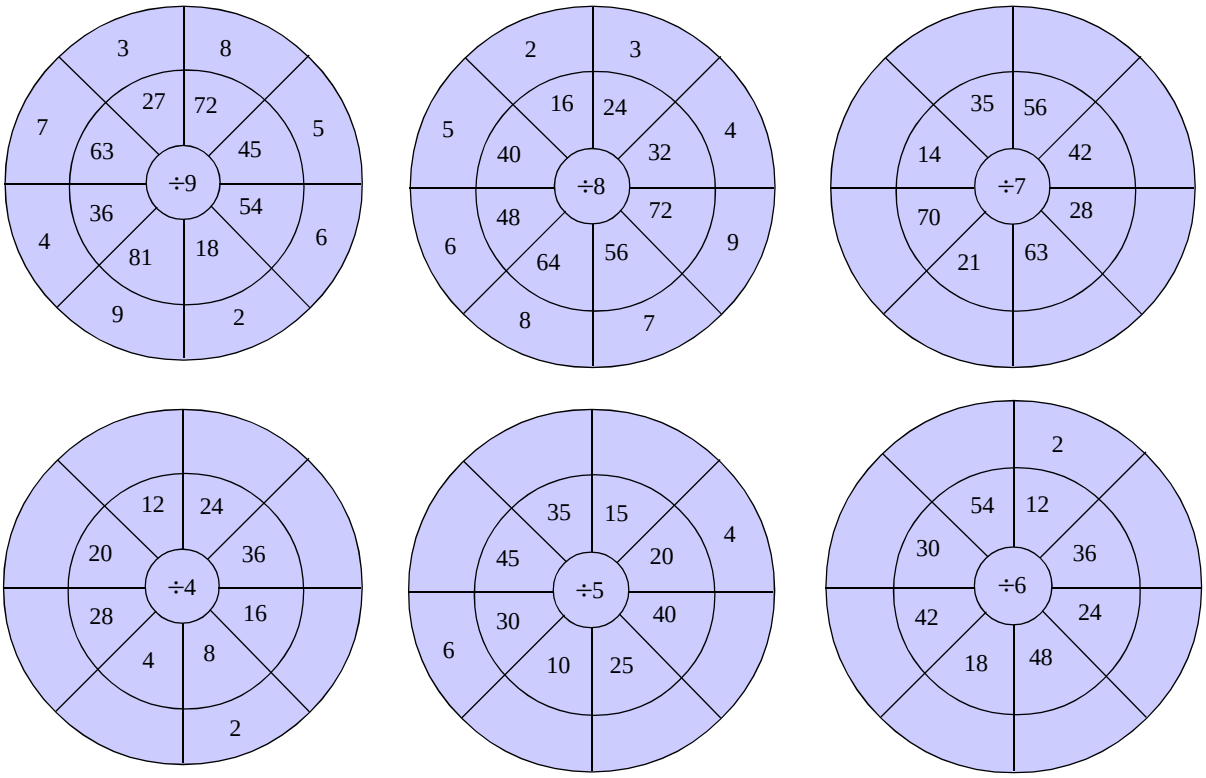
20 ÷ 5 = ☐

6. 2 × 9 = ☐

18 ÷ 2 = ☐

☐ ÷ 9 = ☐

Complete these



Fill in the blanks

1.

35	÷	5	=	7
	×	5	=	35

2.

9	×	8	=	
72	÷		=	8

3.

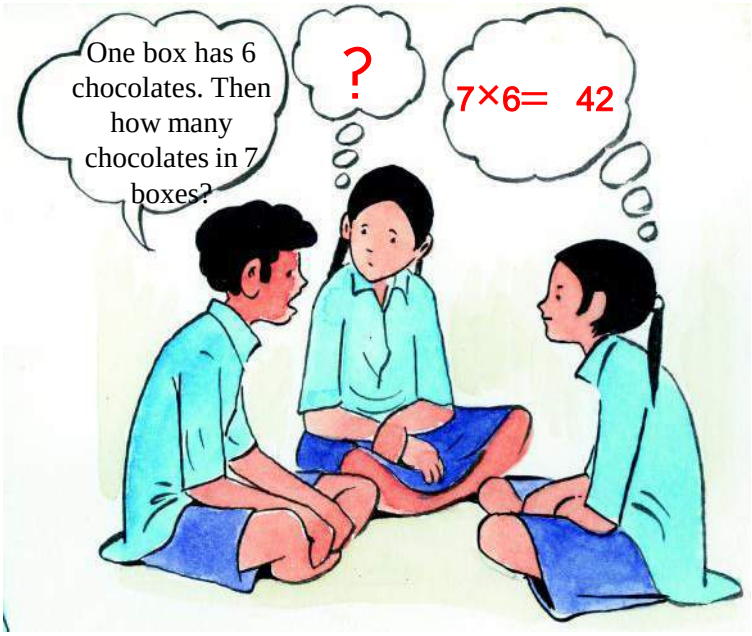
	×	6	=	48
48	÷		=	

4.

5	×		=	45
45	÷		=	

Solve the sums (orally)

1. There are 7 benches in a class. Three girls are sitting on each bench. Calculate how many girls in all are there in the class ?
2. There are 6 shelves in a cupboard in a library. 8 books are kept in each shelf. So how many books are there in all in that cupboard?
3. One box has 6 chocolates. If there are 7 such boxes, how many chocolates are there?
4. One jeep has 4 tyres. Calculate, how many tyres will 9 jeeps have?
5. Seven days make one week. So, how many days are there in 4 weeks?
6. Rekha buys 2 banans for 1 rupee. So how many banans would she be able to buy in 6 rupees?
7. We can buy 8 slate pencils in 1 rupee. So, how many pencils would we be able to buy in 3 rupees?
8. Six eggs can be kept in one crate. So, how many crates would be needed to keep 54 eggs?



9. One basket has 20 mangoes. If each child is given 4 mangoes, calculate how many children would get mangoes?
10. There are some cows kept in a barn. If we bend and see under the door, we can see 16 legs. Calculate, how many cows are there in the barn?
11. You can keep 8 Laddoos in a box. So, how many boxes are required to keep 48 Laddoos?

Solve these

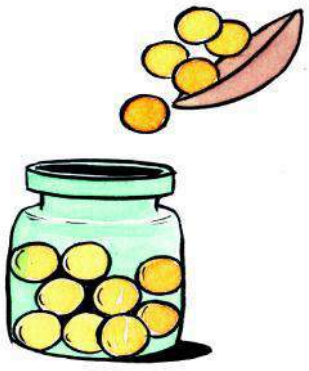
1. A matchbox has 45 matchsticks. How many matchsticks would be there in 5 such boxes?
2. There are 12 bananas in 1 dozen. So, how many bananas would be there in 9 dozens?
3. A khokho team has 9 players, How many players are there in 12 such teams?

4. A bunch of grapes has 69 grapes. How many grapes are there in 8 such bunches?
5. 1 meter has 100 centimeters. So, how many centimeters do 9 meters have?
6. One garland has 64 flowers. How many flowers would be required to make 7 such garlands?
7. 1 hour has 60 minutes. How many minutes do 6 hours have?
8. One week has 7 days. How many days are there in 52 weeks?
9. One acre farm gives a harvest of 35 sacks of grain. How many sacks of grain would be harvested from 8 acres of land?
10. There are 5 rows of students is a prayer hall. Each row has 25 students. How many students are there in all in the prayer hall?
11. One bus can carry 45 passengers. How many passengers can travel in 6 such buses?

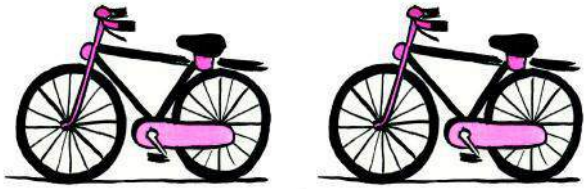
Solve these

1. One marriage party has 64 people. If one jeep can carry 8 people, how many jeeps would be needed to carry all the 64 people?
2. Dayalu planted 96 saplings in four flower beds. How many saplings did he plant in each flowers bed ?
3. How many 10 rupee notes would you get in exchange for a 100 rupee note?
4. One tractor trolley has 54 sacks of grain. If 6 labourers helped to unload equal number of sacks, how many sacks did each labourer unload?
5. One packet has 60 buttons. If one shirt needs 5 buttons, Calculate, how many shirts can have buttons out of these 60 buttons?
6. Among how many children would 242 laddoos have to be distributed so that each child gets 2 laddoos?
7. Rajani read a 90-page book in 10 days. How many pages did she read in one day?
8. One field had 900 saplings planted in 9 rows. How many saplings will be planted in one row?
9. There are 98 lemons is a basket. They have to be distributed among 7 people. How many lemons would each person get?
10. A farmer wants to distribute Rs. 528 equally among four of his sons. How many rupees would each son get?

Look at the pictures carefully and complete the statement sums.



One container has 9 Laddoos. When 9 more Laddoos are added in the jar, how many Laddoos will be there in all?
Now, you also make more such questions.



One cycle has two wheels.

_ _ _ _ _ _ _ _ _ _ _ _ _ _

_ _ _ _ _ _ _ _ _ _ _ _ _ _

_ _ _ _ _ _ _ _ _ _ _ _ _ _

Two balloons burst.

_ _ _ _ _ _ _ _ _ _ _ _ _ _

_ _ _ _ _ _ _ _ _ _ _ _ _ _

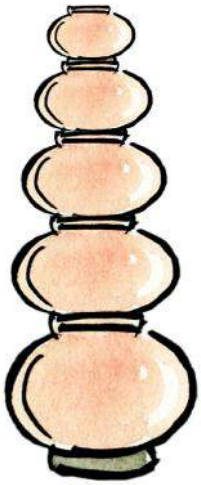
Three more birds came and sat on the tree.

_ _ _ _ _ _ _ _ _ _ _ _ _ _

Four children are sitting on one mat.

_ _ _ _ _ _ _ _ _ _ _ _ _ _

_ _ _ _ _ _ _ _ _ _ _ _ _ _



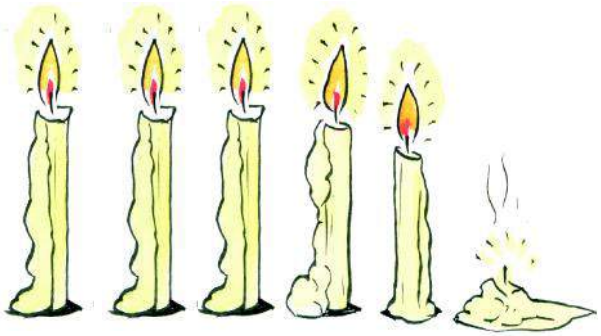
_ _ _ _ _ _ _ _ _ _ _ _ _ _

_ _ _ _ _ _ _ _ _ _ _ _ _ _

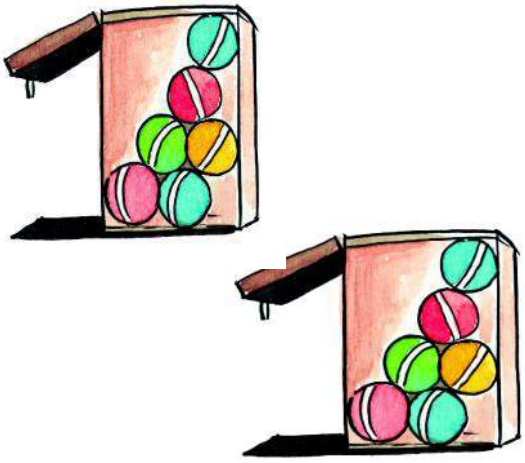
How many pots would be there in 5 rows?

_ _ _ _ _ _ _ _ _ _ _ _ _ _

One candle was put out.



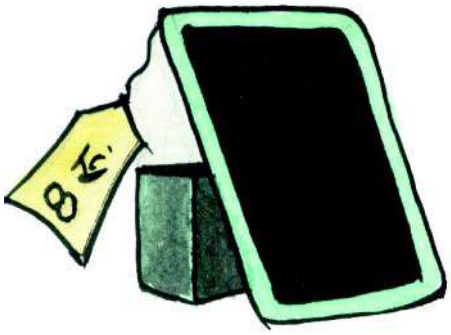
_ _ _ _ _ _ _ _ _ _ _ _ _ _



One box has 6 balls.

_ _ _ _ _ _ _ _ _ _ _ _ _ _

_ _ _ _ _ _ _ _ _ _ _ _ _ _



_ _ _ _ _ _ _ _ _ _ _ _ _ _

_ _ _ _ _ _ _ _ _ _ _ _ _ _

What would be the price of 4 slates?

_ _ _ _ _ _ _ _ _ _ _ _ _ _

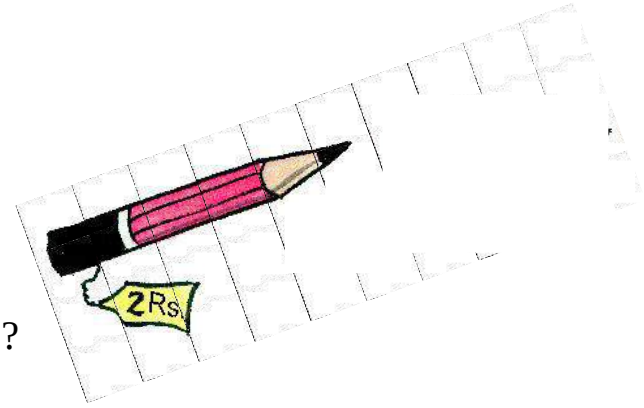
_ _ _ _ _ _ _ _ _ _ _ _ _ _

How many rupees would the shopkeeper return?

_ _ _ _ _ _ _ _ _ _ _ _ _ _

_ _ _ _ _ _ _ _ _ _ _ _ _ _

What would be the price of 5 pencils?



Three children can sit on one bench.

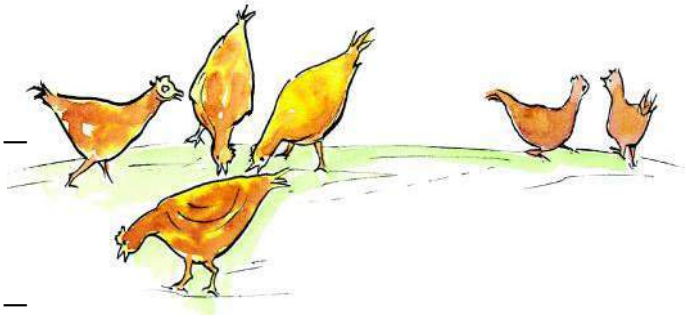
_ _ _ _ _ _ _ _ _ _ _ _ _ _

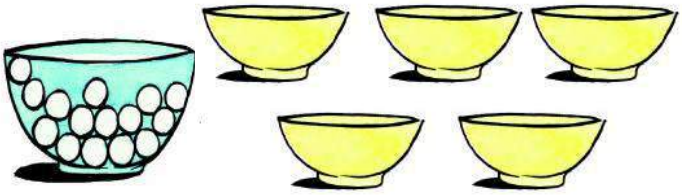
_ _ _ _ _ _ _ _ _ _ _ _ _ _

_ _ _ _ _ _ _ _ _ _ _ _ _ _

Two hens walked away.

_ _ _ _ _ _ _ _ _ _ _ _ _ _





– – – – – – – – – –

– – – – – – – – – –

How many pebbles would each bowl have?

4 friends bought 12 bananas.

– – – – – – – – – – – – – –

– – – – – – – – – – – – – –

– – – – 5 books – – – – – –

– – – – – – – – – – – – – –

– – – – – – – – – – – – – –

– – – – – – – 7 rupees

– – – – – – – – – –

– – – – – – – – – –

– – – – – – – – – – – – – –

– – – – – – – – – – – – – –

– – – – – – – – – – – – – –

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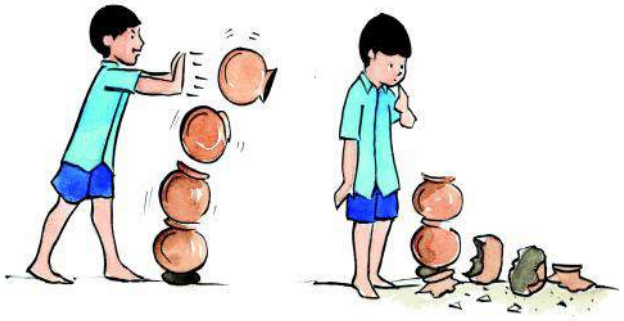


Make statements sums for these:

10 + 2	Ten sparrows and two parrots are sitting on a tree. Write, how many birds are sitting on the tree in all.
21 – 7 = ?	
6 × 5 = ?	
27 ÷ 9 = ?	
13 + 11 = ?	
25 – 9 = ?	
11 ÷ 3 = ?	
6 ÷ 6 = ?	
23 – 5 = ?	

LESSON 7

Fractions

One day Munnu and Rani were having food. Both wanted to finish their food fast and look at the books their father had bought. They were colourful and attractive story books.

They were in such a hurry that their mother scolded them, "Eat slowly and properly."

Munnu said, "I am full, Mother".

"Me too", said Rani promptly.

Mother said, "I know both of you want to go. First, each of you should eat one more ***chapati*** and then you can go."

Saying this, mother put one chapatti in Rani's plate and was about to put another chapati in Munnu's plate.

Munnu said, Mother I will take half of Rani's chapati.

While saying so, he picked up the chapati from Rani's plate. He tore off a small piece and kept in his plate. He put the bigger piece in Rani's plate. He said, "Didi, I have taken one half of the chapati, you eat the other half."

Rani picked up her piece and said angrily, "This is not half, you naughty boy... You kept a smaller piece for yourself, and gave me the bigger one."

Munnu said, "Why are you angry? Since I am younger, my half is also smaller. You are elder. So your half should be bigger, isn't it?"

Rani said, "That is not the way it is done, silly! If you would have cut two pieces of equal size, only then could you say, "First piece is half a chapati and the second piece is also half a chapati.

"Ok, what would we do if wanted to give a share of this *chapati* to mother too?"

"Then we would cut three equal pieces of this chapati."

"So could those pieces also be called halves?" Munnu asked.

"No! Each of those pieces would be called one third of a chapati," said Rani.

"Mother, is Didi saying the correct thing?" asked Munnu.

"Yes child, your sister is absolutely right."

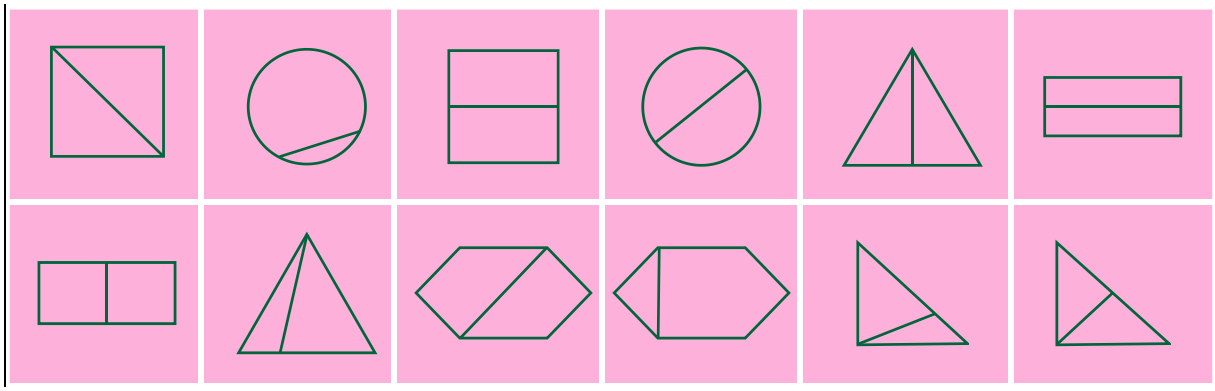
"But how would we know that the pieces are equal?" asked Munnu.

"Hm...m...m, that is a good question you have asked. Finish your food. I will give you some pictures. Look at them and discuss with your sister. Read your story books later on."

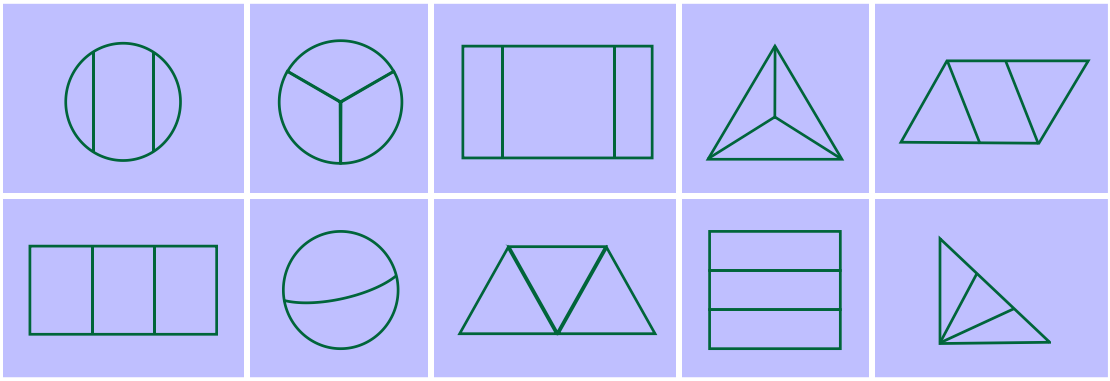
Mother showed the following pictures to Munnu.

You too look at them and identify.

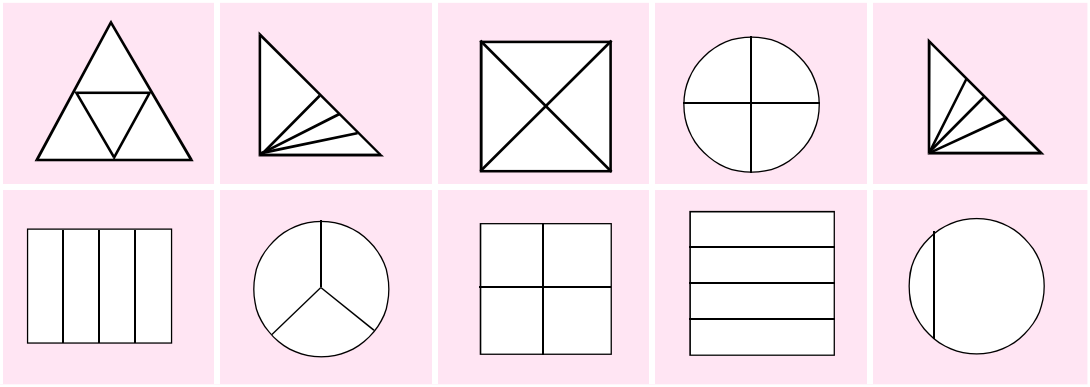
Which picutres are cut into two equal parts? Mark (✓) on them.



Mark (✓) on the pictures which have three equal parts.

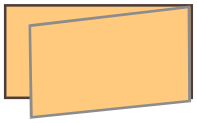


Put a (✓) on the pictures with four equal parts.

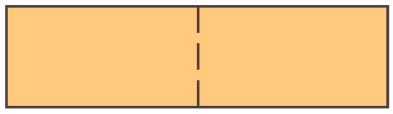


Now, let us make two equal parts of a paper

Take a piece of paper

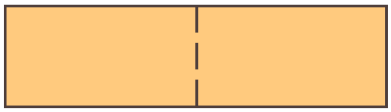


Fold it so that the two ends of the paper meet.



A crease will appear on the paper.

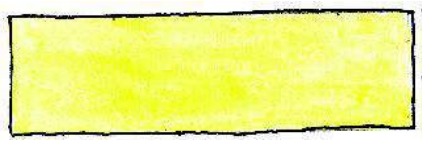
If you cut the paper along that crease, then the paper would be cut into two equal parts, and each part would be half of that paper.



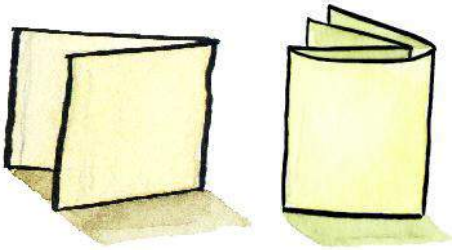
By combining the two halves,
we get a full.

Similarly, when something is divided into two equal parts, each of the parts is called half of that whole thing.

Now let us see how we can make four equal parts of a paper.

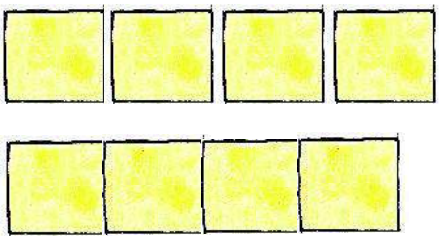


Take a piece of paper



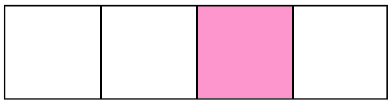
Fold it from the middle by aligning its two ends.

Then fold it once more again as shown in the picture so that both its new ends meet.



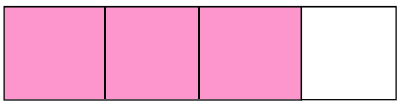
Unfold the paper and cut it along the creases.
The paper will be cut into four equal parts.
Each part is one fourth of the paper.
It is also called one quarter of the paper.
If we put four one fourths together, we get a whole.

When someting is divided into four equal parts, each of the parts is called one fourth or one quarter of that whole thing.



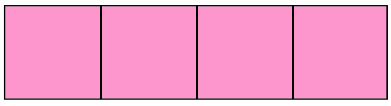
one fourth
or quarter

The Coloured part is one fourth of the whole paper.



three fourth or
three quarters

The Coloured part is three fourth of the whole paper.
It is also known as three quarters.



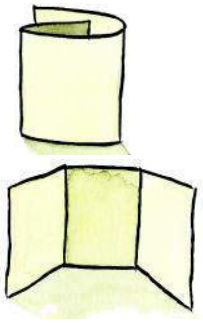
By combining one fourth and three fourth,
we get one whole

When something is divided into four equal parts, and three of the four parts are taken together, then that is called three fourth or three quarters of that whole thing.

Can you make three equal parts of a piece of paper?

Let's do and see:

Take a piece of paper



Fold it in such a way that it gets divided into three equal parts

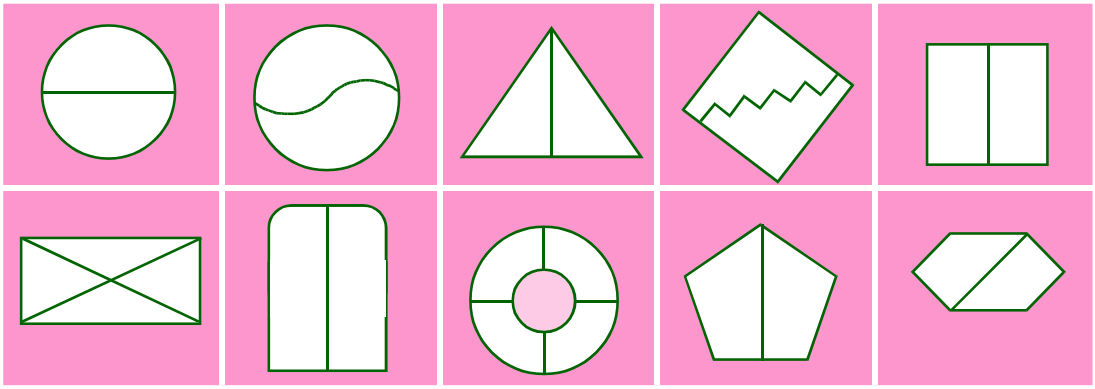
Now open the paper and tear it along the creases.

You will get three equal parts.

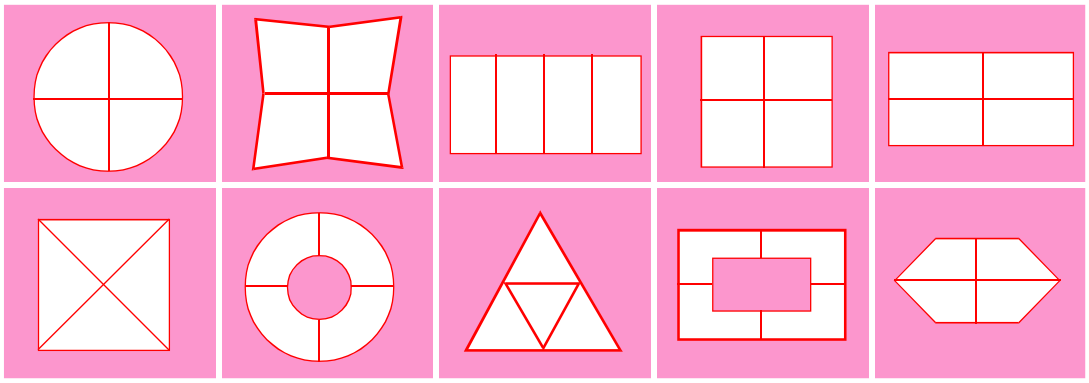
Each part is one third of the whole paper.
If we take three such one third, we get a whole.

When something is divided into three euqal parts, each of the parts is called one third of that whole thing.

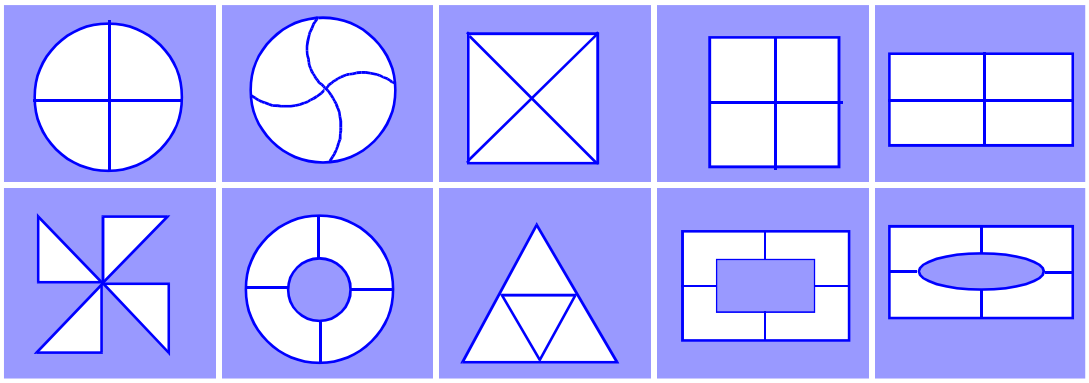
Fill half of each the following figures with colour.



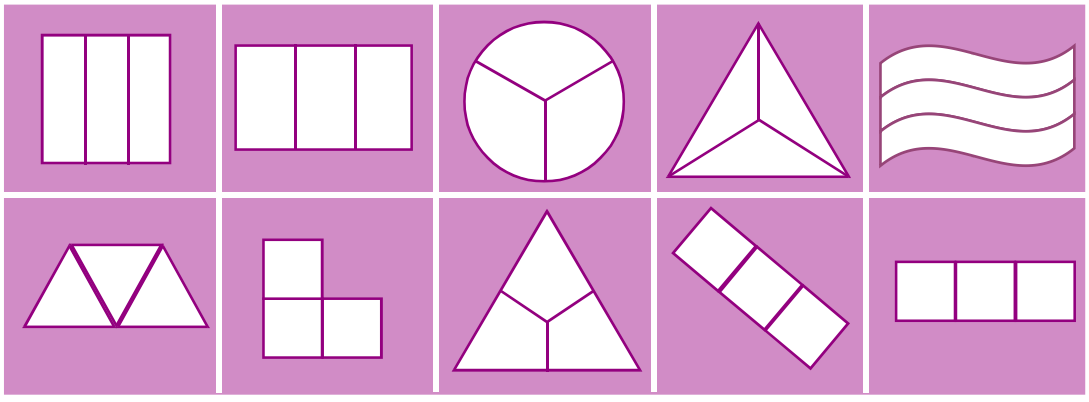
Colour one fourth or a quarter of each of the following figures.



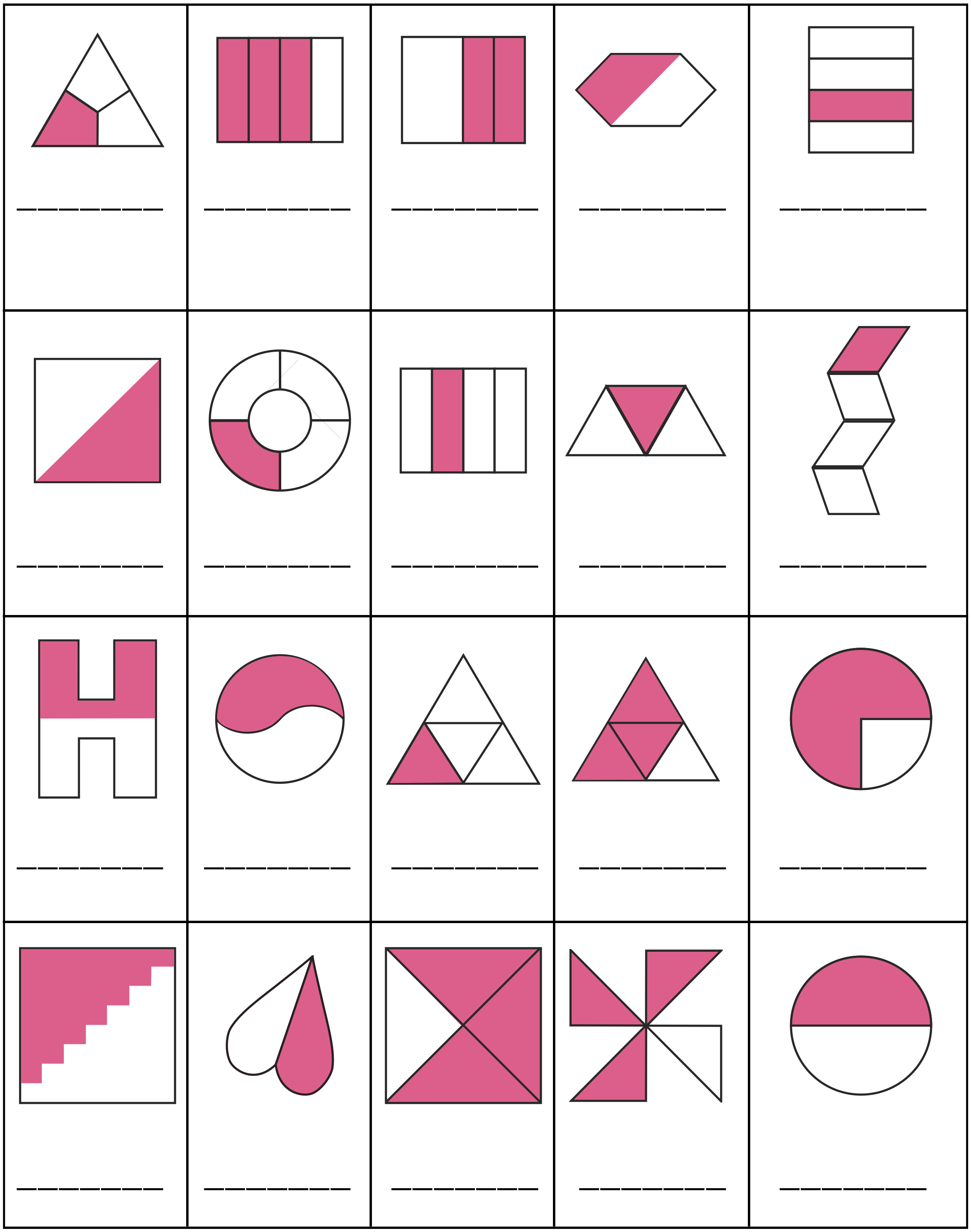
Fill colour in three fourth or three quarters of each of the following figures.



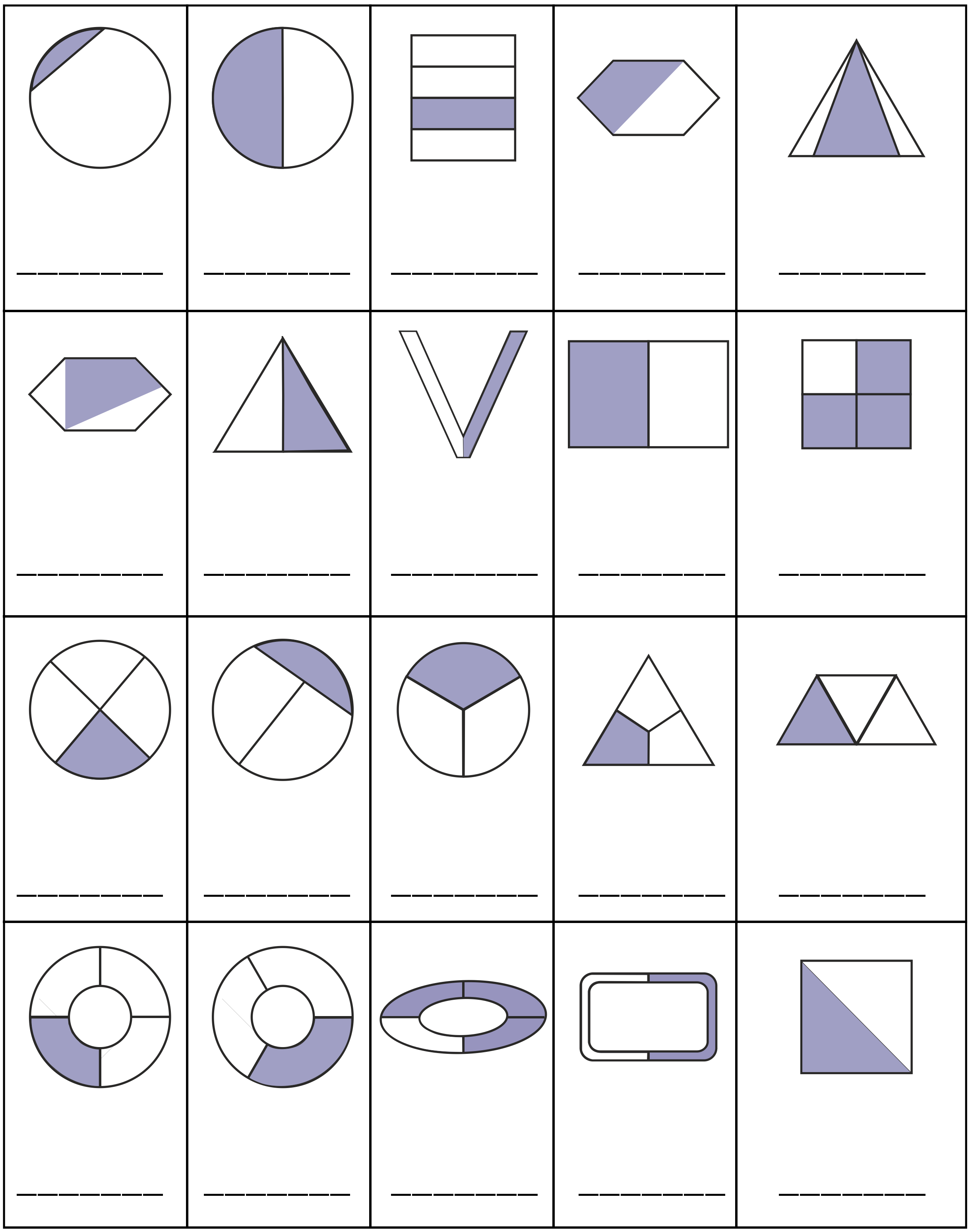
Colour one third of each of the following figures.



What parts of the following figures have been shaded. Is it half or a quarter or three fourth or one third? Write below each figure.



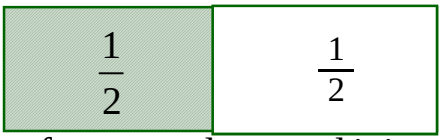
What part of the whole is shaded in the diagrams given below? Identify it and write below each diagram. Put a 'X' below rest of the diagrams.



You have understood what half, quarter, three quarter or one third parts of a whole thing are : Now let us see how we can write it in Mathematical terms. Let us again use a piece of paper to identify the parts.

We know that when the paper is divided into two parts, each part is half of the paper.

Half is written as $\frac{1}{2}$ in numeral form.

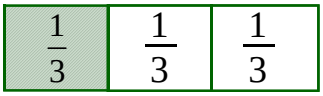


This is one of the two equal parts of a piece of paper and we read it is as one upon two.

When we make 3 equal parts of a paper, each part is one third of the paper.

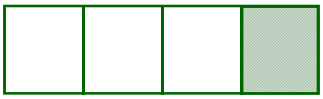
One third is written as $\frac{1}{3}$ in numeral form.

This is one of the three equal parts of a piece of paper.



Now, can you do this?

Can you write one fourth and three fourth in numeral form?

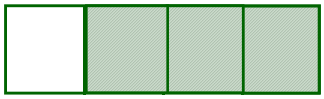


Parts created = ☐

Coloured Parts = ☐

We write this as = ☐

We read it as one upon four



Parts made = ☐

Coloured Parts = ☐

We write this as = ☐

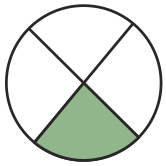
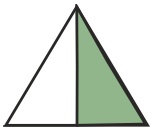
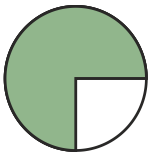
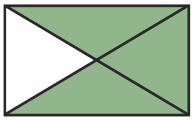
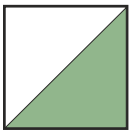
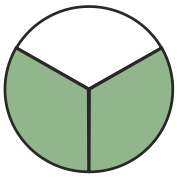
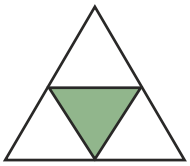
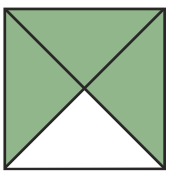
We read it as three upon four

When we write a part of something in numeral form, then it is called a fraction.

The number above the line in a fraction is called numerator and the number below the line is called denominator.

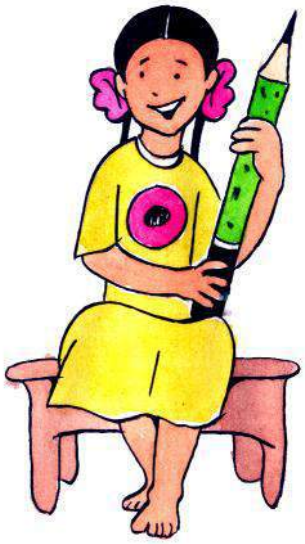
Thus, $\frac{1}{2}$ is a fraction. In this 1 is called numerator and 2 is called denominator.

Write the shaded part of the figures given below in the form of a fraction.

Figure	Total number of equal parts made	Shaded part of the figure	Fraction
			$\frac{1}{4}$
			
			
			
			
			
			
			

Identify the numerator and the denominator in the fractions given below:

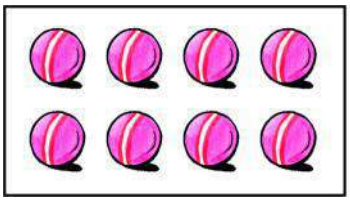
figures	numerator	denominator
$\frac{1}{2}$	1	2
$\frac{1}{3}$		
$\frac{1}{4}$		
$\frac{3}{4}$		



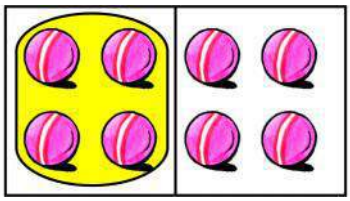
Dividing a collection of things

Now let us take a collection of things and mark its parts:

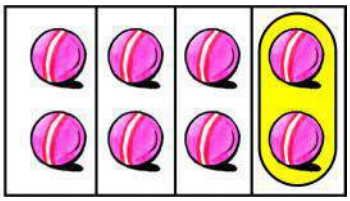
A collection of balls



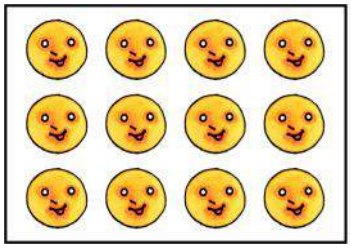
Half of the collection



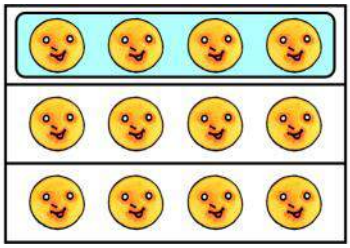
One fourth or quarter of the collection



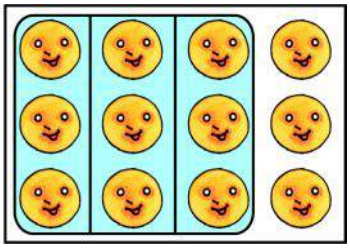
A group of Children



One third of the group

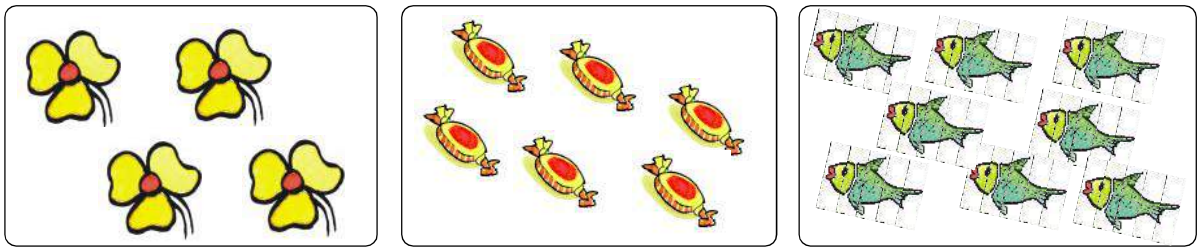


Three fourth of the group

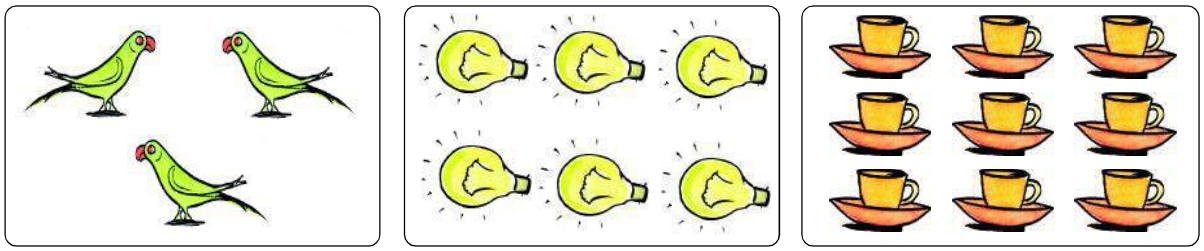


Exercise

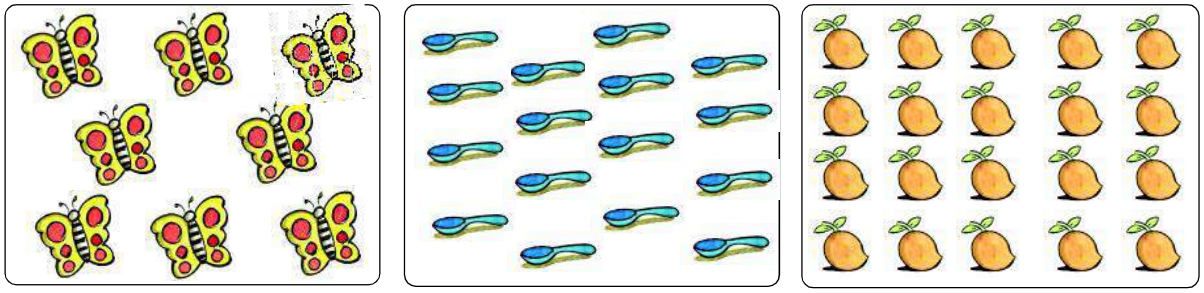
1. Make a ring around half of each of the following collections.



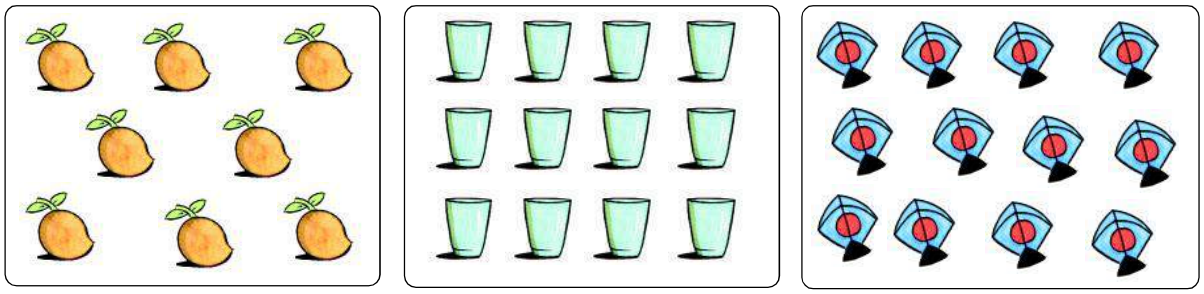
2. Make a ring around one third of each of the following collections:



3. Make a ring around one fourth of each of the following collections.



4. Make a ring around three fourth of each of the collections given below:



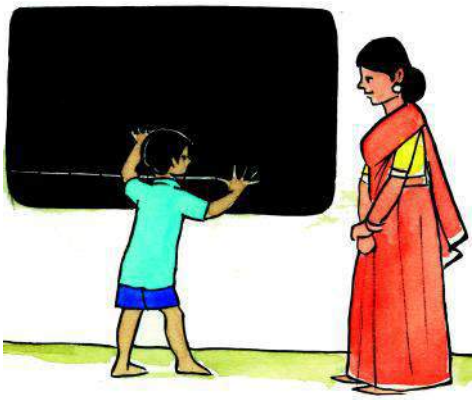
LESSON 8

Measurement

Length

How long is the blackboard?

Measure the blackboard of your class using your handspan.Tell your friends also to measure the length of the blackboard. Then fill in the table below :



Length of the blackboard

I measured	First friend's measurement	Second friend's measurement	Third friend's measurement	Fourth friend's measurement
____ handspans	____ handspans	____ handspans	____ handspans	____ handspans

Have all your friends got the same measurement of the length? ————————————

Why so? _____

What is the length of your class?

Find the length of your class in terms of your steps. Tell your friends to do the same. Fill in the table given below:

Length of the classroom

I measured	First friend's measurement	Second friend's measurement	Third friend's measurement
—— steps	——— steps	——— steps	——— steps

Are the measurements taken by all friends the same? _____

Now make a group of four friends. Take a piece of wood which is straight. Use this piece to find the length of the class and fill in the table.

Length of class

I measured	First friend's measurement	Second friend's measurement	Third friend's measurement	Fourth friend's measurement
—————	—————	—————	—————	—————

Are the measurement taken by all friends the same? ——————

Why did that happen? ————————————————

Compare the table that you have filled with the tables filled by other groups.

Are the tables of all the groups same? ————————————

Why so? ————————————————

Think and write

Suppose, you need to buy a rope for drying clothes in your home. How long a rope would you buy for doing this? What will you tell the shopkeeper ?

When you go to buy cloth, what is used by the shopkeeper to measure the cloth ? ————————————

The instrument used by the shopkeeper is a metal scale. It is called a '**meter scale**'.

All shopkeepers generally use this **meter scale** to measure cloth.

Take the **meter scale** from your teacher and see it yourself. Show it to your friends as well.

There are lines on the meter scale and numbers are written on it starting from 0 to 100. What are these?

These numbers indicate centimeters.

Does the scale in your compass box also have such lines and numbers written on it?

How many centimeters are there on your scale?————————————————

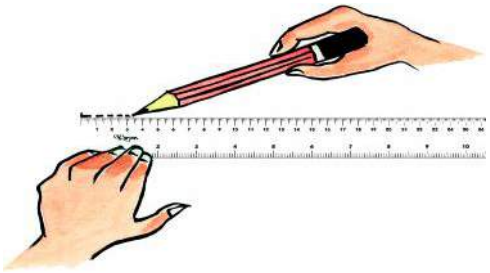
Take another scale, which is bigger than your scale. How many centimeters are there on this bigger scale? ————————————————

Are the number of centimeters the same on both the scales?

How many centimeters are there on a meter scale?

1 meter	=	100 centimeter
100 centimeter	=	1 meter

Look at the scale and answer



How many lines are there from 1 to 2?

———————————————

How many lines are there from 7 to 8?

———————————————

Is the number of lines in both the cases above same?

———————————————

These lines show millimeters.

Look at the scale and fill this:

1 to 2 is _____ millimeters

3 to 4 is _____ millimeters

6 to 7 is _____ millimeters

10 millimeters	=	1	centimeter
1 centimeter	=	10	millimeters

Now find the length of the blackboard of your class in centimeters using your small scale. Tell your friends to do the same.

Are the answers of all your friends the same?

1. Can the length of the classroom be also measured with this small scale? Will the answers of all your friends be the same?
2. Using a meter scale, find the measurement of the length of your class, length of the rug (dari), and the length of the playground. Compare your answers with the answers of your friends.

Do this yourself

Take your scale and a pencil and draw a line of 1 c.m. length. Now put 3 cm point of your scale at the beginning of the line and see -

1. Which line on the scale touches the end of the line you drew? Which number does that line indicate on that scale?
2. Now, do the same by putting the starting point of the line you have drawn on 4 c.m., 6 c.m., 8 c.m. marks of the scale.

Now do the same by keeping 4 cm, 6 cm and 8 cm at the starting point and see what you get at the end point.

Now answer these:

When you go to a tailor to get your clothes stitched, how does she take your measurements?

1. Is the tailor's measuring tape similar to the meter scale?
2. What is similar between the meter scale and the tailor's measuring tape?
3. What are the differences between the meter scale and the measuring tape of a tailor?
4. Have you seen such a tape any where else?
5. Can you meausre the legnth of your class using this tape?
6. What else can you measure using this tape?

Make a Meter Scale

Take the tailor's measuring tape and cut out one meter part of it. Stitch it on a piece of card board. You can even nail it if you want. You have a meter scale ready. In case of any problem, ask your teacher.

Do this yourself and Say:

Measure the classrooms of your school using a meter scale and write this:

Length of class 1	Length of class 2	Length of class 3	Length of class 4	Length of class 5

1. Which class is the longest?
2. Which class is the shortest?
3. Which is longer, class 1 or class 2?
4. Which is shorter, class 4 or class 5?
5. Which of the classes are of equal length?

You can similarly find the length of different rooms in your house. Which room is the shortest? Which is the longest?

What is the largest?

1. Together with your friends, make groups of 5 friends each and find the height of all the children. Now answer:

Who is the tallest?

Who is the shortest?

Who all are of the same height?

2. Find the measure of length and breadth of the Kabbadi field and write it. Also find and write the measure of length breadth of the kho-kho field in your school. Now answer:

Length of which field is more?

Which field is wider?

The kabbadi field has a bigger length or breadth?

Which of the two measures is bigger the length of the Kabbadi field or the breadth of the Kabbadi field?

Do this yourself:

Use your scale or meter scale to find the length of the following and write it in the table:

Item	Length
Pencil	
Slate	
Mathematics text book	
Hindi text book	
Enviornmental Sc. text book	
Blackboard	
Window of the class	
Door of the class	
———————	
———————	
———————	

Could you measure lengths of all the items completely?

Statement Sums:

1. Ritu bought 11 meters of cotton cloth, 16 meters of linen cloth and 18 meters of tericott cloth. How much cloth did she buy in all?
2. Nisha had 17 meters of rope and Priya had 12 meters of rope. Compared to Priya, how many more (or less) meters of rope did Nisha have?
3. If we divide a 50 meter measuring tape in two equal parts, What would be the length of each of the two parts?
4. Harish made a 5-meter flag, Manoj made a 6-meter flag and Ashok made a 8-meter flag. How many meter long flag did they make together?

5. One class needs a 16 meter long carpet. So, what length of carpet, would three classes together need?

Weight

Together with your friends, Make a toy balance. Collect some big and small stones and use them as weights. Using this toy-balance and weights, find the weights of pencils, rubbers, scales, duster, books etc. and write them in a table.

Item	Weight
Pencil	————————
Rubber	————————
———————	————————
———————	————————

Compare your table with the table prepared by other groups.

Are all the tables same? ————————

Why are they different?

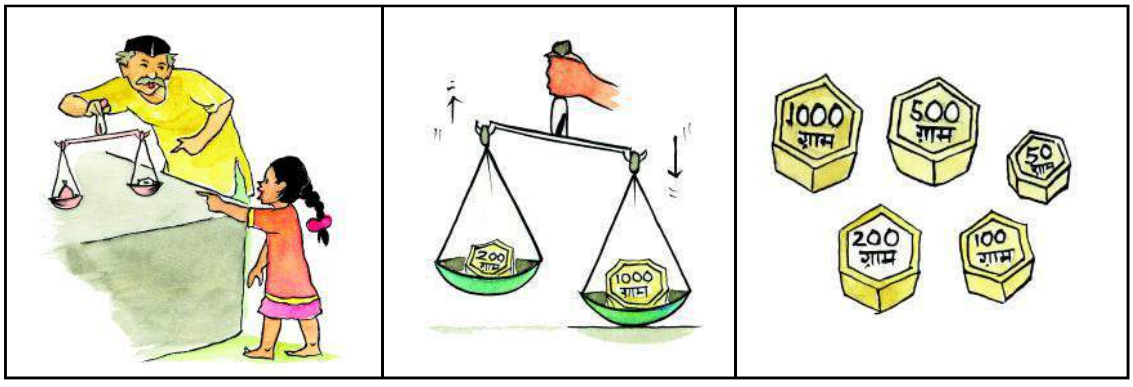
——

——

——

Talk about it with your friends and teachers.

Now look at these pictures.



Write names of the things you can see in the pictures?

Where have you seen these?

Who makes use of these things?

What are they used for?

Just as length is measured in **meters** and **centimeters**, weight is measured using **kilograms** and **grams**.

Tell your teacher to show you a **balance** and **weights**.

What is written on the weights?

On first weight ——————————

On second weight ——————————

On third weight ——————————

On fourth weight ——————————

On fifth weight ——————————

———————— ——————————

———————— ——————————

———————— ——————————

Which is the biggest weight among these?

——————————————————————————————

Which is the smallest weight among these?

——————————————————————————————

Put-up the weighing balance in an open space in your school and put the weight of 1 kilogram in one pan of the balance and that of 200 gram in the other pan.

Which way will the balance tilt? Which pan is lowerd?

————————————

Which weight is heavier?

————————————

Now add one more weight of 200 gram in the pan, that is raised.

Keep adding weights of 200 gms until both the pans are balanced at equal heights.

A weight of 1 Kilogram equals how many weights of 200 grams?

——————————————————————————————

Now keep 1 kilogram weight in one pan and in the other pan, keep putting weights of 100 grams each (see the box below).

A weight of 1 kilogram equals how many weights of 100 grams?

——————————————————————————————

Do the same with weights of 500 gms.

How to make your own weights

If you need more weights of 100 grams and you don't have that many then make some weights of your own. Keep a weight of 100 gms. on one pan of the balance. Take a cloth or a plastic bag and keep it on the other pan of the balance. Keep on putting sand into this bag until both pans of the balance are at balanced at equal height. check the weight until it balances with a 100 gram weight. You can now tie this bag so that the sand does not spill. Now you can use it as a 100 gram weight. You can similarly make as many weights as you wish for 200 grams, 500 gram etc.

Now answer:

When a shopkeeper gives half a kilogram of sugar, what weight does he put on the balance?

To measure a quarter of vegetables, how many weights would be used by a shopkeeper? Which are these weights?

Suggest different ways of using more than one weight for weighing half a kilogram of sugar?

Fill the table

1 kilogram = ———————— gram

Half a kilogram = ———————— gram

Quarter of a kilogram = ———————— gram

Find this:

In a hospital how does a nurse find your weight?

Have you seen some other way of finding weight? Which other ways of weighing have you seen?

Let us do :

1. Deepa bought 500 grams of sugar and 250 grams of tea. What was the total weight of the grocery she bought?
2. Amita bought 2 kilograms of rice and 1 kilogram of pulses. What was the total weight of the items she bought?
3. There are 50 kilograms of rice in the big sack and 25 kilograms of wheat in the smaller sack. How much more does the rice weigh compared to wheat?
4. A packet of salt weighs one kilogram. How much would 7 such packets weigh together?
5. If 25 kilograms of grapes are distributed equally among 5 boxes, how many kilograms would be kept in each box?

Capacity

Do this

Fill a bucket with water with a small cup.To fill the bucket in this way how many cups of water did you pour into the bucket.

Now use a glass to fill the bucket. How many glasses of water were needed to fill it?

Do this again using a jug. Fill the table given below:

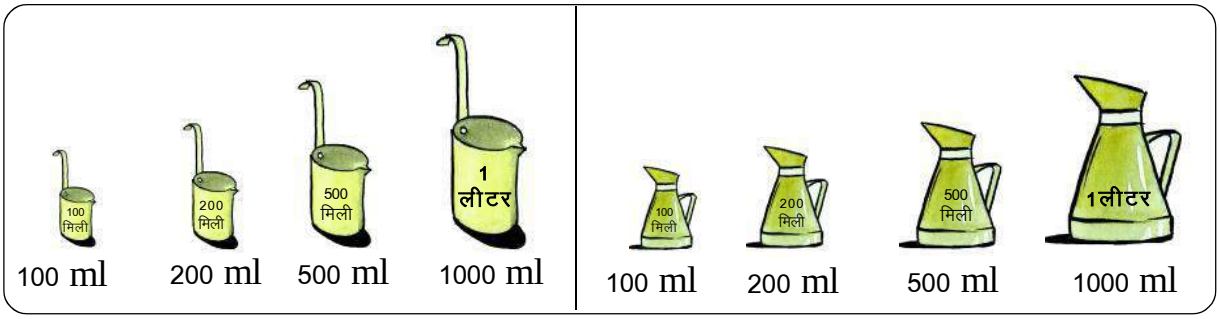
Amount of water in the bucket	**———— cups**	**———— glasses**	**———— jugs**

Was the number of needed to fill the bucket the same as the number of cups needed? Was the number of glasses jugs needed to fill the bucket the same as the number of glasses needed?

If not, why? ——————————

If a bucket gets completely filled by 20 cups of water then we will say that capacity of the bucket is 20 cups of water. Similarly, if 5 jugs of water filled the bucket. Completely, we would say that capacity of the bucket is 5 jugs of water.

Can you say how milk, oil or petrol are measured?



The containers shown in the picture are used to measure capacity.

Who makes use of these containers?

1. ————————2.————————3.————————4.————————

———————— ———————— ———————— ————————

———————— ———————— ———————— ————————

———————— ———————— ———————— ————————

Capacity is measured in litres and millilitres.

1 litre	=	1000 millilitres
1000 millilitres	=	1 litre

Find this:

Go to a provision store and see how he measures oil.

Do this:

Take containers of 1 litre, 500 millilitres and 200 millilitres from your teacher.

Fill the 500 millilitre container and pour it in the 1 litre container.

How many times do you have to pour the 500 millilitre container so that the 1 litre container gets completely filled?

In how many times does it get filled?

————————————————————————————————

Similarly, now take a 200 millilitre container and use it to fill the 1 litre container. How many of times did you have to use it to fill the 1 litre container completely?

Do this again with a 100 millilitre container. You have seen two types of containers of 1 litre capacity in the drawing given earlier. When both these types of containers.

Fill a 1 litre container with water. Now pour the water in another container of 1 litre.

Is the second container filled completely? ——————————

Is there some water left in the first container? ——————————

Is the capacity of both containers the same? ——————————

Do a similar exercise with two containers of 500 mililitres capacity.

Similarly, check the capacity of containers of 100 mililitre and 200 mililitres .

Do these:

1. One container has 500 mililitres of milk. If 250 mililitres of milk is added, how much milk will be there in the container?
2. The capacity of a bottle is 500 mililitres. How many times would a container of 50 mililitres have to be used to fill the bottle completely?
3. Meeta took 750 mililitres of water to school in her bottle. After returning from school there was 200 mililitre of water left in the bottle. How much water did Meeta drink at school?
4. You get oil in packets of 2 litres in market. How many such packets would have to be bought to have a total of 10 litres of oil?
5. Itwari Ram sold 2 litres milk to Ankur and 4 litres to Shailu. So how much milk did Ankur and Shailu buy together?

For convenience we write **1 litre** as **ltr**.
For **1 mililitre**, we write it as **1 ml**.

Look at the given picture and say what you see.

Do and Learn:

Collect some small items. Now make a small group with five of your friends. Members of one group will give items to the other group and ask them to estimate the lengths of these items. Write the answer in the list below. Then measure the actual length of the items by using a scale or a meter scale.

The group whose answers are close to the actual measurement is the winner.

Item	Length estimated	Length (actual measure)
Pencil	——— cm	
Book	———————	
Pen	———————	
Duster	———————	
Table	——— m.	
Pieces of ropes	—— m. —— cm	
———————	———————	
———————	———————	
———————	———————	

Make a similar group game to estimate weight and capacity.

Know this too :

1 meter	=	100 centimeter
or 1 m	=	100 cm
1 kilogram	=	1000 gram
or 1 kg	=	1000 gms
1 litre	=	1000 mililitre
or 1 ltr.	=	1000 ml

LESSON 9

Time

What time is this? .....

What time is this? .....

What time is this? .....

Answer these questions

1. What work do you do in the morning?

_____

_____

2. What time is food served in your school?

_____

_____

3. What time do you play during the day?

_____

_____

4. What work do you do at night?

_____

_____

5. Who arrived first to the school from your class?

_____

_____

6. Who arrived last in your class yesterday?

_____

_____

7. Neeta is younger than Seeta, Can you say who was born first?

_____

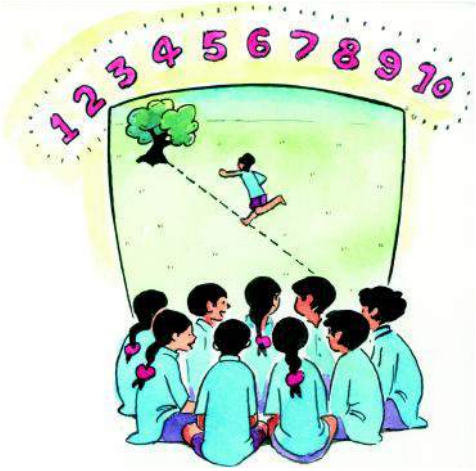
_____

8. Yesterday Golu and Ramu went to Raipur together. If Ramu returned yesterday itself and Golu came today, can you say who spend more time in Raipur?

_____

_____

Let us play a game



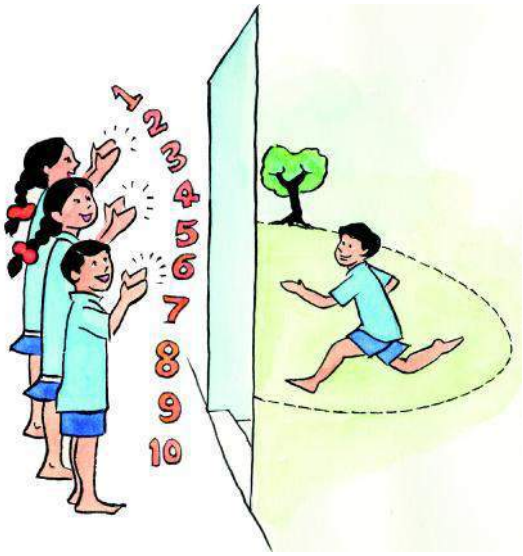
All the students of a class sit in a circle. One child goes and touches a tree and comes back. The rest of the children start counting as he leaves and continue counting untill he comes back.

Till what number did you count when he returned?———

Get another child to get up and go and touch the same tree and come back.

What number did you count upto for this friend? ——————————

Who came back faster?——————



Now one of you should go out of your class, take a round of the ground and then return. As he does this the remaining children should start clapping and count the number of times they clap untill he returns.

How many times did you clap for this? ——————————

Now send out another friend to do the same and the rest should count the claps.

How many times did you clap for the second friend?——————————

Now can you say who took less time to go around the play ground and come-back?——————

Answer these:

Do you take longer to come to school or to eat your lunch? ——————————

Do you take more time to have a bath or to brush your teeth? ——————————

Do you spend more time studying or playing? ——————————————————

Write in order

1. Afternoon, Morning, Night, evening

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

2. Today, yesterday, tomorrow.

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

Observe and answer

What is this picture? ——————————————————

What do we use it for? ——————————————————

What numbers are written on this? ——————————————————

What else do you see on the face of this? ——————————————————

You can see in the picture of the clock that its dial has numbers 1 to 12 written on the face. There are two hands : one long and the other short. The short hand is called the hour hand and the longer hand is called the minute hand.

Observe; read and understand

 The hour hand is on '8' The minute hand is on 12. It is 8 O'clock	 The hour hand is on '3' The minute hand is on 12. It is 3 O'clock
 The hour hand is on '9' The minute hand is on 12. It is 9 O'clock	 The hour hand is on '6' The minute hand is on 12. It is 6 O'clock

Answer these:

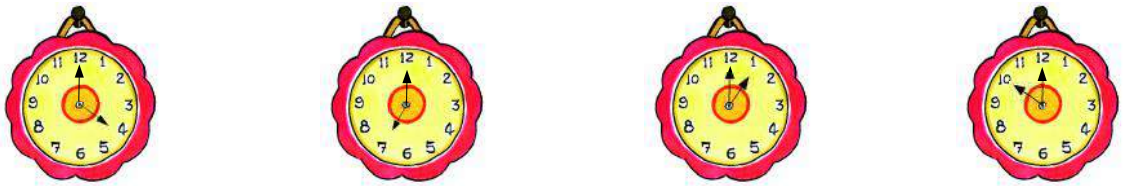
 The Hour hand is at ☐ and minute hand is on ☐

 The Hour hand is at ☐ and minute hand is on ☐

 The Hour hand is at ☐ and m nute hand is on ☐

 The Hour hand is at ☐ and minute hand is on ☐

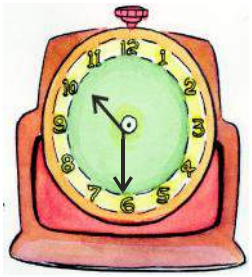
Look at the pictures and the time shown is the clocks. Match the work you would be doing at the shown times.



Look at the pictures and draw the time at which you would do the work on the clocks given.

Look at

What is the time shown in this clock:



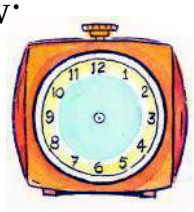
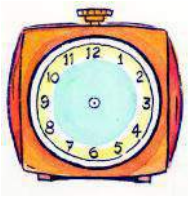
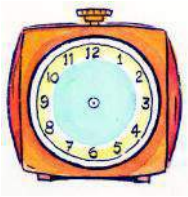
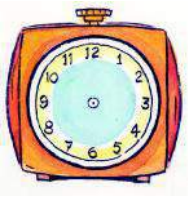
In the shown clock - the hour hand is between 10 and 11, and the minute hand has reached at 6 which is half the dial. The time is read as half past ten.

Observe and answer : What is the time shown in the following clocks?




Half past nine			

Draw the hands at the correct position so that the time is read as written below·

Half past eight	Half past three	Half past four	Half past twelve

Try these: What time do you read in these pictures.


Observe and learn:

In the clock, the hour hand has crossed 10 and the minute hand is at 3 the time is quarter past 10.

In the clock the hour hand is close to 11 and the minute hand is at 9. The time is read as quarter to 11.

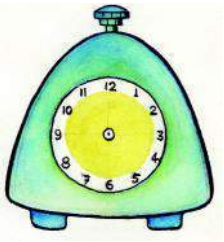
Look at the hands shown in these clocks and write the time.

Draw the correct positions of the hands so that the time is read as given below the pictures.

Quarter to four

Quarter to seven

Quarter to nine

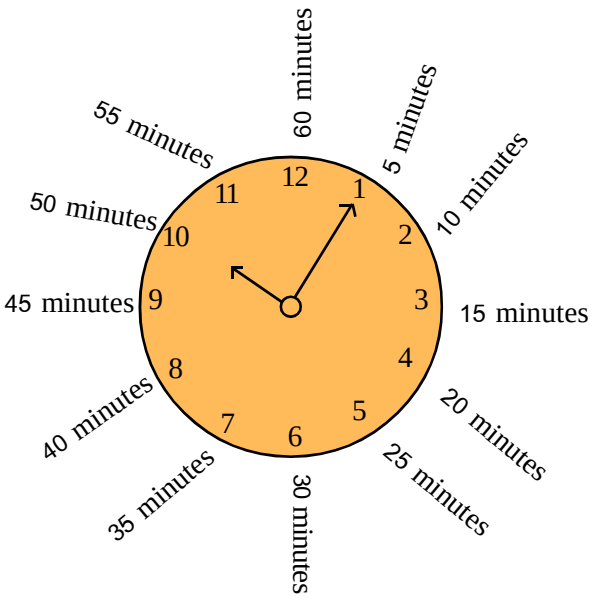


Quarter to six

Look at the picture of this clock carefully:

We know at 10 o'clock, the hour hand is at 10 and minute hand on 12. After this, the minute hand moves five small parts and reaches the number 1. To move each small part it takes 1, minute. So to go from 12 to 1 it takes 5 minutes and we say the time is 5 minutes past 10.

To take a full round of the dial, the minute hand takes 60 small parts. Thus it takes 60 minutes to go round the dial once.



Where as the hour hand in the same time moves from one number to the next.

60 minutes = 1 hour or 1 hour = 60 minutes

Now answer these :

The time taken by the minute hand to move from 1 to 2 = ____

The time taken by the minute hand to move from 3 to 4 = ____

The time taken by the minute hand to move from 4 to 6 = ____

The time taken by the minute hand to move from 2 to 3 = ____

The time taken by the minute hand to move from 6 to 7 = ____

The time taken by the minute hand to move from 3 to 6 = ____

The time taken by the minute hand to move from 3 to 6 = ____

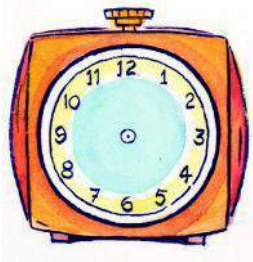
Observe and answer

What is the time

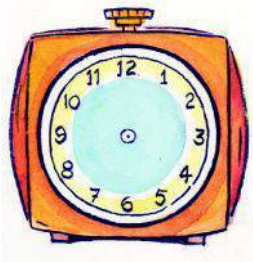
What is the time

Write the time shown in the clock.

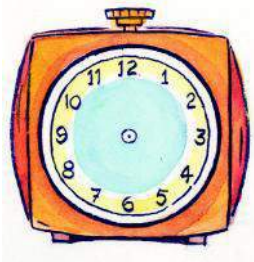
Show the time written below each clock in the given dials.



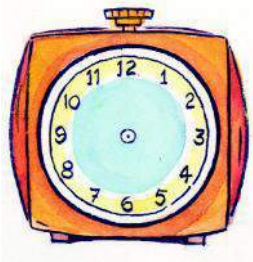
15 to 7



25 past 9



5 to 12



20 past 10

Let us read a Calendar

We can measure time in minutes and hours using a clock. We can also measure time in days and months. For this we make use of a calendar. You know the names of the days and months. Let as see what information can be obtained from a calendar.

September 2006					
Sun		3	10	17	24
Mon		4	11	18	25
Tus		5	12	19	26
Wed		6	13	20	27
Thr		7	14	21	28
Fri	1	8	15	22	29
Sat	2	9	16	23	30

Now answer these:

What day falls on 1st September? ————————————————————

How many Sundays are there in this month? ————————————————

How many Wednesdays are there in this month? ————————————

What is the day on 18th of September? ————————————————————

What is the date on the first Friday of this month? ————————————

Write the date of the first and second Saturdays of this month? ————

. What is the difference between these two dates? ————————————

Write the dates of the second and third Mondays of this month ————

Write the difference between these two dates ————————————————

How many weeks are there in this month?————————————————————

Calendar 2010

January

Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

February

Su	M	Tu	W	Th	F	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

March

Su	M	Tu	W	Th	F	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

April

Su	M	Tu	W	Th	F	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

May

Su	M	Tu	W	Th	F	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

June

Su	M	Tu	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

July

Su	M	Tu	W	Th	F	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

August

Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

September

Su	M	Tu	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

October

Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

November

Su	M	Tu	W	Th	F	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

December

Su	M	Tu	W	Th	F	Sa
			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	

Let us make the calendar for January 2011

January 2011					
Sun					
Mon					
Tus	1				
Wed					
Thr					31
Fri					
Sat					

Make the calender for the remaining months of the year 2011

List of date of Births

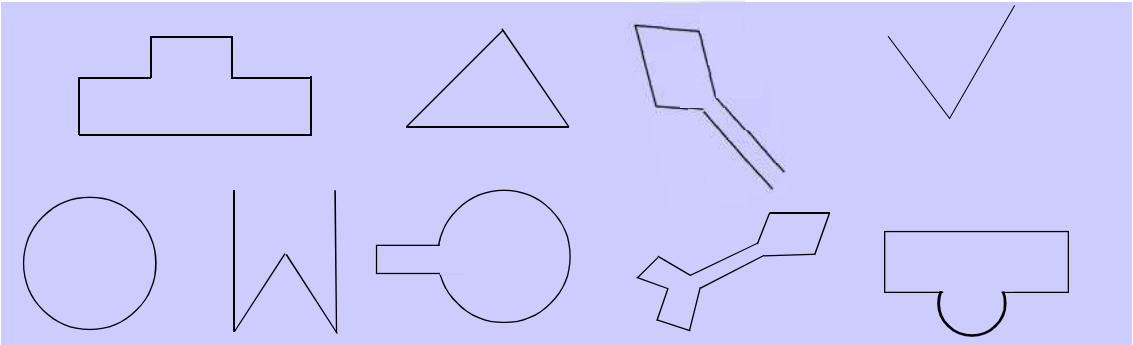
1.	Friend's Name	Date of birth	Month	Year
2.				
3.				
4.				
5.				
6.				
7.				

Make a chart like this and hang it in your classroom, so that you can wish your friends on their birthdays.

LESSON 10 Geometrical Figures

Closed and open figures

Look at the given figures carefully.



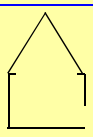
Now take a pencil and trace out the figures. Is there a difference in some of these? If so, what is the difference?

———————————————————————————————————

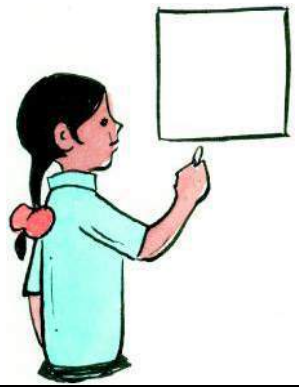
Some of the figures shown are such that when we trace them we reach at the point from where we started with out lifting our pencil these are called closed figures.

However there are some figures in which you cannot reach the place you started from without lifting your pencil. Such figures are called open figures.

Now say whether the following figures are closed or open?

Figure	Open/Closed	Figure	Open/Closed
			
			

Make some closed figures

Make some open figures

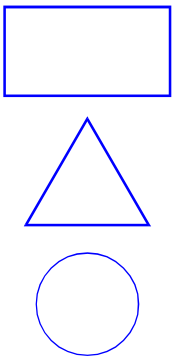
		

Match the figures with their names

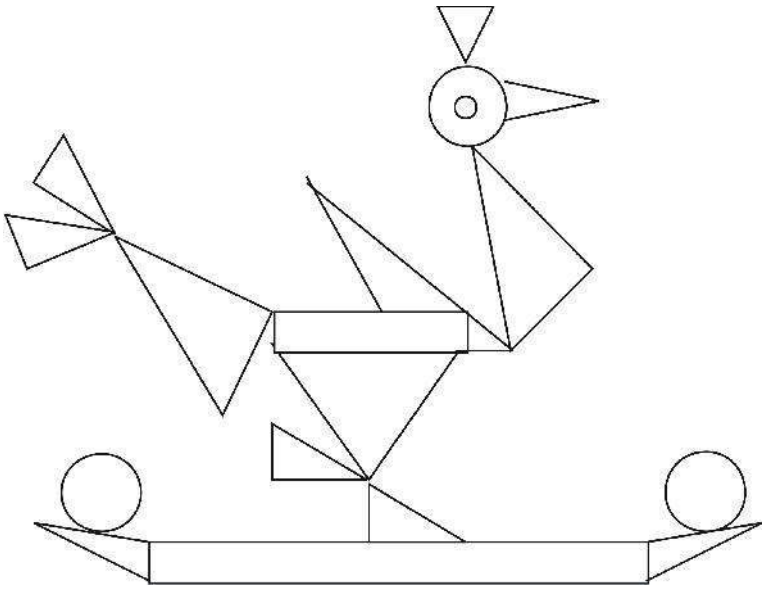
Circle

Quadrilateral

Triangle



Look at the picture given below and count the number of circles, quadrilaterals and triangles and write the number down:



How many ——————————

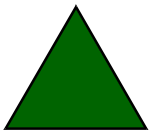
How many ——————————

How many ——————————

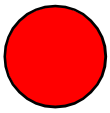
Are circle, quadrilaterals and triangles closed figures?

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

Fill the pictures given below with the colours as shown

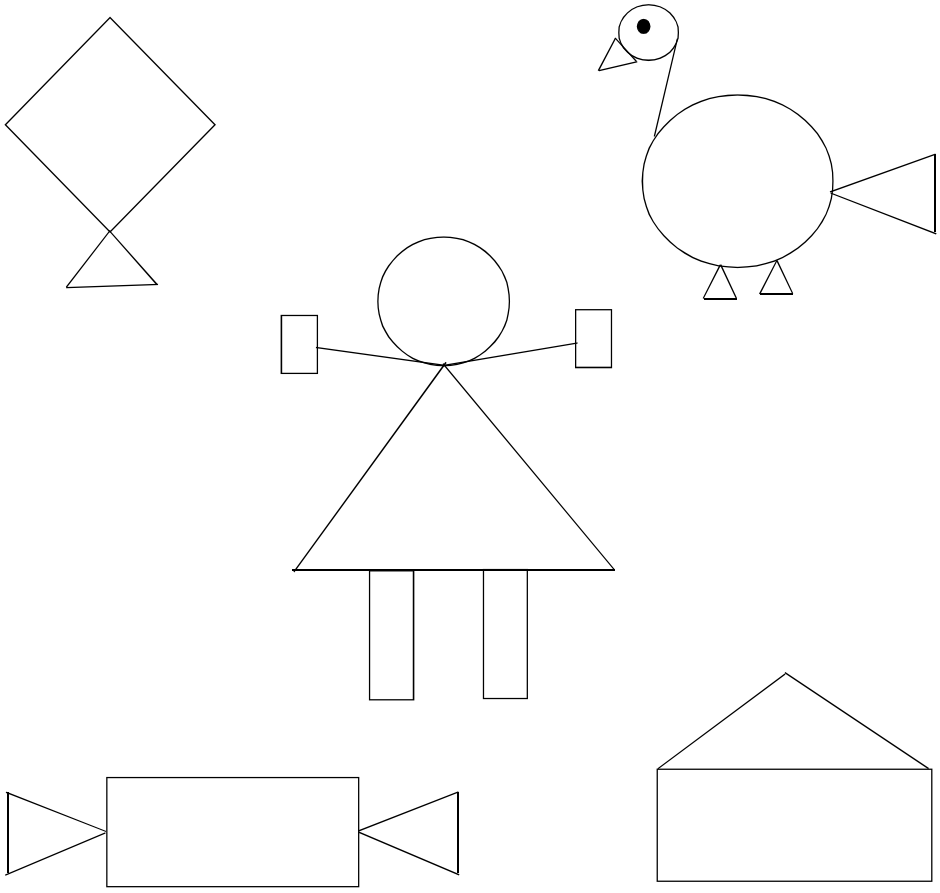


With Green



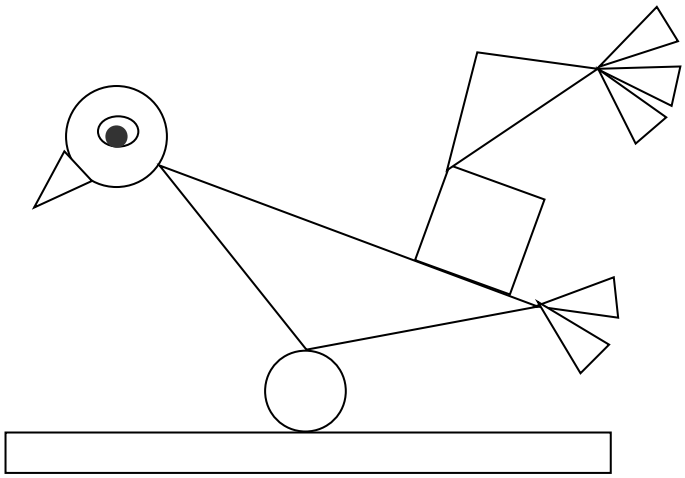
With Red

With Blue

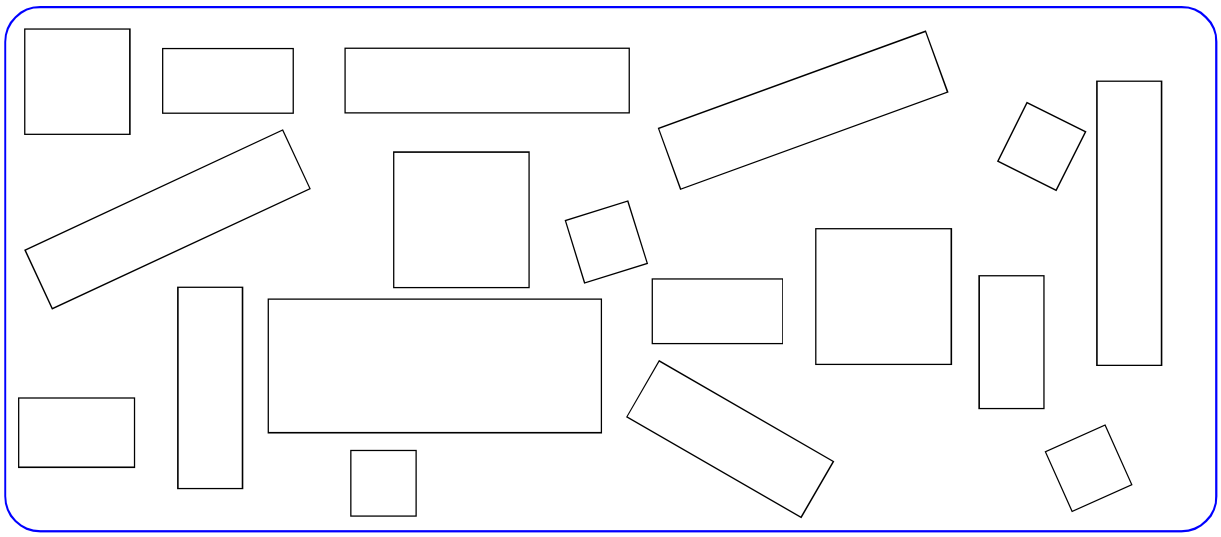


Take different shapes and made more pictures like these and colour them.

Fill in your favourite colours to this figure



Different types of quadilaterals

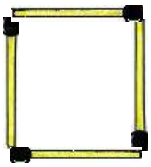


Several quadrilaterals have been drawn above. In all these opposite sides are equal and all angles are right angles. Such quaderilaterals are called rectangles.

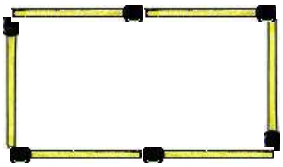
A square is a particular type of rectangle

Do this

Collect some match sticks. Try making squares and rectangles on the floor using them.One example of each is shown below:

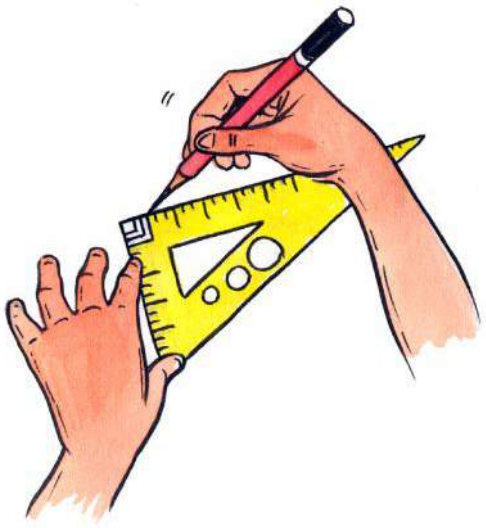


Square

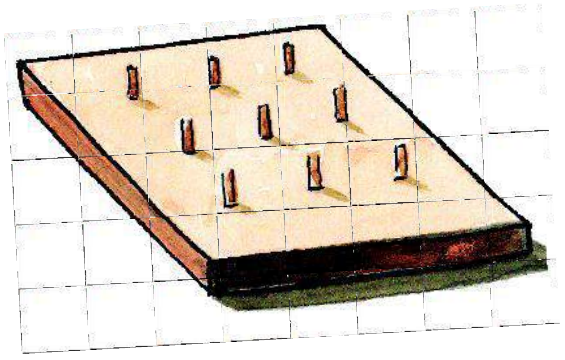


Rectangle

Collect the following items along with your friends: Match box, Shoe box, Cover of a bottle, Glass, Coin, Bangle, Rubber, Set squares from your compass box, Duster etc.

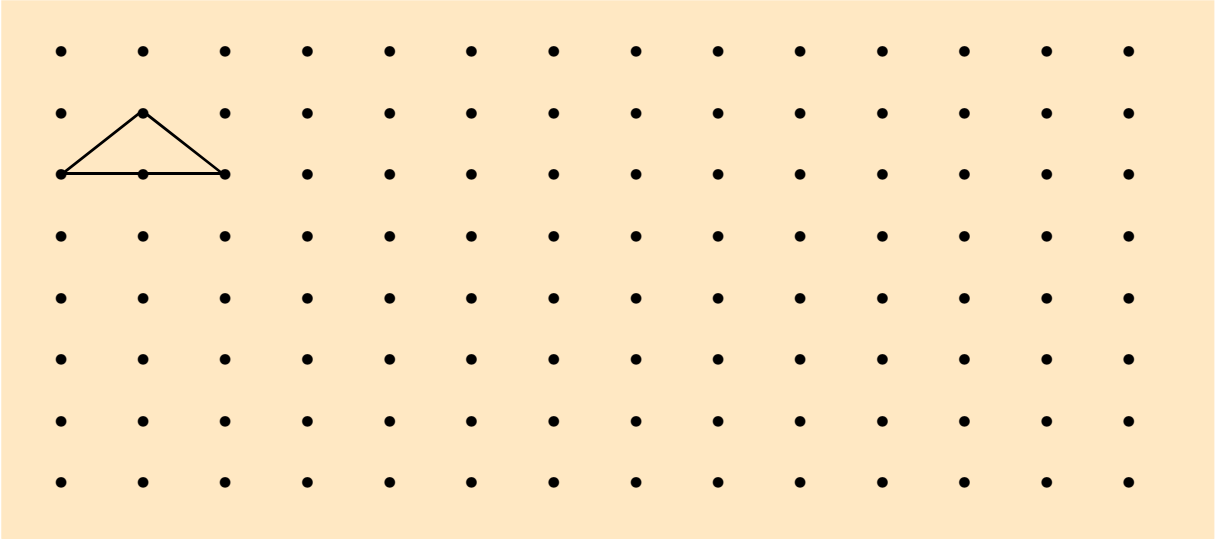


One by one place the item on a paper and run your pencils along the sides of it. You will get quadrilaterals, circles and triangles.

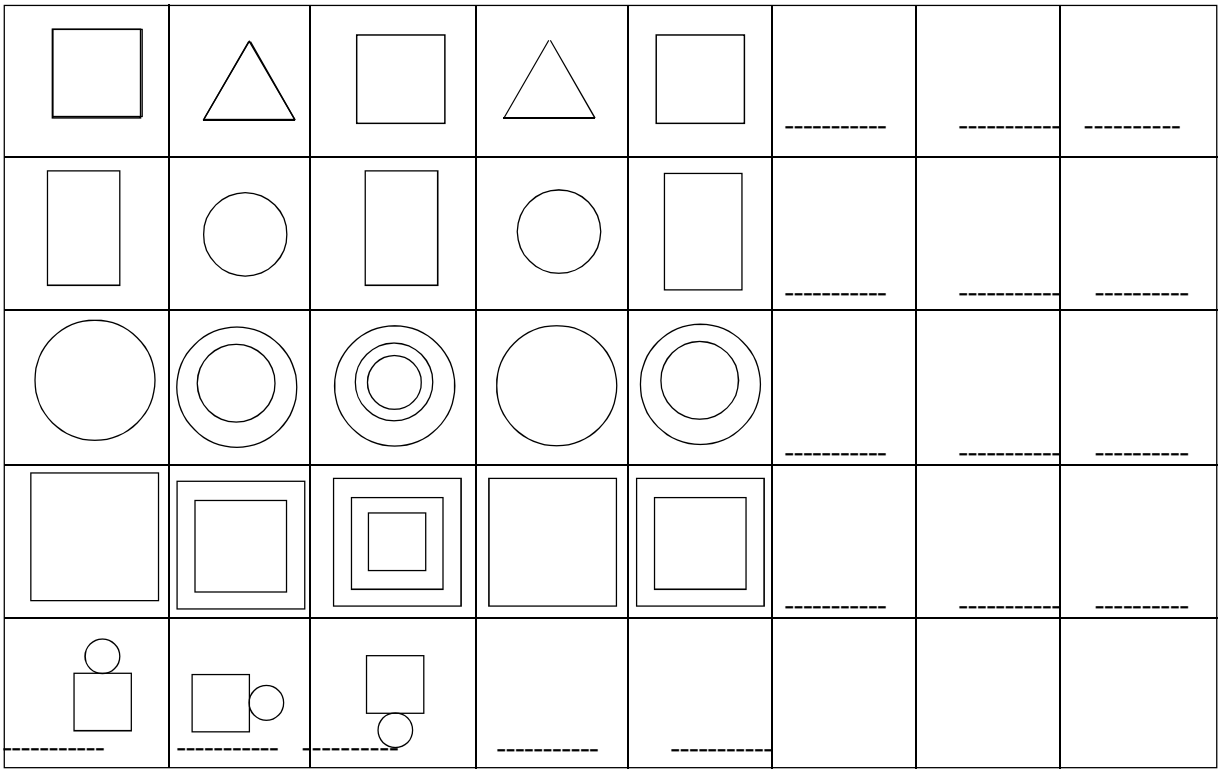


Your school may have a geo board (a wooden board with nails on it at equal intervals). Take this and using thread or rubber bands make the different figures.

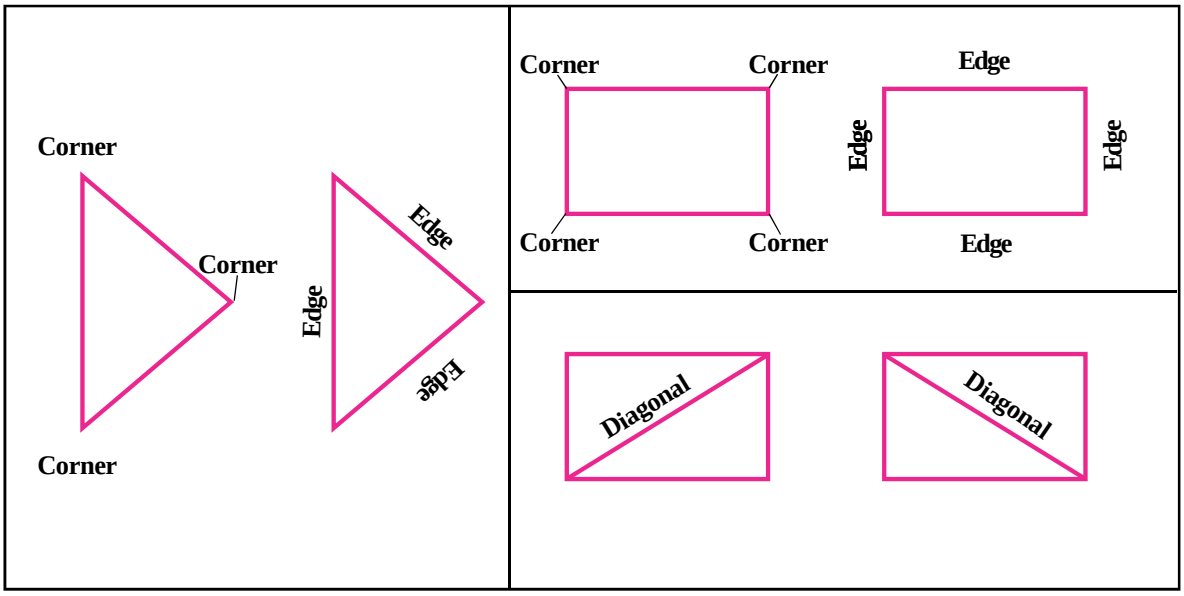
Joint the dots given below and make Triangles, squares and rectangles of different sizes.



Continue the pattern.



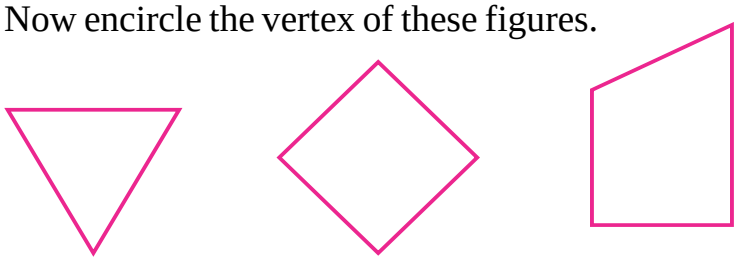
Look and learn



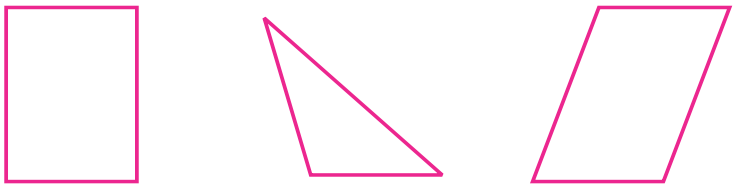
Corners is called vertex

Edge is called side

Now encircle the vertex of these figures.

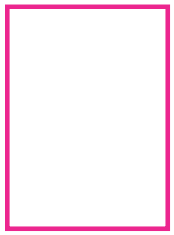
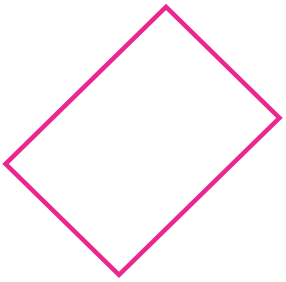
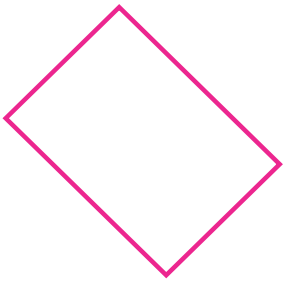


Now put a tick marks (✓) on the sides of these figures. 1



Draw diagonals of these figures.

Complete the table :

figures	No. of vertices (corners)	No. of sides (edges)	No. of diagonals
			
			
			
			

LESSON 11

Money

Do you know all the notes and coins shown above? Are there other notes and coins besides these? Discuss wtih your friends and teacher.

Can you say what these are used for?

Are all the coins alike?

Are all the notes of the same colour?

Is the length of all the notes same?

Is the breadth of all the notes same?

Recognise and write

	1 Rupee 75 paise
	——— Rupee 60 paise
	_____ Rupee _____ paise

When we want to buy some things from a shop, we need to make some quick calculations before giving the money.

Can you answer these questions without using paper and pencil?

One note of Rs.10, one note of Rs.2 and 25 paise would add to give?

Rs. 10 + Rs. 2 + 25 paise = Rs. 12 piase 25.

Similarly,

Rs. 5 + Rs. 20 + 50 paise + 20 paise = Rs. 25 piase 70.

Answer quickly:

Rs. 10 + Rs. 5 + 10 paise + 5 paise = Rs. _____ paise _____

Rs. 20 + Rs. 1 + 25 piase = Rs. _____ paise _____.

Rs. 5 + Rs. 2 + 25 paise + 10 piase =

Rs. 1 + Rs. 10 + 50 piase + 20 paise =

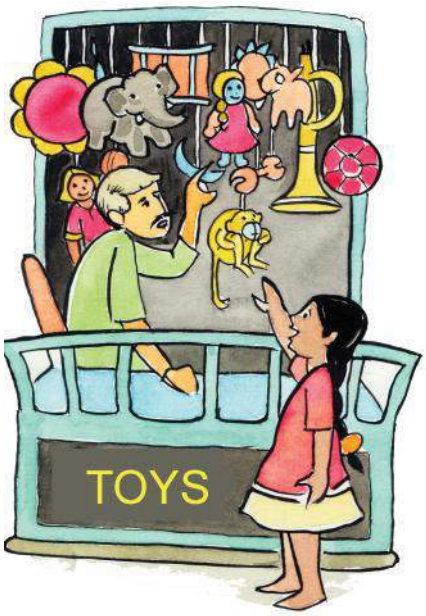
Rs. 50 + Rs. 20 + 20 paise + 10 paise =

Rs. 1 + 25 paise + 20 paise =

Rs. 5 + 20 paise + 5 paise =

Rs. 20 + Rs. 10 + 50 paise + 10 paise =

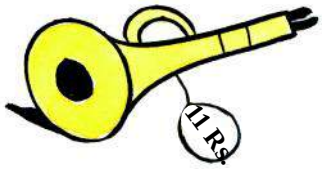
Let us play a game

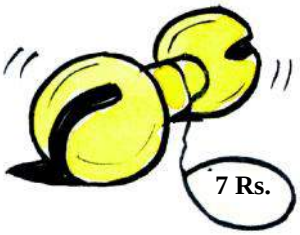


Make notes and coins using paper and different colour is with your friends. All the notes should be different colours and beautiful.

Make 10 notes each of Rs. 1, Rs.2, Rs. 5, Rs. 10, Rs.20, Rs. 50, and Rs. 100.

Collect different items such as toys, paintings, fruits made of plastic or mud etc. and set up a shop. Two children should be made shopkeepers. Put all the collected items in the shop with price tags on them.





Distribute the notes you have made among your friends, go to the shop and buy the items kept there. Calculate the amount you have to pay and you should also know what amount you should get back. You can take the help of your friends or your teacher.

Let us make coins

To make coins take one actual coin keep it under a paper and rub lightly with a pencil, and you will have an exact copy of the coin! similarly make different types of coins. Cut them out carefully using a pair of scissors. If you want you could stick these on a thick sheet.

You can have several coins in this way.

Make coins of 10 paise, 20 paise, 25 paise, 50 paise, Rs. 1, Rs. 2 and Rs. 5. If you don't have all of these, you could borrow those from your parents or teachers and return them after you have made your coins.

Think and answer orally

1. One chocolate is of 50 paise. How many coins of 10 paise would Deepa need to buy it?
2. Meeta wants to buy a pencil which costs 75 paise. How many coins of 25 paise would she give to the shopkeeper?
3. The cost of a copy is Rs. 5. Anil has two notes of Rs. 2. How much more would he need to buy the copy?
4. Priya has one note of Rs. 2 and three coins of Rs. 1. How much money does she have totally?
5. How many Rs. 2 notes would be given for one Rs. 10 notes?
6. Monu has one note of Rs. 20 and two notes of Rs 2. How much more money would be required to make it Rs.25?
7. Sonali has one coin of 50 paise and one coin of 25 paise. How much money does she have in all?
8. How much would three coins of 20 paise and one coin of 25 paise add to give?
9. How many 5 Rs. notes would you get instead of one note of Rs. 20?
10. The cost of a rubber is 80 paise. How many coins of 20 paise would you need to buy this?

Adding to give a total amount

Have you ever thought that when you go to buy any item you can make the payment using notes of different values.

For example if you were to buy a book worth Rs. 8 you can pay in the following ways:

First method

One note of Rs. 5
+ One note of Rs. 2
+ One note of Rs. 1
= Rs. 8

Second Method:

Four notes of Rs. 2 = Rs. 8

Can you think of other ways of giving Rs. 8?

Think and write

Third method

Fourth Method

Now do the following exercise

1. Use two different methods to give Rs. 7.
2. Make Rs. 11 using notes of diffferent values.
3. Make use of different values of notes to give Rs. 18.
4. On buying vegetables worth Rs. 14, in how many ways could you give that amount?
5. If you have purchased things worth Rs. 23. In how many ways could you give Rs.23. Make some more questions like these and ask your friends.

Solve the statement sums

1. Hemwati needs Rs.100 to buy books. She has Rs. 40 with her. How much more money would she need to buy the books?
2. Nisha wants to buy a radio worth Rs. 350. She keeps aside Rs.5 everyday. In how many days would she collect the required amount?
3. Amit bought some sugar worth Rs. 5. He gave the shopkeeper Rs.10. How much money would he get back?
4. Raziya bought a toy worth Rs. 12 and some baloons for Rs. 5. How much money would she have to give the shopkeeper?
5. Shailu bought some items worth Rs. 40. She gave a Rs. 50 note to the shopkeeper, How much money would she get back?
6. The cost of a copy is Rs. 7. How many can you buy if you have Rs. 21?
7. A farmer paid Rs. 140 for sowing and Rs. 85 for weeding as labour. How much money did he give in all?
8. A panchayat spends Rs. 120 on tree plantation, Rs. 80 on class decoration and Rs. 65 on having a class meeting in their school. How much money was spent by the panchayat totally?
9. Omi puts Rs. 3 in his piggy bank every day. How much would he collect in 7 days?
10. The cost of a chair was Rs. 140. It has now increased to Rs. 160. Now tell how much has the price increased?

LESSON 12

Preparing Bills

One day Anjali's mother sent her to a shop to buy some goods. After reaching the shop Anjali asked the shopkeeper the price of some goods. As the shop was crowded the shopkeeper asked her to see the pricelist.

Anjali saw the price list which as follows –

Chhattisgarh grocery shop, Amoda

Price List

S.N.	Item	Price
1	Wheat	Rs. 20 per kg.
2	Sugar	Rs. 40 per kg.
3	pulses	Rs. 70 per kg.
4	Potato	Rs. 10 per kg.
5	Onion	Rs. 10 per kg.
6	Groundnut Oil	Rs. 80 per kg.

Anjali asked the shopkeeper – What is the meaning of wheat Rs. 20 per kg. The shopkeeper said – If means that the price of one kilogram of wheat is Rs. 20. Anjali said – okay. Now she saw the whole price list and bought the things her mother had asked her to buy. The asked the shopkeeper to prepare bill.

The bill given by the shopkeeper was as follow –

Bill

Mobile-987599626

Chhattisgarh grocery shop, Amoda

Sr. No.-03 Date 06.07.2017

Name – Anjali

S.No.	Item	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	Potato	2 Kg	10/-	20/-
2	Onion	1 kg	10/-	10/-
3	Sugar	1 kg	40/-	40/-
			Total	**70/-**

Signature

CG Grocery Shop

Bittu purchased 2 kg wheat and 1 litre oil from the same shop. How would the shopkeeper have prepared the bill for it?

Bill

Chhattisgarh grocery shop, Amoda

Sr. No.- Date

Name –

S.No.	Item	Quantity	Rate (in Rs.)	Amount (in Rs.)

Signature

CG Grocery Shop

Mita also purchase 1 kg potato, 1 kg onion and 1 kg pulses, Prepare a bill for it.

Bill

Chhattisgarh grocery shop, Amoda

Sr. No.- Date

Name –

S.No.	Item	Quantity	Rate (in Rs.)	Amount (in Rs.)

Signature

CG Grocery Shop

When you go to a shop to purchase goods do see the price list and prepare a bill of the purchased goods yourself.

Bill

.....

Sr. No.- Date

Name –

S.No.	Item	Quantity	Rate (in Rs.)	Amount (in Rs.)

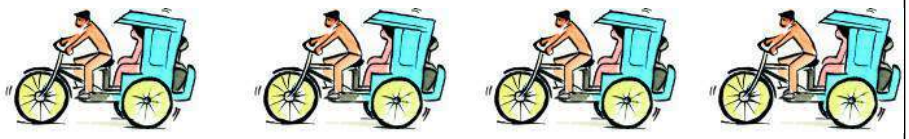
Signature

CG Grocery Shop

LESSON 13

Representing Data by Pictographs

After school Monu was going home walking. She saw several vehicles until she reached home. She wrote down the names of each of vehicle and made a list. She also drew the picture of the vehicle in front of the name:

Cycle	
Cycle-rickshaw	
Scooter	
Bullock-cart	
Jeep	
Bus	
Truck	
Tractor	

Look at the above list and tell :

1. Which vehicles did Monu see? ————————————————————
2. Which is more in number, the jeeps or bullock carts? ————————
3. Which vehicles were seen equal in number? ————————————
4. Which vehicles were seen the maximum? ————————————

Monu has shown the number of cars through pictures. This is called a pictograph.

The number of vegetables is Hemwati's kitchen is shown in picture form.

Onions	
Potatoes	
Tomatoes	
Carrots	
Brinjals	
Cauliflowers	

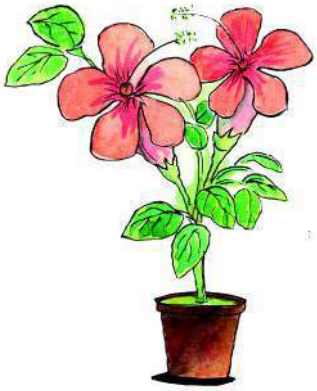
Look at the pictograph and write the number of each vegetable.

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

4. ———————————— 5. ———————— 6. ————————————

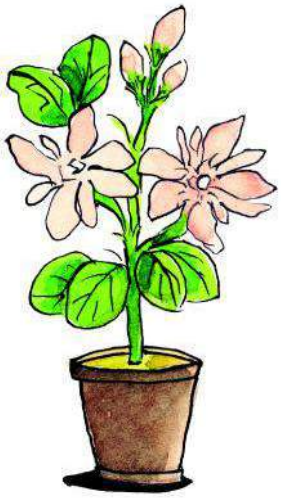
Look at the pots shown below.

Rose



Hibiscus

Marigold



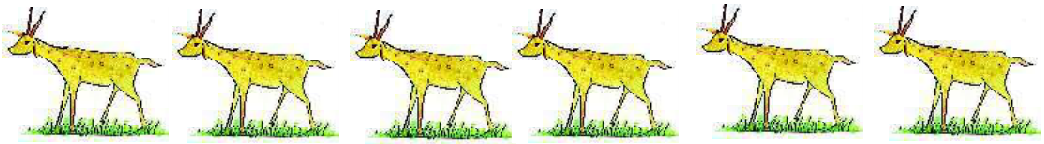
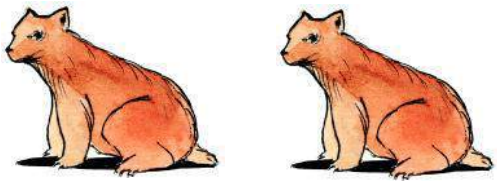
Sevanti

Mogra

Look at the picture and answer the following:

1. How many flowers does the rose plant have? ——————————
2. Which plant has more flowers, the Sevanti or the Mogra?————————
3. Which plant has lesser flowers, the Hibiscus or Marigold? ——————————
4. Which plant has maximum flowers? ——————————
5. Which plant has minimum flowers? ——————————
6. Which plants have flowers equal in numbers? ——————————

Minesh has a number of toys in his room which are shown in the following picture:

Lions	
Monkeys	
Deer	
Peacocks	
Bears	

vessel

bottle

cup

Answer these:

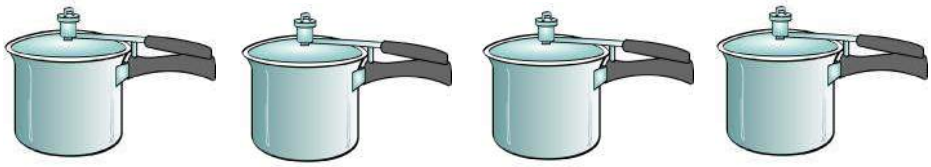
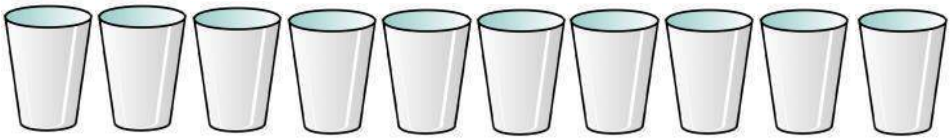
1. What different animals does Minish have as toys? ————————

2. Which type of animals toy is the largest in number ? ————————

3. Which type is more, the number of lions or Bears?————————

4. Which type of animal toys are equal in number? ————————

Number of utensils found in Abhishek's kitchen has been shown in the picture.

vessel	
bottle	
cooker	
glass	
cup	

Draw a vertical line for every picture shown above

picture	vertical line	number of lines
vessel	| | |	3
bottle		
cooker		
glass		
cup	| | | | | | | | | | |	11

Do this

1. On a holiday, you can see different types of animals around your house. Write their names on a piece of paper and draw a picture of each animal as you see it.

Look at the table you made and answer these questions :

1. Which type of animals are found the most around your house?
2. Which animal is found the least?
3. Which animal did you not see at all?
4. Are only domestic aniamals found around any house?

LESSON 14 Area

Today all the children of class III have brought an empty match box. Nobody is able to understand why the teacher has asked them to bring empty match box. The teacher comes to class. He asked them to collect their match boxes. He arranged them on the surface of Hindi text book in such a way that the whole surface of the book was covered. Then he discussed it with his students –

- How many match boxes were arranged? ……
- Was there empty space on the surface of the Book? ……..
  That means surface of book = ……Surface of matchboxes.

Measurement with bangles –

You have arranged match boxes on the surface of book. Now arrange bangles on the surface of book.

- How many bangles were arranged?
- Was the surface of book fully covered with bangles?
- Was there also empty space in between when matchboxes were arranged on the surface of book?

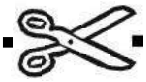
Remove the given box (square pieces) from the book.

Stick a thick sheet behind it. Cut all the square pieces combine all the pieces of square from your friends too. Now place the bigger square piece serially above your mathematics book's surface. Fill the entire surface. How many pieces completely occupy the book surface?

Surface of book = _____ surface of pieces.

Now repeat the process with the small square pieces.

If there a small portion is remained after placing big square pieces then you can place small square pieces over there.



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

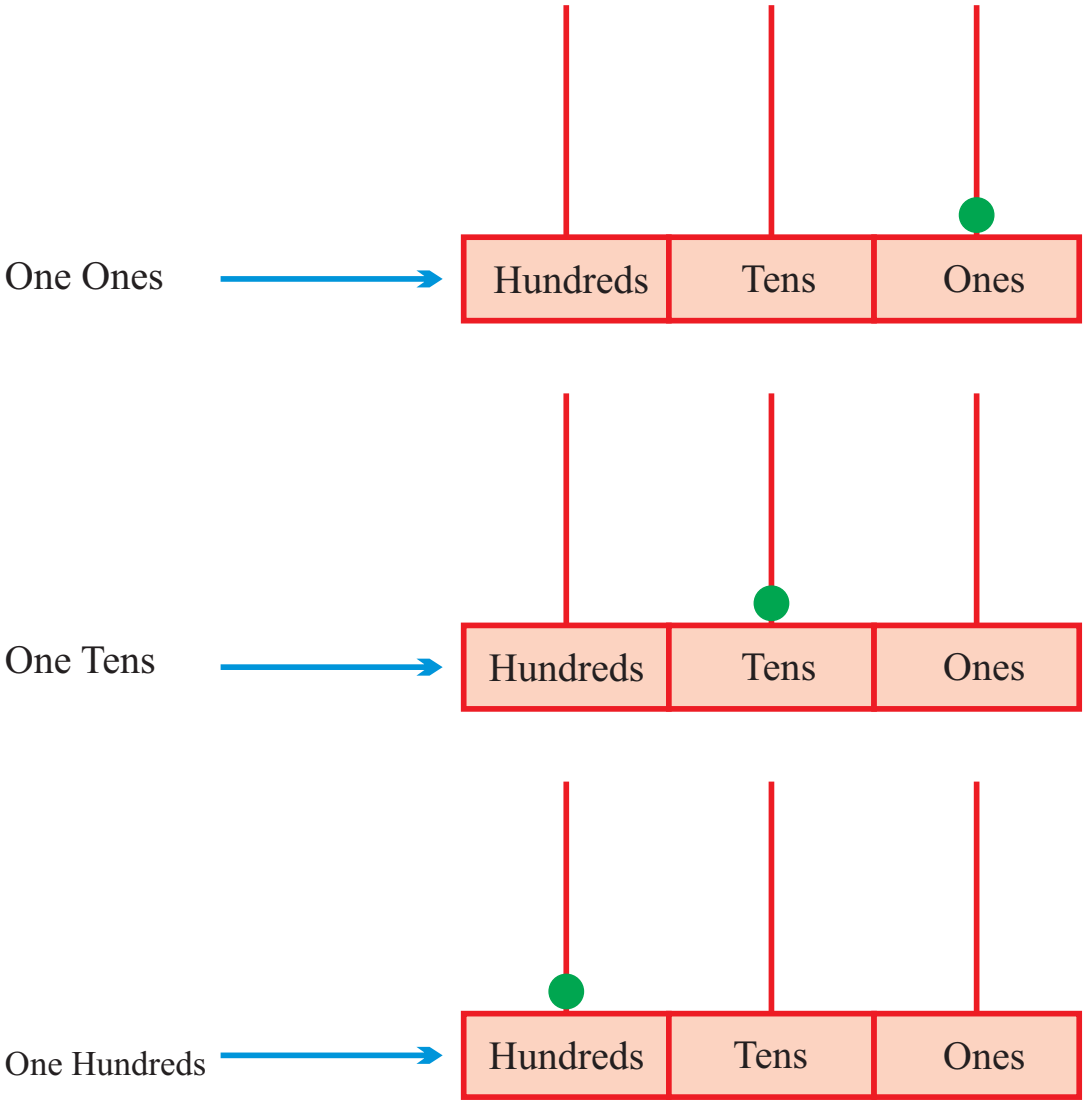
The following table has numbers written in figures and in words. Learn to identify each number and read its name :

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

Fill in the blanks

२ hundreds, ५ tens, ३ Ones	२५३
५ hundreds, ३ tens, १ Ones	
१ hundreds, ० tens, ६ Ones	
६ hundreds, ३ tens,, ४ Ones	
४ hundreds,४ tens, ७ Ones	
६ hundreds, ६ tens, ६ Ones	

Read and Understand



Write the following numbers in words

২২৭	Two hundred and twenty one
৫৭৮	
৬৫৮	
৫৫৫	
৮৭০	
৩০০	
৭২০	
৮৫	
৫৭৮	

Encircle ◯ the mentioned digit

Hundred's digit	◯০ ৭ ৭	Ten's digit	৪ ৩ ৭
One's digit	২ ০ ◯৭	One's digit	৮ ০ ৮
Ten's digit	৫ ◯৫ ৫	Hundred's digit	২ ৫ ৫
One's digit	৬ ৫ ৫	Ten's digit	৬ ৫ ৫
Hundred's digit	৭ ৫ ০	Hundred's digit	৫ ৮ ৫
Ten's digit	৭ ২ ৭	One's digit	৫ ৫ ৭

Write the expanded forms of the given numbers

૩૬૩ = ૩૦૦ + ૬૦ + ૩

૪૨૪ = ... + ... + ...

૬૦૫ = ... + ... + ...

૭૬૬ = ... + ... + ...

૫૫૫ = ... + ... + ...

૬૩૦ = ... + ... + ...

૩૩૬ = ... + ... + ...

૪૪૦ = ... + ... + ...

૩૪૫ = ... + ... + ...

૬૮૭ = ... + ... + ...

૨. **The expanded forms of some numbers are given. Write the number that you get by adding them:**

૫૦૦ + ૭૦ + ૮ = ૫૭૮

૬૦૦ + ૫૦ + ૪ = ...

૬૦૦ + ૭૦ + ૬ = ...

૧૦૦ + ૨૦ + ૨ = ...

૩૦૦ + ૬૦ + ૬ = ...

૭૦૦ + ૫૦ + ૧ = ...

૨૦૦ + ૬૦ = ...

૬૦૦ + ૬૦ + ૩ = ...

૫૦૦ + ૭ = ...

૪૦૦ + ૩૦ + ૬ = ...

૩. **The teacher had written the place values of the digits in the given numbers on cards and placed them next to the number, but some naughty children changed the positions of some cards and erased some of the written place values.**
Fill in the erased place values and then rearrange, write the proper expanded form :

૫૬૧ = [ ] + [૫૦૦] + [૧] =..... + ... + ...

૬૮૫ = [૫] + [ ] + [૬૦૦] =..... + ... + ...

५६६ = ६ + ☐ + ६० =..... + ... + ...

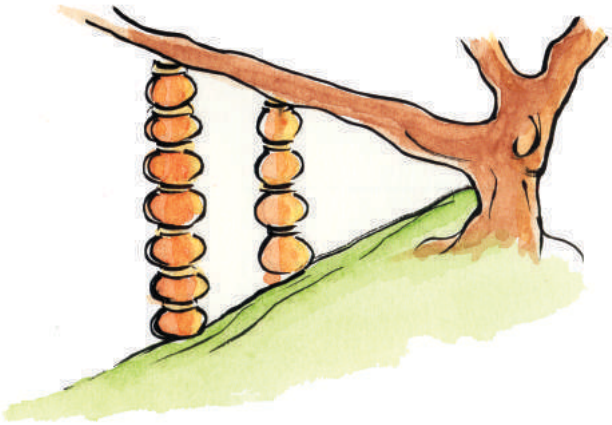
८६० = ० + ६० + ☐ =..... + ... + ...

३०५ = ३०० + ☐ + ० =..... + ... + ...

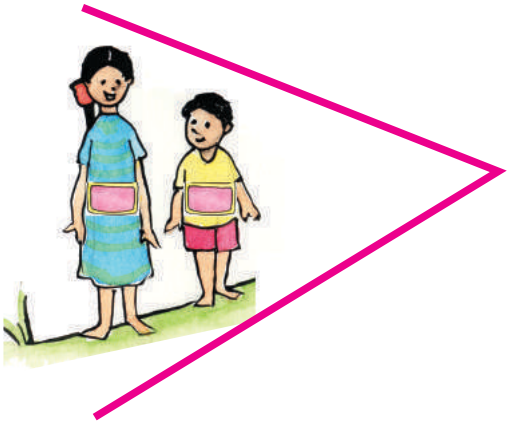
Let us compare

Rani

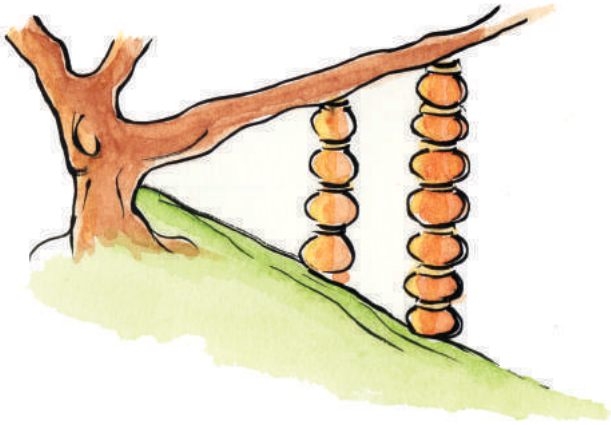
Mangal



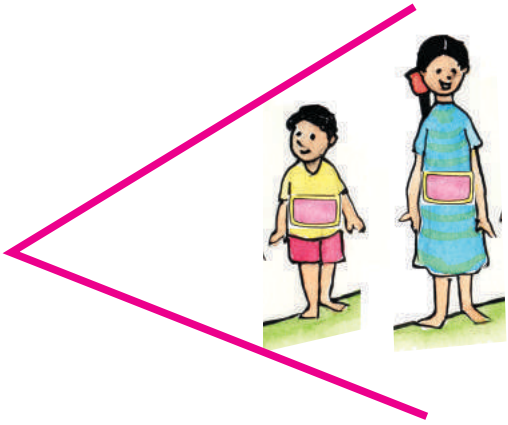
In case of numbers, we say 7 is greater than 4- Written as 7 > 4



Rani is taller than Mangal

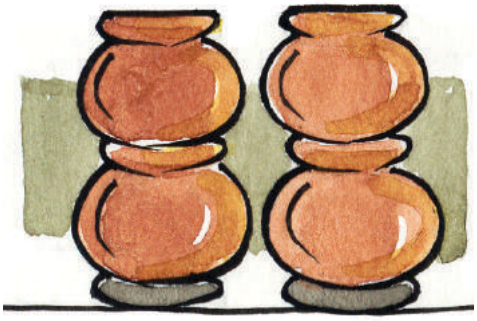


4 is less than 7 Written as 4 < 7



Mangal is smaller than Rani

Consider another situation



In numbers ২ equals ২ which is written as ২ = ২

Raju is as tall as Rani

Read

১২ > ৩

১২ is greater than ৩

১৯৬ < ২০১

One hundred ninety six is less than two hundred one

১১৬ > ১১০

One hundred sixteen is greater than one hundred ten

৯৮০ < ৯৯৯

Nine hundred eighty is less than nine hundred ninety nine

< Less than

> Greater than

= Equals to

Exercise

১. Compare the numbers and put the appropriate sign <, > or = in the given boxes.

৫		৩	৪০		২০	৩৫		৫৩
৩১		২১	৬১		৬০	৫৫		১০০
১৫২		২৫২	৩০৬		৩০৬	৪৫৩		৪৫৩
৬৬৬		৫৫৫	৬৫৫		৮০০	৫০৫		৫০৫
৬৫৬		৬৬৫	৪৫০		৫৪০	৬৫		৫৬

२. Write the given numbers in a decreasing (descending) order .

८,	३४,	२६	३४,	२६,	८
५०,	१०,	४०	.....,	.....,	.....
१२१,	१३६,	६१	.....,	.....,	.....
१००,	२०६,	५१२	.....,	.....,	.....
७००,	२००,	४००	.....,	.....,	.....

३. Arrange the given numbers in an increasing (ascending) order.

७,	४५,	२१	७,	२१,	४५
४६६,	२६६,	६६६	.....,	.....,	.....
२१५,	३५१,	१५१	.....,	.....,	.....
६०१,	३०६,	७००	.....,	.....,	.....
१००,	६००,	३००	.....,	.....,	.....

४. Write the next three numbers as shown.

१२७	१२८	१२६	१३०
४१८			
६६७			
५७३			
८८८			

५. Write the preceding three numbers to the given number as shown.

१०५	१०४	१०३	१०२
३६५			
२०१			
६६७			
५००			

Let us make numbers

१. If we are given two digits ७ and ३, we could make two numbers using these :

७३ and ३७

२. From १ and ५, the numbers we get are :

१५ and ५१

३. Similarly, if २, ८ and ६ are given, we could get ६ numbers

२८५, २५८, ५२८, ५८२, ८५२, ८२५

Now take nine cards with digits १ to ९ written on them.

Pick any two cards and make the possible two digit numbers (you would get only two). Let your friends try too.

Now take ३ cards at a time and make the different numbers using these. See who made the maximum numbers?

Learn by doing

१. Make numbers using the given digits.

(१) २, ७ --------, --------

(२) ५, २ --------, --------

(३) ८, ३ --------, --------

(४) ३, १ --------, --------

In each pair that you have formed, encircle the number which is greater.

२. Make numbers using the three given digits

(१) ३, ४, १, --------, --------, --------

(२) १, २, ९ --------, --------, --------

(३) ३, ७, ८ --------, --------, --------

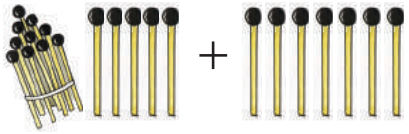
(४) ०, ५, ६ --------, --------, --------

(५) ४, १, ० --------, --------, --------

From the numbers which you formed, encircle the smallest number.

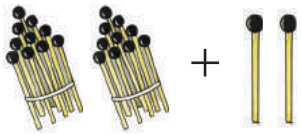
How to Add?

(১) Addition of ১৫ and ৬



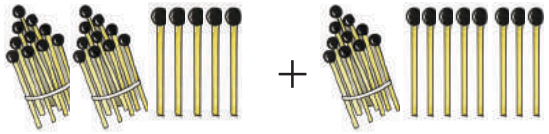
১৫ + ৬

১০ + ১২

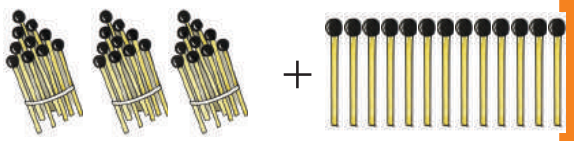


২০ + ২ = ২২

(২) Addition of ২৫ and ১৮



২৫ + ১৮

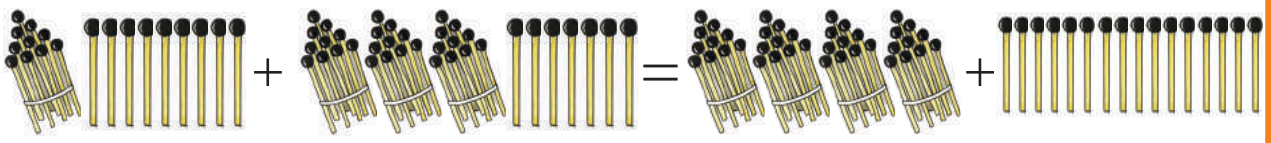


৩০ + ১৩

৪০ + ৩ = ৪৩

Add the bundles and the match sticks

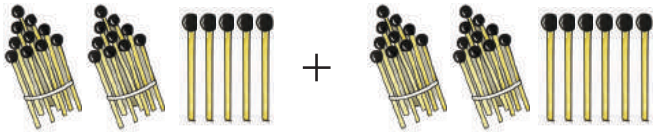
(১)



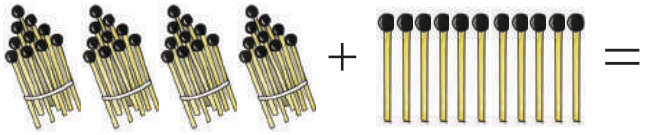
__ + __ = __ + __

__ + __ = __

(২)

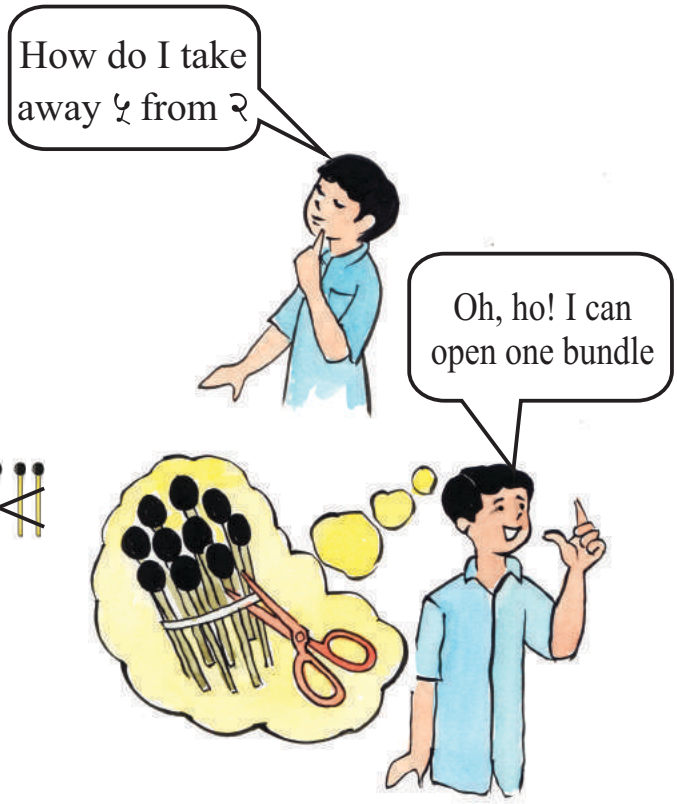


__ + __



__ + __ = __ + __ = __

How many are left?



On subtracting २५ from ४२

४ २
− २ ५

३ १२
४ २
− २ ५
१ ७

Solve these

(१) ४१ − २६

(२) ५५ − ३६

(३) ५६ − ३२

(४) ५० + २४

(५) १८ + ६

(६) ८६ + १५

You can use bundles and match sticks to solve the given sums.

Fill in the blanks

(१) १६ + २५ = ...

(२) ३८ − ३८ = ...

(३) ..... − ५० = ३४

(४) ..... + ३४ = ६६

(५) ६४ + ... = ८६

(६) ४४ + २४ = ...

(७) ५२ − ..... = ५०

(८) ७५ − ..... = ०

Addition and Subtraction

You have solved the sums of addition and subtraction in your book. Now you know that we can use Devnagari script also to write the numbers. It is interesting that the process of solving these question not change when we use these numerals.

Read and Understand

Subtract २१७ from ८४६

८ ४ ६	८ ४ ६	८ ४ ६	८ ४ ६
- २ १ ७	- २ १ ७	- २ १ ७	- २ १ ७
	२	३ २	६ ३ २

Hence, ८४६ - २१७ = ६३२

Now Subtract

१. २४४ from ३७५	२. २१५ from ६२५
३. ३०३ from ६३८	४. ६०४ from ६२५
५. ५५६ from ८७६	६. ५ from १६८

Exercise

Solve

(૧)

$$\begin{array}{r} ૩\ ૧\ ૮ \\ +\ ૨\ ૩\ ૪ \\ \hline \\ \hline \end{array}$$

(૨)

$$\begin{array}{r} ૨\ ૨\ ૭ \\ +\ ૪\ ૩\ ૪ \\ \hline \\ \hline \end{array}$$

(૩)

$$\begin{array}{r} ૩\ ૦\ ૬ \\ +\ ૨\ ૬\ ૬ \\ \hline \\ \hline \end{array}$$

(૪)

$$\begin{array}{r} ૧\ ૬\ ૨ \\ +\ ૨\ ૨\ ૩ \\ \hline \\ \hline \end{array}$$

(૫)

$$\begin{array}{r} ૩\ ૮\ ૧ \\ +\ ૨\ ૪\ ૪ \\ \hline \\ \hline \end{array}$$

(૬)

$$\begin{array}{r} ૩\ ૮\ ૦ \\ +\ ૨\ ૬\ ૬ \\ \hline \\ \hline \end{array}$$

(૭)

$$\begin{array}{r} ૪\ ૬\ ૭ \\ +\ ૩\ ૩\ ૪ \\ \hline \\ \hline \end{array}$$

(૮)

$$\begin{array}{r} ૩\ ૫\ ૭ \\ +\ ૭\ ૭ \\ \hline \\ \hline \end{array}$$

(૯)

$$\begin{array}{r} ૫\ ૮ \\ +\ ૨\ ૬\ ૬ \\ \hline \\ \hline \end{array}$$

Add the given numbers

(૧) ૪૪૬ and ૧૩૬

(૨) ૨૦૭ and ૫૦૫

(૩) ૩૭૩ and ૧૬૩

(૪) ૬૫૭ and ૨૪૩

(૫) ૩૦૪ and ૨૧૭

(૬) ૭૩ and ૫૬૬

Let us Subtract some more

৭৪ from ৪০০	৩৬ from ৭০৫	৩০৫ from ৬০০
৩০ from ৪০৩	৭৫৪ from২৫৩	৩৩৬ from ৮০৪
৩৮০ from ৩০০	২৩৫ from ৪৭০	 
২৫৬ from ৮০৫	৪৩৭ from ৮০০	

Take any ৩ digits and make two numbers. Subtract the smaller from the greater number and show to your friends.

Addition –

१. In a cricket match Basant made ५४ runs, Rahul made ३८ runs and Sunil made ४४ runs. How many total runs were made in all?

२. A backyard has १२० roses, १०० mogra and १६० jasmine. How many flowers are there in the backyard.

३. A bus has ५० seats. ६३ people travelled in the bus. How many travelers didn't got the seat?

४. Government Primary School Bhursapar has ३४० students. If १६६ of them are girls. Then calculate the number of boys in the school.

५. Pinky, Tinku and Jagat were playing a throwing game of the ball without dropping it. Pinky throws ४८ times, Tinku throws ६६ times and Jagat throws २४ times without dropping it . How many times they all together throw the ball without dropping it.

Subtraction

६. Harish took ७७५ rupees to market. He bought glasses for ८२ rupees. How much money does he have now?

७. Sunil took ७६६ custard apple to the market. He sold २३६ custard apple. How many custard apple were left with him?

८. Arthi's story book has १३५ pages. She has read ४२ pages. How many more pages she has to read to finish the book?

९. ८० passengers travelled in the bus. ५२ passengers got the seats. Tell how many passengers didn't got the seat?

१०. Anita's father gave ३३७ rupees to Anita. He still has २२४ rupees with him. How much money her father had in the beginning.

Multiplication

Hina and Pakhi were playing. Some hens were playing nearby. Some hens come near verandah. Both of them started counting one, two, three ..... seven. Hina shouted loudly – "Seven hens". Hina's uncle were listening to them and he asked Hina and Pakhi – "Tell now many legs the hens have in total?" Pakhi replied instantly – "fourteen". Hina asked "how? Let me know". She counted and said fourteen.

Hina's uncle asked them to tell the way they calculated the legs. Hina told she added two seven times. This way she got १४ legs of ७ hens.

Then, Pakhi told she multiplied २ × ७ and got १४ legs.

Pakhi's way : २ × ७ = १४

Hina's way : २ + २ + २ + २ + २ + २ + २ = १४

Both of them had their own way and both of them got १४ legs we can say २ + २ + २ + २ + २ + २ + २ = २ × ७ = १४

२ added seven times = २ × ७

Now tell :

५ + ५ + ५ = ५ × ..... = ...

This way we can say that

multiplication is repeated addition of numbers.

Understand the table given below and write the tables of ४, ५, ६ and ७

Table of २	Add	Table of ३	Table of ४	Table of ५	Table of ६	Table of ७
२ + १	→	३ + १	→			
४ + २	→	६ + २	→			
६ + ३	→	९ + ३	→			
८ + ४	→	१२ + ४	→			
१० + ५	→	१५ + ५	→			
१२ + ६	→	१८ + ६	→			
१४ + ७	→	२१ + ७	→			
१६ + ८	→	२४ + ८	→			
१८ + ९	→	२७ + ९	→			
२० + १०	→	३० + १०	→			

Make the tables of ३ and above in your copy. After that complete the multiplication list made below.

Complete the Table

X	१	२	३	४	५
१					
२	→	→	२×३=६		
३					
४					
५					

X	१	२	३	४	५
६					
७					
८	→	१६			
९					
१०					

X	६	७	८	९	१०
६					
७					
८	→	→	→	७२	
९					
१०					

X	७	३	५	२	१
८					
४					
६	→	→	३०		
१०					
९					

Exercise

१. Some numbers are written below in the form of being added again and again. Write it in the form of multiplication of two numbers.

(१) ३ + ३ + ३ + ३ = ३ × ४ (२) ६ + ६ + ६ + ६ = ...

(३) ५ + ५ + ५ + ५ + ५ =..... (४) ४ + ४ + ४ + ४ + ४ + ४ + ४ = ...

(५) ५ =..... (६) ० + ० + ० = ...

२. Write the multiplication given below in the form of repeated addition of a number.

(१) ६ × ४ = ६ + ६ + ६ + ६ (२) १० × १ =

(३) ७ × ५ = (४) १२ × ५ =

(५) १५ × १ = (६) ० × ३ =

Lets Make a Table

In the table given below, some numbers are filled. Fill the remaining places:

२	२ × १ = २
२ + २	२ × २ =
२ + २ + २	२ × ३ =
२ + २ + २ + २	२ × ४ =
२ + २ + २ + २ + २	=
२ + २ + २ + २ + २ + २	=
२ + २ + २ + २ + २ + २ + २	=
२ + २ + २ + २ + २ + २ + २ + २	=
२ + २ + २ + २ + २ + २ + २ + २ + २	२ × ६ =
२ + २ + २ + २+ २ + २ + २ + २ + २ + २	२ ×१० = २०

What are Multiplicand, Multiplier and Product?

Let us understand-

A carpenter makes ३ cots in one day.

In ७ days, he can make २१ cots.

You know that we can write this as

३ × ७ = २१

When we write an example related to multiplication in such a manner, it is called a **multipliaction fact**.

Thus ३ × ७ = २१ is a multiplication fact

Here ३ is called a multiplicand

७ is called a multiplier and

२१ is called as their product

Now write the multiplicand, multiplier and product in each of these multiplication facts.

२ × ५ = १०	Multiplicand.....	Multiplier.....	Product.....
६ × ६ = ५४	Multiplicand.....	Product.....	Multiplier.....
८ × ८ = ६४	Multiplier.....	Multiplicand.....	Product.....

In the following multiplication facts, write what the encircled number is a multiplicand or a multiplier or a product.

In ५ × (४) = २० ४ is a multiplier

In ६ × १२ = (१०८) ..... is a _____

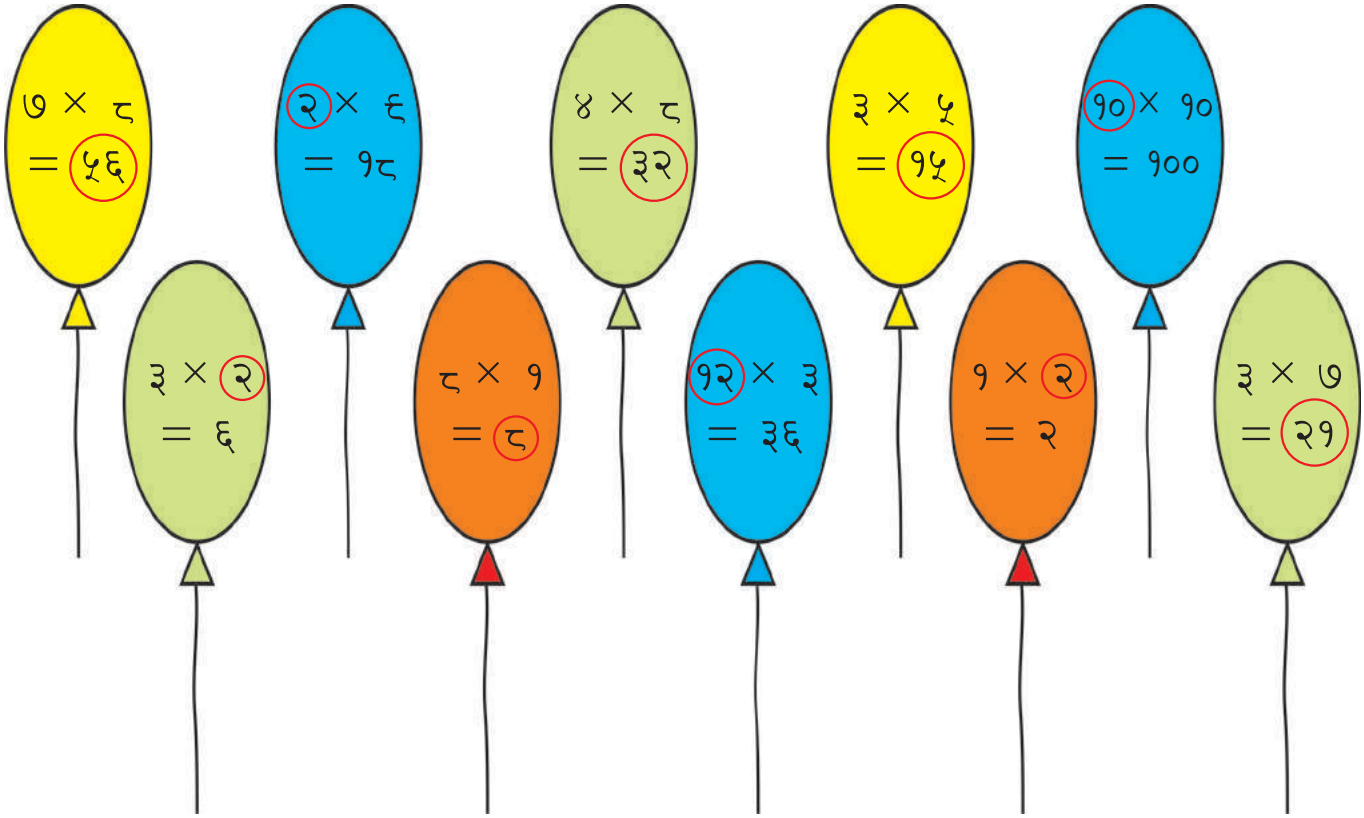
In (८) × ३ = २४ ..... is a _____

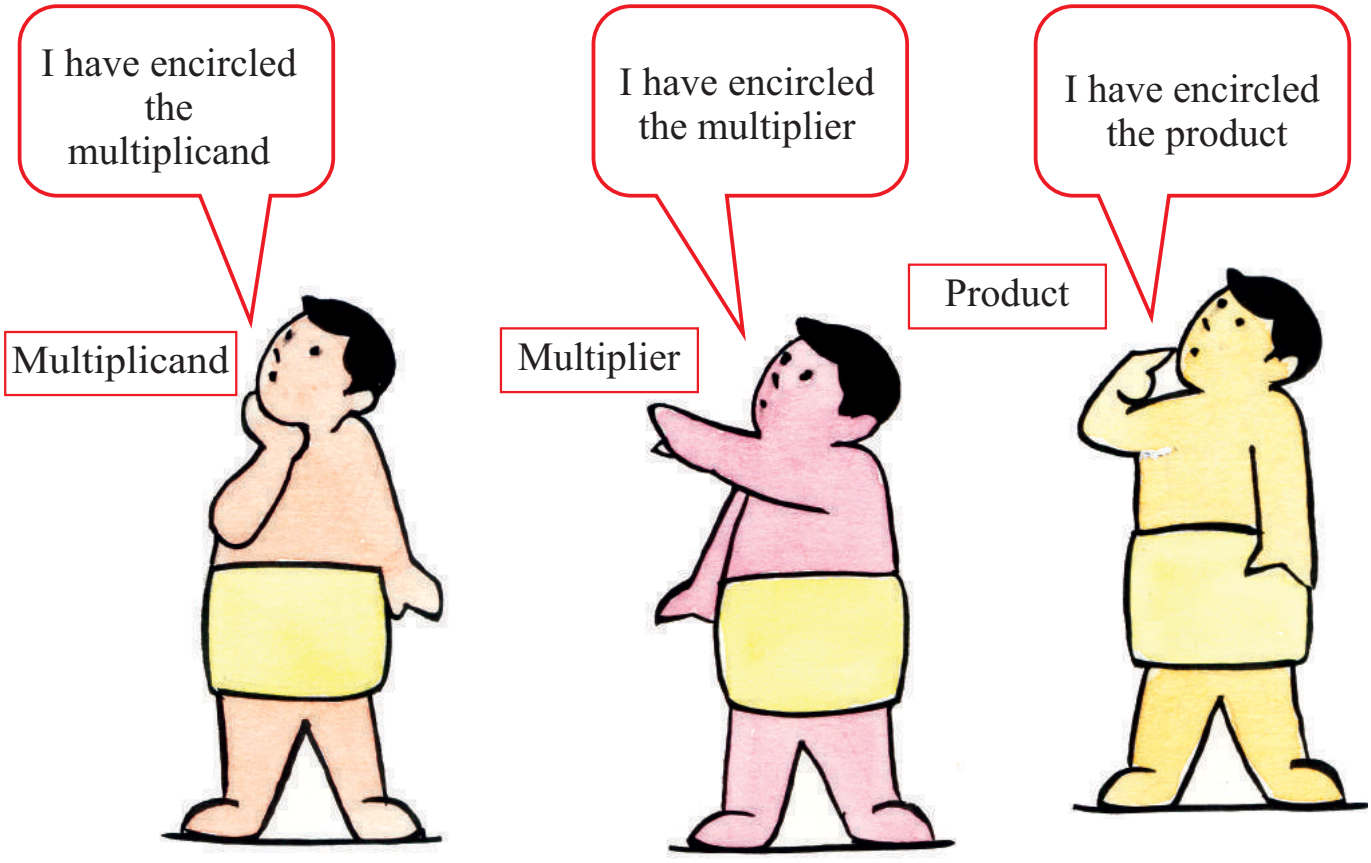
In ३ × (८) = २४ ..... is a _____

In ४ × २ = (८) ..... is a _____

Who was holding which of these balloons?

Match with a line





Let us do some more sums

१.	४ ५	२.	६ ४	३.	३ ७
	× ७		× ३		× ५
४.	६ ६	५.	८ ३	६.	५ ७
	× ४		× ६		× ७
७.	३ ०	८.	७ २	९.	५ ६
	× ६		× ६		× ६

Till now you have done multiplication of a two digit, number by a single digit number. Let us do a multiplication involving a three digit number and a single digit number

Let us understand this by an example - Multiply २४१ by २

२ ४ १ × २ २	Multiply १ in the units place with २ १ × २=२ units Write २ in the unit's place.
२ ४ १ × २ ८ २	Multiply ४ in the ten's place with २ ४ × २ = ८ tens write ८ in the ten's place.
२ ४ १ × २ ४ ८ २	Now Multiply २ of the hundred's place with २ २ × २ = ४ hundreds Write this in the hundred's place. Thus, we get २४१ × २ = ४८२

Now try some more such sums

१ १ २ × २	२ १ ० × ३	१ १ १ × ५
१ ० १ × ५	२ ० १ × ४	३ १ ० × ३
४ १ ७ × १	१ ० २ × ३	१ १ १ × ६

Number Game

Think of any one number ६	Think of any one number ————
Now double it. ६ × २ = १२	Now double it. ————
Now multiply this by five १२ × ५ = ६०	Now multiply this by five ————
What you got the number.	What you got the number.
Divide it by १० ६० ÷ १० = ६	Divide it by १० ————

Was the number you got the same as the number, you had initially thought of?
Now take more numbers and do the same.

Exercise

१. If a Kabaddi team has ७ players, then १२ such teams will have how many players?

२. A house has २४ goats. How many legs they have in all?

३. A prayer is going in a school. If one row has १० kids. Then how many kids are there in ५ rows.

४. If a acre of the farm produces ३५ bags of wheat. Then how many bags of wheat will ७ acres of the farm produces?

५. ३ Vehicles went to the barat, if each vehicle has २५ barati. Then how many people went to the barat?

Division

Varsha saw some flowers in her backyard and thought of making bouquet. She picked some flowers from backyard. She placed the flowers in three glasses filled with water. Varsha had 12 flowers. She equals distributed flowers in all the glasses. She placed one flower in each glass and was left with few flowers. She again placed one more flower in each glass. She again placed the remaining flowers one by one in each glass. This way she made the bouquet.

Now you tell how many flowers are there in each glass?

Let's see

$12 \div 4 = ?$

We have to divide 12 pabbles into four groups. For this take twelve pebbles. Make four circles on the ground. Place one pebble in each circle.

This means we have divided four pabbles and 8 pabbles are remaining. Now place one more pebble in each circle.

We have four more pabbles. Place again one by one pebbles in each circle.

This way we divided 12 into 4 equal parts and each part had 3 pabbles.
Therefore, $12 \div 4 = 3$. Its read "Twelve divided by four equals three."

Now you too make circles, collect stones and do the following divisions.

१. ६ ÷ ३ =

२. १८ ÷ ३ =

३. १० ÷ २ =

४. १२ ÷ ४ =

५. १५ ÷ ५ =

६. १६ ÷ २ =

७. १८ ÷ ६ =

८. १२ ÷ ६ =

९. २५ ÷ ५ =

१०. २१ ÷ ७ =

Which of these questions took a longer time for you to solve? You saw that we can divide things by making circles or drawings. But it takes a longer time.

Now Practise

१. २८ ÷ ७

२. २७ ÷ ३

३. ३६ ÷ ९

Solution:

$$\begin{array}{r} 4 \\ 7\overline{)\,28} \\ -\,28 \\ \hline 0 \end{array}$$

Dividend = २८
Divisor = ७
Quotient = ४

Dividend = ...
Divisor = ...
Quotient = ...

Dividend = ...
Divisor = ...
Divisor = ...

४. ५६ ÷ ७

५. ४० ÷ ५

६. १६ ÷ २

७. ६४ ÷ ८

८. ३२ ÷ ४

९. ३६ ÷ ६

You have seen how to divide by saying tables. Can you do all divisions using this method? Let us divide ८४ x ७ and see.

७)८४

Let us say the table of ७

Seven ones are seven

Seven twos are -------

Seven threes are -------

Seven tens are seventy.

We have not managed to reach 84 at all and we don't know the tables beyond tens.

Solve and write the dividend, divisor and quotient.

३)३० २)४४ ७)७७ ४)८४

३)४५ २)४८ २)६८ ३)८७

४)६८ ४)५२ ८)९२ ७)८७

Let us see

६३६ ÷ ३ = ?

```
      २
३ ) ६३६
  - ६
  ----
    ०
```

First we divide the hundred's digit.

३ twos are ६.

In the quotient we write २

Write ६ below ६ and subtract.

```
      २१
३ ) ६३६
  - ६
  ----
    ०३
  - ३
  ----
    ०
```

Now, we take down ३ of the ten's place,

So we write १ in the quotient

Write ३ below ३ and subtract.

Even now we have ६ left with us.

```
      २१३
३ ) ६३६
  - ६
  ----
    ०३
  - ३
  ----
    ०६
  - ६
  ----
    ०
```

So we take down ६

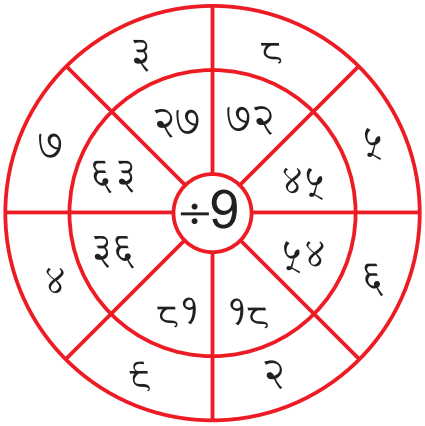
३ threes are ६

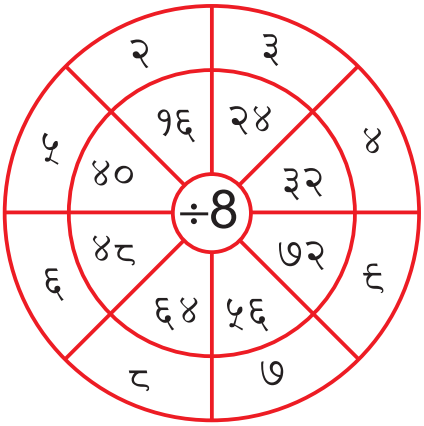
Write ३ in the quotient

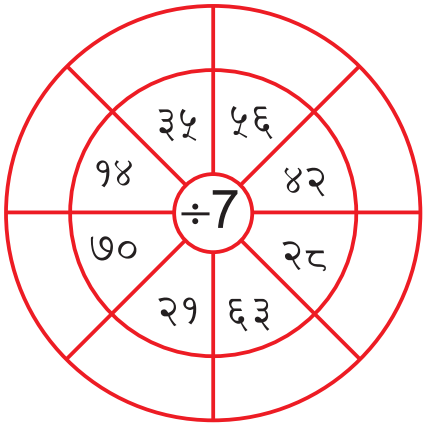
Write a below ६ and subtract

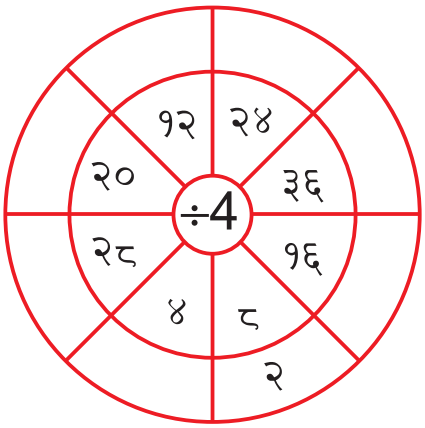
Thus we get २13 as the quotient.

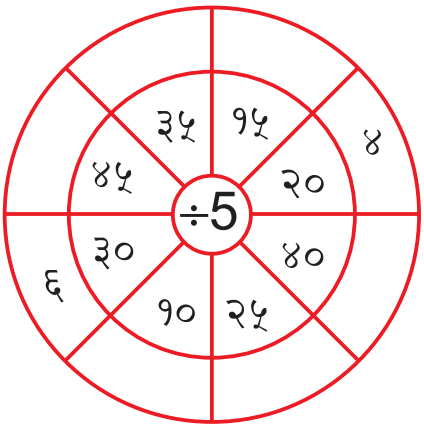
Complete these

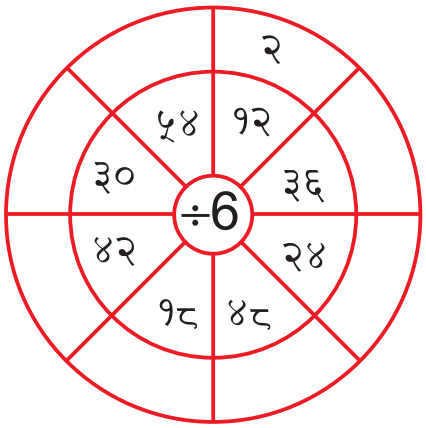












Fill in the blanks

१.

३५	÷	५	=	७
	×	५	=	३५

२.

६	×	८	=	
७२	÷		=	८

३.

	×	६	=	४८
४८	÷		=	

४.

५	×		=	४५
४५	÷		=	

१. A tractor has ६८ bags of urea. If ४ labourers helped to unload equal number of bags. How many bags did each labour unload?

२. Today is sonam's birthday. She brought २४२ chocolate to distribute. If each child get २ chocolate. How many children are there in sonam's school.

३. If one person wants to divide ५२८ rupees equally among his ४ daughters. How much will one daughter get?

४. Naina read a book of ८० pages in १० days. How many pages she read in one day?

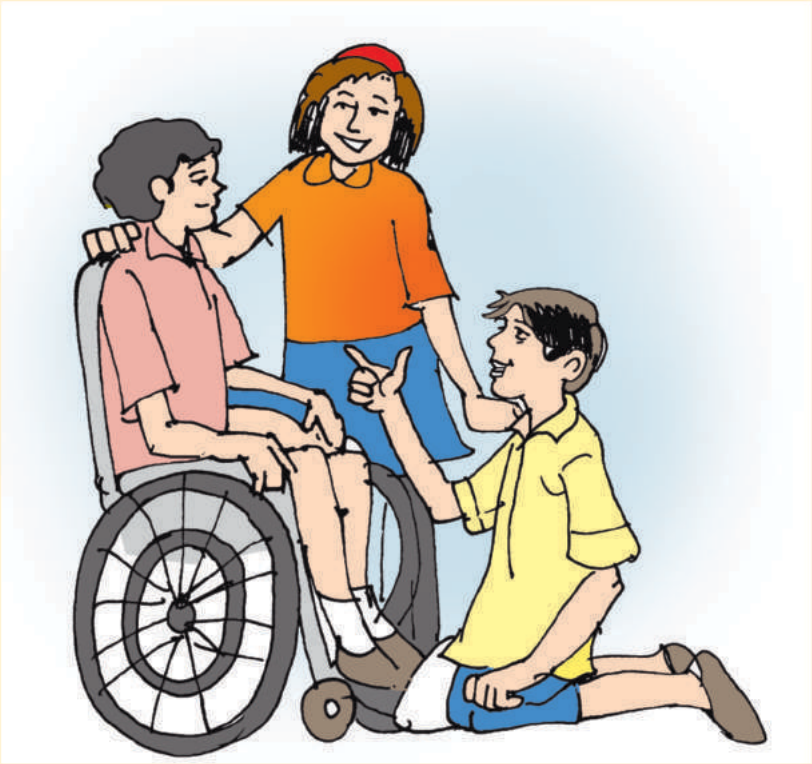
५. In a farm ६ flower bed are made. If ६०० plants are to be planted. How many plant will be there in each flower bed.

If there are mentally challenged students in your class:

1. Break the lesson into small portions. Explain difficult concepts with examples and in simple language. Try and relate difficult concepts with experiences from daily life.
2. Pay constant attention to these students while teaching so that they do not lose their focus. Encourage them to answer questions in class and reward them when they answer properly.
3. Encourage the other students to be friendly and helpful towards their mentally challenged classmates.

If there are visually-impaired students in your class, extend your help:

1. *Always address visually-impaired students by their names and speak out whatever is written on the blackboard.*
2. *Familiarize these students with the way to the classroom, staircases, Principal's room, drinking water facility, toilet, playground and library. This will enable them to go about their tasks independently.*
3. *Visually-impaired students use the Braille script. If your school does not have sufficient resources, contact the nearest DIET office and agencies that provide Braille and audio books, cassettes and CDs.*



If there are physically challenged students in your class, extend your help:

1. Familiarize these students with the way to the classroom, staircases, Principal's room, drinking water facility, toilet, playground and library. This will enable them to go about their tasks independently.
2. Keep the classroom and nearby areas obstacle free. The drinking water tap should be reachable. The toilet should have commodes and a rod for support that they might need in sitting or standing up.
3. Encourage the other students to be friendly and helpful towards their classmates