

My Mathematics

Grade 3

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Government of Nepal
Ministry of Education

Curriculum Development Centre

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Preface

With the intention of making school level education more purposeful, behavioral and contextual, a process of continuous revision and reform is adopted by the Curriculum Development Centre (CDC). It is obvious that the curriculum is the core part of teaching-learning process, and the textbooks are major means of implementing school curricula at grassroots level. In accordance with the school curricula, the text books keep on changing with a view to addressing societal needs, demands of learners and modern technology in the field of teaching and learning, especially to foster knowledge, skills and positive attitudes in the students so that we can produce skilful, moral, obedient and globally competent citizens. To accomplish this purpose, an attempt is made to bring this book in the present form.

The contents of “My Mathematics” of Grade Three are presented in the two page display system with clear teaching instructions, pictures and activities. This book (Nepali version) was originally written by Mr. Shambhu Narayan Baidhya and Sungma Tuladhar. Likewise, in accordance with the revised curriculum of primary level, it was revised by Mr. Bhoj Raj Sharma, Mr. Shalikram Bhusal, Mr. Barun Baidya, Daya Ram Simkhada, Mr. Narayan Prasad Wagley, Mr. Shyam Prasad Acharya and Tankalal Gaire. Similarly, Mr. Haribole Khanal, Dr. Siddhi Prasad Koirala, Mr. Chitra Prasad Dekota, Dr. Shiva Ram Nyaupane, Mr. Dandapani Sharma, Mr. Dillishwor Pradhan and Mr. Mukund Raj Sharma, Nirmala Gautam have also contributed significantly. Art editing and layout concept of this book was done by Shreehari Shrestha by making it four colour. CDC would like to thank all those who contributed in developing this book.

Finally, a textbook is a vital tool of effective teaching learning process in the schools. However, both experienced teachers and inquisitive students can use a number of reference materials and various other resources available in the market to teach and learn a variety of subject matters respectively. Due to lack of different types of reference materials in all schools throughout the country, most of the teaching-learning activities highly depend on the textbooks. In this context, it is expected that the experienced teachers are capable enough to design additional activities as per the demands that usually emerge in the classroom. Moreover, an attempt is made to make this book child friendly by including several motivating teaching-learning activities. Despite our sincere efforts, there may be some mistakes and errors in terms of subject matter, language, presentation style and graphics. In this regard, we definitely expect the constructive suggestions from the teachers, students, parents, readers and other concerned stakeholders to improve the book in its future editions.

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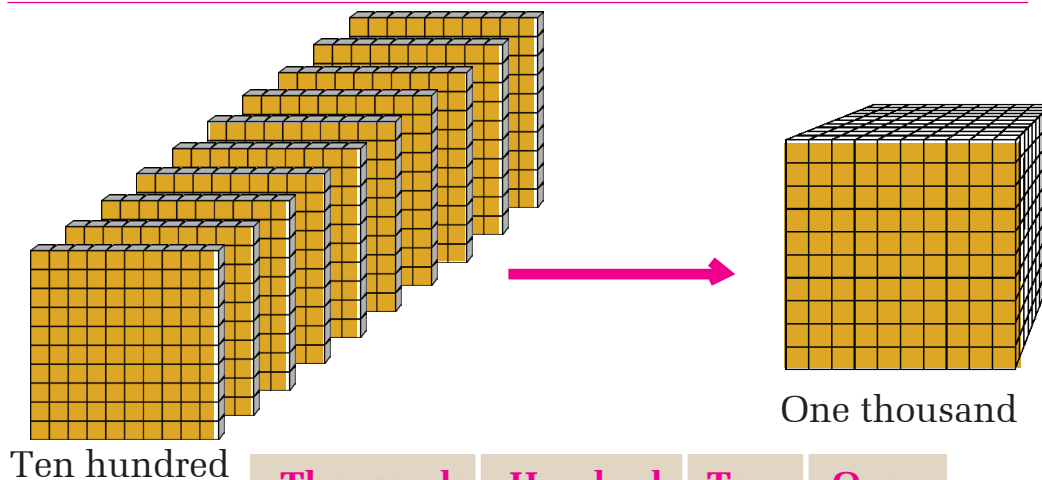
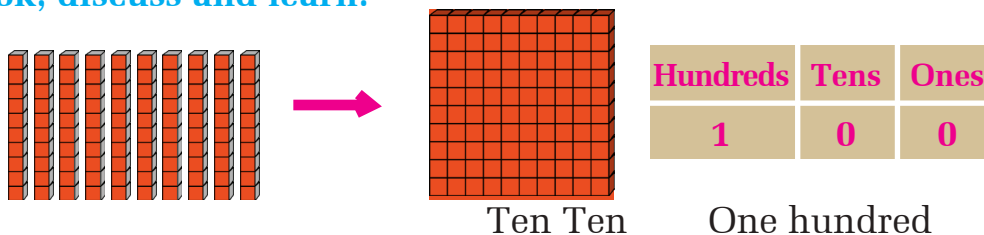
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5

FOUR DIGIT NUMBERS

A. Concept of thousand

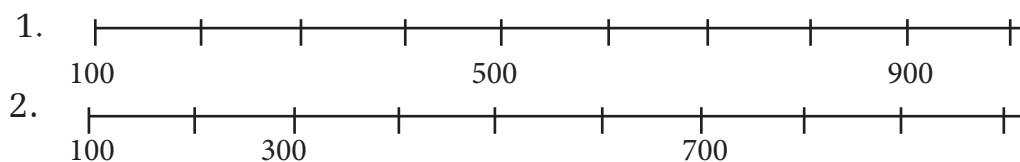
Look, discuss and learn:



= 1000 (one thousand)

Exercise

Count in the interval of 100-100. Copy the following sums in your exercise book and fill in the blanks with the correct number.



B. Place and place value of a digit in numbers.

Read, discuss and write in your exercise book:

Hundreds	Tens	Ones
5	4	8

Here, 5 is in hundreds place. So, place value of 5 is
 $= 5 \text{ hundred} = 500$.

4 is in tens place. So, place value of 4 is $= 4 \text{ ten} = 40$.

8 is in ones place. So, place value of 8 is $= 8 \text{ one} = 8$.

Thousands	Hundreds	Tens	Ones
1	8	7	5

Here, 1 is in the place of thousands. So, the place value of 1 is
 $= 1 \text{ thousand} = 1000$.

8 is in the place of hundreds. So, the place value of 8 is $= 8 \text{ hundred} = 800$.

7 is in the place of tens. So, the place value of 7 is $= 7 \text{ ten} = 70$.

5 is in the place of ones. So, the place value of 5 is $= 5 \text{ one} = 5$.

Exercise

1. Find the place circled digit and write their place value.

a. 1 2 3 4

Here, 2 is in hundreds place.

The place value of 2 is $= 2 \text{ hundred} = 200$

b. 1 3 4 5

c. 1 5 6 8

d. 1 3 6 6

e. 1 4 6 5

f. 1 6 5 7

g. 1 6 9 8

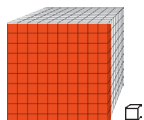
h. 1 7 6 3

i. 1 8 6 2

j. 2 9 3 9

C. Numbers 1001 to 1999.

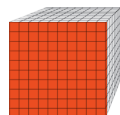
Look, read and write in your exercise book:



Thousands	Hundreds	Tens	Ones
1	0	0	1

$$1000 + 1 = 1001$$

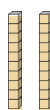
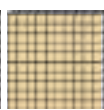
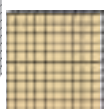
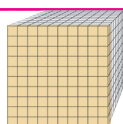
One thousand one



Thousands	Hundreds	Tens	Ones
1	1	0	0

$$1000 + 100 = 1100$$

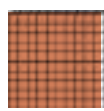
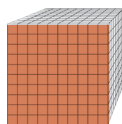
One thousand one hundred



1 Thousands 2 Hundreds 2 Tens 7 Ones = 1227

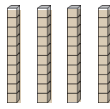
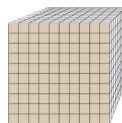
Exercise

1. Fill the box with the correct number.



Thousands Hundreds Tens Ones

2.



Thousands Hundreds Tens Ones

3. Count in the interval of 1-1 and fill the blanks with the correct number.



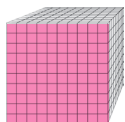
4. 1993 1994 1995 1996 1997 1998 1999



D. Thousand numbers

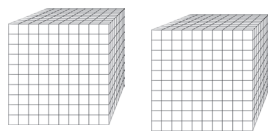
Look, read and learn:

1 thousand = 1000 = One thousand



Thousands	Hundreds	Tens	Ones
1	0	0	1

2 thousand = 2000 = Two thousand



Thousands	Hundreds	Tens	Ones
2	0	0	1

Exercise

1. Fill the blanks with the correct number.

1000	2000		4000	5000
6000	8000			10000

2. Write the numbers from 1000 to 10000 in the interval of one thousand and read it in the classroom.

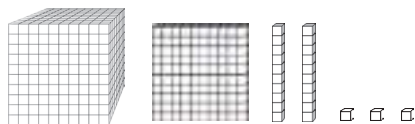
Teaching instructions:

Give the concept of numbers 1000 to 1999 by using local things like scale, charts, etc. and teach them to write number in words and figures. Get the students cut pieces of paper and write numbers 1, 10, 100 and 1000 on them. Then tell them to show numbers. Help them to learn by giving the example like, 1204 can be written as $1000+100+100+1+1+1+1$

Give the concept of numbers of 1000 upto 10,000 by using blocks, charts, etc.

E. Write numbers in words and figures:

Look, read and learn:



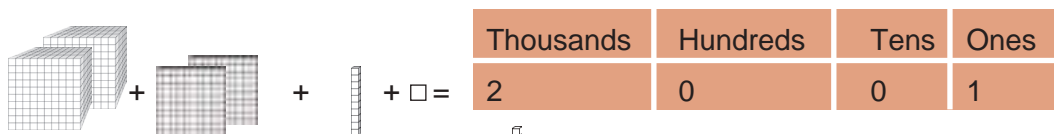
Thousands	Hundreds	Tens	Ones
1	0	0	1

$$1000 + 100 + 20 + 3 = 1123$$

In words: One thousand one hundred and twenty three.

Exercise

1. Observe the blocks and fill in the box with the correct number:



+ + + =

2. Count in the interval of 1-1 and fill in the blanks.

a. 9901 9902 9909

b. 9991 9996

3. Write the numbers in words and figures given in the place value table.

a.

Thousands	Hundreds	Tens	Ones
1	4	2	0

1420 = One thousand four hundred and twenty.

b.

Thousands	Hundreds	Tens	Ones
5	6	9	2

c.

Thousands	Hundreds	Tens	Ones
9 7	0 1		

4. Fill the following numbers in the place value table and write in words:

a. 1024 =

Thousands	Hundreds	Tens	Ones
1	0	2	4

 = One thousand and twenty four

b. 4835 c. 5652 d. 8459 e. 926

5. Write the following numbers in words:

a. 1957 = One thousand nine hundred and fifty seven.

b. 8959 c. 9582

d. 6666 e. 9957

F. Use of comma (,) in numbers.

Read, discuss and learn:

There are four digits in 3000. First of all, we use comma (,) before three digits from right. Thus, we must write 3,000 for 3000. 7,000 for 7000 and 10,000 for 10000.

Exercise

Write the following numbers with comma (,):

1. 3425 2. 5231 3. 6500 4. 9478
-

Teaching instructions:

Tell the students to write the numbers and put commas.

G. Order of numbers

Read and learn:

Which number comes just after 5349?

5350

Which number comes just before 6375?

6374

Which number lies between 8374 and 8376?

8375

Exercise

A. Write the numbers which comes just after:

1. 2356 2. 9725 3. 9804

B. Write the numbers which comes just before:

1. 2377 2. 7079 3. 9856

C. Write the numbers which lies in the middle:

1. 1987 1989 2. 9873 9875
-

Teaching instructions:

Give the concept of the numbers which come just before, after and in the middle using tables and word cards. Give additional exercises as above to practise.

H. Comparison of numbers

Use of less than ($<$), equal ($=$) and greater than ($>$) signs.

Read and learn:

Which one is bigger in 6395 and 5986?

Let us see, by keeping in the place value table:

	Thousands	Hundreds	Tens	Ones
6395 =	6	3	9	5
5986 =	5	9	8	6

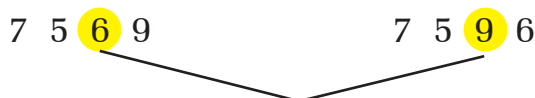
Let us see, the digits at thousands place first.

6 is greater than 5. So, $6395 > 5986$

Which one is less in 8659 and 8569?

In both the numbers digits at thousands place are equal. Let us see the digits at hundreds place. 5 is less than 6. So, $8569 < 8659$

Which one is bigger in 7569 and 7596?



The digits in the thousands place and hundreds place are equal. Then let's see, the digits at tens place. 9 is greater than 6. So, $7596 > 7569$.

Which one is smaller in 5485 and 5487 ?



The digits in thousands, hundreds and tens places are same. Let's see, the digits in ones place.

5 is smaller than 7. So, $5485 < 5487$.

The digits in all places in the numbers 8974 and 8974 are same.

So, $8974 = 8974$.

Exercise

Copy in your exercise book and fill the suitable sign (<, =, >) in the box:

- | | | | | | | | |
|----|------|--|------|----|------|--|------|
| 1. | 1857 | | 3999 | 2. | 4395 | | 2356 |
| 3. | 9876 | | 9978 | 4. | 5439 | | 5439 |
-

Teaching instructions:

Take three different cards written >, < and =. Write any two numbers on the black board. Have a game of selecting the suitable cards applicable between the two numbers by the students. For example when the numbers are 2207 and 2247, whether the students have taken the card written <, evaluate and discuss:

I. Biggest and smallest numbers

Read and learn:

Find the biggest and smallest numbers:

4395, 6152 and 5290

First let's see the digits at thousands place. 6 is the biggest among 4, 6 and 5. So, 6152 is the biggest. Similarly, 4 is the smallest. So, 4395 is the smallest.

Putting in descending order (from greatest to smaller):

6152 5290 4395

Similarly, putting in ascending order (from smallest to greatest):

4395 5290 6152

Teaching instructions:

Give each student one piece of paper and tell them to write any one number from 1 to 1000. Call three students to stand in front of the classroom and to tell their numbers. Similarly, tell the students to sit on the bench according to the numbers they wrote in the paper and evaluate it.

Exercise

1. Copy in your exercise book and circle the biggest number:

(a) 3569, 5346, 4625

(b) 2130, 4265, 5435

(c) 6296, 5794, 6199

(d) 7823, 6785, 9946

(e) 4561, 5341, 3214

(f) 5612, 6234, 3412

2. Copy in your exercise book and circle the smallest number:

(a) 1234, 3452, 3555

(b) 3546, 7461, 2235

(c) 4561, 5341, 2105

(d) 5612, 6234, 3412

(e) 6231, 3543, 2105

(f) 9354, 9214, 9399

3. Copy in your exercise book and write in descending order:

(a) 3535, 3529, 3935

Writing in descending order: 3935, 3535, 3529

(b) 5439, 3294, 4296

(c) 7284, 8339, 6152

(d) 2354, 2461, 2392

(e) 4161, 8912, 5316

(f) 6141, 5934, 4139

4. Copy in your exercise book and write in ascending order:

(a) 4564, 3965, 5745

Writing in ascending order: 3965, 4564, 5745

(b) 8941, 5140, 6171

(c) 5246, 8564, 3391

(d) 3951, 3151, 3429

(e) 5714, 6121, 3134

(f) 4689, 4885, 4930

(g) 8750, 7850, 5780

6

NUMBERS OF FIVE DIGITS

Read, discuss and write in your exercise book:

What will be when 1 is added to 9999? Discuss.

10,000 =	Ten thousands	Thousands	Hundreds	Tens	Ones
	1	0	0	0	0

= 1 ten thousand

= Ten thousand

Here, 1 is in ten thousands place. So, place value of 1 is = 10 thousand = 10,000.

35378 =	Ten thousands	Thousands	Hundreds	Tens	Ones
	3	5	3	7	8

Here, 3 is at ten thousands' place. So, place value of 3 = 3 ten thousand = 30 thousands = 30,000. 5 is in thousands place. So, place value of 5 = 5 thousands = 5,000. Total is 35 thousand. Similarly, 3 is in hundreds place, 7 is in tens place and 8 at ones place equals 3 hundred 78. So, it is read as thirty five thousand three hundred seventy eight.

Exercise

1. Fill the following numbers in the place value table and write in words:

(a)	Ten thousands	Thousands	Hundreds	Tens	Ones
	1	2	3	5	4

12,354 = Twelve thousand three hundred and fifty four.

(b) 38,915

(c) 56,386

(d) 67,832

(e) 89,151

2. Write in words:

(a) 14,975 = Fourteen thousand nine hundred seventy five

(b) 28,239

(c) 46,230

(d) 56,516

3. Write in numbers:

(a) Fifteen thousand six hundred eighty two = 15,682

(b) Twenty two thousand nine hundred twenty

(c) Ninety three thousand five hundred eighteen

4. Write the numbers from 99,950 to 99,999.

Teaching instructions:

Give the concept of 10,001, 10,002 etc because 10,000 of five digits come after 9999 and tell the students to write in order.

A. Order of numbers

Read and learn:

Which number comes just after 19,532?

19,533

Which number comes just before 27,847?

27,846

Which number lies between of 52,535 and 52,537?

52,536

Exercise

1. Write the numbers which comes just after:

a. 20,582 20,583 b. 59,304 c. 71,508

2. Write the number which comes just before:

a. 26,437 26,438 b. 32,584 c. 87,356

3. Write the number which lies in between:

a. 25,943 25,945 b. 76,596 76,598

B. Comparison of numbers

Read and learn:

Use of signs, less than ($<$), equal ($=$) and greater than ($>$):

Which is greater in 32,956 and 41,502?

Let's put in the place value table:

32,956 =	Ten thousands	Thousands	Hundreds	Tens	Ones
	3	2	9	5	6

41,502 =	Ten thousands	Thousands	Hundreds	Tens	Ones
	4	1	5	0	2

Let's see the digits in ten thousands place. 4 is greater than 3.
So, $41,502 > 32,956$.

Which is smaller in 67,319 and 62,999?

Let's put in place value table:

67,319 =	Ten thousands	Thousands	Hundreds	Tens	Ones
	6	7	3	1	9

62,999 =	Ten thousands	Thousands	Hundreds	Tens	Ones
	6	2	9	9	9

Here, digits at ten thousands place are equal. So, let's see the digits at thousands place. 2 is smaller than 7. So, $62,999 < 67,319$.

Exercise

Copy the following in your exercise book and fill in the blanks with suitable sign ($<$, $=$, $>$):

a. $22,384$ $31,126$ b. $32,204$ $31,927$

c. $68,752$ $68,866$ d. $87,592$ $87,592$

C. The biggest and the smallest numbers

Read and learn:

Find the biggest and the smallest numbers:

26,542

22,967

35,403

Let's see the digits in ten thousands place first.

3 is the biggest among 2, 2 and 3. So, 35,403 is the biggest. Similarly, 2 and 2 are same, so we see the digits at thousands place. They are 6 and 2, 6 is greater and 2 is smaller. So, 22,697 is the smallest.

While, putting in descending order:

35,403

26,542

22,967

Similarly, putting in ascending order:

22,967

26,542

35,403

Exercise

1. Copy in your exercise book and encircle the biggest numbers.

a. 24,356 25,486 22,986 b. 38,407 36,504 37,699

c. 80,560 83,390 89,910 d. 92,103 90,386 92,312

e. 42,385 44,597 41,390 f. 57,508 55,610 54,970

2. Copy in your exercise book and encircle the smallest number:

a. 26,418 25,913 22,618 b. 31,584 29,656 34,752

c. 67,705 65,912 66,818 d. 82,584 82,658 84,899

e. 45,669 48,352 42,656 f. 52,918 38,410 48,917

3. Copy in your exercise book and write in descending order:

a. 12,597 11,918 16,514

Writing in descending order: 16,514 12,597 11,918

b. 23,516 26,815 27,927 c. 36,705 39,652 36,810

d. 46,567 45,918 45,967 e. 57,815 53,218 59,619

4. Copy in your exercise book and write in ascending order:

a. 20,519 18,512 21,156

Writing in ascending order: 18,512 20,519 21,156

b. 35,564 32,614 36,519 c. 37,156 38,207 36,590

d. 53,584 53,608 49,308 e. 67,384 68,510 67,445

7

ADDITION UP TO FOUR DIGIT NUMBERS

A. Addition without carry over

Look, discuss and learn:

Observe the given pictures.

How many rupees are there in the first box? How many

rupees are there in the second box? Put rupees of two boxes in one place in the third box. How many rupees will be in the third box? How will we know the total rupees keeping in one place? By adding the given rupees, we know the total rupees.



First box

Rs.5462



Second box

Rs.2327

+



Third box

Rs. 7789

The rupees in the first box = Rs. 5,462

The rupees in the second box = Rs.2,327

To collect money (rupees) of two boxes is addition.

Let's discuss the method of solving the problem of addition given above:

	Thousands	Hundreds	Tens	Ones
	5	4	6	2
+	2	3	2	7
	7	7	8	9

Step 1: First add the digits at ones place.

Adding 2 ones and 7 ones equals 9 ones.

Step 2: Adding the digits at tens place.

Adding 6 tens and 2 tens equals 8 tens.

Step 3: Similarly, we add the digits at hundred place. Adding 4 hundreds and 3 hundreds we get 7 hundreds.

Step 4: At last, adding digits at thousands place.
Adding 5 thousands and 2 thousands equals 7 thousands.

Exercise

Add:

(a)	thousands	hundreds	tens	ones
	7	3	4	5
+	1	6	4	2

(b)	thousands	hundreds	tens	ones
	5	6	2	9
+	2	2	7	0

(c)	5 4 3 2	(d)	6 2 5 7	(e)	7 6 2 8
+	4 3 4 1	+	2 4 2 1	+	5 0 1

Teaching instructions: Ask the students to add the numbers of four digits with the numbers of four digits as above for additional practice.

B. Addition with carryover:

Example

	thousands	hundreds	tens	ones
		1	1	
	2	3	4	5
+	6	5	8	7
	8	9	13	12
	8	9	3	2

- Step 1: At first add the digits at ones place. It is 12 ones. 12 ones means 1 ten and 2 ones. Let's write 2 at ones place and carryover 1 ten at tens place.
- Step 2: Add the digits at tens place it is 13. 13 tens means 1 hundred and 3 tens. Let's write 3 in tens place and carryover 1 hundred at hundreds place.
- Step 3: Adding the digits at hundreds place, it is 9. Here, it is not necessary to carryover in thousands place because there is 9 hundred only in hundreds place.
- Step 4: Let's add the digits in thousands place. Adding 2 thousands and 6 thousands becomes 8 thousands only.

Exercise

Add:

(a)	thousands	hundreds	tens	ones
	3	2	5	4
+	4	5	3	7
	<hr/>			

(b)	thousands	hundreds	tens	ones
	5	7	9	6
+	3	1	4	7
	<hr/>			

(c)	5	6	4	3
+	2	3	2	8
	<hr/>			

(d)	6	7	5	4
+	1	0	7	8
	<hr/>			

Teaching instructions: Give additional problems of addition 4 digit numbers with carry over at ones place only, carry over at ones and tens place only and carry over at one, ten and hundreds place only for more practice.

C. Addition with carry over

Look at the examples below and discuss:

ten thousands	thousands	hundreds	tens	ones	
	1	1	2		①①①
4	7	3	5		4 7 3 5
8	3	6	9		8 3 6 9
5	2	4	3		5 2 4 3
3	2	1	6		+ 3 2 1 6
21	15	16	23		2 1 5 6 3
2	1	5	6	3	

- Step 1: First add the digits at ones place, it is 23 one.
23 one means 2 tens and 3 one, write 3 at ones place and put 2 in tens place.
- Step 2: Add the digits in tens place it is 16 ten. 16 ten means 1 hundred and 6 tens. Write 6 tens in tens place and put 1 hundred at hundreds place.
- Step 3: Add the digits at hundreds place, it is 15 hundred. 15 hundred means 1 thousand and 5 hundred. Write 5 hundred in hundreds place and put 1 thousand in thousands place.
- Step 4: At last, add the digits in thousands place. It is 21 thousand. Write 1 in thousands place and put 2 in ten thousands place.

Teaching instructions: Give additional problems of addition of 4 digit numbers as given above to the students for further practise.

Exercise

Add:

$$\begin{array}{r} \text{(a)} \quad 4 \ 2 \ 7 \ 5 \\ \quad 3 \ 6 \ 9 \ 8 \\ + \ 4 \ 3 \ 5 \ 1 \\ \hline \end{array}$$

$$\begin{array}{r} \text{(b)} \quad 6 \ 9 \ 2 \ 1 \\ \quad 7 \ 4 \ 8 \\ + \ 1 \ 5 \ 6 \ 3 \\ \hline \end{array}$$

$$\begin{array}{r} \text{(c)} \quad 2 \ 6 \ 4 \ 7 \\ \quad 9 \ 3 \ 5 \ 6 \\ \quad 8 \ 4 \ 2 \ 1 \\ + \ 7 \ 4 \ 5 \ 9 \\ \hline \end{array}$$

$$\begin{array}{r} \text{(d)} \quad 2 \ 6 \ 9 \ 4 \\ \quad 3 \ 5 \ 8 \\ \quad 7 \ 1 \ 2 \ 3 \\ + \ 8 \ 6 \ 5 \ 4 \\ \hline \end{array}$$

$$\text{(e)} \quad 2345 + 3112 + 3422$$

$$\text{(f)} \quad 7245 + 1029 + 812$$

D. Verbal problem

Example

1. Bina has Rs. 21,367, Kamala has Rs. 1,653 and Binod has Rs. 4,672. What will be the sum while mixing the amount of three persons at one place.

Here,

Amount with Bina	Rs. 2367
Amount with Kamala	Rs. 1653
and Amount with Binod	+ Rs. 4672
Total amount	<hr/> = Rs. 8692

The total amount of three persons = Rs. 8,692.

Teaching instructions: Give additional simple verbal problems up to four digits and tell them to solve in a practical way.

2. Among four villages, in Madanpur there are 4,783 people, in Divyapuri there are 6,792 people, in Vijayanagar there are 8,723 and in Bhubneshwor 9,065. How many people are there altogether in these four villages?

Here,

In Madanpur	4783
In Divyapuri	6792
In Vijaynagar	8723
In Bhuvneshwor	+ 9065
Total people	<hr/> = 29363

Exercise

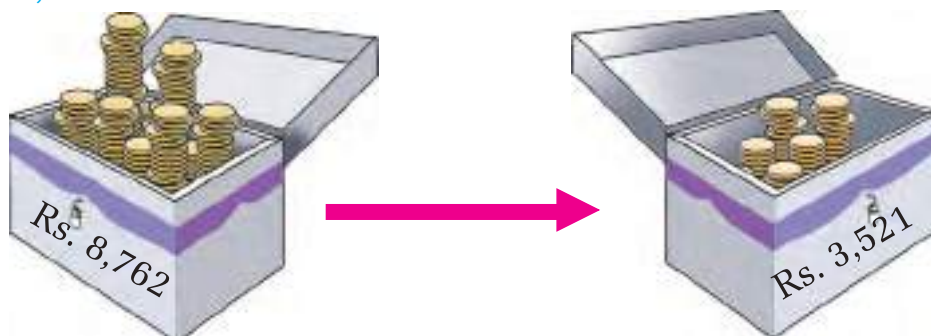
1. Pemba sold 1,545, 1999 and 2,009 oranges, respectively from three trees of his garden. How many oranges did he sell altogether?
2. Ramesh's father, sister and brother work in an office. Salary of father is Rs. 7,550, that of sister is Rs. 5,465 and that of brother is Rs. 4,925. How much rupees will they have as salary altogether?
3. A person bought a television of Rs. 8,650, a bicycle of Rs. 2,798, a watch of Rs. 2,827 and a cupboard of Rs. 3979. How much amount did he pay for all these things?
4. 6,954, 7,325, 9,107 and 8,390 persons live in four different wards of a municipality . How many persons live in four wards altogether?
5. In a fair at Bhrikutimandap, 9,725 persons participated in the first day. In the second, third and fourth day, 8,961, 7995 and 6,069 persons respectively participated. How many persons participated in that fair altogether?
6. A cow costs Rs. 7,585, a buffalo costs Rs. 9,653, a sheep costs Rs. 2,754 and a goat costs Rs. 1,979. How much rupees will it cost for all these animals?

8

SUBTRACTION OF FOUR DIGIT NUMBERS

A. Subtraction without borrowing

Look, discuss and learn:



First box

Second box

If Rs. 3521 is shifted from Rs. 8,762 of the first box in the second box. Now tell, how many rupees is left in the first box. To take a number from a given number is subtraction.

Let's discuss the above problem:

How much money will left if Rs. 3,521 is taken away from Rs. 8,762?

First subtract the digit of ones place from the digit of ones place. Similarly, repeat the process for the digits of tens place and for the digits of hundreds and thousands place.

Let's discuss the easy way of above subtraction:

	Thousands	Hundreds	Tens	Ones
	8	7	6	2
–	3	5	2	1
	5	2	4	1

Step 1: Subtract the digit of one place from the digit of ones place. $2 - 1 = 1$.

Step 2: Subtract the digit of tens place from the digit of tens place. $6 - 2 = 4$.

Step 3: Subtract the digit of hundreds place from the digit of hundreds place $7 - 5 = 2$

Step 4: Lastly, subtract the digit of thousands place from the digit of thousands place. $8 - 3 = 5$.

In this way, subtracting Rs. 3521 from Rs. 8762 it is left Rs. 5241.

Exercise

Solve:

(a)	Thousands	Hundreds	Tens	Ones
	8	5	7	6
–	3	2	6	4

(b)	Thousands	Hundreds	Tens	Ones
	7	9	6	8
–	5	4	3	2

(c)	9 8 7 6	(f)	7 9 6 5	(g)	9 4 7 3
–	2 3 5 1	–	1 2 0 4	–	5 0 2 1

Teaching instructions: Give additional problems of subtraction of four digit numbers without borrowing.

B. Subtraction of four digit numbers by borrowing

Observe the examples given below, discuss and learn the subtraction:

	Thousands	Hundreds	Tens	Ones
	7	14	15	13
		4	5	
	8	5	6	3
–	5	7	8	5
	2	7	7	8

- Step 1: First subtract the digit of ones place from the digit of ones place. 5 cannot be subtracted from 3. So, we borrow one ten from tens place. One ten is equal to 10 ones. Adding 3 ones and 10 ones it is 13 ones. Now, 5 ones can be subtracted from 13 ones. If 5 is subtracted from 13 it is 8.
- Step 2: Since one ten is borrowed from 6, 5 ten is left in that place. 8 ones cannot be subtracted from 5 ten. So, one hundred is borrowed from hundreds place. 1 hundred means 10 tens. Adding 5 ten and 10 tens it is 15 tens. Subtracting 8 tens from 15 tens, it is 7 tens left.
- Step 3 : Now, 4 is left in hundreds place. Similarly, 7 hundreds cannot be subtracted from 4 hundreds and so 1 thousand is borrowed from thousands place. 1 Thousand means 10 hundreds. Adding 10 hundreds and 4 hundreds, it is 14 hundreds. Subtracting 7 hundreds from 14 hundreds, it is left 7 hundreds.
- Step 4 : At last, 7 is left in thousands place. Subtracting 5 thousands from 7 thousands it remains 2 thousands.

Exercise

Solve:

	Thousands	Hundreds	Tens	Ones
	9	2	1	3
–	5	6	8	7

	Thousands	Hundreds	Tens	Ones
	8	3	5	2
–	5	9	7	8

(c)	7 9 8 3
–	4 5 7 9

(d)	9 6 5 4
–	1 5 3 8

(e)	4 7 8 4
–	2 3 9 9

(f)	9 6 3 1
–	3 2 7 5

(g)	6 8 3 4
–	2 9 7 5

(h)	9 2 3 4
–	4 6 5 8

(i) $9765 - 8532$

(j) $8725 - 6597$

(k) $7962 - 3785$

C. word problem

Example

1. There are 2,561 students in a school. If girls are 1,229, how many are boys?

Here, total students = 2561

number of girls = 1229

number of boys = ?

2	5	6	1
–	1	2	9
1	3	3	3

There are 1,332 boys in that school.

2. Tara Gurung had Rs. 5,734. She spent Rs. 3,985. How much money does she have now?

Here, amount with Tara Gurung = Rs.5,734

amount spent = Rs. 3,985

left amount = ?

Amount left with Tara Gurung is Rs. 1,749

5	7	3	4
-	3	9	8
1	7	4	9

3. Saurav had Rs. 3,785. Mother gave him some rupees. Now he has Rs. 8,321. What amount did his mother give to him?

Here, amount with Saurav in the beginning = Rs.3,785

amount with him after mother gave = Rs. 8,321

amount given by mother = ?

Amount given by his mother is Rs.4,536.

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

Exercise

- Population of Gairigaun was 9,825. Among them 4717 were male, how many were female?
- Hari Bahadur had Rs.6,724. He bought a bicycle of Rs. 4,575. What amount does he have now?
- There were 1520 seats in a cinema hall. 1274 seats were full, how many seats were vacant?
- There were 3,375 students in a village. Number of girls were 1,996, how many were boys?
- Dolma had Rs. 4,238. She went to the market to buy a radio. The radio cost Rs. 6,125. What amount did she need?

Teaching instructions: Give the additional problems of 4 digit of subtraction with borrowing at ones place, tens place and hundreds place gradually for practice.



SIX DIGIT NUMBERS

Read, discuss and write in your exercise book:

1,00,000 =	lakh	ten thousands	thousands	hundreds	tens	ones
	1	0	0	0	0	0

Here, 1 is in lakh place. So, place value of 1 is = 1 lakh = 1,00,000

3,56,241 =	lakh	ten thousands	thousands	hundreds	tens	ones
	3	5	6	2	4	1

Here,

3 is in lakh place. So, place value of 3 is = 3 lakh = 3,00,000

5 is in ten thousands place. So, place value of 5 is = 5 ten thousand = 50,000

6 is in thousands place. So, place value of 6 is = 6 thousand = 6,000

Total is 56 thousands. Similarly, 2 hundred 4 ten 1 one = 2 hundred 41. So, it is read 3 lakh 56 thousand 2 hundred 41 and in word it is written three lakh fifty six thousand two hundred and forty one.

Exercise

1. Fill the following numbers in the place value table and write in words:

(a)

1,52,684 =	lakh	ten thousands	thousands	hundreds	tens	ones
	1	5	2	6	8	4

One lakh fifty two thousand six hundred and eighty four.

(b) 3,36,850

(c) 5,37,857

(d) 7,32,935

2. Write in words:

- (a) 2,25,462 (b) 4,36,907 (c) 6,27,832

3. Write in numbers:

- a. Three lakh sixty thousand nine hundred seventeen = 3,60,917
b. Five lakh eighty two thousand seven hundred eighty
c. Six lakh fifteen thousand four hundred sixteen

A. Order of number

Read and learn

Which number comes just after 2,39,647?

2,39,648

Which number comes just before 5,35,269?

5,35,268

Which number lies between 8,45,612 and 8,45,614?

8,45,613

Exercise

1. Write the numbers which come just after:

- (a) 3,67,904 3,67,905 (b) 6,52,853 (c) 7,43,318

2. Write the numbers which comes just before:

- (a) 2,32,843 2,32,844 (b) 3,56,402 (c) 3,67,400
(d) 5,47,815 (e) 6,52,885

3. Write the numbers that lie in between:

- (a) 3,45,679 3,45,680 3,45,681
(b) 3,76,985 3,76,987

4. Write the numbers from 1,00,301 to 1,00,325 in order.

5. Write the numbers from 9,99,950 to 9,99,975 in order.

B. Comparison of Numbers

Use of symbol of less than ($<$), equal ($=$) and greater than ($>$) .

Read and learn:

Which is greater in 3,27,584 and 5,10,278?

Let's see by putting numbers in place value table:

3,27,584 =	lakh	ten thousand	thousand	hundred	ten	one
	3	2	7	5	8	4

5,10,278 =	lakh	ten thousand	thousand	hundred	ten	one
	5	1	0	2	7	8

Let's see first the digit in lakh place:

5 is greater than 3. So, $10,278 > 3,27,584$.

Which one is less in 9,89,268 and 989,153?

Let's put the numbers in place value table

9,82,268 =	lakh	ten thousand	thousand	hundred	ten	one
	9	8	2	2	6	8

9,89,153 =	lakh	ten thousand	thousand	hundred	ten	one
	9	8	9	1	5	3

Let's see the digits in lakhs place, they are equal. Then see the digits in ten thousands place, they are also same. Then see the digits in thousands place. 2 is small in 2 and 9. So, $9,82,268 < 9,89,153$.

Exercise

Copy in your exercise book and put appropriate sign in the blank box: ($<$, $=$, $>$).

- a. 2,78,684 2,89,501 b. 5,63,749 4,72,304
c. 6,62,384 6,62,384 d. 7,48,356 8,01,125

B. The biggest and the smallest number

Read and learn:

Find the greatest and the smallest numbers:

3,12,154 2,56,999 4,36,157

3, 2 and 4 are at lakhs place of the given numbers. Putting them in ascending order:

2,56,999 3,12,154 4,36,157

So, the greatest number is 4,36,157 and the smallest number is 2,56,999.

Exercise

1. Copy in your exercise book and encircle the greatest number:

- a. 2,12,318 3,15,316 1,99,186
b. 4,26,108 4,32,000 5,46,103

2. Copy in your exercise book and encircle the smallest number:

- a. 1,18,151 2,01,912 1,12,316
b. 3,56,814 5,16,118 4,31,312

3. Write the numbers given in (1) in ascending order.

4. Write the numbers given in (2) in descending order.

Rounding off numbers up to 100 to the nearest 10

Read and discuss.



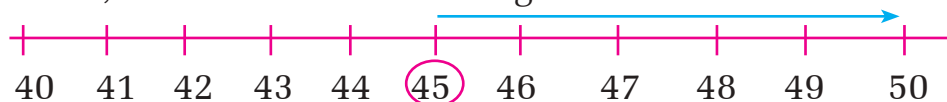
Number 8 is near to 10 than 0.

It will be 10 by rounding off to the nearest 10.



Number 74 is near to 70 than 80.

Then, it will be 70 in rounding off to the nearest 10.



45 is in equal distance between 40 and 50.

It will be 50 in rounding off.

Exercise

1. Round off the encircled number to the nearest 10.



2. Round off the following numbers to the nearest 10:

9, 34, 57, 64, 89

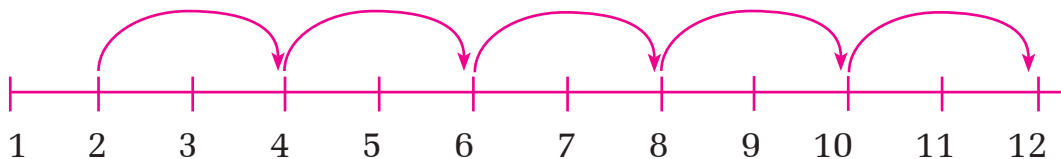
Teaching instructions: Discuss the method of rounding off by using scale, stick etc..



EVEN AND ODD NUMBER

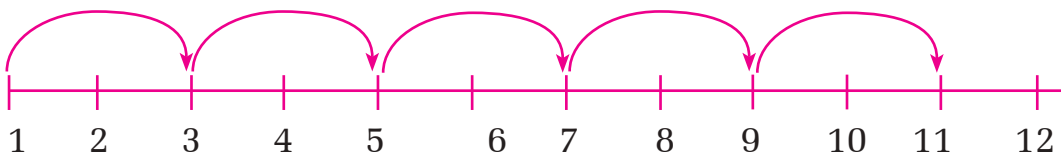
Read and discuss:

Even numbers:



2, 4, 6, 8, 10, 12, etc are the even numbers.

Odd numbers:



1, 3, 5, 7, 9, 11, etc are the odd numbers.

Are the even numbers divisible by 2 without any remainder?

Even numbers are divisible by 2 without remainder.

$$\begin{array}{r} 4 \\ 2 \overline{) 8} \\ \underline{- 8} \\ x \end{array} \qquad \begin{array}{r} 6 \\ 2 \overline{) 12} \\ \underline{- 12} \\ x \end{array}$$

Are odd numbers divisible by 2 without any remainder?

$$\begin{array}{r} 4 \\ 2 \overline{) 9} \\ \underline{- 8} \\ 1 \end{array} \qquad \begin{array}{r} 5 \\ 2 \overline{) 11} \\ \underline{- 10} \\ 1 \end{array}$$

Odd numbers are not divisible by 2 without any remainder?

When the digit at ones place of any number is zero or divisible without any remainder by 2, it is even number. If the digit in ones place is not divisible by 2 without any remainder then it is odd number.

Exercise

1. Write only even numbers from the following numbers in your exercise book:

9, 15, 20, 31, 58, 67, 94, 103, 116, 122

2. Write only odd numbers from the following numbers in your exercise book:

6, 9, 12, 14, 15, 23, 27, 49, 98, 109

3. Write 4 even numbers which comes after 36 in order.

4. Write 4 odd numbers which come after 97 in order.

5. Is the number that comes just after 27 odd or even?

6. Circle the odd numbers

12, 22, 15, 44, 56, 96

7. Write even numbers between 40 to 60.

8. Write odd numbers between 70 to 90.

Teaching instructions: Tell the students to stand in front of the class dividing them into two groups, odd and even according to their roll numbers.

Read, discuss and learn:



There is a Janata Basic School in Naya gaon. There are 25 students in each grade from grade one to three. Discuss, how many students are there in the school?

You have already studied addition, so, let's add:

In grade one	25 persons
In grade two	25 persons
In grade three	25 persons
Total students	<u>75 students</u>

Think the above problem in a different way:

There are equal students in each class. There are 3 such classes. There are 25 students in each class. Therefore, there are 25 students in 3 places and it is 25×3 .

Does the same result come by both methods, discuss:

$$25 \times 3 = 75$$

Same result comes by both methods. So, we can say that short form of addition is multiplication.

Teaching instructions: Clear the concept practically using solid objects, pictures and different problems.

A. Multiplication table

You have studied to construct and say table from 1 to 10 in grade 2.

Multiplication table up to 10

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

Table of 11 and 12 is given below. How does this table form?
Discuss.

$$11 \times 1 = 11$$

$$11 \times 2 = 22$$

$$11 \times 3 = 33$$

$$11 \times 4 = 44$$

$$11 \times 5 = 55$$

$$11 \times 6 = 66$$

$$11 \times 7 = 77$$

$$11 \times 8 = 88$$

$$11 \times 9 = 99$$

$$11 \times 10 = 110$$

$$12 \times 1 = 12$$

$$12 \times 2 = 24$$

$$12 \times 3 = 36$$

$$12 \times 4 = 48$$

$$12 \times 5 = 60$$

$$12 \times 6 = 72$$

$$12 \times 7 = 84$$

$$12 \times 8 = 96$$

$$12 \times 9 = 108$$

$$12 \times 10 = 120$$

Exercise

- Write multiplication table from 2 to 10.
- Multiply by using the multiplication table:

(a) $5 \times 7 = 35$	(b) $6 \times 8 =$	<input type="text"/>
(c) $7 \times 9 =$	(d) $10 \times 5 =$	<input type="text"/>
(e) $11 \times 7 =$	(f) $11 \times 6 =$	<input type="text"/>
(g) $11 \times 8 =$	(h) $12 \times 8 =$	<input type="text"/>
(i) $12 \times 6 =$	(j) $12 \times 9 =$	<input type="text"/>

B. Method of multiplication

Multiply 23 by 3:

	Tens	Ones	
	2	3	
	x	3	
	<hr/>		
		9	\Rightarrow multiply the digit in ones place by 3. $3 \times 3 = 9$
+ 6	0		\Rightarrow multiply the digit in tens place by 3. $3 \times 20 = 60$
6	9		\Rightarrow added.

Shortcut method

	Tens	Ones	
	2	3	first multiply 3 by 3.
	x	3	then multiply 2 by 3.
	<hr/>		
	6	9	

Example

Tens	Ones
8	7
x	9
<hr/>	

72 ten + 63 one
 = 70 ten + 2 ten + 60 one + 3 one
 = 7 hundred + 2 ten + 6 ten + 3 one
 = 7 hundred + 8 ten + 3 one
 = 700 + 80 + 3
 = 783

Shortcut method

$$\begin{array}{r} 87 \\ \times 9 \\ \hline 783 \end{array}$$

Exercise

Multiply:

a.

Tens	Ones
1	2
x	4
<hr/>	

b.

Tens	Ones
5	1
x	5
<hr/>	

c.

Tens	Ones
4	7
x	6
<hr/>	

d.

Tens	Ones
4	6
x	7
<hr/>	

e.

Tens	Ones
8	6
x	8
<hr/>	

f.

Tens	Ones
7	9
x	9
<hr/>	

C. Multiplication of two digit numbers (with carryover)

Example:

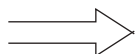
Multiply:
$$\begin{array}{r} 87 \\ \times 35 \\ \hline \end{array}$$

Step 1

$$\begin{array}{r} 87 \\ \times 5 \\ \hline 435 \end{array}$$

Setp 2

$$\begin{array}{r} 87 \\ \times 30 \\ \hline 2610 \end{array}$$



$$\begin{array}{r} 87 \\ \times 35 \\ \hline 435 \end{array}$$

[Multiply 87 by 30, 0 is added in the number that comes by multiplication of 87 and 3]

$$\begin{array}{r} + 2610 \\ \hline 3045 \end{array}$$

Exercise

Solve

$$\begin{array}{r} 78 \\ \times 22 \\ \hline \end{array}$$

$$\begin{array}{r} 56 \\ \times 34 \\ \hline \end{array}$$

$$\begin{array}{r} 85 \\ \times 26 \\ \hline \end{array}$$

$$\begin{array}{r} 64 \\ \times 32 \\ \hline \end{array}$$

$$\begin{array}{r} 94 \\ \times 36 \\ \hline \end{array}$$

$$\begin{array}{r} 98 \\ \times 41 \\ \hline \end{array}$$

Teaching instructions : Give more practical exercises to practice. Give the concept of putting zero at ones place while multiplying with the digit at tens place

B. MULTIPLICATION BY SHORT METHOD

Example

Solve:

$$\begin{array}{r} 78 \\ \times 47 \\ \hline 546 \\ + 3120 \\ \hline 3666 \end{array}$$

(multiply by the digit at ones place) (step 1)
(multiply by the digit at tens place) (step 2)
(add the two products) (step 3)

Exercise

Multiply

$$\begin{array}{r} 59 \\ \times 23 \\ \hline \end{array}$$

$$\begin{array}{r} 76 \\ \times 54 \\ \hline \end{array}$$

$$\begin{array}{r} 68 \\ \times 49 \\ \hline \end{array}$$

$$\begin{array}{r} 78 \\ \times 65 \\ \hline \end{array}$$

$$\begin{array}{r} 67 \\ \times 38 \\ \hline \end{array}$$

$$\begin{array}{r} 39 \\ \times 58 \\ \hline \end{array}$$

E. MULTIPLICATION OF THREE DIGIT NUMBERS BY TWO DIGIT NUMBERS

Example:

$$\begin{array}{r}
 435 \\
 \times 27 \\
 \hline
 3045 \\
 + 8700 \\
 \hline
 11745
 \end{array}$$

Diagram illustrating the multiplication process with arrows showing the alignment of partial products:

$$\begin{array}{r}
 435 \\
 \times 7 \\
 \hline
 3045
 \end{array}$$

$$\begin{array}{r}
 435 \\
 \times 20 \\
 \hline
 8700
 \end{array}$$

Exercise

Multiply:

(a)
$$\begin{array}{r}
 275 \\
 \times 34 \\
 \hline
 \end{array}$$

(b)
$$\begin{array}{r}
 189 \\
 \times 76 \\
 \hline
 \end{array}$$

(c)
$$\begin{array}{r}
 319 \\
 \times 65 \\
 \hline
 \end{array}$$

Teaching instructions: In the beginning give multiplication with place value and then without place value as given above in the examples:

F. VERBAL PROBLEM

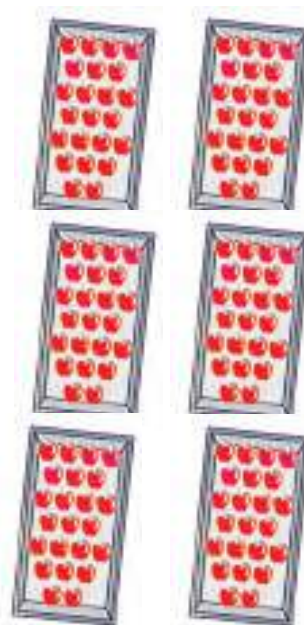
Read, discuss and learn:

There are 23 oranges in each box of the fruits, then how many oranges are there in 6 boxes?

Oranges in the first box = 23

Total boxes = 6

Total oranges = ?



Now let's multiply:

$$\begin{array}{r} 23 \\ \times 6 \\ \hline 138 \end{array}$$

So, there are 138 oranges.

Exercise

1. A radio costs Rs. 725. What will be the cost of 9 radios?
2. There are 45 seats in a bus. How many seats are there in 15 buses?
3. There are 35 students in a line. How many students are there in 12 lines?
4. There are 55 books in a box. How many books are there in 18 boxes?
5. There are 123 chocolates in a packet. How many chocolates are there in 24 packets?

Teaching instructions: Give additional simple practical verbal problems on multiplication and help the students to solve in a practical way.

Read, discuss and learn



There are 45 plants planted in the garden of a school. These 45 plants are kept in equal 3 rows. How many plants are there in each row?

Divide 45 by 3.

What is the quotient?

45 is divided by 3 in the right side, where 3 is divisor and 45 is dividend. What is the remainder?

Is it right?

$$\begin{array}{ccccccc} 3 & \times & 15 & = & 45 \\ \text{divisor} & & \text{quotient} & & \text{dividend} \end{array}$$

It is right when the remainder is 0 (zero).
There are 15 plants in each row.

$$\begin{array}{r} \text{divisor } 3 \overline{) 45 \text{ dividend}} \\ \underline{-3} \\ 15 \\ \underline{-15} \\ 0 \end{array}$$

15 quotient

A. Division of two digit numbers by one digit numbers (without remainder)

Example:

$$\begin{array}{r} 7 \\ 9 \overline{)63} \\ - 63 \\ \hline \end{array}$$

Now,

$$63 \div 9 = 7$$

Let us check

(divisor \times quotient)

$$(9 \times 7)$$

63 is divided by
9 in 7 times



= dividend

$$= 63$$

Remember multiples
or tables of 9

$$9 \times 1 = 9$$

$$9 \times 2 = 18$$

$$9 \times 3 = 27$$

$$9 \times 4 = 36$$

$$9 \times 5 = 45$$

$$9 \times 6 = 54$$

$$9 \times 7 = 63$$

$$9 \times 8 = 72$$

$$9 \times 9 = 81$$

$$9 \times 10 = 90$$

Exercise

Divide and check

1. (a) $6 \overline{)48}$

(b) $7 \overline{)49}$

(c) $8 \overline{)56}$

(d) $9 \overline{)45}$

(e) $5 \overline{)45}$

(f) $8 \overline{)64}$

2. (a) $48 \div 8$

(b) $56 \div 7$

(c) $81 \div 9$

(d) $72 \div 9$

(e) $54 \div 6$

(f) $63 \div 7$

B. Division of two digit numbers by one digit numbers (with remainder)

There are 45 apples in a box.

If the apples are divided among 7 persons equally, how many apples each person gets. Think.

Giving the apples equally to 7 persons, each person get 6 apples and is there any apples left in the box?

Now, solving this problem in short,

Total apples = 45

Total persons = 7

Giving 6 apples to 7

persons 3 apples are

left. This 3 is the remainder.

$$\begin{array}{r} 6 \\ 7 \overline{) 45} \\ \underline{- 42} \\ 3 \\ \text{remainder} \end{array}$$

Remainder is always less than divisor.

Now, checking the above problem.

(Divisor x Quotient) + Remainder = Dividend

$$(7 \times 6) + 3 = 45$$

$$42 + 3 = 45$$

$$45 = 45$$

Example:

Divide and check:

$$\begin{array}{r} 9 \\ 8 \overline{) 76} \\ \underline{- 72} \\ 4 \end{array}$$

Check

(Divisor x Quotient) + Remainder = Dividend

$$(8 \times 9) + 4 = 76$$

$$72 + 4 = 76$$

$$76 = 76$$

Exercise

Divide and check:

$$(a) \quad 7 \overline{)68}$$

$$(b) \quad 6 \overline{)57}$$

$$(c) \quad 8 \overline{)77}$$

$$(d) \quad 8 \overline{)61}$$

$$(e) \quad 9 \overline{)85}$$

$$(f) \quad 9 \overline{)25}$$

Teaching instructions: Develop the concept of division through more examples as given above. Give additional problems to practice.

C. Division of three digit numbers by two digit numbers.

Example 1:

$$315 \div 15$$

Divide:

$$\begin{array}{r} 21 \\ 15 \overline{)315} \\ \underline{-30} \\ 15 \\ \underline{-15} \\ 0 \end{array}$$

Check:

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

$$15 \times 21 = 315$$

$$315 = 315$$

Example 2:

$$565 \div 27$$

Divide:

$$\begin{array}{r} 22 \\ 27 \overline{)565} \\ \underline{-54} \\ 55 \\ \underline{-54} \\ 1 \end{array}$$

Check:

$$\text{Divisor} \times \text{Quotient} + \text{remainder} = \text{divident}$$

$$27 \times 22 + 1 = 595$$

$$594 + 1 = 595$$

$$= 595$$

Exercise

Divide and check

- (a) $255 \div 17$ (b) $513 \div 19$ (c) $638 \div 22$
(d) $368 \div 15$ (e) $412 \div 21$ (f) $529 \div 32$

Teaching instructions: Tell the students to guess how many times it is divided by the two digit numbers. After this, tell them to divide. Give similar problems for more practice..

D. Verbal Problems

Example

If Rs.450 is divided equally among 18 students, how much amount does each get?

Amount to be divided = Rs. 450

total students = 18

Dividing

$$\begin{array}{r} 25 \\ 18 \overline{) 450} \\ \underline{- 36} \\ 90 \\ \underline{- 90} \\ \hline x \end{array}$$

So, each gets Rs. 25.

Exercise

1. Divide 408 copies equally among 17 students, how many copies does each get?

2. 25 goats can be kept in a pen, how many pens will be needed for 475 goats?
3. There are 735 mangoes in a box of fruits. How many mangoes does each person get if it is divided equally to 35 persons?
4. How many rows will be needed to keep 680 students if 40 students are kept in a row?

Mixed exercise

1. Fill appropriate number in the blanks:

a. x 15 = 345

b. 12 x = 348

c. 525 ÷ = 15

d. ÷ 16 = 21

e. ÷ 25 = 25

f. 855 ÷ = 19

2. Solve the following problems:

- a. Which number must be multiplied by 16 to get 172?
- b. By which number 625 is to be divided to get the quotient 25?
- c. Which number is to be divided by 12 to get the quotient 216?

Teaching instructions: Give simple verbal problems and make the students practice as given above.



Hindu Arabic Numerals

Read, discuss and learn

A. We write ०, १, २, ३, ४, ५, ६, ७, ८ and ९ in Devnagari. These digits are written 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9 in the Hindu Arabic.

Write ४,५३,२७८ in Hindu Arabic.

Devnagari	४	५	३	२	७	८
Hindu Arabic	4	5	3	2	7	8

Hence, ४,५३,२७८ is 4,53,278 in Hindu Arabic.

Now writing 4,53,278 in English.

ten lakhs	lakhs	ten thousands	thousands	hundreds	tens	ones
	4	5	3	2	7	8

Writing 4,53,278 in English with the help of above table.

= Four lakh fifty three thousand two hundred and seventy eight.

Example 1: Write in Hindu Arabic and English.

Answer:is written 39,53,784 in Hindu Arabic.

Putting the numbers in place value table,

ten lakhs	lakhs	ten thousands	thousands	hundreds	tens	ones
3	9	5 3	7 8	4		

In English: Thirty-nine lakh fifty three thousand seven hundred and eighty-four.

Teaching instructions: First ask the students to compare the digits of Devnagari with Hindu Arabic. Then teach them to convert from Devanagari to Hindu Arabic one by one.

Exercise

Write the following numbers in Hindu Arabic:

(a) ४३,८२,०३४

Answer:43,82,034

(b) ६२,८८,२३०

(c) ७३,४०,००५

(d) ७९,२०,५५०

2. Put the following Hindu Arabic numbers in place value table and write in English.

(a) 40,72,802

Answer: Putting this in place value table.

ten lakhs	lakhs	ten thousands	thousands	hundreds	tens	ones
4	0	7	2	8	0	2

40 lakhs 72 thousands 8 hundreds 0 tens and 2 ones.

Four lakh seventy two thousand eight hundred and two.

(b) 53,47,009

(c) 43,27,849

(d) 94,24,777

3. Write the following numbers in Hindu Arabic:

(a) Seventy one lakh forty four thousand one hundred and four.

Answer: 71,44,104

(b) Ninety lakh twenty- three thousand five hundred and seventy six.

(c) Ninety seven lakh sixty thousand five hundred and three.

(d) Fifty lakh three thousand and nine.

(e) Twenty two lakh eighty four thousand.

A. Time in hour and minute**Read and learn:**

There are three hands in the clock. The shortest hand denotes hour. The longer hand denotes the minute. The thinnest hand denotes seconds. Minute hand takes 5 minutes to reach from one number to the next. So, the



minute hand takes 5 minute to reach at 1 from 12. Similarly, to reach at 12 from 12 it takes 60 minutes. One hour is of 60 minutes. The hour hand takes 1 hour to reach at 1 from 12. So, the hour hand takes 12 hours to complete one round.

In the clock alongside, the minute hand is at 4. The hour hand has crossed 3. Count minute from 12. Count hour hand from 12. It is 20 minutes from 12 to 4. So, the clock shows 20 minutes past 3. It is written 3:20

**Example:**

In this clock, it is 50 minutes past 7. This means it is 7:50.

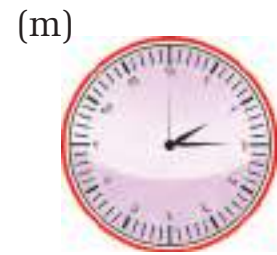
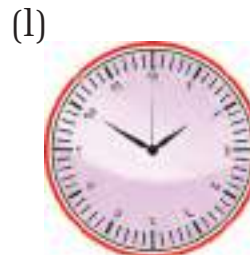
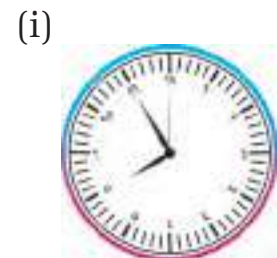
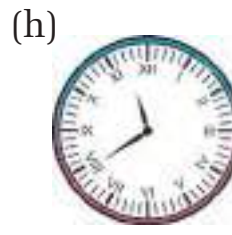
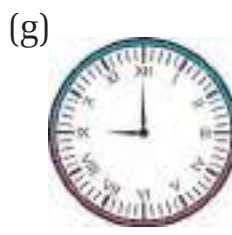
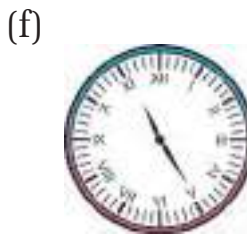


Teaching instructions: Use real clock, model clock and clock that shows different time and tell the students to read and write time observing the clocks. You can use digital watches for practice.

Exercise

1. Write the time in the following clocks:

(a)  It is 5 minutes past 8. It is 8:05.



2. How many minutes are left to 5 in the following clocks?



B. Day, week, month and year

The time from today's sunrise to tomorrow's sunrise is called one day. 1 day includes both day and night. There are 24 hours in 1 day.

Calendar of Paush, 2074

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
30						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

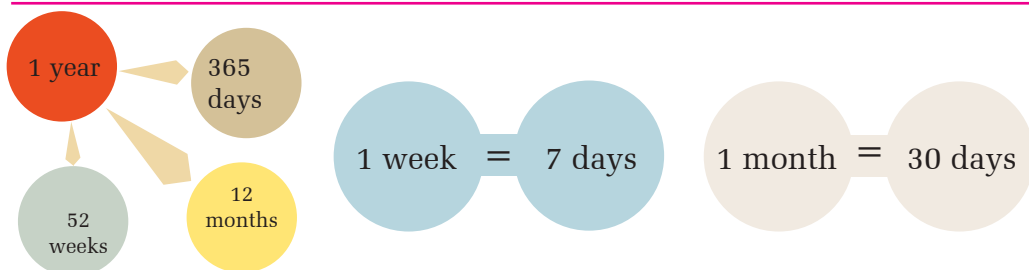
Read these facts and learn:

1 day = 24 hours

7 days = 1 week

30 days = 1 month

12 months = 1 year



Let's calculate using the above facts:

Convert the day in hour:

In 1 day, there are 24 hours. How many hours are there in 8 days?

Answer: 1 day = 24 hours

8 days = 24 x 8 hours

= 192 hours

So, there are 192 hours in 8 days.

Conversion of week in days:

In 1 week, there are 7 days. How many days are there in 4 weeks?

Answer: 1 week = 7 days

$$\begin{aligned} 4 \text{ weeks} &= 4 \times 7 \\ &= 28 \text{ days} \end{aligned}$$

Conversion of month in days:

In a month, there are 30 days. How many days are there in 6 months?

Answer: 1 month = 30 days

$$\begin{aligned} 6 \text{ months} &= 30 \times 6 \\ &= 180 \text{ days.} \end{aligned}$$

Teaching instructions: Discuss with the students the days of a month, days of a week and months of a year with the help of a real calendar. In some months there are more than 30 or less than 30 days but in calculation it is taken as 30 days. Teach them to convert week into days and gradually move to the difficult one.

Exercise

1. There are 24 hours in 1 day. How many hours are there in 9 days?
2. There are 24 hours in 1 day. How many hours are there in 20 days?
3. There are 7 days in 1 week. How many days are there in 10 weeks?
4. There are 7 days in 1 week. How many days are there in 52 weeks?
5. Convert the days into hours:
a. 3 days b. 15 days c. 150 days
6. Convert the weeks into days:
a. 5 weeks b. 8 weeks c. 102 weeks

7. Convert the months into days:

- a. 5 months b. 10 months c. 11 months

8. How many days are there from 5 Jestha to 26 Jestha? Count the days and convert into hours.

9. Observe the calendar of this year. Select any 6 months and add the days of these months.

10. Look at the calendar of this year and find the days of the months. Discuss and write.

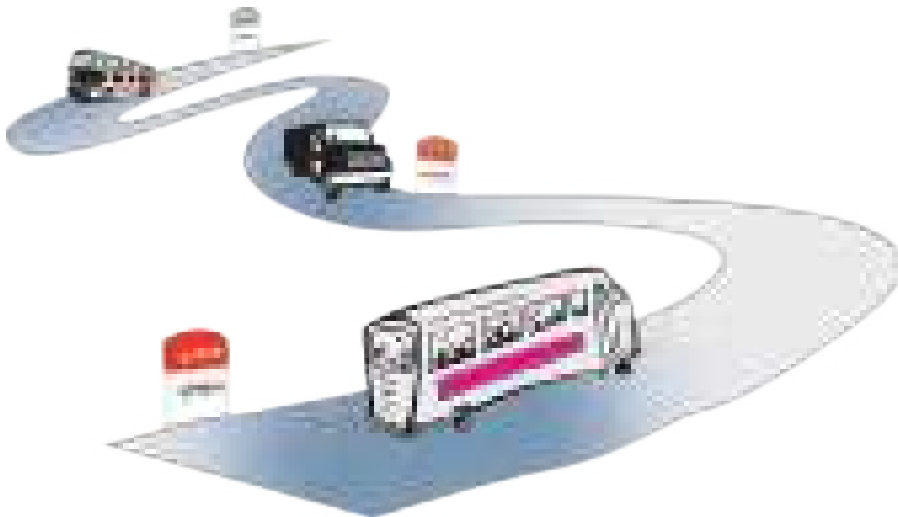
- a. Falgun
b. Ashad and Shrawan
c. Poush, Magh and Falgun

Teaching instructions: Give additional exercises as given above and tell the students to practice.

C. Addition and subtraction of time

Read, discuss and learn:

It takes 7 hours and 15 minutes for a bus to reach Kathmandu from Pokhara. It takes 1 hour and 30 minutes to reach Dhulikhel from Kathmandu. How much time will it take to reach Dhulikhel from Pokhara?



Pokhara to Kathmandu = 7 hours 15 minutes

Kathmandu to Dhulikhel = 1 hours 30 minutes

Now, let's add these two times,

7 hours 15 minutes	minute is added with minute
+ 1 hour 20 minutes	hour is added with hour
<hr/>	
8 hours 35 minutes	

Total time to reach Dhulikhel from Pokhara is 8 hours 35 minutes.

Example:

1. Solve:

a. days hours minutes

	5	14	18
+ 18		5	10
<hr/>			
	23	19	28

b. months days

	7	17
+ 4		2
<hr/>		
	11	19

2. Solve:

a. hours minutes

	6	15
+ 3		10
<hr/>		
	3	5

b. months days hours

	4	6	25
+ 4		2	13
<hr/>			
x	4	12	

Note:

Addition and subtraction are possible only for day and day, hour and hour, week and week and month and month.

Exercise

1. Solve:

$$\begin{array}{r} \text{a. } 7 \text{ hours } 13 \text{ minutes} \\ + 5 \text{ hours } 14 \text{ minutes} \\ \hline \end{array}$$

$$\begin{array}{r} \text{b. } 15 \text{ hours } 18 \text{ minutes} \\ + 8 \text{ hours } 41 \text{ minutes} \\ \hline \end{array}$$

$$\begin{array}{r} \text{c. } \begin{array}{ccc} \text{months} & \text{days} & \text{hours} \\ 8 & 14 & 20 \\ + 2 & 10 & 3 \\ \hline \end{array} \end{array}$$

$$\begin{array}{r} \text{d. } \begin{array}{ccc} \text{months} & \text{days} & \text{hours} \\ 8 & 20 & 11 \\ + 3 & 1 & 10 \\ \hline \end{array} \end{array}$$

2. Solve:

$$\begin{array}{r} \text{a. } \begin{array}{cc} \text{months} & \text{days} \\ 5 & 16 \\ - 2 & 8 \\ \hline \end{array} \end{array}$$

$$\begin{array}{r} \text{b. } \begin{array}{cc} \text{days} & \text{hours} \\ 27 & 13 \\ - 19 & 9 \\ \hline \end{array} \end{array}$$

$$\begin{array}{r} \text{c. } \begin{array}{cc} \text{hours} & \text{minutes} \\ 18 & 45 \\ - 9 & 28 \\ \hline \end{array} \end{array}$$

$$\begin{array}{r} \text{d. } \begin{array}{ccc} \text{months} & \text{days} & \text{hours} \\ 12 & 13 & 11 \\ - 10 & 8 & 7 \\ \hline \end{array} \end{array}$$

$$\begin{array}{r} \text{e. } \begin{array}{ccc} \text{weeks} & \text{days} & \text{hours} \\ 52 & 16 & 18 \\ - 48 & 7 & 9 \\ \hline \end{array} \end{array}$$

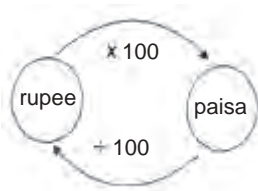
3. Ram ploughed a field for 3 days and 2 hour and Sita ploughed it for 2 days and 5 hour. How much total time was spent for ploughing the field?
4. It takes 5 days and 7 hours to knit a carpet. Pema knitted the carpet for 3 days and 2 hours. How long does it take to knit the whole/full carpet?

Teaching instructions: Give the students additional exercises as given above. Also tell them to make questions of their own and solve.

(A) Conversion of Rupee and Paissa**Read and learn:**

Bimala has Rs. 17 and 50 paissa, then how can the amount in rupees with her be changed into paissa. Let's discuss.

How much paissa are there in 1 rupee? How much paissa will be of 17 rupees? What should we do to convert 17 rupees into paissa. Discuss.

Method of converting rupees and paissa

1 rupee is equal to 100 paissa.

To convert the rupees into paissa, we need to multiply it by 100.

To convert paissa into rupees, we need to divide it by 100.

Convert Rs.7 and 65 paissa into paissa:

$$\begin{aligned}
 \text{Rs.7 and 65 paissa} &= \text{Rs.7} + 65 \text{ paissa} \\
 &= 7 \times 100 \text{ paissa} + 65 \text{ paissa} \\
 &= 700 \text{ paissa} + 65 \text{ paissa} \\
 &= 765 \text{ paissa}
 \end{aligned}$$

Convert 575 paissa into rupees and paissa:

$$\begin{aligned}
 575 \text{ paissa} &= 500 \text{ paissa} + 75 \text{ paissa} \\
 &= \text{Rs. 5} + 75 \text{ paissa} \\
 &= \text{Rs. 5 and 75 paissa}
 \end{aligned}$$

Teaching instructions: Discuss the short method of converting rupees and paissa (dividing by 100 and multiplying by 100) . For example: Practice on $2 \times 100 = 200$, $5 \times 100 = 500$ and $500 \div 100 = 5$, $1500 \div 100 = 15$ etc.

Exercise

1. Convert into paisa:

- a. Rs. 15 b. Rs.53 c. Rs. 157
d. Rs. 23 and 50 paisa e. Rs.333 and 33 paisa

2. Convert into rupees and paisa:

- a. 200 paisa b. 150 paisa c. 475 paisa
d. 678 paisa e. 524 paisa f. 840 paisa
g. 544 paisa h. 999 paisa i. 1025 paisa
j. 1073 paisa k. 1245 paisa l. 1830 paisa

B. Addition of rupees and paisa:

Read and learn:

Shila had Rs. 52 and 25 paisa. Her father gave her Rs.50 and 50 paisa. How much money does Shila have?

Amount with Shila	Rs. 52 and 25 paisa
Amount given by father	+ Rs. 50 and 50 paisa
Total amount	Rs. 102 and 75 paisa

Rupee is added with rupee. Paisa is added with paisa. Similarly, in subtraction rupee is subtracted from rupee and paisa is subtracted from paisa.

Example:

Solve:

Rupees	Paisa
105	57
– 18	13
<hr/>	
87	44

Teaching instructions: Organize a short play in a classroom to give the concept of rupees and paisa spent in shopping practically.

Exercise

1. Solve:

$$\begin{array}{r} \text{a.} \quad \text{Rupees} \quad \text{Paisa} \\ \quad \quad 63 \quad \quad 70 \\ \quad + 15 \quad \quad 5 \\ \hline \end{array}$$

$$\begin{array}{r} \text{b.} \quad \text{Rupees} \quad \text{Paisa} \\ \quad \quad 632 \quad \quad 45 \\ \quad + 132 \quad \quad 35 \\ \hline \end{array}$$

$$\begin{array}{r} \text{c.} \quad \text{Rupees} \quad \text{Paisa} \\ \quad \quad 888 \quad \quad 10 \\ \quad + 456 \quad \quad 65 \\ \hline \end{array}$$

2. Solve:

$$\begin{array}{r} \text{a.} \quad \text{Rupees} \quad \text{Paisa} \\ \quad \quad 75 \quad \quad 90 \\ \quad - 62 \quad \quad 75 \\ \hline \end{array}$$

$$\begin{array}{r} \text{b.} \quad \text{Rupees} \quad \text{Paisa} \\ \quad \quad 342 \quad \quad 18 \\ \quad - 243 \quad \quad 10 \\ \hline \end{array}$$

$$\begin{array}{r} \text{c.} \quad \text{Rupees} \quad \text{Paisa} \\ \quad \quad 782 \quad \quad 90 \\ \quad - 623 \quad \quad 65 \\ \hline \end{array}$$

3. Hari earns Rs.105 and 75 paisa in a day. Rita earns Rs. 90 and 15 paisa in a day. What will be the amount if their earnings are collected at one place?
4. A book costs Rs.101 and 50 paisa. A copy costs Rs.25 and 30 paisa. What is the cost of the book and copy?
5. Chhotu Chaudhary had Rs.522 and 50 paisa. He spent Rs.115 and 50 paisa in the shopping. What amount does he have?
6. Pasang had Rs.962 and 70 paisa. She bought a geometry box for Rs. 75 and 25 paisa. What amount is left with her?

A. Units of length

Read and learn:

The length between two places is called distance. We use centimeter, meter, kilometer to measure distance. The ruler or tape are used to measure distance or length.



How long are the lines below? Measure with ruler and tell.



100 centimeter = 1 meter or 1 meter = 100 centimeter

In short 100cm = 1m or 1m = 100 cm

Activities

1. How long is your bench? Tell by measuring with a ruler or tape.
2. What is the distance of two corners of your classroom? Tell by measuring with a ruler or tape.
3. Make a straight line by joining hands of all students in your class. Mark the beginning and the end point of the line. Find the distance between the marked signs.

Exercise

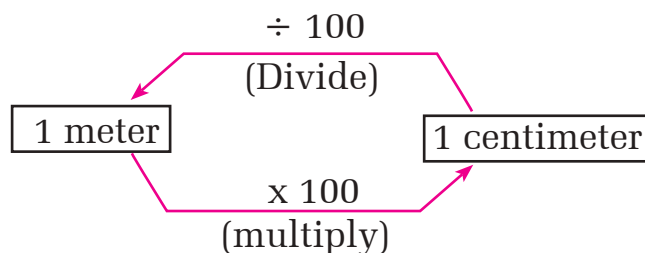
Find the measurements by measuring with the ruler or tape.

1. Length of the blackboard of your classroom
2. Height of the door of your classroom
3. Height of tallest and shortest friend of your classroom
4. Your height

Teaching instructions: Along with the problems in activities and exercises give additional problems and tell the students to find distance. Use measurement in whole numbers only.

B. Conversion of meter and centimeter

Sometimes, when length is very long or short, meter is changed into centimeter and centimeter into meter. 100 centimeter is equal to 1 meter so, we multiply by 100 to convert meter into centimeter. We divide by 100 to convert centimeter into meter.



The distance between the houses of Hari and Gita is 70 meters. What is the distance in centimeters, find:

Distance between houses of Hari and Gita is 70 metres.

$$\begin{aligned} 1 \text{ meter} &= 100 \text{ cm} \\ 70 \text{ meters} &= 100 \times 70 \text{ cm} \\ &= 7000 \text{ cm} \end{aligned}$$

Convert 50 meters and 70 centimeter into centimeter.

Here, 50 meters 70 centimeters

$$= 50 \times 100 \text{ cm} + 70 \text{ cm}$$

$$= 5000 \text{ cm} + 70 \text{ cm}$$

$$= 5070 \text{ cm}$$

Note: Meter is denoted by m and centimeter by cm.

C. Addition and Subtraction of length

Distance between the school and the house of Rita is 320 meters 65 centimeters. Distance of health post from school is 125 meters 20 centimeters. What distance will she walk to reach the health post through school from house?

distance of school from house = 320 m 65 cm

distance of health post = 125 m 20cm

Adding,

$$\begin{array}{r} 320 \text{ m } 65 \text{ cm} \\ + 125 \text{ m } 20 \text{ cm} \\ \hline 445 \text{ m } 85 \text{ cm} \end{array}$$

So, she walked total 445 meter 85 centimeters

Solve:

a. meters centimeters

$$\begin{array}{r} 15 \quad 50 \\ + 118 \quad 37 \\ \hline 137 \quad 87 \end{array}$$

b. meters centimeters

$$\begin{array}{r} 214 \quad 77 \\ - 18 \quad 59 \\ \hline 196 \quad 18 \end{array}$$

Exercise

1. Convert into centimeter

- a. 53 meter b. 900 meter c. 30m 20 cm
d. 12 m 15 cm e. 55 m 24 cm f. 219m 75 cm
g. 320 m 95 cm

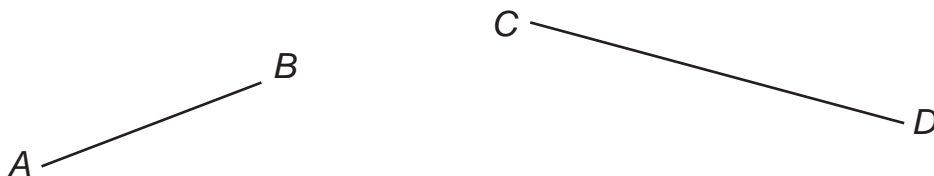
2. Add:

- a. $\begin{array}{r} 20 \text{ m } 55 \text{ cm} \\ + 15 \text{ m } 18 \text{ cm} \\ \hline \end{array}$ b. $\begin{array}{r} 90 \text{ m } 30 \text{ cm} \\ + 50 \text{ m } 33 \text{ cm} \\ \hline \end{array}$ c. $\begin{array}{r} 417 \text{ cm } 11 \text{ cm} \\ + 315 \text{ m } 44 \text{ cm} \\ \hline \end{array}$

3. Subtract:

- a. $\begin{array}{r} 314 \text{ m } 10 \text{ cm} \\ - 48 \text{ m } 10 \text{ cm} \\ \hline \end{array}$ b. $\begin{array}{r} 48 \text{ m } 90 \text{ cm} \\ - 30 \text{ m } 88 \text{ cm} \\ \hline \end{array}$ c. $\begin{array}{r} 94 \text{ m } 70 \text{ cm} \\ - 79 \text{ m } 48 \text{ cm} \\ \hline \end{array}$

4. Ram walked 743 m 50 cm. in 9 minutes. Gita walked 645 m 30 cm in the same period. How much more distance Ram walked than Gita?
5. A string is 5 m 15cm long. Another string is 7 m 25 cm. long. If both strings are joined, what will be the length?
6. Measure the lines AB and CD. Find the sum of their length.



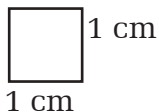
A. Concept of area

Read, discuss and learn:

The place covered by the surface of any object is called the area of that surface. Big surface has more area. Small surface has less area. Find which area is bigger? The surface area of match box or the surface area of a book?



B. Method of finding Area by counting square BLOCK



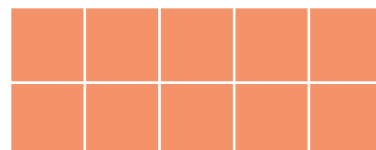
This is square. Its every side is of 1 cm. Its area is 1 square cm.

How many square blocks have covered the rectangular figure at right, count:

In this figure, there are 6 blocks of 1 square cm. So, its area is 6 square cm.

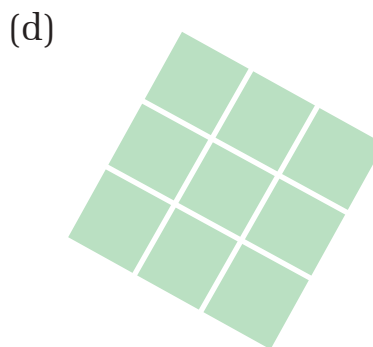
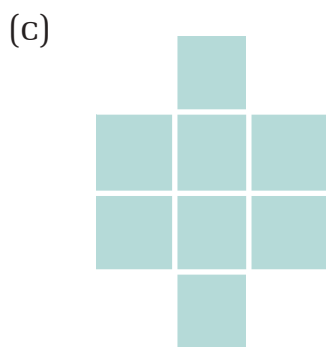
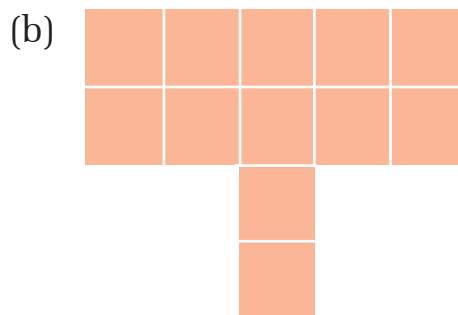
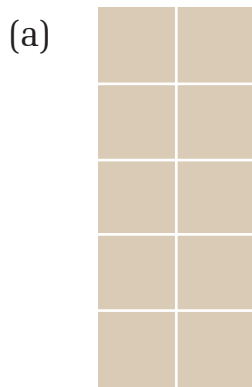


- How many square blocks are there in the figure at right?
- If each block is of 1 square cm, what is the area of the figure?

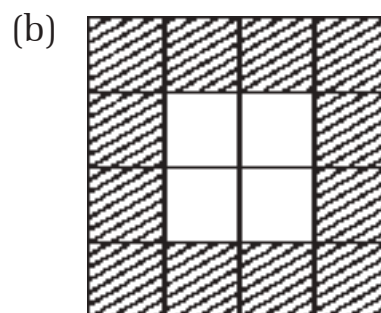
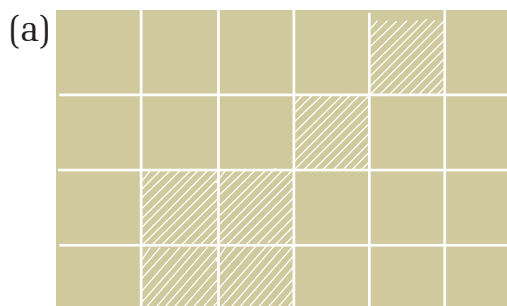


Exercise

- Count the blocks of 1 square c.m. in the following figures and find the area.



- Find the area of shaded and not shaded parts in square cm.



Teaching instructions: Give the students additional exercises as given above with the help of geo-board. Ask questions with square meter and meter to find area.

Read, discuss and learn:

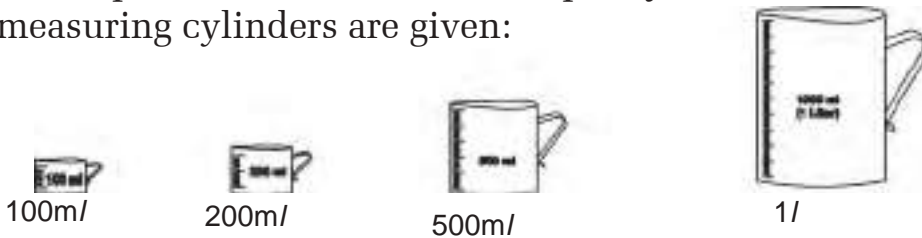
The extent of amount of liquid in a pot is known as the capacity of the pot. A big pot contains much liquid. So, its capacity is also more than small pot.

In which pot given at right is more water?

Which pot has more capacity?



The capacity of pots is measured in mililitre (ml) or litre (l). Standard pots are used to measure capacity. Some standard pots or measuring cylinders are given:

**Activity**

Fill a pot of 1 litre by 100 ml pot. How many pots are needed to fill it? Is the pot filled in 10 times?

100ml/ in 10 times is 1000 ml/.

Discuss

1000mililitre = 1 litre or 1 litre = 1000 mililitre

In short, 1000 ml = 1l or 1l = 1000ml.

Bring a big gallon. Fill the gallon using standard pots.

Find the amount of water in the gallon in litre or mililitre. What is the capacity of the gallon?

A. Addition and Subtraction of capacity

1. Capacity of a bucket is 5ℓ 300 mL. Capacity of another bucket is 7ℓ 200 mL. What is the total capacity of both buckets?

Capacity of first bucket = 5ℓ 300 mL

Capacity of second bucket = 7ℓ 200 mL.

Adding:

5 ℓ 300 mL	Adding mL with mL.
+ 7ℓ 200 mL	Adding ℓ with ℓ.
<hr/> 12 ℓ 500 mL	

So, total capacity of both buckets = 12 ℓ 500 mL.

2. Subtract:

500 ℓ 250 mL.	Subtract mL from mL.
– 170 ℓ 188 mL.	Subtract ℓ from ℓ.
<hr/> 330 ℓ 62 mL.	

Exercise

1. Fill the pot of 1 litre by a pot of 100 mL and find how many times does it take to fill the pot?
2. Collect the pots of 1 litre, 2 litre, 3 litre and 4 litre. Fill these pots by a pot of 500 mL and find in how many times the pots are filled.
3. In how many times is a jug filled by a pot of 100 mL?

Teaching instructions: Tell the students to guess the capacity of pots at their homes like glass, jug, gagri, dekchhi, etc.

4. Guess the capacity of the pots in 100ml.?

5. Capacity of a glass is 300 ml.
Capacity of another glass is 400ml.
What is the capacity of both glasses?



6. In how many times is a pot with a capacity 1 litre be filled by a pot with capacity of 200ml?

7. Add:

a. $5 \text{ l } 200 \text{ ml.}$

+ $18 \text{ l } 350 \text{ ml.}$

b. $66 \text{ l } 66 \text{ ml.}$

+ $22 \text{ l } 55 \text{ ml.}$

c. $540 \text{ l } 730 \text{ ml.}$

+ $230 \text{ l } 150 \text{ ml.}$

8. Subtract:

a. $30 \text{ l } 143 \text{ ml.}$

- $28 \text{ l } 129 \text{ ml.}$

b. $90 \text{ l } 943 \text{ ml.}$

- $57 \text{ l } 248 \text{ ml.}$

c. $444 \text{ l } 902 \text{ ml.}$

- $179 \text{ l } 397 \text{ ml.}$

9. There is 50l. 300ml. water in a big drum. If 5l. 200ml. water is deducted, What amount of water will be left?

10. Capacity of a gallon is 5l 700 ml. If 2l 200 ml. water was drunk, what amount of water will be left?

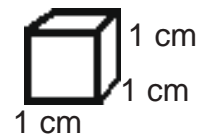
Teaching instructions: Use different pots of different capacity to develop the concept of addition and subtraction. Using these pots tell them to compare, add and subtract the capacity.

(A) Volume (in cube cm.)**Read, discuss and learn:**

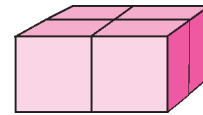
The figure alongside is of cube.

Its all sides are 1 cm.

It's volume is 1 cubic cm.

**Example**

1. What will be the volume of the block?



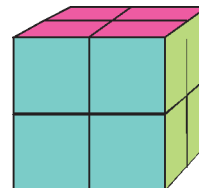
The given block is made of 4 cubes each of volume 1 cubic cm.

So, the volume of the block is 4 cubic cm.

2. What will be the volume of the given figure?

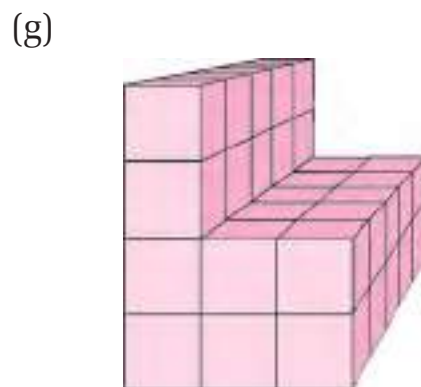
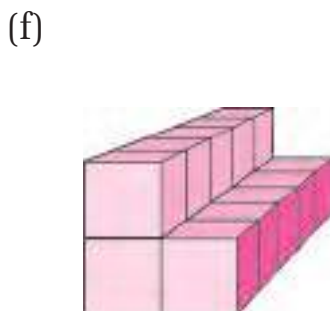
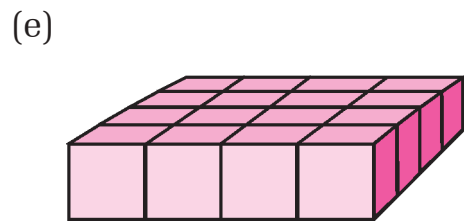
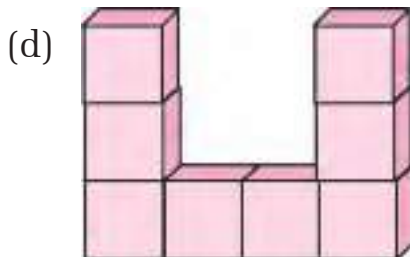
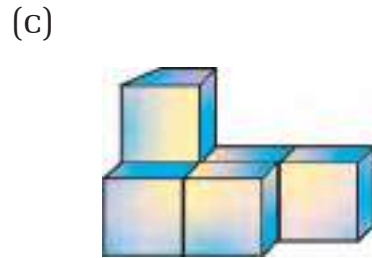
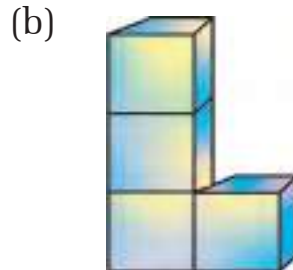
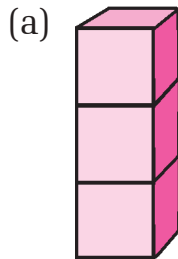
The given block is made of 8 cubes of volume 1 cubic cm each.

So, the volume of the block is 8 cubic cm.

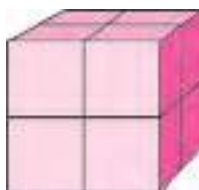


Exercise

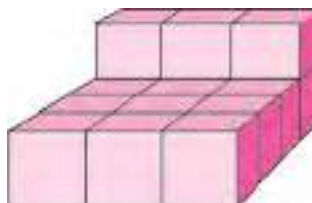
Count the following block of volume 1 cubic c.m. and find the volume of the block:



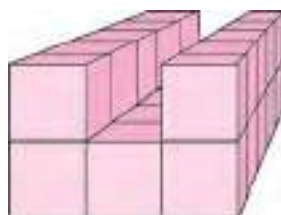
(h)



(i)



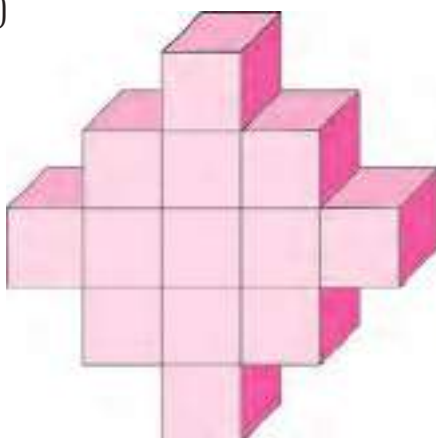
(j)



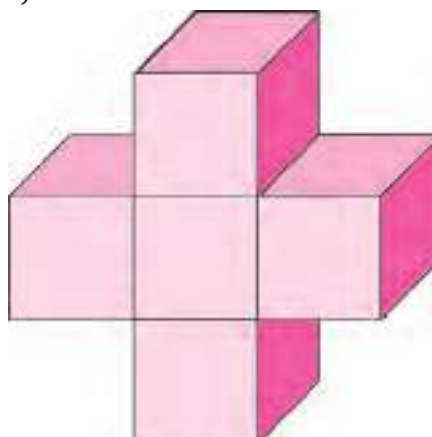
(k)



(l)



(m)



Teaching instructions: Tell the students to count the blocks of volume 1 cubic c.m. Discuss on the problem of finding the volume of the whole block. Give additional exercises as given above and ask them to do practically.

21

Weight

A. Standard weight and their use

Look at the given weight, read and learn:



The weight of 2 dhak of 500 grams = 1000 grams = 1 kilogram

Weight of 10 dhak of 100 grams = 1000 grams = 1 kilogram

- With the help of weight of an object it can be said whether the object is heavy or light?
- Heavy objects have more weight. Light objects have less weight.
- To measure the weight of objects, balance and weights are used.

Note: 1000 grams = 1 kilogram or 1 kg = 1000 grams

Activity

1. How many weights of 50 grams is equal to 1 kilogram, discuss and find.
2. Take 1 kg weight in your hand. Guess that the things around you like a book, a bag, etc. are how many times heavy or light?

Teaching instructions: Weight the objects found around the house and school like: fruits, pots, books, bags using the weights of 50 grams to 1 kg and tell the students to guess whether the objects are heavy or light.

B. Conversion of Kilogram into Grams

We know,

1 kg is equal to 1000 grams.

To convert kilogram into grams multiply by 1000.

$$1 \text{ kg} = 1 \times 1000 \text{ grams}$$

Example:

1. Convert 5 kg into gram.:

$$\begin{aligned} 1 \text{ kg} &= 1000 \text{ grams} \\ 5 \text{ kg} &= (1000 \times 5) \text{ grams} \\ &= 5000 \text{ grams} \end{aligned}$$

2. Convert 15 kg 200 grams into grams:


$$\begin{aligned} &15 \text{ kg} + 200 \text{ grams} \\ &= (1000 \times 15) \text{ grams} + 200 \text{ grams} \\ &= 15000 \text{ grams} + 200 \text{ grams} \\ &= 15200 \text{ grams} \end{aligned}$$

Exercise

1. Guess whether the weight of the following objects is more or less than 1 kg:

a. Spectacle 

b. bicycle 

c. Chair 

d. kite 

2. Convert into grams:

- | | | | |
|------------------|--------------------|---------|----------|
| a. 2 kg | b. 4 kg | c. 7 kg | d. 28 kg |
| e. 3 kg 15 grams | f. 13 kg 570 grams | | |

Mixed Exercise

1. Solve:

a. 5 days 17 hours 35 minutes
 + 18 days 3 hours 18 minutes

b. 13 months 18 days 15 hours
 - 5 months 10 days 3 hours

- c. A farmer takes 5 days and 15 minutes to plough a field. If he worked for 3 days 10 minutes, How much time will remain to work?

2. Solve:

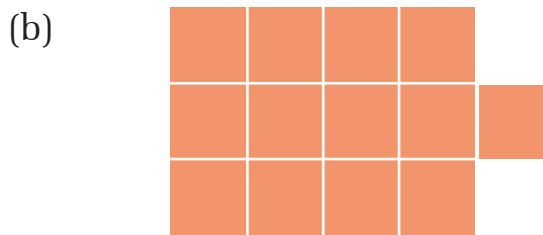
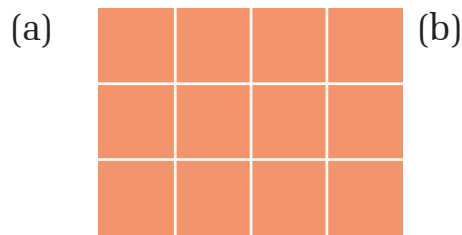
a. 50 rupees 70 paisa b. 24 rupees 18 paisa
 + 124 rupees 15 paisa + 22 rupees 10 paisa

- c. Hari had 30 rupees. His mother added Rs. 15 and 50 paisa. How much amount did Hari have?

3. Solve:

a. 33 meter 55 cm. b. 102 meter 90 cm.
 + 47 meter 22 cm. + 97 meter 77 cm.

4. Write the area of the following pictures in square cm.

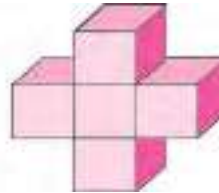


5. The capacity of a jug is 1 litre 250 ml. The capacity of a glass is 600ml. If a pot is completely filled by the water of both pots, find the capacity of the pot.
6. Find the volume of the whole block by counting the blocks of volume 1 cubic cm. in the figures below:

(a)



(b)



7. Weight of a pumpkin is 3 kg 68 grams. Convert the weight into grams.
8. Sungma walked 500m 30 c.m. to reach school from her house. She walked 30 meter 53 c.m. to a shop from the school, how long did she walk?
9. Write the time denoted by the clocks below:

(a)



(b)

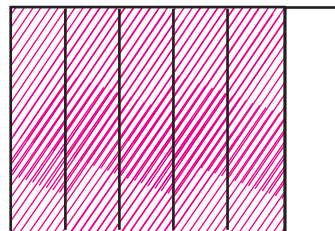


10. Dilu started to go to a friend's house at 7 o'clock. If she needed 2 hours and 15 minutes to reach there, when did she reach at her friends house?

A. Concept of numerator and denominator.

Look, read, discuss and learn:

- How many rooms are there in the figure?
- Are all the rooms equal to each other?
- Can you write the shaded part in fraction?
- What will be written for non shaded part in fraction?



The shaded part in fraction = $\frac{\text{Shaded parts}}{\text{Total parts}} = \frac{5}{6}$

So, the shaded parts = $\frac{5 \text{ (numerator)}}{6 \text{ (denominator)}}$

This means 5 parts out of 6 equal parts.

In the fraction $\frac{5}{6}$, 5 is the numerator and 6 is the denominator.

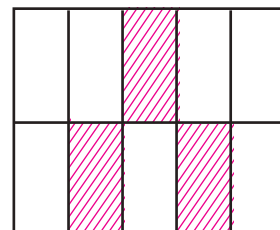
It is read as 6 under 5.

What will be written for the non shaded parts in fraction?

Find numerator and denominator.

Discuss as above for the given figure:

Draw a figure as above. Write the fractions to show shaded and non shaded parts. Discuss with your friends and find numerator and denominator.



Teaching instructions: Weight the objects found around the house and school like: fruits, pots, books, bags using the weights of 50 grams to 1 kg and tell the students to guess whether the objects are heavy or light.

Exercise

1. Read the following fractions and find numerator and denominator:

(a) $\frac{1}{2}$ (b) $\frac{3}{4}$ (c) $\frac{7}{10}$ (d) $\frac{9}{10}$ (e) $\frac{8}{9}$ (f) $\frac{4}{5}$

2. Read the following fraction and write numerator and denominator in the blanks:

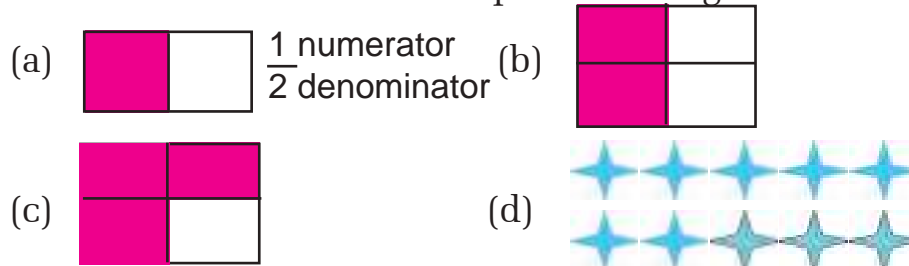
(a) In $\frac{1}{2}$, 2 is denominator, 1 is numerator.

(b) In $\frac{2}{4}$, 2, 4

(c) In $\frac{7}{10}$, 10, 47

(d) In $\frac{10}{20}$, 10, 20

3. Write in fraction the shaded part in the figure below:



4. Write the fraction to represent the non shaded part in the above figures and find numerator and denominator.

5. Numerators and denominators are given below. Write in fractions.

(a) Numerator = 2
Denominator = 5

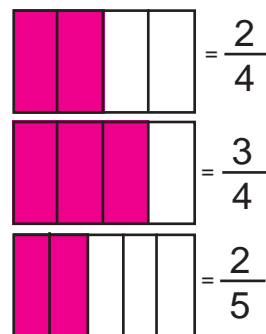
(b) Numerator = 10
Denominator = 12

(c) Numerator = 8
Denominator = 11

B. Like and Unlike Fractions

Read, discuss and learn:

- Which picture has more rooms?
- Are all rooms equal to each other?
- What is the denominator in $\frac{2}{4}$ and $\frac{3}{4}$?



Denominator is 4 in $\frac{2}{4}$ and $\frac{3}{4}$. Denominator is same in

both fractions. So, $\frac{2}{4}$ and $\frac{3}{4}$ are called like fractions.

If the denominator of two or more than two fractions are same they are called like fractions.

What are the denominators in $\frac{3}{4}$ and $\frac{2}{5}$?

Are there same denominators in two fractions?

In $\frac{3}{4}$ denominator is 4 and in $\frac{2}{5}$ denominator is 5. Denominators

are different or not equal.

So, $\frac{3}{4}$ and $\frac{2}{5}$ are called unlike fraction.

If the denominators of two or more than two fractions are not same, they are called unlike fractions.

Teaching instructions: Have activities to write the non shaded parts in the fractions. Draw more figures to practice like fraction and unlike fraction in a practical way.

Exercise

1. Find out like fractions.

(a) $\frac{3}{4}$, $\frac{3}{4}$ and $\frac{3}{4}$ (b) $\frac{8}{10}$, $\frac{2}{10}$ and $\frac{4}{11}$

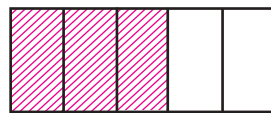
(c) $\frac{6}{8}$, $\frac{3}{4}$, $\frac{7}{8}$ and $\frac{2}{4}$ (d) $\frac{2}{7}$, $\frac{4}{3}$, $\frac{6}{7}$ and $\frac{3}{7}$

Differentiate same and different in the following fractions:

Fractions	Fractions with same denominator	Fraction with different denominator
(a) $\frac{2}{7}$, $\frac{3}{2}$, $\frac{5}{7}$, $\frac{9}{7}$ and $\frac{3}{8}$	$\frac{2}{7}$, $\frac{5}{7}$, $\frac{9}{7}$	$\frac{3}{2}$, $\frac{3}{8}$
(b) $\frac{2}{20}$, $\frac{4}{30}$, $\frac{6}{7}$, $\frac{7}{30}$ and $\frac{3}{30}$		

C. Comparison of fraction

Read, discuss and learn:



- Can you write in fraction for the shaded part in the figure?
- Can you write in fraction for the non shaded part in the figure?
- Are the denominators of both fractions same?
- Which fraction's numerator is bigger?

$\frac{3}{5}$ is shaded in the figure. $\frac{3}{5}$ denotes more part and the fraction denoting non shaded part denotes less part.

So, the fraction $\frac{3}{5}$ is bigger than $\frac{2}{5}$.

In comparing the numerator of $\frac{3}{5}$ and $\frac{2}{5}$.

3 is greater than 2. So, $\frac{3}{5}$ is greater than $\frac{2}{5}$

$$\text{So, } \frac{3}{5} > \frac{2}{5}$$

Similarly, $\frac{2}{5}$ is smaller than $\frac{3}{5}$.

$$\text{So, } \frac{2}{5} < \frac{3}{5}.$$

In like fractions, the fraction with greater numerator is greater than the fraction with smaller numerators.

Again, compare the fractions $\frac{3}{5}$ and $\frac{3}{5}$.

- What are the numerators in $\frac{3}{5}$ and $\frac{3}{5}$?
- Are the denominators same in both?
- Are the fractions like fractions?

The above fractions $\frac{3}{5}$ and $\frac{3}{5}$ are like fractions.

Numerators are also same. $\frac{3}{5}$ and $\frac{3}{5}$ are equal fractions. It is written $\frac{3}{5} = \frac{3}{5}$.

When two or more than two like fractions have same numerators, they are equal to each other. These fractions are called equal fractions.

Exercise

1. Compare the following fractions and use '<', '>' or '=' sign:

(a) $\frac{5}{12}$ and $\frac{5}{12}$ (b) $\frac{7}{12} > \frac{5}{12}$ (c) $\frac{3}{6}$ and $\frac{5}{6}$

(d) $\frac{4}{10}$ and $\frac{4}{10}$ (e) $\frac{5}{20}$ and $\frac{10}{20}$ (f) $\frac{15}{16}$ and $\frac{15}{16}$

2. Write the following fractions in ascending order:

(a) Writing in ascending order

$\frac{1}{5}, \frac{4}{5}, \frac{2}{5}$ we get $\frac{1}{5}, \frac{2}{5}, \frac{4}{5}$

$$(b) \quad \frac{7}{12}, \frac{4}{12}, \frac{9}{12}, \frac{1}{12}$$

$$(c) \quad \frac{6}{15}, \frac{2}{15}, \frac{5}{15}, \frac{10}{15}$$

$$(d) \quad \frac{2}{9}, \frac{8}{9}, \frac{4}{9}, \frac{5}{9}$$

3. Write the following fractions in descending order:

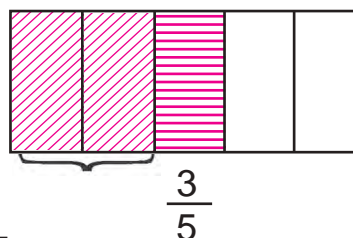
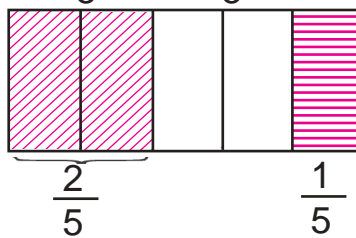
(a) Writing $\frac{2}{7}, \frac{4}{7}, \frac{5}{7}, \frac{3}{7}$ in descending order

we get $\frac{5}{7}, \frac{4}{7}, \frac{3}{7}, \frac{2}{7}$ b. $\frac{9}{20}, \frac{12}{20}, \frac{7}{20}, \frac{9}{20}$

D. Addition of fraction

Read, discuss and learn:

How can $\frac{2}{5}$ and $\frac{1}{5}$ be added? Let us see:



$$\left[\begin{array}{c} 2 \text{ parts out of} \\ 5 \text{ equal parts} \end{array} \right] + \left[\begin{array}{c} 1 \text{ part out of} \\ 5 \text{ equal parts} \end{array} \right] = \left[\begin{array}{c} 3 \text{ parts out of} \\ 5 \text{ equal parts} \end{array} \right]$$

So, $\frac{2}{5} + \frac{1}{5} = \frac{3}{5}$ or, $\frac{2}{5} + \frac{1}{5} = \frac{2+1}{5} = \frac{3}{5}$

To add like fractions, add only the numerators and write the denominator as it is.

Teaching instructions: Use lots of figures to give the concept of addition of fractions. Give the addition of fractions with shaded pictures or models and tell them to write numerator by adding numerators of given fractions and keep common denominator as denominator.

Exercise

Add:

$$(a) \quad \frac{1}{3} + \frac{1}{3} = \frac{1+1}{3} = \frac{2}{3} \quad (b) \quad \frac{3}{5} + \frac{1}{5} = \frac{\boxed{3} + \boxed{1}}{\boxed{5}} = \frac{\boxed{}}{\boxed{}}$$

$$(c) \quad \frac{3}{7} + \frac{4}{9}$$

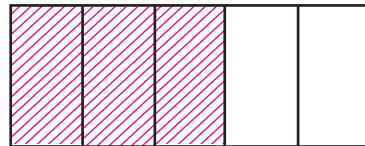
$$(d) \quad \frac{4}{9} + \frac{2}{9}$$

$$(e) \quad \frac{3}{10} + \frac{5}{10}$$

E. Subtraction of fraction

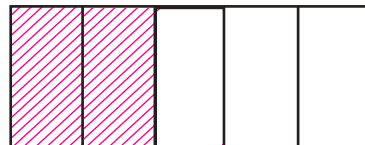
Read, discuss and learn:

How $\frac{1}{5}$ is subtracted from $\frac{3}{5}$?
 $\frac{3}{5}$ part is shaded in the figure.



Remove $\frac{1}{5}$ part of the shaded part

Now $\frac{2}{5}$ part of the shaded is left.



$$\text{So, } \frac{3}{5} - \frac{1}{5} = \frac{2}{5}$$

or, Subtracting $\frac{1}{5}$ from $\frac{3}{5}$ we get $\frac{2}{5}$

$$\text{or, } \frac{3}{5} - \frac{1}{5} = \frac{3-1}{5} = \frac{2}{5}$$

To subtract the like fractions, subtract smaller numerator from greater numerator and write the numerator but keep the denominator as it is.

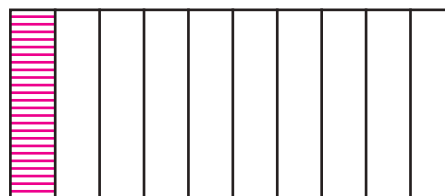
Teaching instructions: Use as many figures and models as possible to give the concept of subtraction of fractions. Give subtraction of fractions and tell them to subtract with the help of models and figures. And then practice them to subtract fraction by subtracting one numerator from another numerator.

Exercise

1. Subtract:

$$(a) \quad \frac{\boxed{3}}{4} - \frac{\boxed{1}}{4} = \frac{3-1}{4} = \frac{\boxed{2}}{\boxed{4}} \quad (b) \quad \frac{4}{5} - \frac{2}{5} = \frac{\boxed{} - \boxed{}}{5} = \frac{\boxed{}}{\boxed{}}$$

$$(c) \quad \frac{5}{7} - \frac{2}{7} \quad (d) \quad \frac{6}{10} - \frac{3}{10} \quad (e) \quad \frac{8}{15} - \frac{5}{15}$$

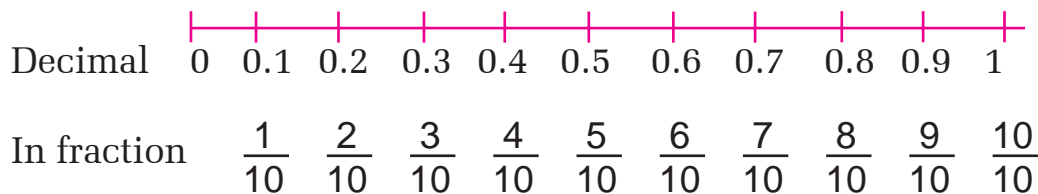
A. Tenths**Read, discuss and learn:****Look at the figure:**

- How many parts are there in the figure?
- How many parts are shaded?
- How can the shaded part be expressed in fraction?

In the figure, one part is shaded out of ten equal parts. In fraction it is written as $\frac{1}{10}$. $\frac{1}{10}$ is called tenths and is written 0.1. 0.1 is read as 'zero decimal one' or 'decimal one'.

Shade 2 parts in the figure above. Then, How can the shaded part be expressed in fraction? $\frac{2}{10}$ is written in decimal 0.2. It is read as 'zero decimal/point two' or 'decimal two'.

Now, shade 3,4,5,6,7,8,9 and 10 parts and write in fraction and decimal. In number line tenths numbers between 0 to 1 can be shown in the following way:

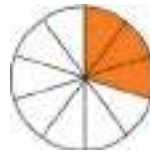
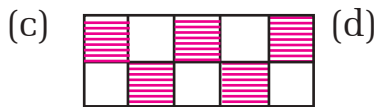
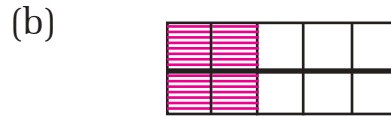
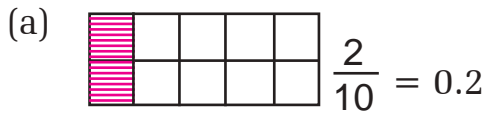


How many tenths numbers are there from 0 to 1, Count and read.

Teaching instructions: Give the concept of tenths by shading fractions from $\frac{1}{10}$ to $\frac{10}{10}$ in practical way show the fact that 1 is equal to $\frac{10}{10}$ using object / picture. Practice students to read and write in fraction and decimal for the non shaded parts.

Exercise

1. Observe the given figures and write the shaded parts in fraction and decimal:



2. Express the following fractions into decimal notation:

(a) $\frac{6}{10} = 0.6$

(b) $\frac{3}{10}$

(c) $\frac{8}{10}$

(d) $\frac{7}{10}$

(e) $\frac{5}{10}$

(f) $\frac{4}{10}$

(g) $\frac{9}{10}$

3. Express the following decimal numbers into fractions :

(a) $0.2 = \frac{2}{10}$

(b) 0.7

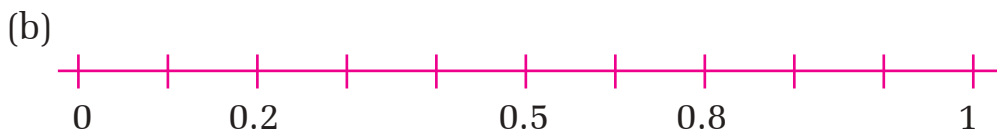
(c) 0.6

(d) 0.8

(e) 0.4

(f) 0.9

4. Fill the appropriate decimal numbers in the blanks:

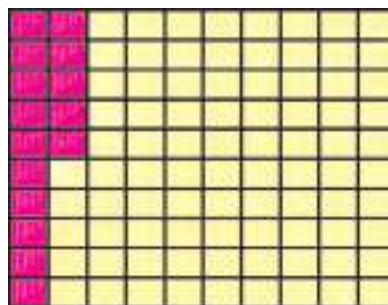


B. Hundredth

Read, discuss and learn:

There are 100 equal parts in the figure. 15 parts are shaded.

In fraction, it is written as $\frac{15}{100}$.
 $\frac{15}{100}$ is called 15 hundredth and is written as 0.15. 0.15 is read as 'zero point one five'.



Make 100 equal rooms as given above and shade $\frac{7}{100}$. Also write in decimal and read.

Can you write in fraction and decimal for the non shaded parts in figure? Try.

$$\frac{1}{100} = 0.01, \quad \frac{2}{100} = 0.002, \quad \frac{3}{100} = 0.03$$

$$\frac{4}{100} = 0.04, \quad \frac{5}{100} = 0.05$$

$$\frac{10}{100} = 0.1, \quad \frac{11}{100} = 0.11$$

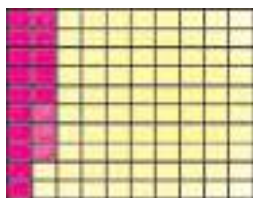
2.1 is read as 'two point two one'. Similarly, how can we read for 1.2 and 3.07?

Teaching instructions: Give the concept of hundredth practically with the help of model and picture as the concept of fraction and tenths. Give additional exercises using 100 pieces of maize, coloured marbles etc. Use figures to show 0.1 and 0.10 are equal or to relate them.

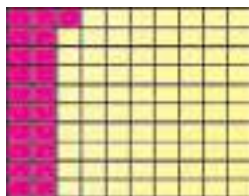
Exercise

- Observe the following figures and express the shaded parts in fraction and decimal numbers. Read out in the classroom.

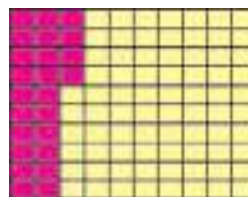
(a)



(b)



(c)



$$\frac{18}{100} = 0.18$$

- Collect 100 grains of the maize. Take some from it in your hand and count. Write them in fraction and decimal number.

- Write the following fractions into decimal numbers.

(a) $\frac{60}{100}$

(b) $\frac{9}{10}$

(c) $\frac{4}{10}$

(d) $\frac{2}{100}$

(e) $\frac{40}{100}$

(f) $\frac{55}{100}$

(g) $\frac{78}{100}$

(h) $\frac{17}{100}$

- Write the following decimal numbers into fractions:

(a) 0.6

(b) 0.9

(c) 0.27

(d) 0.05

(e) 0.98

(f) 0.09

(g) 0.95

Read, discuss and learn:

The price of an exercise book is Rs. 5. Then,
what will be the price of 2 same exercise books?

Rs.5 + Rs. 5 = Rs. 10 or two
times Rs. 5 = Rs. 5 x 2 = Rs. 10



Similarly, What will be the cost of 10 exercise books costing Rs. 5 each?

Here, adding Rs. 5 ten times

Rs. 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 = Rs. 50 or Rs. 5 ten
times = Rs. 5 x 10 = Rs. 50

To get the total cost, we multiply the number of objects by per
unit price. Total price = Unit per price x number of objects.

Tell to your friend the price of your one exercise book, and ask
him/her to calculate the cost of total exercise books. Then, find
the total cost of the exercise books of your friend.

Teaching instructions: Get the students ask the unit price of goods with the shop-
keeper or with their parents and find the total price of the different objects. Give ad-
ditional exercises to find the total cost by demonstrating the pictures of the objects
with their price.

Exercise**1. Solve the following problems:**

- (a) price of a pen = Rs. 9
price of 3 similar pens = Rs. 9 x 3
= Rs. 27

- (b) price of a book = Rs.30
price of 3 books = ?

2. A shopkeeper says the price of a ball is Rs. 5. What amount should be paid to buy 4 balls?
3. A bag costs Rs.85. Mother bought 2 same bags to Raju and his sister, Samjhana. How much money did she pay for two bags?

Mixed exercise

1. Differentiate the like fractions and unlike fractions:

$$\frac{6}{7}, \frac{3}{2}, \frac{3}{7}, \frac{4}{3}$$

2. Rewrite the following fractions in ascending and descending order:

$$\frac{3}{15}, \frac{7}{15}, \frac{1}{15}, \frac{4}{15}, \frac{14}{15}$$

3. Solve:

$$(a) \frac{5}{9} + \frac{2}{9}$$

$$(b) \frac{9}{10} - \frac{3}{10}$$

$$(c) \frac{2}{15} + \frac{1}{15}$$

4. Convert the following fractions into decimal number:

$$(a) \frac{2}{10}$$

$$(b) \frac{9}{100}$$

$$(c) \frac{80}{100}$$

$$(d) \frac{7}{10}$$

5. Convert the following decimals into fractions:

$$(a) 0.2$$

$$(b) 0.21$$

$$(c) 0.30$$

$$(d) 0.85$$

6. Write the number name of the following decimal numbers:

$$(a) 10.5$$

$$(b) 2.03$$

$$(c) 0.25$$

$$(d) 3.52$$

7. There are 12 oranges in a bag. Each orange costs Rs. 3. Find the cost of 9 oranges.

8. If the cost of one pen is Rs. 40, find the cost of 12 pens.

Read and learn:

There are three classes (1 to 3) in Saraswati Basic School . The number of students of that school is shown below in the figure.



In the figure, the number of students of each class has been shown by vertical column. A vertical number line is shown in the left. To find the number of students, we need to look at the height of bar and tally with the number line. For example, there are 40 students in class 1 and 25 students in class 3. Number of the students of different classes can be compared with the help of the height of the bar. The above figure is called a bar diagram.

Teaching instructions: After the introduction of the bar graph, tell the students to draw bar graph of the students of class (1-5) in their school. Similarly, note the time taken by the students to reach school and draw a bar graph and discuss. In the same way, draw a bar graph of the students according to their age and discuss.

Exercise

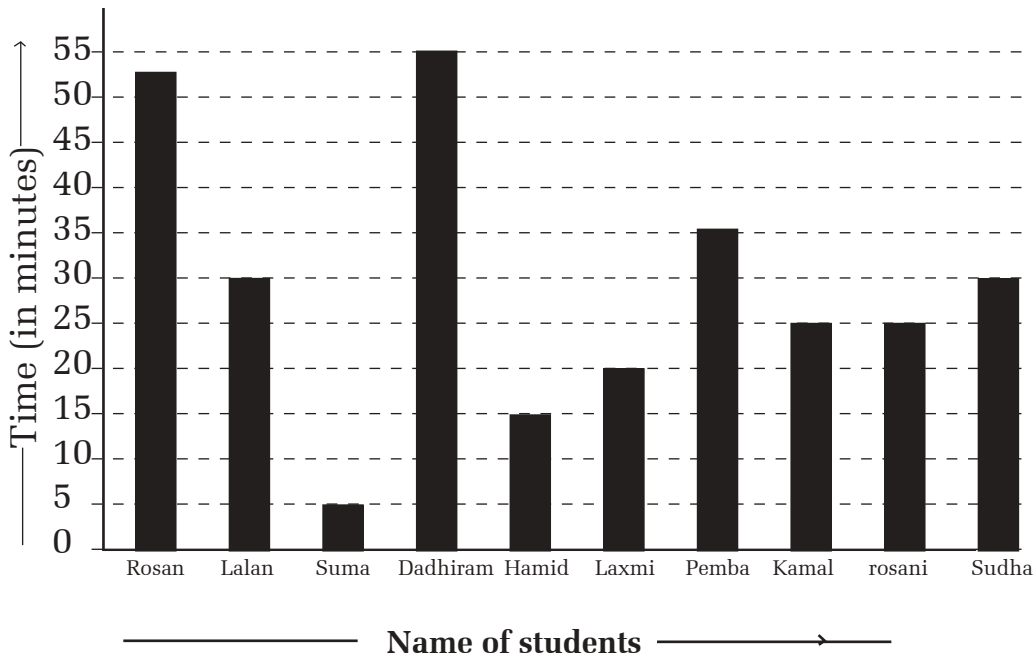
1. Number of students in Jivanjyoti Basic School from class 1 to class 5 is shown in the bar graph. Answer the following questions with the help of the graph.



- (a) What is the above figure called?
- (b) What does the figure show?
- (c) How many students are there in class 1?
- (d) How many students are there in class 3?
- (e) How many more students are there in class 1 than in class 5?
- (f) How many students are there in the school?

2. Answer the following questions with the help of the given bar diagram.

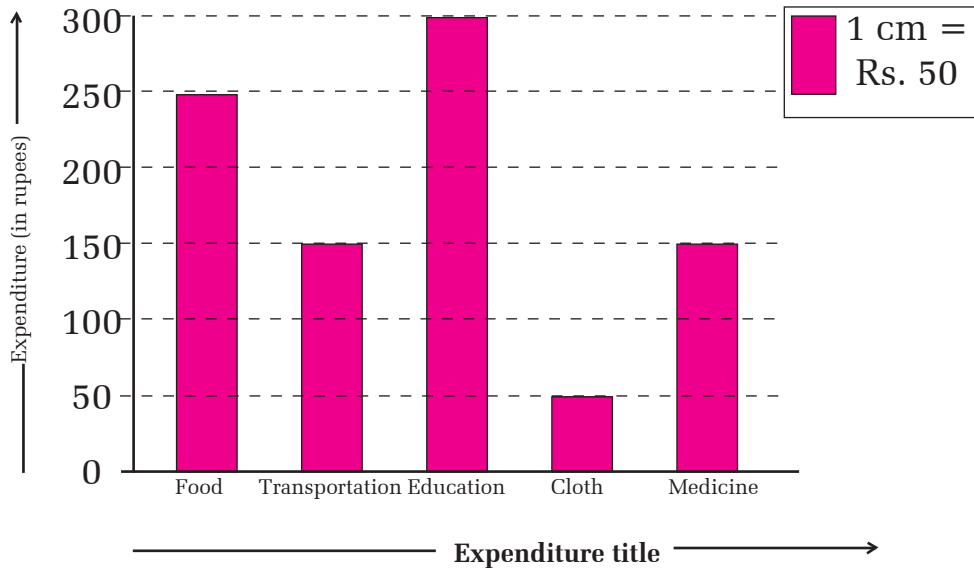
Time taken by the students of Muktinath Basic School to reach school from house.



- How much time does Suma take to reach school from house?
- Write the time needed by other students to reach school.
- Who takes more time to reach school? How much time does he take to reach school?
- Who takes short time to reach the school?
- Who are the students that reach school in the same time?
- How much time does Sudha take to reach her school?

3. Study the bar graph given below and answer the following questions:

Expenditure RamLakhan's family in Baisakh



- (a) What is the expenditure of Ramlakhan's family on clothes in Baisakh?

Answer: They spent Rs. 50

- (b) In which area is the expenditure most?
- (c) In which area is the expenditure least?
- (d) How much was spent on food?
- (e) What is the total expenditure of Ramlakhan's family in Baisakh?

Read, discuss and learn:



1. Answer the following questions with the help of the map above:
 - (a) Which is farther from Pokhara, Dhankuta or Surkhet?
 - (b) Which is farther from Kathmandu, Pokhara or Janakpur?
 - (c) Which place is the farthest from Kathmandu?
 - (d) Which is nearer from Janakpur, Pokhara or Dhankuta?
 - (e) Which is farther from Janakpur, Dhankuta or Jhapa?

Teaching instructions: Tell the students to estimate the distance in the map. Ask them to guess the distance of two places, but do not measure it. The concept can be made clear by drawing the picture of their locality. Similarly, demonstrate the map of wards of Municipality and a Village Development Committee and tell them to guess distance between different places.

A. Set and Its members

Different sets can be formed from the given objects.



- (a) Set of fruits
- (b) Set of instructional materials
- (c) Set of pots

Collection of well defined objects is called a set.

Members of a set

The things or objects in a set are called its members. Look at the set of fruits:



In this set of fruits, there are apple, banana, orange, mango and pomegranate. They are called members of the set.

- Teaching instructions:**
1. Tell the students to collect objects found nearby their house and school and form the sets on the basis of their common properties.
 2. Use certain set to give the concept of set and their members. Also, let them to identify, tell the name of sets and their members.

Exercise

1. Write the name and their members of the following sets:

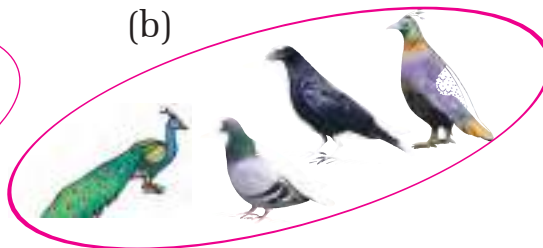
(a)



Name of set:

Members of the set:

(b)



Name of set:

Members of the set:

(c)



Name of the set:

Members of the set:

(d)



Name of the set:

Members of the set:

2. Various things are given in the following figure. Form different sets and also write the name of their members:



3. What are the members of the set of the days of a week?

4. What are the members of the set of the numbers less than 10?

5. Write the members of the set of the first 5 month of the year.

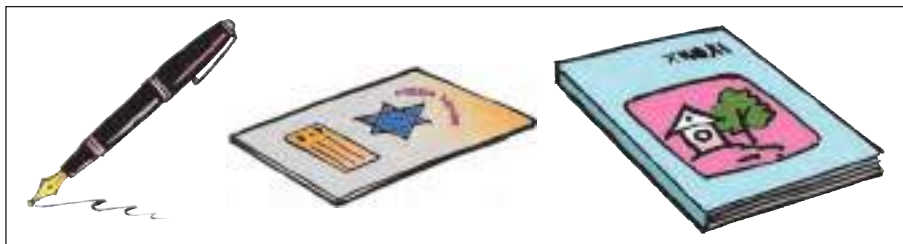
6. Your family is also a set, write the members of that set?
7. Write the members of a set of teachers of your school.
8. The things in your bag form a set. What are its members? Discuss and write.
9. What are the members of a set of vowels of Nepali sound system? How many members are there in the set? Discuss and write.

Teaching instructions: Give additional sets as given in the exercise and let the students to identify their members and tell their name.

B. set notation

There are many methods to write a set. In one of them members of the set are written within bracket { } and comma (,) is used to separate the members. This is called set notation.

Example 1: A set of instructional materials is given below. Write it in set notation:



Writing it in set notation:

Set of instructional materials = {pen, copy, book}

Every member of the set is separated by comma (,)

Activity

Discuss the members of a set of things made of wood in your class. Write its members in set notation and show it to your teacher.

Exercise

1. What are sets given below? Write set notation using '{ , }'. First question is solved as an example.

(a)



Set of utensils = {glass, plate, bowl, cooker, spoon}

(b)

2, 4, 6, 8, 10, 12
14, 16, 18, 20

(c)



(d)



2. Write the days of a week using a set notation.
3. Write the three letters of English alphabet using a set notation.
4. Write the odd months of a year using a set notation.
5. Write the name of 5 girls in your class using a set notation.
6. Write the name of the friends whom you like using a set notation.
7. Write the letters of the word BAGMATI in using a notation.
8. Write the letters of word PALPA using a set notation.
9. Write the name of 5 months that you like using a set notation.

Mixed exercise

Write the following sets using set notation' { , }'.

1. Set of three geometrical figures
2. Set of months that lie between Kartik and Falgun
3. Set of the days of a week
4. Set of any 5 girls of your class
5. Set of members of your family
6. Set of women members of your family
7. Set of any 3 villages around your village/town
8. Set of first 5 numbers divisible by 5
9. Set of letters of the word NEPAL
10. Set of letters of the word WATER
11. Set of letters of the word TOYS

Look, read, discuss and learn:

When we buy things in the market, the shopkeeper gives us a piece of paper mentioning the name of goods, quantity and their prices. That paper is called bill.

Deurali, Baglung				
Bill number 432			Date 2062/9/28	
Name of customer: Sharda sharma			Address: Pariwari-7, Rangkhani	
No.	Particulars	Quantity	Rate (Rs.)	Price (Rs.)
1.	My Mathematics class- 3	1	40	40
2.	Exercise book	5	9	45
3.	Pencil	6	3	18
4.	Eraser	4	2	8
Total				111
Seller: Madan Acharya				

In the above bill, 'Rate' is the price of each goods. So, if the price of one exercise book is Rs. 9, the cost of 5 exercise books is $\text{Rs. } 9 \times 5 = \text{Rs. } 45$

Now, answer the following questions with the help of the above bill.

- Who has purchased the goods?
- Who has sold the goods?
- What goods had the customer purchased?
- Which goods have highest price rate?
- How much money was required to buy all goods?

Teaching instructions: Clarify the meaning of the words in real bills (without discount and tax). Then, help them to calculate the price after knowing the rate and quantity of the goods. In the same way, have a discussion on other information in the bill.

Exercise

1. Answer the questions with the help of the bill:

- (a) Who purchased the goods?
- (b) Who is the seller?
- (c) How much apple was bought?
- (d) What was the rate of apple per kg?
- (e) How much pear was bought?
- (f) What is the total cost of apples and pear?
- (g) Whose address is Pallo Kharka, Mustang?

Teaching instructions: Show real bills (not including discount and vat). Tell the students to discuss information in the bill.

A. Algebraic addition

Read and discuss:

How much is written in the blank box?

$$15 + \boxed{} = 19$$

Let's put 1 in the blank box, $15 + 1 = 16$, incorrect.

Let's put 2 in the blank box, $15 + 2 = 17$, incorrect.

Let's put 3 in the blank box, $15 + 3 = 18$, incorrect.

Let's put 4 in the blank box, $15 + 4 = 19$, correct.

Can you do it orally?

Expressing $15 + \boxed{} = 19$ in words it is said, what should be added to 15 to get 19. Counting with fingers of a hand from 15 it is 16, 17, 18, 19. So, 4 is written in the blank box. Use lines in place of fingers to solve it.

Exercise

Write the correct number in the box.

$$(a) 35 + \boxed{} = 40 \qquad (b) 42 + \boxed{} = 48$$

$$(c) 55 + \boxed{} = 62 \qquad (d) \boxed{} + 23 = 25$$

B. Algebraic Subtraction

Read and discuss:

$$9 - \boxed{} = 6$$

Let's put 1 in the blank box,

$$9 - 1 = 8, \text{ incorrect.}$$

Let's put 2 in the blank box,

$$9 - 2 = 7, \text{ incorrect.}$$

Let's put 3 in the blank box,

$$9 - 3 = 6, \text{ correct.}$$

Can you do it orally?

The meaning of above problem $9 - \square = 6$ is what is subtracted from 9 to get 6. Subtract from 9 one by one with the help of fingers. It is 8,7,6. So, 3 should be written in the box. Solve it by drawing lines.

Think up.

If $9 - 6 = \square$, it is $9 - \square = 6$

Let's solve $\square - 1 = 5$.

Put 1 in the blank box, then, $1 - 1 = 0$, incorrect

Put 2 in the blank box, then, $2 - 1 = 1$, incorrect

Put 3 in the blank box, then, $3 - 1 = 2$, incorrect

Put 4 in the blank box, then, $4 - 1 = 3$, incorrect

Put 5 in the blank box, then, $5 - 1 = 4$, incorrect

Put 6 in the blank box, then, $6 - 1 = 5$, correct

$\square - 1 = 5$ means from what 1 is subtracted to get 5. Try to solve by drawing lines or using fingers.

If $6 - 1 = 5$, it is $1 + 5 = 6$. In this way answer can be checked .

Exercise

1. Fill the appropriate number in the box:

(a) $15 - \square = 11$

(b) $20 - \square = 15$

(c) $27 - \square = 21$

2. Fill the appropriate number in the box:

(a) $\square - 3 = 2$

(b) $\square - 4 = 8$

(c) $\square - 3 = 4$