

My Mathematics

Grade 2

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Ministry of Education
Curriculum Development Centre

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Preface

With the aim 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 2 are presented in two page spread 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. Shalik Ram Bhusal, Ms. Christine Stone, Ms. Nirmala Gautam, Mr. Tanka Lal Gaire, Mr. Narayan Prasad Wagley, Mr. Shyam Prasad Acharya, Mr. Maheshwor Nyaupane, and Mr. Surendra KC. Moreover, Dr. Siddhi Prasad Koirala, Dr. Shiva Ram Nyaupane, Mr. Dandapani Sharma, Mr. Dillishwor Pradhan and Mr. Mukund Raj Sharma 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.

Ministry of Education
Curriculum Development Centre

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1

Geometrical Shapes

Look, read and recognise:

Triangle



Triangles



The figures above are three sided. These figures are called triangles.

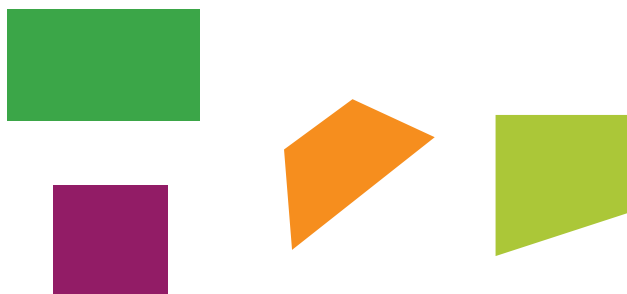
How many straight lines are there in a triangle? Find

How many corners are there in a triangle? Find.

Quadrilateral



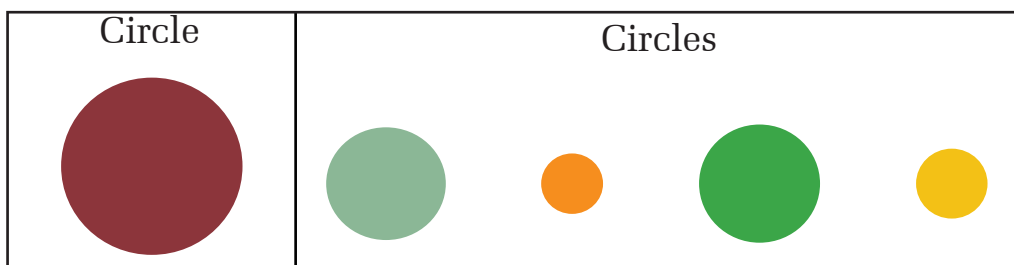
Quadrilaterals



The figures above are four sided. These figures are called quadrilaterals.

How many straight lines are there in a quadrilateral? Find.

How many corners are there in a quadrilateral? Find.

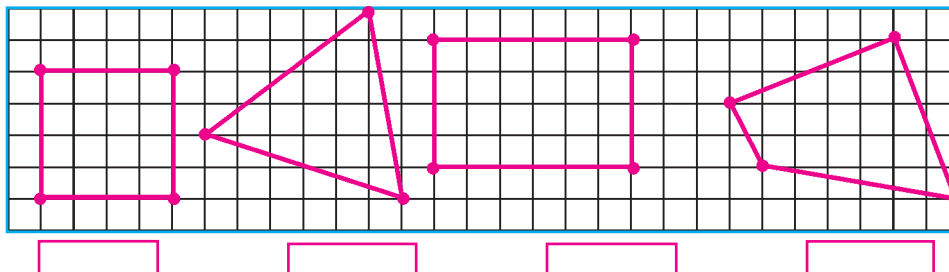


The figures above are round. These figures are called circles.

Teaching instructions: 1. Make students draw the circle, triangle and quadrilateral with the help of solid objects like coin, match-box, note-book, book, piece of wood and block of thick paper. 2. Get them to draw different shapes on board or in their exercise books by adding dotted lines and by folding and cutting the paper with scissors.

Exercise

1. Trace the external boundary of a match-box in your exercise book with the help of a pencil. Then, write the name of the shape.
2. Trace the external boundary of a coin (1 or 2 Rs.) in your exercise book with a pencil. Take off the coin and look at the shape. What shape is made now?
3. Draw different shapes in your graph sheet as given below and write the name of each shape under it.

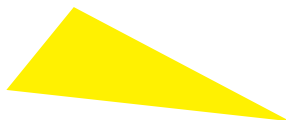


4. How many straight lines and corners are there in each figure below ? Find out.

(a)



(b)



(c)

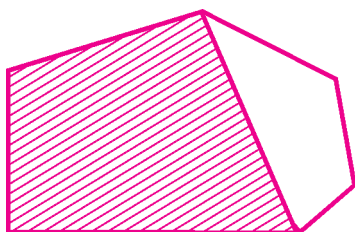


5. Draw two triangles, quadrilaterals and circles in your exercise book.
6. Draw a quadrilateral with the help of your mathematics book.
7. What is the shape of the window, door and board in your school?
8. Write down how many quadrilaterals there are in the figures below.

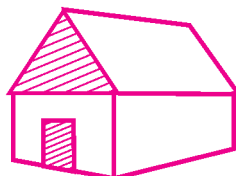


9. Write down the shape of shaded parts in the following figures.

(a)



(b)



(c)



(d)

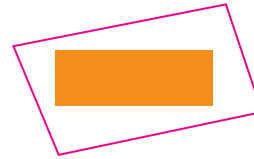
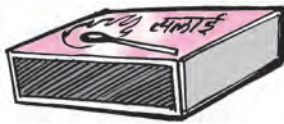


Teaching instructions: Ask the students to draw the shapes of wall-clocks that they have seen.

2

Solid object and its Shape in Plane Surface

Look and discuss:



The surface of match box is quadrilateral.

Quadrilateral

Let's look at the shape of outer lines of the following objects:



Quadrilateral



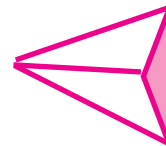
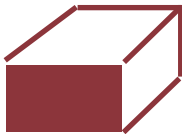
Triangle



Circle

Exercise

1. Identify the shape of the shaded parts in plane surface in the following solid objects and write their name:

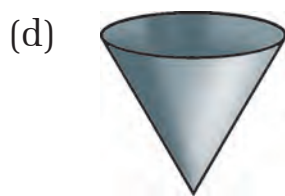
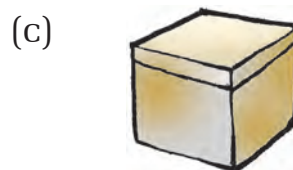
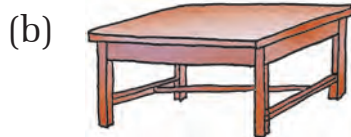


2. Draw triangle, quadrilateral and circle without using solid object.

Teaching instructions:

1. Ask the students to draw the external boundary of different solid objects like; coin, match-box, note-copy, book, piece of wood and block of thick paper.
2. Then, get the students to say and write the name of the shapes.

3. Write the name of the circular surfaced objects available in your home.
4. Write the name of the quadrilateral surfaced objects available in your home.
5. Write the name of the triangular surfaced objects available in your home.
6. Draw a circle using a coin.
7. Write the shape of the upper surface of the following figures:



Review exercise

1. Tick (✓) for true and cross (x) for the false statements:

(a) A triangle is made up of three straight lines.

☐

(b) A triangle has two corners.

☐

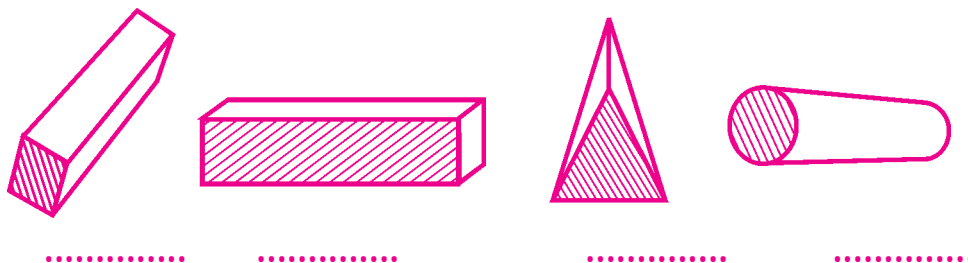
(c) A quadrilateral has four corners.

☐

(d) The shape of a brick is circular.

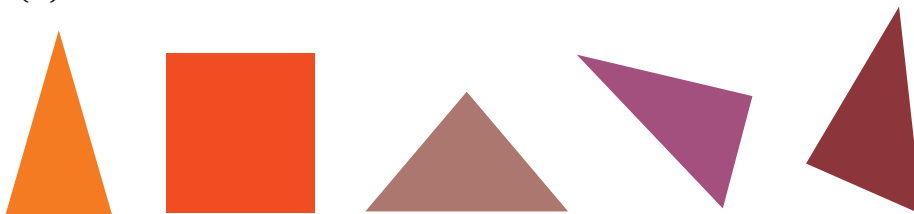
☐

2. Draw a circle with the help of a glass.
3. Write the shape of the shaded parts in the following solid objects.



4. Draw two quadrilaterals, triangles and circles in your exercise book.
5. Identify the odd shape and draw it in your exercise book.

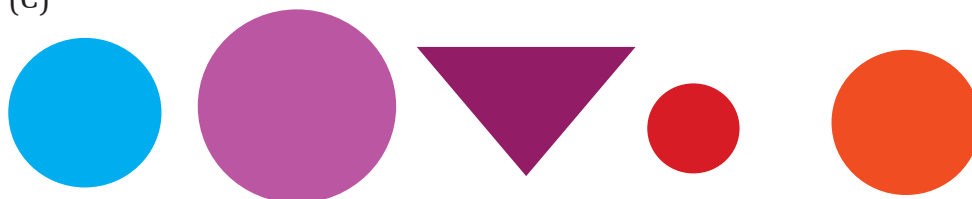
(a)



(b)



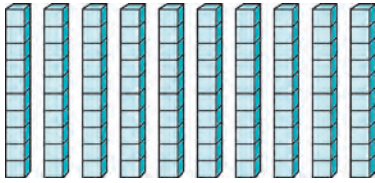
(c)



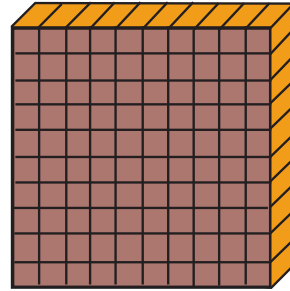
3

Numbers upto Thousands

Count, read, learn and write in your exercise book:



10 Tens



1 Hundred = 100

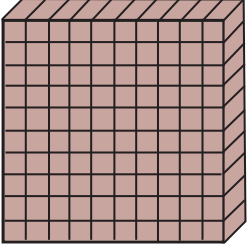
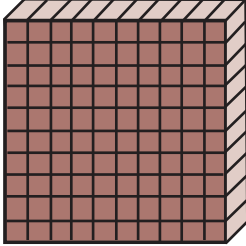
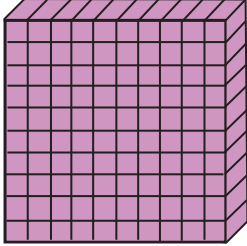
100 and 1 = 101	100 and 2 = 102	100 and 3 = 103
100 and 4 =	100 and 5 =	100 and 6 =
100 and 7 =	100 and 8 =	100 and 9 =
100 and 10 = 110	100 and 14 =	100 and 18 =
100 and 11 =	100 and 15 =	100 and 19 =
100 and 12 =	100 and 16 =	100 and 20 =
100 and 13 =	100 and 17 =	
100 and 22 = 122	100 and 31 = 131	100 and 81 = 181

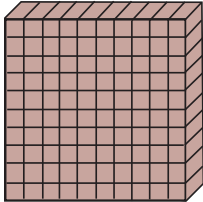
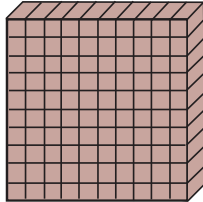
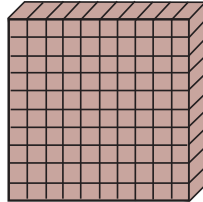
Teaching instructions:

Involve the students in activities and exercises on already learnt number system in grade one. Make the students change the name and number to each other. Then teach numbers upto 1000 that will be the teaching based on prior knowledge. Give the concept of counting 100 to 1000 with the help of local materials like stick, charts, block etc. and teach them to write in numbers.

Numbers of hundreds

Count, read and write the numbers of hundreds in your exercise book.

								
100	100	+ 100						
1 hundred = 100	2 hundreds = 200							
One hundred	Two hundreds							
		<table border="1"> <tr> <th>Hundred</th> <th>Tens</th> <th>Ones</th> </tr> <tr> <td>2</td> <td>0</td> <td>0</td> </tr> </table>	Hundred	Tens	Ones	2	0	0
Hundred	Tens	Ones						
2	0	0						

									
100 + 100 + 100	3 hundred = 300 (Three hundred)								
			<table border="1"> <tr> <th>Hundred</th> <th>Tens</th> <th>Ones</th> </tr> <tr> <td>2</td> <td>0</td> <td>0</td> </tr> </table>	Hundred	Tens	Ones	2	0	0
Hundred	Tens	Ones							
2	0	0							

Exercise

Fill in the blanks with the appropriate number.

one hundred	=	100	six hundreds	=	
two hundreds	=		seven hundreds	=	
three hundreds	=		eight hundreds	=	
four hundreds	=		nine hundreds	=	
five hundreds	=		one thousands	=	

100

200

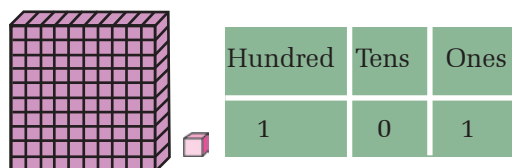
300

400

500

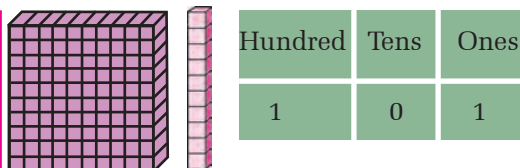
Numbers up to thousand (In figure and words)

Count, read and write in your exercise book:



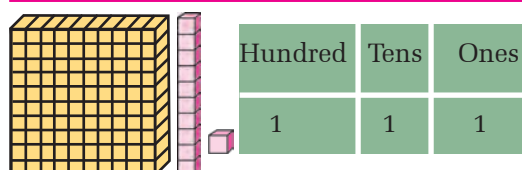
$$100 + 1 = 101$$

one hundred one



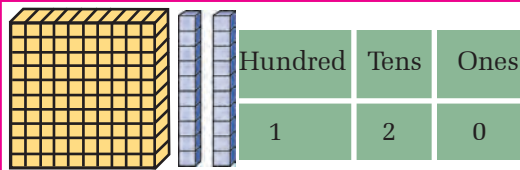
$$100 + 10 = 110$$

one hundred ten



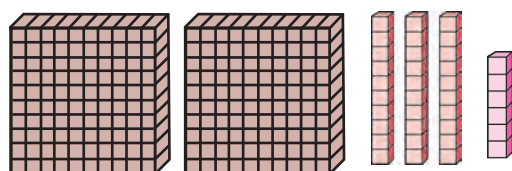
$$100 + 10 + 1 = 111$$

one hundred eleven



$$100 + 20 = 120$$

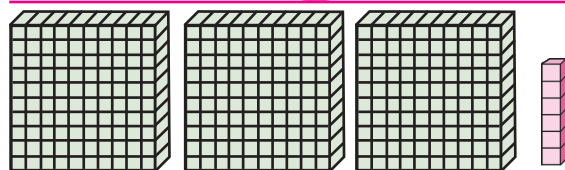
one hundred twenty



$$200 + 30 + 6 =$$

two hundreds thirty six

Hundred	Tens	Ones
2	3	6



$$300 + 6 =$$

three hundreds six

Hundred	Tens	Ones
3	0	6

Exercise

1. Write the following numbers in words:

105, 108, 198, 200, 249, 360, 415, 578, 970

Teaching instructions:

Teach students to write the numbers up to 1000 and their number name as mentioned above by using the local materials such as stick, chart, block, etc.

2. Recognise the following numerals in numbers and in words names. Write in your exercise book and read.

101	one hundred and one	111	one hundred and eleven
102	one hundred and two	112	
103		113	
104		114	
105		115	
106		116	
107		117	
108		118	
109		119	
110	one hundred and ten	120	

3. Write the numbers 121 to 200 in words as given in question 2.

4. Write the following numbers in words.

Example : 503 = Five hundred and three

- (a) 136 (b) 207 (c) 308 (d) 509
(e) 777 (f) 888 (g) 999 (h) 283

5. Write the number for the following number names.

Example : Five hundred and seventy = 570

- (a) One hundred and sixty (b) Three hundred and eleven
(c) Five hundreds and fifty (d) Six hundred and fifty-five
(e) Seven hundreds and twelve
(f) Eight hundreds and seventy-one
(g) One hundred and eleven
(h) Two hundreds and twenty-two
(i) Five hundreds and three

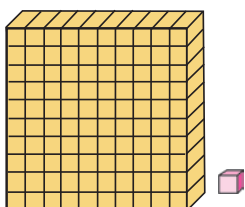
Teaching instructions: Make the students write, read and count the numbers up to 1000 as given above.

4

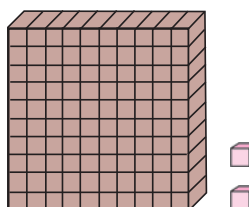
Hindu-Arabic Numbers up to Thousand

Hindu-Arabic numerals:

1 2 3 4 5 6 7 8 9 10



100 and 1 = 101
one hundred and one



100 and 2 = 102
one hundred and two

Read, recognise and learn.

Number and Number Name

101	one hundred and one	111	one hundred and eleven
102	one hundred and two	112	one hundred and twelve
103	one hundred and three	113	one hundred and thirteen
104	one hundred and four	114	one hundred and fourteen
105	one hundred and five	115	one hundred and fifteen
106	one hundred and six	116	one hundred and sixteen
107	one hundred and seven	117	one hundred and seventeen
108	one hundred and eight	118	one hundred and eighteen
109	one hundred and nine	119	one hundred and nineteen
110	one hundred and ten	120	one hundred and twenty

Teaching instructions: Make the students recognise, read and write the numbers and number names up to 1,000.

Exercise



1. Fill in the blank spaces with number in figure or in words.

Number	Number Name
121	one hundred and twenty -one
129	one hundred and twenty-nine
	one hundred and thirty-three
138	one hundred and thirty-eight
141	
	one hundred and fifty-seven
166	one hundred and sixty-six
170	one hundred and seventy
182	
199	one hundred and ninety-nine
200	two hundred

2. Write the number from 201 to 500 in figure and words as given in question 1.

3. Fill in the blank with the appropriate number in order:

991									1000
-----	--	--	--	--	--	--	--	--	------

545	546								
-----	-----	--	--	--	--	--	--	--	--

700	701								
-----	-----	--	--	--	--	--	--	--	--

(a) Write the following numbers in words.

Example: 112 = one hundred and twelve

- (a) 136 (b) 205 (c) 160 (d) 711
(e) 317 (f) 111 (g) 222 (h) 999
(i) 339 (j) 109 (k) 225 (l) 129
(m) 916 (n) 179 (o) 320 (p) 627

(b) Write the numerals for the following number names.

Example : five hundred and six = 506

- (a) one hundred and ninety
(b) three hundred
(c) six hundred and two
(d) seven hundred and ten
(e) five hundred and eighty six
(f) two hundred and seventeen
(g) three hundred and seven
(h) eight hundred and sixty six

(c) Write down in Devnagari.

Example : 350 = ३५०

- (a) 360 (b) 309 (c) 555 (d) 537
(e) 137 (f) 645 (g) 189 (h) 139

(d) Write down in Hindu-Arabic.

Example : ६२८ = 628

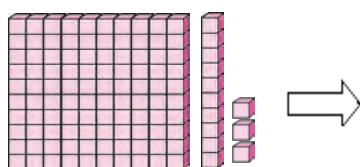
- (a) ३१५ (b) ५५५ (c) १३७ (d) ९३६
(e) २४८ (f) ६३९ (g) ७७७ (h) ८१५

(e) Count the numbers of students in your class and write in Hindu-Arabic number.

5

Place Value of Three Digit Numbers

Look, read and learn:



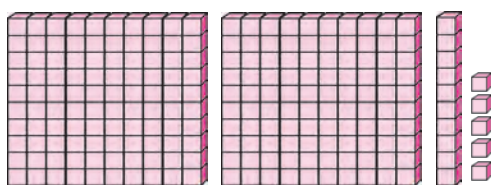
$$100 + 10 + 3$$

Place value table

Hundred	Tens	Ones
1	1	3



113 one hundred and thirteen



$$200 + 10 + 5$$

Place value table

Hundred	Tens	Ones
2	1	5

215 two hundred and fifteen

Exercise

- Write numbers and number names for the numerals given in place value table.

Example:

Hundred	Tens	Ones
2	5	1

251 = two hundred fifty-one

Hundred	Tens	Ones
3	0	0

Hundred	Tens	Ones
3	8	5

Hundred	Tens	Ones
6	7	2

Hundred	Tens	Ones
9	2	1

Hundred	Tens	Ones
7	8	9

Hundred	Tens	Ones
4	6	1

Teaching instructions: Give the knowledge of place value of numbers by using Abacus, stick, block, etc.

2. Put the following numerals in place value table and also write them in words as shown in the example.

Example : 231

Hundred	Tens	Ones
2	3	1

two hundred and thirty-one

- (a) 400 (b) 333 (c) 284
(d) 382 (e) 699 (f) 567
(g) 914 (h) 899 (i) 900

3. Copy in your exercise book and write the number in the place of hundred as shown in the example.

Example : 365

3

- (a) 565 (b) 376 (c) 251
(d) 655 (e) 741 (f) 821

4. Write the number in the place of tens as shown in the example.

Example 451

5

- (a) 213 (b) 463 (c) 584
(d) 673 (e) 671 (f) 992

5. Write the number in the place of ones in your exercise book as shown in the example.

Example : 764

4

- (a) 115 (b) 346 (c) 411
(d) 678 (e) 879 (f) 287

6. Write the place value of the circled digits as shown in the example.

Example : (2) 0 7 hundred

- (a) 2 (5) 3 (b) (1) 0 6 (c) 2 6 (0)



Order of Numbers

Numbers that come just after, just before and between the numbers

Read and learn:

101	102	103	104	106	106	107	108	109
-----	-----	-----	-----	-----	-----	-----	-----	-----

Which number comes just after 105 ?

106 comes just after 105.

Which number comes just before 105?

104 comes just before 105.

Which number lies between 104 and 106?

105 lies between 104 and 106.

Exercise

1. Write the number that comes after the given numbers.

(a) 201

(b) 359

(c) 876

(d) 735

(e) 617

(f) 560

(g) 800

(h) 999

2. Write the number that comes just before the given numbers.

(a) 192

(b) 564

(c) 875

(d) 651

(e) 217

(f) 431

(g) 705

(h) 939

3. Copy in your exercise book and write the number that lies between the given numbers.

(a) 198 200

(b) 337 339

(c) 559 561

(d) 620 622

(e) 703 705

(f) 447 449

Smallest and greatest numbers

Find out the greatest and the smallest numbers.

536

312

784

First, let's look the numbers in the place of hundreds.



7 is the greatest number in 5, 3 and 7. So, 784 is the greatest number.



3 is the smallest number in 5, 3 and 7. So, 312 is the smallest number.



Find out the greatest and the smallest numbers:

632

645

675

The numbers in hundreds place are equal.



If so, let's look the numbers of tens place.



7 is the greatest number in 3, 4 and 7. So, 675 is the greatest number.

3 is the smallest number in 3, 4 and 7. So, 632 is the smallest

Teaching instructions: Give the concept of the number that comes just after, just before and between together with the concept of counting of the numbers and make them practise more as above.

Find out the greatest and the smallest numbers.

375

372

378

The numbers in the place of hundreds and tens are equal.



If so, let's look the numbers of ones place.



8 is the greatest number in 5, 2 and 8. So, 378 is the largest number.

2 is the smallest number in 5, 2 and 8. So, 372 is the smallest number.

Exercise

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

Example : 731 825 107

(a) 215 107 205 (b) 802 300 504

(c) 411 212 387 (d) 515 518 517

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

Example : 731 825 107

(a) 217 318 419 (b) 504 507 511

(c) 118 217 319 (d) 103 207 108

3. Write the smallest and the greatest numbers.

Example : 731 825 107

The smallest number = 107

The largest number = 825

a) 741 625 315 (b) 501 601 701

(c) 218 309 120 (d) 130 208 108

Descending and ascending order

Read and learn:

Let's write the following numbers in order.

318

207

405

Here, the smallest number is 207.

The greatest number is 405.

While writing these numbers in ascending order.

207

318

405

Smallest number

Greatest number

Similarly, while writing 318 207 405 in descending order.

405

318

207

The greatest number is 405. The smallest number is 207.

Exercise

1. Copy the following numbers in your exercise book and put them in ascending order.

Example:

207

662

503

⇒

207

503

622

(a)

105

207

308

(b)

616

218

728

2. Copy the following numbers in your exercise book and put them in descending order.

Example:

317

208

505

⇒

505

317

208

(a)

135

207

105

(b)

636

638

637

Teaching instructions: Give the concept of the number that comes just after, just before and between together with the concept of counting of the numbers. Besides this, give additional exercises as above for practice.



Comparison of Numbers

Use of symbols ($<$, $=$ and $>$) smaller than, equal to and greater than

Read and learn:

Which is greater 6 or 8 ? 8 is greater. So, $8 > 6$.

Which is smaller 28 or 23 ? 23 is smaller. So, $23 < 28$.

Which one is greater, 524 or 425 ?

Let's see in the place value table:

Hundreds	Tens	Ones		Hundreds	Tens	Ones	
5	2	4	= 524	4	2	5	= 425

First, let's look at the digits in the place of hundreds.

5 is greater than 4
 $5 > 4$



So, $524 > 425$

Which is smaller 203 or 511 ? Let's put in place value table,

Hundreds	Tens	Ones		Hundreds	Tens	Ones	
2	0	3	= 203	5	1	1	= 511

2 is smaller than 5
 $2 < 5$



So, $203 < 511$

Let's compare 619 and 657.

The numbers in the place of hundred are equal.

1 is smaller than 5
 $1 < 5$



Now, let's see the digits in tens place.



So, $619 < 657$

Let's compare 718 and 715:

The numbers in the place of hundreds and tens are equal.
What to do?



8 is greater than 5.
 $8 > 5$

Now, let's see the numbers in ones place.



So, $718 > 715$

Let's see 531 and 531.

The numbers in the place of hundreds, tens and ones are equal.

So, 531 and 531 are equal. $531 = 531$

Exercise

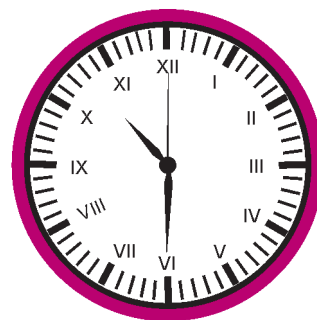
- Copy in your exercise book and put the appropriate symbol ($<$, $>$):
- Example : 9 $>$ 7, 98 $<$ 99
 - 621 680
 - 140 146
 - 384 438
 - 758 240

8

Roman Numerals

Read and recognize the Roman numerals:

Devnagari Numerals	Hindu-Arabic numerals	Roman Numerals
१	1	I
२	2	II
३	3	III
४	4	IV
५	5	V
६	6	VI
७	7	VII
८	8	VIII
९	9	IX
१०	10	X
११	11	XI
१२	12	XII



Exercise

- Write the numbers 1 to 12 in Roman numerals.
- Copy the given table in your exercise book and put the correct Roman numerals in the box.

		III		V			IX	
--	--	-----	--	---	--	--	----	--

- Write the following Roman numerals in Hindu-Arabic

Example : IV = 4

- | | | | | | |
|---------|--------|---------|--------|---------|-------|
| (a) VII | (b) VI | (c) IV | (d) IX | (e) X | (f) I |
| (g) VII | (h) II | (i) III | (j) XI | (k) XII | (l) V |

4. Write the following numbers in Roman numerals:

- (a) 5 (b) 7 (c) 8 (d) 9
(e) 12 (f) 11 (g) 4 (h) 3

5. Write the following numbers in Roman numerals.

- (a) ५ (b) ७ (c) ८ (d) ११
(e) १२ (f) १० (g) २ (h) १

6. Write the following Roman numerals in Devnagari:

- (a) II (b) VI (c) VII (d) I
(e) XI (f) IV (g) III (h) V

Review Exercise

1. Write the numbers 250 to 300 and put them in words.

2. Write the following number in Devnagari and Hindu Arabic.

- (a) Three hundreds and eighty-seven
(b) Five hundreds and seventy-five
(c) One thousand
(d) Two hundreds and seven

3. Write in English.

- (a) 277 (b) 888 (c) 996 (d) 627

4. Write in both Nepali and English.

- (a) 561 (b) 801 (c) 320 (d) 280

5. Write in both Devnagari and Hindu-Arabic numerals:

- (a) six hundred
(b) four hundred and one
(c) seven hundred and eighty-six
(d) eight hundred and twenty-one

6. Write in Devnagari.

- (a) 238 (b) 380 (c) 796 (d) 909

7. Write the following Devnagari numerals in Hindu-Arabic.

- (a) 253 (b) 105 (c) 291 (d) 871

(e) Match the followings.

५	4	X
४	6	V
१	2	IX
३	5	VII
२	3	IV
७	1	III
९	9	VI
१०	7	II
६	8	XI
८	10	VIII
१२	11	XII
११	12	I

8. Write the number to represent the place value table.

Example:

Hundred	Tens	Ones		Hundred	Tens	Ones	
5	2	0	520	5	2	0	
Hundred	Tens	Ones		Hundred	Tens	Ones	
5	2	0		5	2	0	

9. Write the following numbers in place value table:

- (a) 388 (b) 105 (c) 836 (d) 211

10. Write the place value of the encircled digits in the following numbers.

(a) 5 8 0 (b) 3 4 4 (c) 5 1 1

(d) 7 3 7 (e) 2 0 8 (f) 9 5 9

11. Copy the table in your exercise copy and put correct numbers in the blank boxes in ascending order:

801			804			807			810
	812			815			818		
				825					830
			834				838		
841				845			848		
	852				856				860
		863				867			870
			874			877			
				885			888		890
	892		894		896				900

12. Write the numbers from 701 to 800 in your exercise book:

13. Copy in your exercise book and put the symbols ($<$ $=$ or $>$) in the boxes:

(a) 31 25 (b) 826 715

(c) 420 432 (e) 563 563

14. Copy in your exercise book and put circle in the smallest number and rectangle in the greatest number:

(a) 129 125 123 (b) 871 971 771

(c) 826 727 126 (d) 175 228 331

15. Copy the following numbers in your exercise book and put them in ascending order.

- | | |
|-------------------|-------------------|
| (a) 373, 278, 179 | (b) 421, 425, 420 |
| (c) 826, 879, 180 | (d) 169, 237, 380 |
| (e) 999, 818, 205 | (f) 737, 284, 521 |

16. Copy the following numbers in your exercise book and put them in descending order.

- | | |
|-------------------|-------------------|
| (a) 437, 528, 407 | (b) 831, 207, 119 |
| (c) 773, 775, 770 | (d) 251, 283, 279 |
| (e) 641, 321, 715 | (e) 339, 263, 177 |

17. Write the following Devnagari numbers in Roman numerals.

- | | | | |
|--------|-------|-------|--------|
| (a) ७ | (b) ५ | (c) ८ | (d) १० |
| (e) १२ | (f) ४ | (g) ३ | (h) २ |

18. Write the following Hindu-Arabic Numerals in Roman numerals.

- | | | | |
|-------|--------|--------|--------|
| (a) 5 | (b) 3 | (c) 7 | (d) 8 |
| (e) 9 | (f) 10 | (g) 11 | (h) 12 |

19. Write down the following Roman numerals in Devnagari.

- | | | |
|-------|--------|---------|
| (a) X | (b) IX | (c) XII |
| (d) I | (e) IV | (f) V |

20. Write down the following Roman numerals in Hindu-Arabic numerals.

- | | | |
|--------|---------|---------|
| (a) IX | (b) XII | (c) VII |
| (d) II | (e) III | (f) VI |

9

Sets

Sets and their members

Look and discuss:



Set of books



Set of fruits

1. Can you choose the similar objects and form three groups from the following objects ? How many members are there in each group? Discuss and say.



Write the groups in your exercise book.

Discuss whether you can form more groups.

2. Divide the girls of your class into two groups, who put on ribbon and don't. Tell the name of the girls of each group.

Teaching instructions: Mix the objects of different characteristics and give to the students. Then ask them to say one of their characteristics. On the basis of same characteristics, tell them to form the group of things .

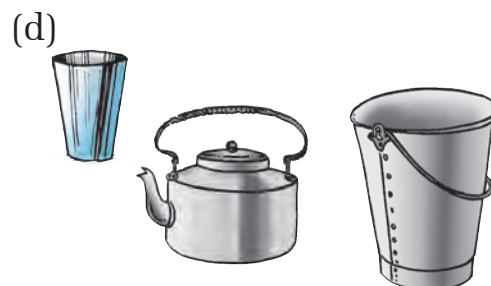
Exercise



1. Match the objects given above with the following sets.

- (a) Set of fruits
- (b) Set of vegetables
- (c) Set of utensils
- (d) Set of objects that are put on feet
- (e) Write down the number and name of the members of each group.

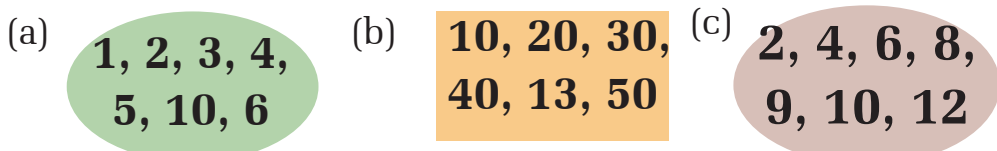
2. Discuss on the sets given below and tell the name of the sets.



3. Find the odd object in the following collection.



4. Find the odd number in the following sets.



5. Tell the five members of each set in the following sets.

- (a) Set of birds found in jungle
- (b) Set of domestic animals
- (c) Set of objects in kitchen
- (d) Set of grains
- (e) Set of numbers in multiplication table of 2
- (f) Set of numbers between 25 and 35.

6. Look at the numbers inside the circle and answer the following questions.

15 14 46 48 41 16
42 18 19 45 44

- (a) Form a set of numbers 10 and 20.
- (b) Form a set of numbers 40 and 50.

Teaching instructions: Have a discussion on set with the help of pictures and problems as given in exercise and develop the concept in the students that a set has the members with same qualities or the objects with similar qualities form a set.

10

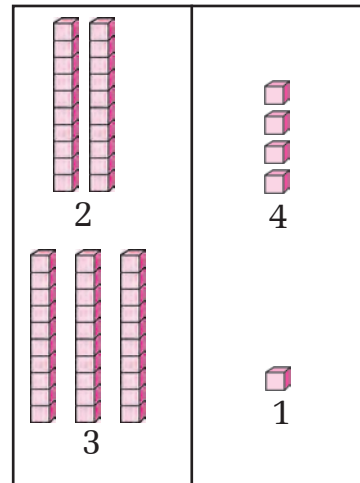
Addition

Read, count and learn addition:

Add:

$$\begin{array}{r} 24 \\ + 31 \\ \hline \end{array}$$

Tens	Ones
2	4
+	3 1



First, let's add the numbers of ones place.

While adding 4 ones and 1 one, we get 5 ones

Tens	Ones
2	4
+	3 1
5	5

Then, let's add the numbers of tens place.

We get 5 tens by adding 2 Tens and 3 Tens.

Exercise

1. Add.

(a)

Tens	Ones
2	5
+	1 3

(b)

Tens	Ones
5	4
+	3 4

Teaching instructions: Make additional problems like in the exercise and let the students practice.

Observe the given examples and learn to add

Example

Add:

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

First, let's add the numbers of ones place. $5 + 2 = 7$

Finally, add the numbers at hundreds place.
 $4 + 4 = 8$

Second, let's add the numbers at tens place.
 $3 + 6 = 9$



Exercise

1. Add the following by using place value table.

(a)

Tens	Ones
5	3
+ 2	6

(b)

Tens	Ones
3	4
+ 5	5

(c)

Tens	Ones
6	2
+ 1	6

(d)

Hundreds	Tens	Ones
1	1	2
+ 5	3	1

(e)

Hundreds	Tens	Ones
5	1	1
+ 2	3	4

(f)

Hundreds	Tens	Ones
2	1	2
+ 3	5	7

(d)

Hundreds	Tens	Ones
2	5	6
+ 5	4	0

(e)

Hundreds	Tens	Ones
1	2	4
+ 5	3	1

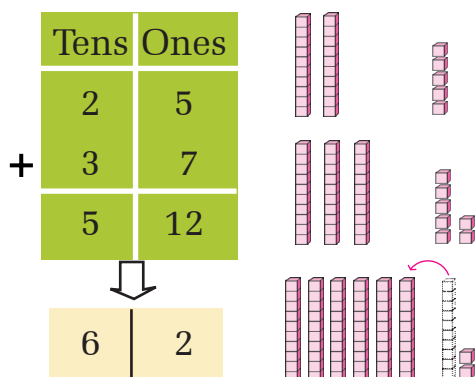
(f)

Hundreds	Tens	Ones
2	7	1
+ 3	2	5

Addition with carryover

Look at the addition below, discuss and learn:

Add by using the place value table.



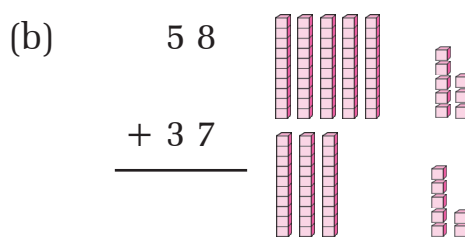
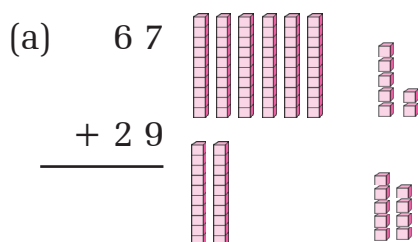
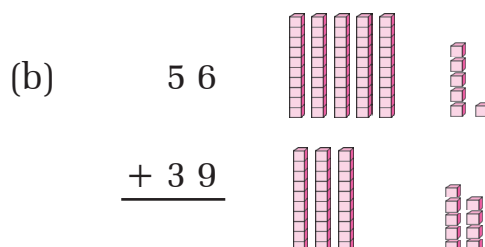
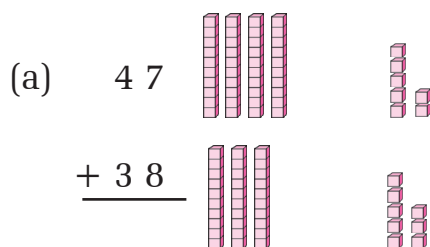
Add the number at ones place. We get 12 ones. It means one tens and two ones.



Now, add the 2 ones and 3 ones of tens place. We get 5 tens. Add one tens and write 6.

Exercise

Add.



Observe the following examples and learn to add.

Add the following by using the place value table:

Example:

Tens	Ones
4	7
+ 2	9
6	6
7	6

7 one and 9 one = 16 ones

16 one = 1 ten and 6 one



Tens	Ones
2	9
3	2
+ 2	7
7	8
8	8

Exercise

1. Solve the following sums.

(a) Tens	Ones	(b) Tens	Ones	(c) Tens	Ones	(d) Tens	Ones
5	7	3	6	2	8	3	7
+ 3	8	+ 5	8	3	7	2	4
				+ 1	6	+ 1	6

Observe the following examples and learn to add.

Example:

$$\begin{array}{r} 163 \\ + 426 \\ \hline 589 \end{array}$$

$$\begin{array}{r} 235 \\ 140 \\ + 503 \\ \hline 878 \end{array}$$

1. Solve the following sums.

(a)	(b)	(c)
563	747	221
+ 214	111	302
	+ 120	+ 156

Teaching instructions: Make the students practise by giving additional problems as given in the exercise.

Verbal problems on addition

Read and learn to add:

Example:

- (a) Rita's mother has given her Rs. 39 and her father has given her Rs. 58. How much money does Rita have?

Answer: Money given by mother = Rs. 39

Money given by father = Rs. 58

Therefore, Rita has total = Rs. 97.

Rs. 39
+ Rs. 58
Rs. 97

- (b) A fruit seller sells 235 apples, 321 mangoes and 122 oranges in a day. How many fruits does he sell?

Answer: Number of apples = 235

Number of mangoes = 321

number of oranges = 122

Therefore, he sells 678 fruits.

235
321
+ 122
678

Exercise

1. One pen costs Rs. 45 and one book costs Rs. 23. Find the cost of both pen and book together.

Answer: Price of pen = Rs

Price of book = Rs

Total price of pen and book is Rs

Teaching instructions: Help the students understand in their own language. Let them write in mathematical language and solve with problem solving method.

- (b) There were 50 mangoes in one basket and 35 in another. How many mangoes were there in two baskets?

Solution :

Mangoes in first basket =

Mangoes in second basket =

Total mangoes =

The number of mangoes kept together in one are

- (c) There are 26 goats in a pen and 89 in another pen. How many goats will be there when they are kept together?

Solution :

Goats in the first pen =

Goats in the second pen =

Total goats =

The numbers of goats together in one are

- (d) How many oranges will be there when 37 oranges from one tree and 59 from another tree are collected in one place?

Solution:

Oranges of first tree =

Oranges of another tree =

Total number of oranges =

Oranges in one place are

- (e) **Krishna bought a pen in Rs. 23, an exercise book in Rs. 15 and a book in Rs.51. How much money did he spend in total?**

Cost of a pen = Rs.

Cost of a copy = Rs.

Cost of a book = Rs.

Total cost = Rs.

In total, Krishna spent Rs.

- (f) **In a cupboard, there are 25 books of English, 41 books of mathematics and 33 books of other subjects. How many books are there ?**

English books =

Mathematics books =

Other books =

Total books =

There were books in a cupboard.

- (g) **Fill in the blank spaces with correct number.**

1. + 23 = 23 + 32

2. 37 + 49 = + 37

3. + 62 = + 47

11

Subtraction

Subtraction of three digit numbers

Look, read and learn:

Hundreds	Tens	Ones
4	7	6
2	4	3
2	3	3

First, subtract the number of ones place from the number of ones place.

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

Then, subtract the number of tens place from the number of tens place.

$$\begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array}$$

And then, subtract the number of hundreds place from hundred place.

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

Example:

$\begin{array}{r} 8 \quad 6 \quad 5 \\ - 2 \quad 4 \quad 1 \\ \hline 6 \quad 2 \quad 4 \end{array}$	$\begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array}$	$\begin{array}{r} 6 \\ - 4 \\ \hline 2 \end{array}$	$\begin{array}{r} 5 \\ - 1 \\ \hline 4 \end{array}$
---	---	---	---

Exercise

1. Subtract:

(d)

Tens	Ones
7	6
- 3	4

(e)

Hundreds	Tens	Ones
6	9	7
- 4	5	2

(f)

Hundreds	Tens	Ones
7	9	6
- 6	6	3

(d)

Hundreds	Tens	Ones
5	9	8
- 2	7	0

(e)

Hundreds	Tens	Ones
9	7	6
- 6	0	4

(f)

Hundreds	Tens	Ones
6	8	9
- 1	7	2

Subtraction with borrowing

Look at the examples below and learn:

Tens Ones

$$\begin{array}{r} 4 \quad 3 \\ - 2 \quad 7 \\ \hline \end{array}$$

7 ones
cannot be
subtracted
from 3
ones

Tens Ones

$$\begin{array}{r} \boxed{3} \quad \boxed{13} \\ \cancel{7} \quad \cancel{3} \\ - 2 \quad 7 \\ \hline \end{array}$$

One ten means ten one.
There will be 13 while
borrowing one ten from
four tens.



Tens Ones

$$\begin{array}{r} \boxed{3} \quad \boxed{13} \\ \cancel{7} \quad \cancel{3} \\ - 2 \quad 7 \\ \hline 1 \quad 6 \end{array}$$

There will be six ones while subtracting seven ones from 13. Then, there remains only 3 tens in tens place. So there will be one ten while subtracting 2 tens from 3 tens.



Exercise

1. Subtract:

(a) Tens Ones

$$\begin{array}{r} \boxed{} \quad \boxed{} \\ 7 \quad 3 \\ - 2 \quad 8 \\ \hline \end{array}$$

(b) Tens Ones

$$\begin{array}{r} \boxed{} \quad \boxed{} \\ 8 \quad 6 \\ - 5 \quad 4 \\ \hline \end{array}$$

(c) Tens Ones

$$\begin{array}{r} \boxed{} \quad \boxed{} \\ 6 \quad 5 \\ - 3 \quad 7 \\ \hline \end{array}$$

(d) Tens Ones

$$\begin{array}{r} \boxed{} \quad \boxed{} \\ 5 \quad 2 \\ - 1 \quad 9 \\ \hline \end{array}$$

1. Subtract:

(a) 9 4

$$\begin{array}{r} 9 \quad 4 \\ - 5 \quad 8 \\ \hline \end{array}$$

(b) 7 3

$$\begin{array}{r} 7 \quad 3 \\ - 4 \quad 9 \\ \hline \end{array}$$

(c) 8 1

$$\begin{array}{r} 8 \quad 1 \\ - 5 \quad 7 \\ \hline \end{array}$$

(d) 6 0

$$\begin{array}{r} 6 \quad 0 \\ - 5 \quad 2 \\ \hline \end{array}$$

(d) 9 6

$$\begin{array}{r} 9 \quad 6 \\ - 2 \quad 8 \\ \hline \end{array}$$

(f) 6 3

$$\begin{array}{r} 6 \quad 3 \\ - 4 \quad 5 \\ \hline \end{array}$$

(g) 8 2

$$\begin{array}{r} 8 \quad 2 \\ - 3 \quad 7 \\ \hline \end{array}$$

(h) 5 8

$$\begin{array}{r} 5 \quad 8 \\ - 3 \quad 9 \\ \hline \end{array}$$

Teaching instructions: Use solid objects like small sticks to give the concept of subtraction by borrowing.

Verbal problems on subtraction

Look, read and recognize.

Example:

There are 82 apples in a basket. 29 apples are damaged. Then, how many apples are fresh?

Total apples in a basket = 82

Damaged apples = 29

Fresh apples = ?

Fresh apples = 53

There are 53 fresh apples in the basket.

	8	2
–	2	9
	5	3

Example:

Ramesh had Rs. 564. How much money will remain after spending Rs. 301 in buying book and exercise book?

total amount with Ramesh = Rs. 564

He spent = Rs. 301

Money left with him = ?

Money left with him is Rs. 263

	5	6	4
–	3	0	1
	2	6	3

Exercise

1. There were 57 hens in Nara Bahadur's house. He sold 31 hens. How many hens remained in his house?

Solution:

Total hens =

Hens he sold =

Remaining hens =

In his house, there were

hens remained.

2. **Sudip's mother gave him Rs.75. He bought a book for Rs. 31. How much money was left with him?**

Answer: Total money = Rs.

Money spent = Rs.

money left = Rs.

Sudip had Rs.

3. **There were 59 girls out of 76 students. How many were boys?**

Answer: Total students =

Girls =

Boys =

There were boys.

4. **Mother had cooked 80 breads. Among them 45 were eaten. How many breads were left there?**

Answer: Total breads

Breads eaten =

Breads left =

There were breads left.

5. **Sagar had Rs. 55. He spent Rs. 28. How much money did he have?**

Answer: Total amount =

Spent amount =

Left amount =

He had Rs.

12

Distance

Length and measurement

Read and learn:

Bench, table, etc. can be measured with hand. But very small objects cannot be measured by a hand.

Can you measure an eraser with your hand ?



Eraser

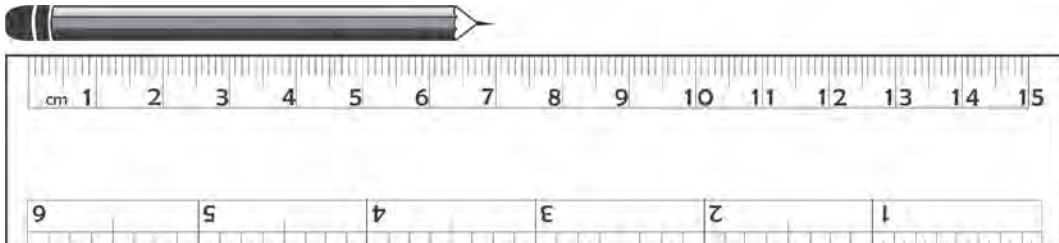
Small objects like, eraser can be measured with ruler.

Measurement of length



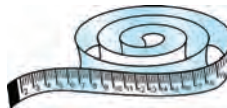
We use ruler as given to measure the length of objects:

The numbers in upper part of ruler denote centimeter.



Pencil is 7 centimeter (c m.) long.

100 cm. = 1 meter



Meter tape

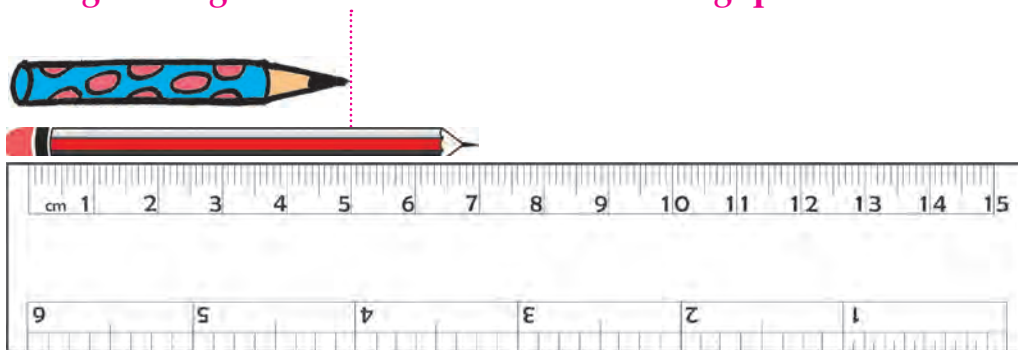
Teaching instructions: 1. Let the students practise the measurement of length with hand that was learnt in grade 1 and move to the activities given in this lesson.
2. Get the students to estimate length, breadth and height of different objects and later let them measure and find their length, breadth and height.

Activity

1. How long is 1 meter? Measure with a rope or thread.
2. Is your pencil shorter or longer than 15 cm. ?
3. Is your paw is longer or shorter than 15 cm.?
4. What is the length of your “My Mathematics book 2” ?
5. Measure the length of your classroom with the help of 1 meter rope.
6. Measure the length of your play ground with the help of 1 meter rope.

Exercise

1. What is the length of the following pencils ? Observe the given figure and answer the following questions.



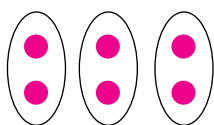
- (a) What is the length of longer pencil above?
- (b) What is the length of the shorter pencil above?
- (c) How longer is longer pencil than the shorter one?
- (d) Draw five lines in your exercise book, measure them and show to your teacher.

13

Multiplications

Concept of multiplication from addition method.

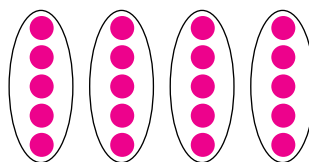
Count, read and learn multiplication.



$$2 + 2 + 2 = 6$$

$$2 \text{ three times} = 6$$

$$2 \times 3 = 6$$



$$5 + 5 + 5 + 5 = 20$$

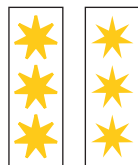
$$5 \text{ four times} = 20$$

$$5 \times 4 = 20$$

Exercise

Look at the pictures and fill in the blanks.

(a)

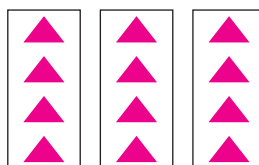


$$3 + 3 = \boxed{}$$

$$3 \text{ two times} = \boxed{}$$

$$3 \times 2 = \boxed{}$$

(b)

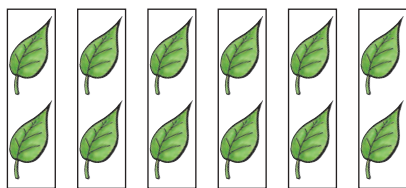


$$4 + 4 + 4 = \boxed{}$$

$$4 \text{ three times} = \boxed{}$$

$$4 \times 3 = \boxed{}$$

(c)



$$2 + 2 + 2 + 2 + 2 + 2 = \boxed{}$$

$$2 \text{ six times} = \boxed{}$$

$$2 \times 6 = \boxed{}$$

(d)



$$6 + 6 + 6 = \boxed{}$$

$$6 \text{ three times} = \boxed{}$$

$$6 \times 3 = \boxed{}$$

Count and fill in the blanks:

Example:



$$6 + 6 = 12$$

$$6 \times 2 = 12$$

1.



$$\boxed{} + \boxed{} + \boxed{} = \boxed{}$$

$$\boxed{} \times \boxed{} = \boxed{}$$

2.



$$\boxed{} + \boxed{} + \boxed{} = \boxed{}$$

$$\boxed{} \times \boxed{} = \boxed{}$$

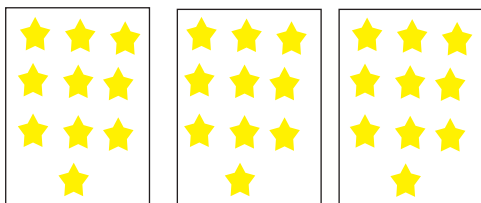
3.



$$\boxed{} + \boxed{} + \boxed{} = \boxed{}$$

$$\boxed{} \times \boxed{} = \boxed{}$$

4.



$$\boxed{} + \boxed{} + \boxed{} = \boxed{}$$

$$\boxed{} \times \boxed{} = \boxed{}$$

Multiplication Table

Table from 6 to 10

Table of 6

Read	Count	Read	Write/say
6 one's		6 one time	$6 \times 1 = 6$
6 two's		6 two times	$6 \times 2 = 12$
6 three's		6 three times	$6 \times 3 = 18$
6 four's		6 four times	$6 \times 4 = 24$
6 five's		6 five times	$6 \times 5 = 30$
6 six's		6 six times	$6 \times 6 = 36$
6 seven's		6 seven times	$6 \times 7 = 42$
6 eight's		6 eight times	$6 \times 8 = 48$
6 nine's		6 nine times	$6 \times 9 = 54$
6 ten's		6 ten times	$6 \times 10 = 60$

Teaching instructions: Make the students learn the multiplication table from 3 to 10.

Read the following multiplication table and learn:

$3 \times 1 = 3$
 $3 \times 2 = 6$
 $3 \times 3 = 9$
 $3 \times 4 = 12$
 $3 \times 5 = 15$
 $3 \times 6 = 18$
 $3 \times 7 = 21$
 $3 \times 8 = 24$
 $3 \times 9 = 27$
 $3 \times 10 = 30$

$4 \times 1 = 4$
 $4 \times 2 = 8$
 $4 \times 3 = 12$
 $4 \times 4 = 16$
 $4 \times 5 = 20$
 $4 \times 6 = 24$
 $4 \times 7 = 28$
 $4 \times 8 = 32$
 $4 \times 9 = 36$
 $4 \times 10 = 40$

$5 \times 1 = 5$
 $5 \times 2 = 10$
 $5 \times 3 = 15$
 $5 \times 4 = 20$
 $5 \times 5 = 25$
 $5 \times 6 = 30$
 $5 \times 7 = 35$
 $5 \times 8 = 40$
 $5 \times 9 = 45$
 $5 \times 10 = 50$

$6 \times 1 = 6$
 $6 \times 2 = 12$
 $6 \times 3 = 18$
 $6 \times 4 = 24$
 $6 \times 5 = 30$
 $6 \times 6 = 36$
 $6 \times 7 = 42$
 $6 \times 8 = 48$
 $6 \times 9 = 54$
 $6 \times 10 = 60$

$7 \times 1 = 7$
 $7 \times 2 = 14$
 $7 \times 3 = 21$
 $7 \times 4 = 28$
 $7 \times 5 = 35$
 $7 \times 6 = 42$
 $7 \times 7 = 49$
 $7 \times 8 = 56$
 $7 \times 9 = 63$
 $7 \times 10 = 70$

$8 \times 1 = 8$
 $8 \times 2 = 16$
 $8 \times 3 = 24$
 $8 \times 4 = 32$
 $8 \times 5 = 40$
 $8 \times 6 = 48$
 $8 \times 7 = 56$
 $8 \times 8 = 64$
 $8 \times 9 = 72$
 $8 \times 10 = 80$

$9 \times 1 = 9$
 $9 \times 2 = 18$
 $9 \times 3 = 27$
 $9 \times 4 = 36$
 $9 \times 5 = 45$
 $9 \times 6 = 54$
 $9 \times 7 = 63$
 $9 \times 8 = 72$
 $9 \times 9 = 81$
 $9 \times 10 = 90$

$10 \times 1 = 10$
 $10 \times 2 = 20$
 $10 \times 3 = 30$
 $10 \times 4 = 40$
 $10 \times 5 = 50$
 $10 \times 6 = 60$
 $10 \times 7 = 70$
 $10 \times 8 = 80$
 $10 \times 9 = 90$
 $10 \times 10 = 100$

Exercise

Learn the multiplication table by heart and fill in the blanks with appropriate number:

$2 \times 1 = 2$

$2 \times 5 =$

$6 \times 3 =$

$4 \times 8 =$

$9 \times 7 =$

$3 \times 2 =$

$4 \times 3 =$

$7 \times 2 =$

$7 \times 7 =$

$8 \times 5 =$

$4 \times 2 =$

$5 \times 4 =$

$6 \times 4 =$

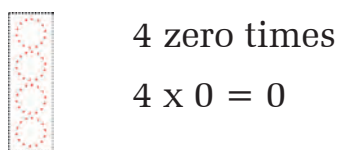
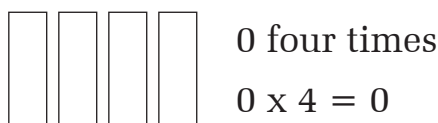
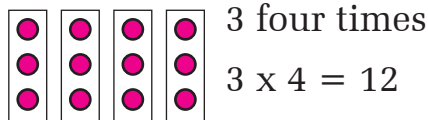
$8 \times 6 =$

$9 \times 9 =$

Multiplication with zero

Read and learn the multiplication with zero:

Example:



When zero is multiplied by any number, the result is zero.

For example, $0 \times 4 = 0$

If a number is multiplied by zero, the result is also zero. For example, $4 \times 0 = 0$

Exercise

Fill in the blanks:

a. $2 \times 0 =$

b. $0 \times 3 =$

c. $0 \times 0 =$

d. $7 \times$ $= 0$

e. $0 \times 9 =$

f. $\times 5 = 0$

Multiply:

a.
$$\begin{array}{r} 3 \\ \times 0 \\ \hline \end{array}$$

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

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

d.
$$\begin{array}{r} 0 \\ \times 6 \\ \hline \end{array}$$

e.
$$\begin{array}{r} 7 \\ \times 0 \\ \hline \end{array}$$

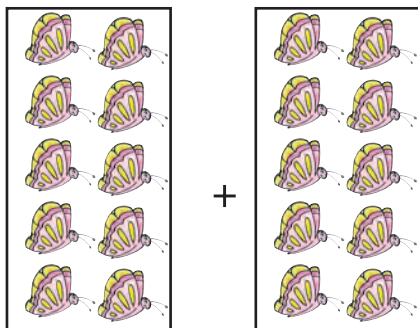
f.
$$\begin{array}{r} 0 \\ \times 4 \\ \hline \end{array}$$

g.
$$\begin{array}{r} 9 \\ \times 0 \\ \hline \end{array}$$

h.
$$\begin{array}{r} 0 \\ \times 8 \\ \hline \end{array}$$

Multiplication of ten

Count, read and learn the multiplication of 10.



1 ten two times
is 2 tens.
 $10 \times 2 = 20$



1 ten two times

$1 \text{ ten} \times 2 = 2 \text{ tens}$

$10 \times 2 = 20$

Exercise

a. $10 \times 2 =$ b. $10 \times 3 =$ c. $10 \times 7 =$

d. $\begin{array}{r} 30 \\ \times 3 \\ \hline \end{array}$	e. $\begin{array}{r} 50 \\ \times 4 \\ \hline \end{array}$	f. $\begin{array}{r} 90 \\ \times 5 \\ \hline \end{array}$	g. $\begin{array}{r} 90 \\ \times 6 \\ \hline \end{array}$
--	--	--	--

h. $\begin{array}{r} 40 \\ \times 5 \\ \hline \end{array}$	i. $\begin{array}{r} 60 \\ \times 7 \\ \hline \end{array}$	j. $\begin{array}{r} 50 \\ \times 9 \\ \hline \end{array}$	k. $\begin{array}{r} 80 \\ \times 8 \\ \hline \end{array}$
--	--	--	--

l. $\begin{array}{r} 60 \\ \times 8 \\ \hline \end{array}$	m. $\begin{array}{r} 80 \\ \times 9 \\ \hline \end{array}$	n. $\begin{array}{r} 90 \\ \times 7 \\ \hline \end{array}$	o. $\begin{array}{r} 20 \\ \times 5 \\ \hline \end{array}$
--	--	--	--

Multiplication of two digit numbers by one digit number (without carryover)

Example

Tens	Ones
1	3
x	3
	9
+	30
3	9

First, multiply by number of ones place.

$$3 \times 3 \text{ ones} = 9 \text{ ones}$$

Then, multiply by number of tens place.

$$3 \times 1 \text{ ten} = 3 \text{ tens}$$

$$= 3 \text{ tens} + 9 \text{ ones}$$

$$= 30 + 9$$

$$= 39$$

Shortcut method

Ten	One
1	3
x	3
3	9

$$10 + 3$$

$$\times 3$$

$$30 + 9 = 39$$

$$3 \times 3 \text{ ones} = 9 \text{ ones}$$

$$3 \times 1 \text{ ten} = 3 \text{ tens}$$

Exercise

1. Multiply:

a.

Ten	One
2	3
x	2

b.

Ten	One
4	3
x	3

c.

Ten	One
2	2
x	4

d.

4	2
x	4

e.

3	1
x	5

f.

9	0
x	7

g.

6	1
x	7

Word problems on multiplication

Look, read and recognize.

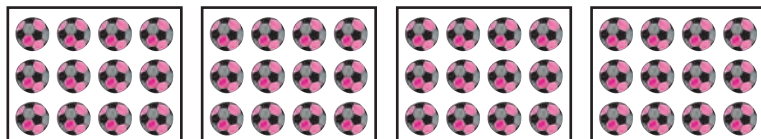
Example:

1. One cow has 4 legs. How many legs do 3 cows have?



$$\begin{array}{r} 4 \\ \times 3 \\ \hline 12 \end{array}$$

2. A box contains 12 balls. How many balls can be kept in 4 boxes?



$$\begin{array}{r} 12 \\ \times 4 \\ \hline 48 \end{array}$$

Exercise

Understand the questions and solve the following sums.

- If a bicycle has 2 wheels, how many wheels are there in 4 bicycles?
- If 4 students can sit in a bench, how many students can sit in 5 benches?
- If a spider has 6 legs, how many legs do 7 spiders have?
- If a basket contains 21 oranges, how many oranges are there in 6 baskets?
- If 32 students are stood in one row, how many students are there in 3 rows?
- If a pen costs Rs. 42 , find the cost of 4 pens.

14

Division

Read, discuss and learn the division.

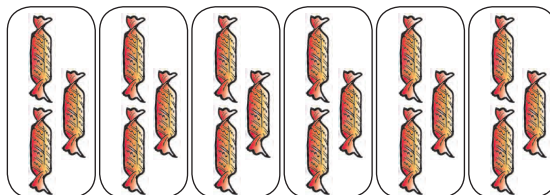
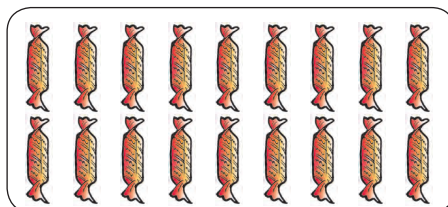
How many chocolates are there?

There are 18 chocolates.

Form the groups of 3 chocolates.

How many groups were there?

There were 6 groups.



Solve the following problems.



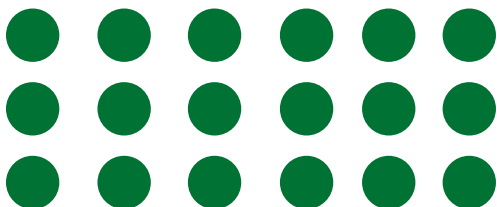
Form the group of 5.

How many groups are there?



Form the group of 4.

How many groups are there?



Form the groups of 6.

How many groups are there?



Form the groups of 7.

How many groups are there?



Form the groups of 8.
How many groups are there ?

Use of symbol of division ($\div$)

How many apples are there?

There are 15 apples.

Form the groups of 3 apples.

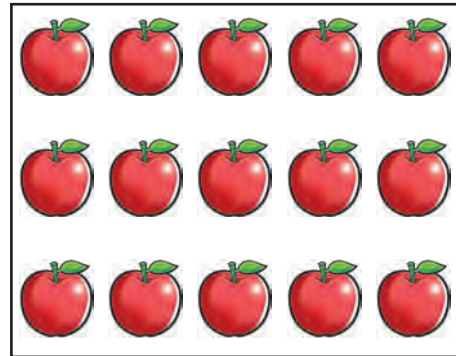
Then, there are 5 groups.

We can write using the symbol:

$$15 \div 3 = 5$$

Again, form the groups of 5 apples.

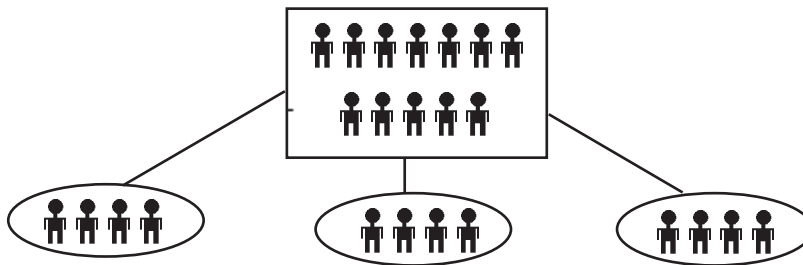
$$15 \div 5 = 3$$



Can we make 4 groups? Observe by making the groups.

Activity

Get 12 students to stand in a line.



Divide them into 3 groups and let them count the numbers of students in each group.

This can be written as: $12 \div 3 = 4$

Teaching instructions:

Give the concept that a group can be divided into several groups.

Exercise

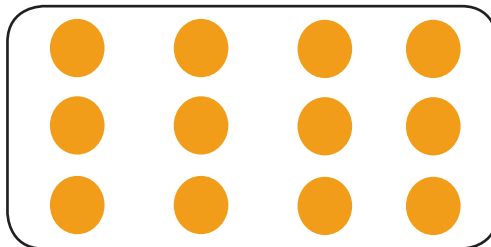
Count the following dots and fill in the blanks with appropriate number:

a. $12 \div 2 =$

$12 \div 3 =$

$12 \div 4 =$

$12 \div 6 =$

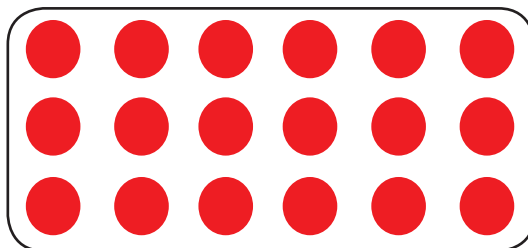


b. $18 \div 2 =$

$18 \div 3 =$

$18 \div 6 =$

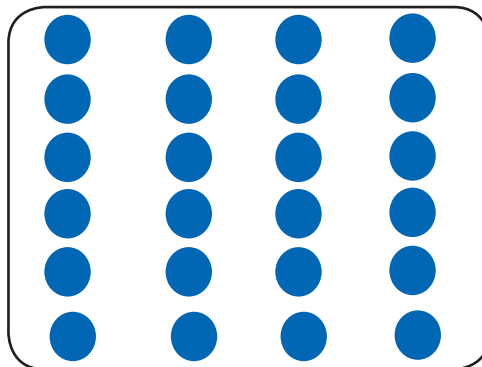
$18 \div 9 =$



c. $24 \div 4 =$

$24 \div 6 =$

$24 \div 8 =$



- d. Collect the marbles and small stones and solve the problems as given in question 1,2,3.

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Relationship between Multiplication and Division

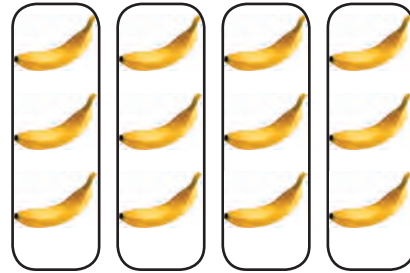
Read, discuss and learn division.

There are 4 groups.

There are 3 in each group.

$$3 \times 4 = 12$$

How many groups can be formed of each 3 from 12?



$$12 \div 3 = 4$$

There can be 4 groups of each 3 in 12.

If we form 4 groups of 12, how many in each group?

$$12 \div 4 = 3$$

There are only 3 in one group.

$$6 \times 3 = 18 \quad 3 \text{ times } 6 \text{ is } 18.$$

$$18 \div 3 = 6 \quad \text{There are 6 three in 18.}$$

$$18 \div 6 = 3 \quad \text{There are 3 six in 18.}$$

Exercise

Fill in the blanks with appropriate number:

a. $3 \times 4 =$

$12 \div 3 =$

$12 \div 4 =$

b. $6 \times 3 =$

$18 \div 6 =$

$18 \div 3 =$

c. $7 \times \square = 28$

$4 \times \square = 28$

$28 \div \square = 7$

$28 \div \square = 4$

d. $\square \times 6 = 48$

$48 \div 6 = \square$

$48 \div 8 = \square$

$\square \div 8 = 6$

e. $5 \times 4 = \square$

$20 \div 4 = \square$

$20 \div 5 = \square$

f. $8 \times 3 = \square$

$24 \div 3 = \square$

$24 \div 8 = \square$

g. $4 \times \square = 20$

$20 \div \square = 4$

$20 \div \square = 5$

$\square \times 5 = 20$

$\square \div 5 = 4$

h. $4 \times 9 = \square$

$9 \times 4 = \square$

$36 \div 4 = \square$

$36 \div 9 = \square$

$\square \times 4 = 36$

Method of division

$8 \div 4$

Divide with the help of multiplication table.

$18 \div 6$

$$\begin{array}{r} \text{3 Quotient} \\ \text{Divisor 6} \overline{) 18 \text{ Dividend}} \\ \underline{18} \\ 0 \end{array}$$

Dividend = Divisor $\times$ Quotient

$4 \times 1 = 4$

$4 \times 2 = 8$

$6 \times 1 = 6$

$6 \times 2 = 12$

$6 \times 3 = 18$

To check: $6 \times 3 = 18$

Exercise



Divide the following by using multiplication table.

a. $3 \overline{)15}$

b. $4 \overline{)16}$

c. $6 \overline{)24}$

d. $5 \overline{)25}$

e. $7 \overline{)28}$

f. $8 \overline{)48}$

g. $9 \overline{)72}$

h. $9 \overline{)81}$

16

Verbal Problems of Division

Read, discuss and learn Division:

Example:

There are 36 oranges in a basket. If they are divided equally to 4 persons, how many oranges will a person get?

Total oranges = 36

Total number = 4

Each person get 9 oranges. 0

$$\begin{array}{r} 9 \\ 4 \overline{) 36} \\ \underline{36} \\ 0 \end{array}$$

Exercise

- (a) The cost of 3 exercise book is Rs. 18. Find the cost of 1 exercise book?

Total amount =

Number of exercise book =

1 exercise book costs Rs.

$$\begin{array}{r} 3 \overline{) 18} \end{array}$$

- (b) If 24 balloons are divided equally among 8 persons, how many balloons will each person get?
- (c) There are 28 students in a classroom. If these students are divided equally into 7 benches, how many students will sit on a bench?
- (d) If 40 chocolates are distributed equally among 8 children, how many chocolates will each get?
- (e) Chandra has Rs. 54. If one exercise book costs Rs. 9, how many exercise books can he buy?

Teaching instructions: Practise additional exercises by using the local materials like, small stick, stones etc. by dividing them into different groups.

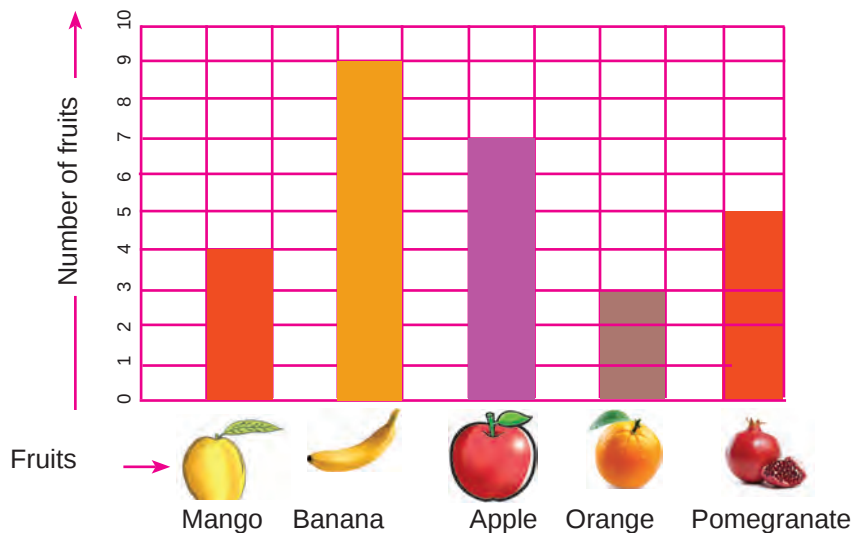
17

Bargraph

Bargraph and information from it

Look, discuss and learn.

The fruits which Hari has got have been show in the following bargraph:



The figures as above are called bargraph.

This bargraph shows the types and numbers of fruits Hari has got.

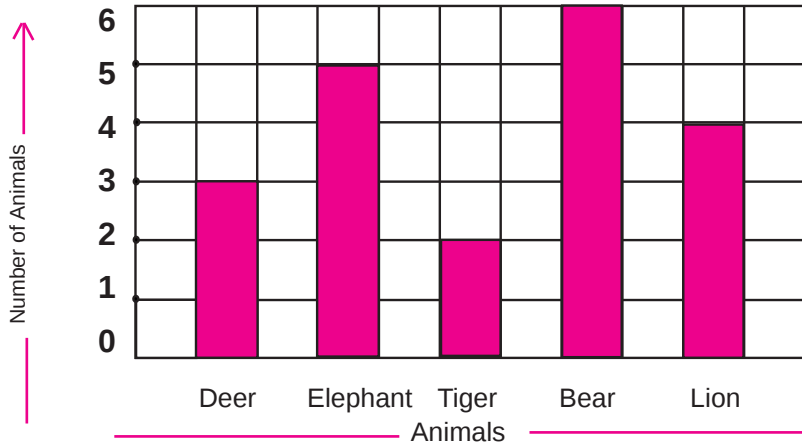
Now, observe the figure and write answer in your exercise book.

- How many mangoes are there?
- Which fruit is only five in number?
- How many oranges are more than mangoes?
- How many oranges are less than apples?
- Which fruits are most and least in number and how many are there?

Teaching instructions: Have a discussion by making bar graphs, different types of data and local materials. And give the concept that variuos objects in quantity are used to make a bargraph.

Exercise

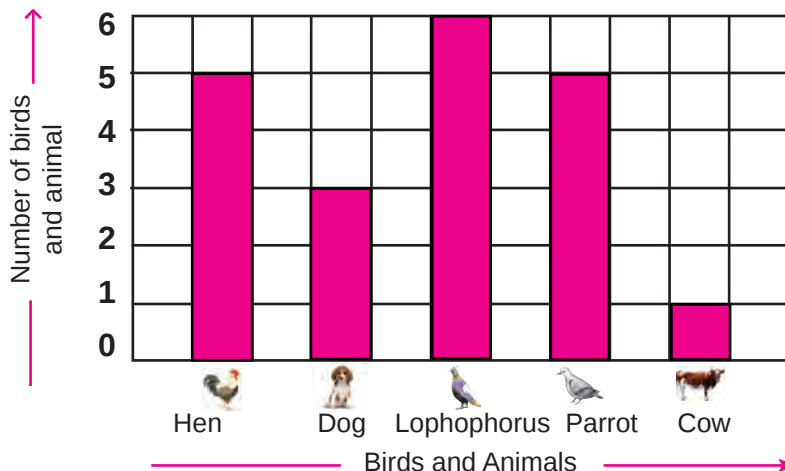
1. The animals in a zoo are shown in the bargraph below. Answer the following questions with the help of bargraph.



Example: Which animals are the most in number and how many are there? Bears 6

- How many tigers are there?
- How many elephants are there?
- How many elephants are more than tigers?
- How many lions are less than bears?
- Which animals are least in number and how many are there?

2. The animals and birds in a zoo are shown in the following bargraph:



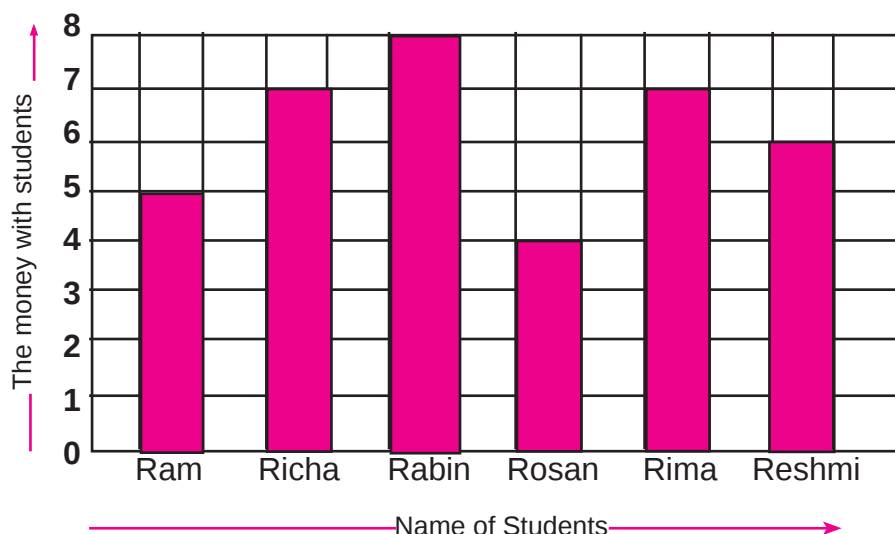
Look at the bargraph above and write the answer of the following questions in your exercise book:

Example: Which animal is least in number and how many are there?

Cow 1

- (a) How many dogs are there?
- (b) How many hens are there?
- (c) Which animal is five in number?
- (d) How many hens are less than lophophorus?
- (e) How many pigeons are more than dogs?
- (f) How many pigeons are there?
- (g) How many cows are less than pigeons?
- (h) Which animals are most and how many are there?

3. The family members of 6 students studying in grade 2 are shown in the following bargraph. Discuss by making questions as mentioned above.



Teaching instructions: Have a discussion on different bargraphs as above that are related with the student's daily life and practise more.

18

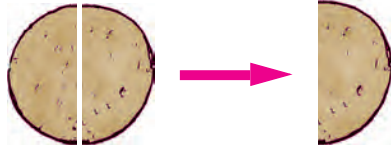
Fraction

Concept of fraction

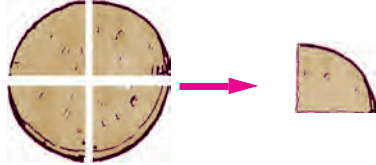
Look at the figure and discuss



whole bread

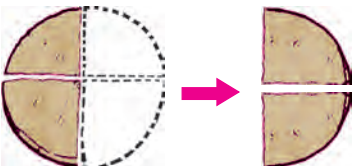


Half $\frac{1}{2}$ of a whole bread.



One fourth $\frac{1}{4}$ of a whole bread.

4 equal parts of a bread



Two fourth of a whole bread.

$$\frac{2}{4}$$



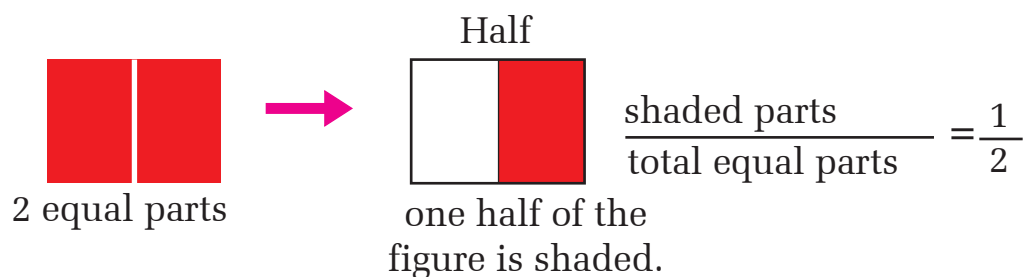
Three fourth of a whole bread

$$\frac{3}{4}$$

Teaching instructions: Give the concept of half $\frac{1}{2}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ demonstrating different solid objects like, paper, sticks etc.

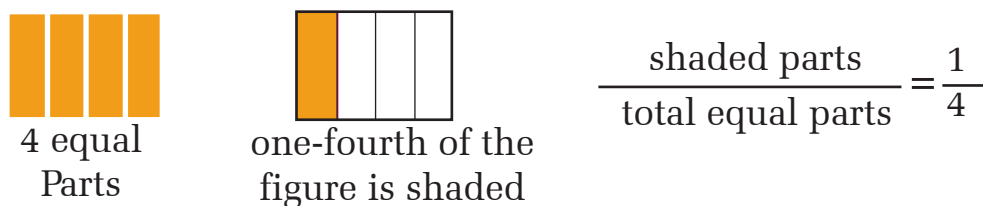
Half and quarter

Look at the figure and discuss:

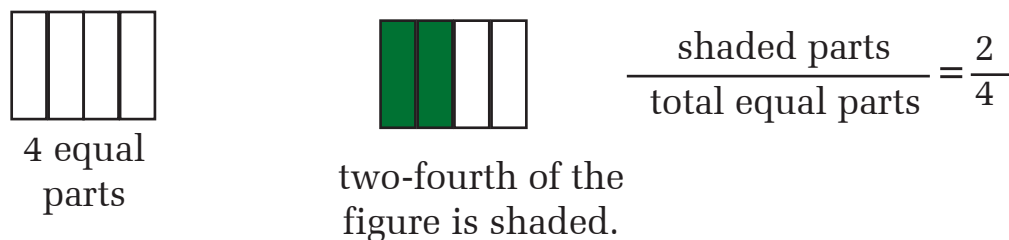


 If one whole is divided into two equal parts, then each part is called half, we write half as $\frac{1}{2}$, $\frac{1}{2}$ is read as one by two.

Quarter



 When a whole object is divided into four equal parts, each part is called a quarter. In mathematics, it is written as $\frac{1}{4}$. And it is read as 1 by 4.





Two parts of a four equal parts of a whole is called two quarter. In mathematics, it is written as $\frac{2}{4}$.

And it is read as 2 by 4.



Third fourth

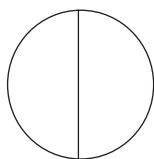
$$\frac{\text{shaded parts}}{\text{total equal parts}} = \frac{3}{4}$$



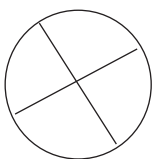
3 parts of a four equal parts of a whole is called third quarter. In mathematics, it is written as $\frac{3}{4}$.
It is read as 3 by 4.

Exercise

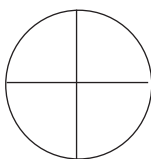
Shade in the following figures to represent the given fraction.



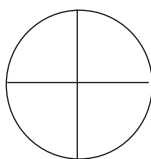
$$\frac{1}{2}$$



$$\frac{1}{4}$$



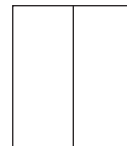
$$\frac{2}{4}$$



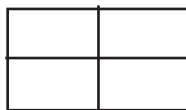
$$\frac{3}{4}$$



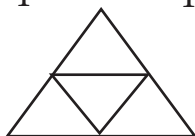
$$\frac{2}{4}$$



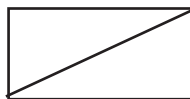
$$\frac{1}{2}$$



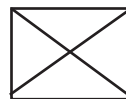
$$\frac{3}{4}$$



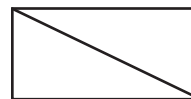
$$\frac{1}{4}$$



$$\frac{1}{2}$$



$$\frac{2}{4}$$



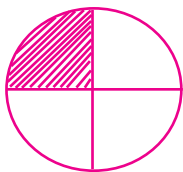
$$\frac{1}{2}$$

Teaching instructions:

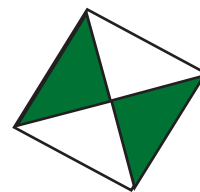
1. As the concept of fraction is given to the student using the solid objects, give the concept of half, one fourth, etc with the help of figures. Tell the students to write in mathematical language.
2. Divide the students into groups or pairs and ask them to draw figures, shade them and write in fraction.
3. Give different shapes or flashcards as given above and tell the students to divide them into different equal parts and shade, colour and read.

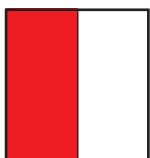
Write the fraction to represent the shaded parts in the following figures.

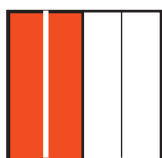


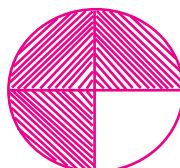












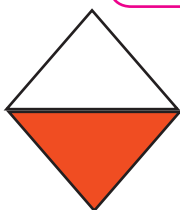


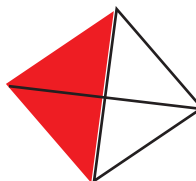


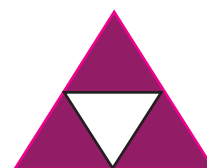












Teaching instructions: i. Make the students write in fraction by demonstrating different solid objects and their parts.

ii. Make the students write in fraction by drawing figures on board or by giving the flash cards to them.

One third

Look at figure, discuss and learn.



Whole bread



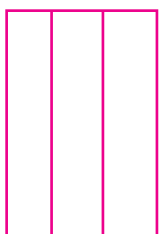
Bread divided into three parts



One third of a bread = $\frac{1}{3}$



Two third of a bread = $\frac{2}{3}$



3 equal parts



one third part is shaded.

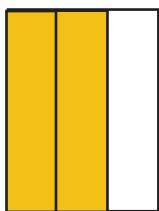
$$\frac{\text{shaded parts}}{\text{total equal parts}} = \frac{1}{3}$$



Among three equal parts of a whole, one part is called one third. In mathematics, it is written as $\frac{1}{3}$.
And it is read as 1 by 3.

Teaching instructions:

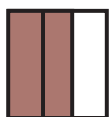
- Give the concept of one third and two third to the students by showing different objects and dividing them into three equal parts.
- Divide papers, sticks and other materials into three parts by making the fraction of $\frac{1}{3}$ and $\frac{2}{3}$.



Two third part is shaded

$$\frac{\text{shaded parts}}{\text{total equal parts}} = \frac{2}{3} \quad \text{two third}$$

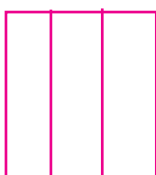
$$\frac{\text{nonshaded parts}}{\text{total equal parts}} = \frac{1}{3} \quad \text{one third}$$



Among three equal parts two part is called two third of a whole. In mathematics, it is written as $\frac{2}{3}$ and read as 2 by 3..

Activity

1. Have a discussion and write the correct answer in the following boxes.



3 equal parts

$$\frac{\text{shaded parts}}{\text{total equal parts}} = \frac{\boxed{}}{\boxed{}}$$

is shaded.

is not shaded.

2. Shade one third and two third of the figures and show to your teacher.

Teaching instructions: i. Get the student to make fraction $1/3$ and $2/3$ with the help of figures as they have known to make fraction with the help of solid objects in the previous lessons. ii. Draw the pictures and let the students write the shaded parts in mathematical language. iii. Divide students into groups and tell them to draw picture, shade it and make fractions.

Exercise

1. Copy the following fractions in your exercise book. Encircle the fraction to represent the shaded parts in the following figures.

(a)



$$\frac{3}{4} \quad \frac{1}{2} \quad \frac{1}{4}$$

(b)



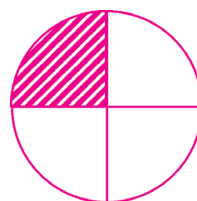
$$\frac{1}{2} \quad \frac{2}{4} \quad \frac{1}{3}$$

(c)



$$\frac{1}{2} \quad \frac{1}{3} \quad \frac{2}{3}$$

(d)



$$\frac{3}{4} \quad \frac{1}{4} \quad \frac{1}{3}$$

(e)



$$\frac{3}{4} \quad \frac{1}{2} \quad \frac{2}{4}$$

(f)



$$\frac{3}{4} \quad \frac{1}{3} \quad \frac{2}{3}$$

(g)



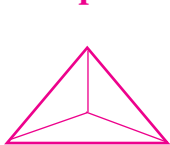
$$\frac{3}{4} \quad \frac{1}{4} \quad \frac{2}{4}$$

(h)

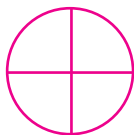


$$\frac{2}{4} \quad \frac{1}{3} \quad \frac{2}{3}$$

2. Copy the following figures in your exercise book and shade the parts in the figures to represent the given fractions:



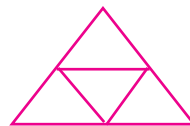
$$\frac{2}{3}$$



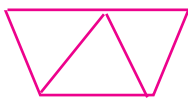
$$\frac{3}{4}$$



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



$$\frac{3}{4}$$



$$\frac{1}{3}$$



$$\frac{1}{3}$$



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

Tenth and other fractions

Tenth



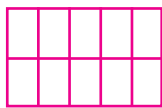
Ten equal parts

$$\frac{\text{shaded parts}}{\text{total parts}} = \frac{1}{10} \text{ one tenth}$$

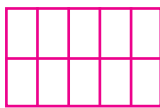


$$\frac{\text{shaded parts}}{\text{total parts}} = \frac{3}{10} \text{ third tenth}$$

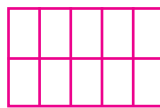
- (a) Copy the following figures in your exercise book and shade the parts in the figures to represent the given fractions.



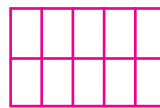
$$\frac{1}{10}$$



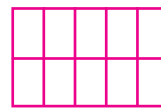
$$\frac{4}{10}$$



$$\frac{3}{10}$$



$$\frac{7}{10}$$



$$\frac{9}{10}$$

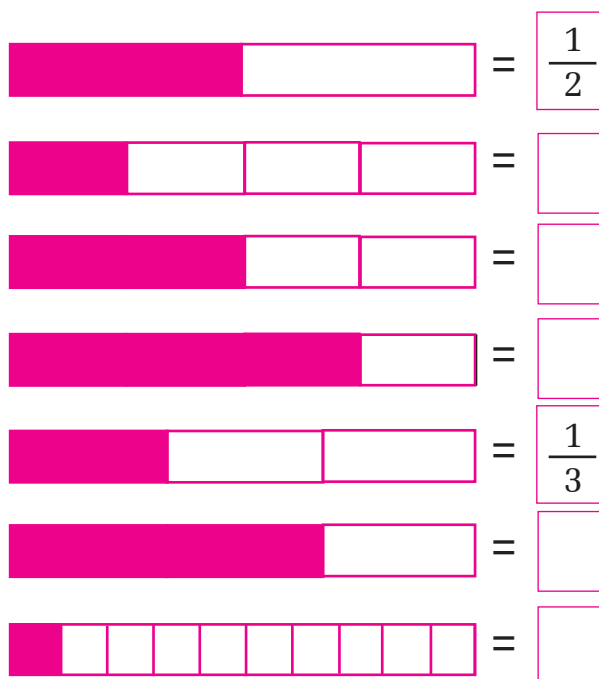
- (b) Copy in your exercise book and write in fraction as in question number 2.

1. half = $\frac{1}{2}$ 2. one fourth 3. two fourth 4. fourtenth

Comparison of fractions

Look at the figure and discuss.

The rectangles of equal size are divided into different equal parts below. Write the fractions to represent the shaded parts as shown in example.



Exercise

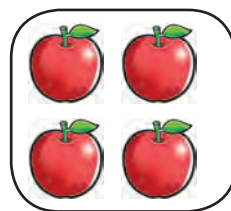
Answer the following questions on the basis of the figure above.

- (a) Which is the greatest fraction in the above fractions?
- (b) Which is the smallest fraction in the above fractions?
- (c) Which is greater in $\frac{1}{2}$ and $\frac{2}{4}$? Are they equal or not?

Teaching instructions: Ask the students to make the fractions mentioned in curriculum with the help of solid objects or figures and tell them to compare.

Concept of fraction from set

Read, discuss and learn.



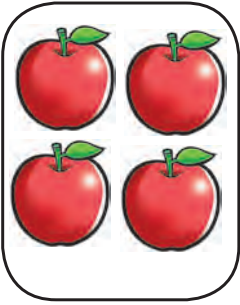
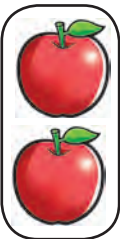
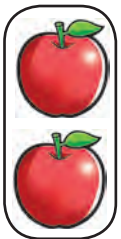
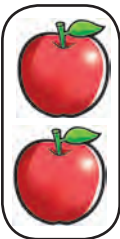
How many apples are there?



Mother told Sagar and Sita to divide an apple into two halves and eat.

How many apples did Sagar and Sita get?

Let's discuss, how we can write in fraction the division of 4 apples into two equal parts.

 4 apples	4 apples are divided into two equal parts.		 Sagar's parts	 Sita's parts	 Half $\frac{1}{2}$ or 4 apples = 2 apples.
--	--	--	---	--	---

What is the part of 1 apple among 4 apples?

$$\frac{1}{4}$$

What is the part of 2 apples among 4 apples?

$$\frac{2}{4}$$

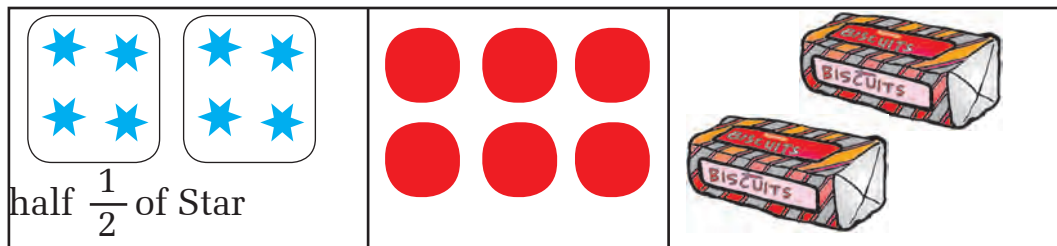
What is the part of 3 apples among 4 apples?

$$\frac{3}{4}$$

Teaching instructions: Provide the concept of other fractions with the help of sets as mentioned above.

Exercise

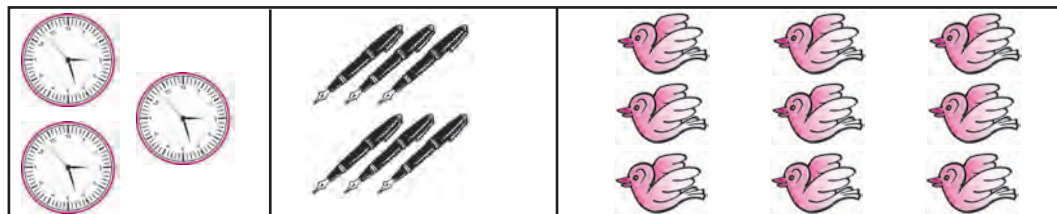
- Circle the following sets of materials. Divide them into two equal parts and write in fraction.



- Circle the following sets of materials. Divide them into four equal parts and write in fraction.



- Circle the following sets of materials. Divide them into three equal parts and write in fraction.



Review Exercise

- Draw the figures and shade them to represent the following fractions.

(a) $\frac{3}{4}$

(b) $\frac{2}{3}$

(c) $\frac{1}{3}$

(d) $\frac{1}{4}$

(e) $\frac{1}{2}$

(f) $\frac{1}{6}$

(g) $\frac{1}{8}$

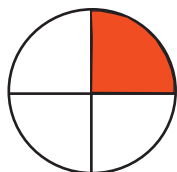
(h) $\frac{1}{10}$

Teaching instructions:

Ask the students to differentiate the fractions like $\frac{1}{2}$, $\frac{2}{4}$, $\frac{3}{3}$, $\frac{2}{3}$, $\frac{1}{10}$. with the help of solid objects and figures. Get them to practise by using flashcards.

2. Copy the following figures in your exercise book and write the fraction to represent the shaded parts.

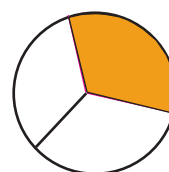
(a)



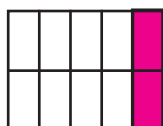
(b)



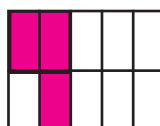
(c)



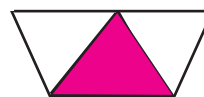
(d)



(e)



(f)



3. Shade the parts in the following figures to represent the given fractions.

(a)



$$\frac{3}{10}$$

(b)



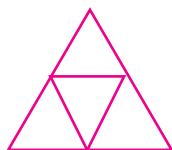
$$\frac{5}{8}$$

(c)



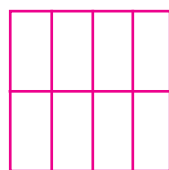
$$\frac{2}{3}$$

(d)



$$\frac{3}{4}$$

(e)



$$\frac{3}{8}$$

(f)



$$\frac{6}{8}$$

4. 12 dots are given below. Circle to represent the following fractions. Mark different dots for every fraction in your exercise book. How many dots are there in one part?



(a) $\frac{1}{2}$

(b) $\frac{1}{4}$

(c) $\frac{1}{6}$

5. Mark ten dots in your exercise book and encircle for $\frac{3}{10}$.

19

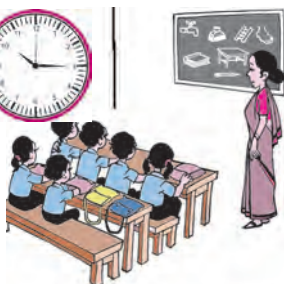
Time

Quarter past, half past and quarter to

Look, read, discuss and learn.

Ram arrived at school.

The short hand of a clock is at 10 and the long hand of a clock is at 12. It is 10 o'clock.



The short hand of a clock has crossed 10. The long hand is at 3. It is 10 o'clock and 15 minutes. Or, it is quarter past 10. Teacher entered the classroom.

The small hand of a clock is between 10 and 11. The long hand is at 6. It is 30 minutes past 10. It is half past 10.



The small hand is about at 11. The long hand is at 9. It is 15 minutes to 11. It is quarter to 11. It is also written as 10:45.

The long hand of a clock takes 15 minutes to reach at 3 from 12. That is called quarter past. When the hand arrives at 6, it takes 30 minutes. That is called half past. In the same way, it takes 45 minutes to reach at 9. That is called quarter. When it again reaches at 12, it is 60 minutes. 1 hour is equal to 60 minutes.

Teaching instructions: Make the students tell the time by showing different model clocks and real clocks. Clarify about the long hand and short hand. Tell about the second or longest hand if students have queries.

Exercise

Look at the following clocks and write the time.



3:15 o'clock
It is quarter past 3



o' clock
It is



o' clock
It is



o' clock
It is



o' clock
It is



o' clock
It is



o' clock
It is



o' clock
It is



o' clock
It is



o' clock
It is



o' clock
It is



o' clock
It is

Copy the following clocks in your exercise book. Draw long hand and short hand, Show the given time.



Half past 4



12 o'clock



quarter past 9



quarter to 11



Relation between hour and day

Look, read, discuss and learn.

The sun rises at 6 o'clock in the morning. From 6 a.m of today to 6 a.m of tomorrow is one day. There are 24 hours in 1 day.

$$1 \text{ day} = 24 \text{ hours}$$

There are 12 hours in a clock.

The short (hour) hand rotates two times in 1 day.

Discuss, how many hours are there from today 10 o'clock in the morning to the same time tomorrow morning ?

Calculation of time

$$1 \text{ day} = 24 \text{ hours}$$

$$2 \text{ days} = 2 \times 24 \text{ hours}$$

$$= 48 \text{ hours}$$



Exercise

1. How many hours are there? Write.

- (a) 1 day
- (b) 3 days
- (c) 5 days
- (d) 7 days
- (e) When the short hand reaches at 9 from 5.
- (f) When the short hand reaches at 7 from 12.
- (g) When the short hand reaches at 11 from 12.
- (h) 7 o'clock in the morning today to 7 o'clock in the morning tomorrow.

Day, Month and Year

Chaitra, 2074						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	
3 ghodejatra 10 Chaitedashain 11 Ramnawami						

- How many days are there in this month?
- When is the Ramnawami?
- Which month is today? How many days are there in this month? What are the holidays? What are the festivals? Look the calendar and have a discussion.

1 month = 30 days

3 months = 3 x 30 days
= 90 days

1 year = 12 months

2 years = 2 x 12 months = 24 months

Exercise

- How many days are there in the following months? Write.
 - 4 months
 - 5 months
- How many months are there in the following years? Write.
 - 6 years
 - 8 years

Teaching instructions: Help the students to look calendar by using a calendar with months, days, and date through discussion and question answer. Get them the practised about name of the months and days. Have a discussion on holidays and festivals. Tell the students that every month is taken of 30 days, though all the months do not have 30 days.



Money

Look at the following rupees and recognize:



Rs. 5



Rs. 10



Rs. 20



Rs. 25



Rs. 50



Rs. 100



Rs. 500



Rs. 1000

Look at the notes above and answer the following questions.

1. What do you see in the notes of Rs. 5, Rs. 10, Rs. 50, Rs. 100, Rs. 500 and Rs. 1000? Discuss.
2. What is written in all notes? Discuss.
3. Discuss the size of the notes.
4. Match the following notes and the picture in them:

Elephant	Rs. 5
Yak	Rs. 100
Tiger	Rs. 500
Deer	Rs. 1000

Rupees and Paisa

Look, read, discuss and learn.



1 rupee = 100 paisa

100 paisa is in 1 rupee or $\text{Rs. } 1 = 100 \text{ paisa}$

The things were very cheap in the past. Therefore, people could buy things with small amount of money. So, 1 rupee was divided into 100 paisa. 50 paisa is equal to 1 Mohar and 25 paisa is called a quarter (Suka). Even 10 paisa, 5 paisa, 2 paisa and 1 paisa were in use. But they are no more in use because the things can not be bought with them.

Teaching instructions: Have a discussion by showing the real notes and teach the students to add and subtract as well as count paisa.

Problems of paisa and rupees

1. Gita has Rs.2 . How many paisa will it be?

Answer: Re. 1 = 100 paisa

$$\text{Rs. 2} = 2 \times 100 \text{ paisa} = 200 \text{ paisa}$$

Therefore, Gita has 200 Paisa.

2. Hari has Rs. 5 and 50 Paisa. How many Paisa does Hari have?

Answer: Rs. 5 and 50 Paisa = Rs. 5 + 50 Paisa

$$= 500 \text{ Paisa} + 50 \text{ Paisa} = 550 \text{ Paisa}$$

Therefore, Hari has 550 Paisa.

$$\begin{aligned}\text{Rs } 5 &= 5 \times 100 \\ \text{Paisa} &= 500 \text{ Paisa}\end{aligned}$$

Exercise

1. Convert rupees into paisa:

- (a) Rs. 5 (b) Rs. 7 (c) Rs. 10
(d) Rs. 8 (e) Rs. 9 (f) Rs. 6

2. Convert into Paisa

- (a) Rs. 1 and 50 Paisa (b) Rs. 7 and 75 Paisa
(c) Rs. 9 and 30 Paisa (d) Rs. 8 and 40 Paisa
(e) Rs. 6 and 20 Paisa (f) Rs. 1 and 90 Paisa

Addition and subtraction of rupees and paisa

Look, read, discuss and write in your exercise book.

1. Ramu bought one biscuit for Rs. 15, one chocolate for Rs. 1 and one kite for Rs. 3. How much money did he spend?



Biscuit

Rs. 15 +



Chocolate

Re. 1 +



Kite

+ Rs. 3 = Rs. 19

2. Maternal uncle gave Farhin Hussain the following notes for shopping. How much rupees is there altogether?



$$\text{Rs } 10 + \text{Rs } 50 + \text{Rs } 100 \\ = \text{Rs } 160$$

Rs. 100
Rs. 50
+ Rs. 10
= Rs. 160

Exercise

1. How much money is there? Write in your exercise book.

(a)



= Rs.

(b)



= Rs.

2. Add the cost of each sets of objects and find the total cost.

(a)



Rs. 90



Rs. 430



Rs. 288

(b)



Rs. 15



Rs. 100



Rs. 3

(c)



Rs. 45



Rs. 350



Rs. 150

(d)



Rs. 455



Rs. 20



Rs. 10

Verbal problems of addition and subtraction

Look at the price of the following objects, read, discuss and learn:



Rs. 2



Rs. 89



Rs. 45



Rs. 65



Rs. 90

Example

Chhiring went to the market. She bought an eraser and a football. She gave a note of Rs. 100 to the shopkeeper.

How much money did she get in return? Calculate.

Answer:

The total cost of eraser and ball = Rs. 2 + Rs. 89 = Rs. 91

The money that shopkeeper returned = Rs. 100 – Rs. 91 = Rs. 9

Therefore, the shopkeeper returned Rs. 9 to Chhiring

Exercise

Look at the price of the above objects and calculate.

- Pemba has bought a bucket and a dish ? How much money did she pay in the shop?
- Rita Rai has bought an eraser, a cap, and a ball. How much money did she spend?
- Mahesh has bought a cap. If she gave Rs. 100 to the shopkeeper, how much would he return to him?

Teaching instructions: Make the students practise additional problems as above and other real problems through discussion and problem solving method.

Addition and subtraction of rupees and paise

Read and learn:

Example:

Ratna had Rs.20 and 50 paise. If he bought a copy of Rs.15 and 25 paise, how much amount would be left with him?

Answer: Let's write the above problem in mathematical language and subtract:

Rupees	Paise
20	50
– 15	25
5	25

Therefore, Ratna had 5 rupees and 25 paise left.

Exercise

1. See the sign and solve.

(a)	Rupees	Paise	(b)	Rupees	Paise	(c)	Rupees	Paise
	40	15		75	75		97	20
	– 20	12		+ 62	15		– 65	15

2. Suju had Rs.30 and 50 paise. If she bought an exercise book for Rs.15 and 20 paise, how much money would she have?
3. Saurav's mother gave him Rs. 50 and 30 paise, father gave him Rs. 20 and 60 paise. How much money did he have?
4. Saroj has spent Rs. 20 in breakfast and Rs. 50 in lunch, how much money has he spent?

Teaching instructions: Make the student practise more exercises similar to above of addition and subtraction without conversion from rupees to paise.

21

Capacity

Read, discuss and learn.

Which one of the following pots will contain more water?



bucket



jug

Bucket contains more water than jug. So, the capacity of bucket is more.

Activity

1. Discuss and find, which one of the following pots has more capacity?

(a)



(b)



(c)



2. Which gyalin has the most capacity and which has the least capacity and why? Discuss.



3. This bucket contains four jugs of water. Compare the capacity of the given pots.

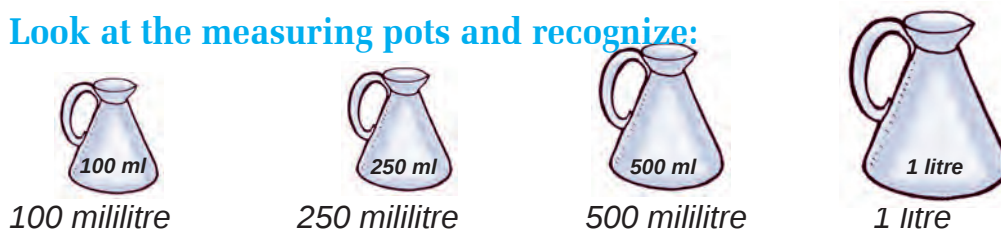


Teaching instructions: Give the concept of more or less capacity by using the pots found in local areas and telling them to fill water.

Capacity measuring pots and units

The capacity of pots is measured with the help of pots that measure liter and millilitre.

Look at the measuring pots and recognize:



Which one has more capacity in 1 litre and 500 millilitre? Discuss and write in your exercise book.



Therefore, 1 litre (l) = 1000 millilitre (ml)

Exercise

1. Fill in the blanks with correct number. Which one has less capacity? Discuss and write in your exercise book.



2. Fill in the blanks with appropriate number.



Teaching instructions: Have a discussion with students by demonstrating standard pots of measuring capacity and introducing them. And compare their capacity by filling water from one to another.

22

Area

Objects and comparison of their area of surface

Read, discuss and learn.

Your Mathematics book's surface is quadrilateral. Eraser's surface is also quadrilateral. Book's surface is greater than eraser. Therefore, book's area is greater than that of eraser's.

Objects with greater surface has greater area.



Objects with smaller surface has less area.



The surface of your bench is greater than your book. Therefore, the area of bench's surface is greater than that of book's.

Which one has greater surface area, blackboard or bench and which one has less? Discuss.

Exercise

Which one of the following similar shapes has greater area?

1.



(a)



(b)

2.



(a)



(b)

3.



(a)



(b)

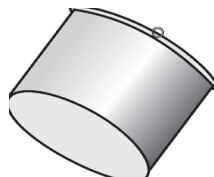
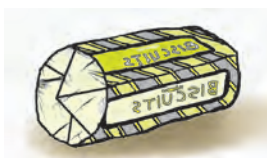
Teaching instructions: Tell them to compare their area on the basis of surface whether the things are thick or thin.

Exercise

1. Which one has greater area: whether 'blackboard' or 'wall of the class' in the given picture?



2. Which one has greater area whether your book or exercise book?
3. Which one has bigger surface in lower part, a biscuit or a bucket? Which one has greater area and which one has less?



4. Which one has greater surface area whether a biscuit or a Gagri and which one has less?



5. Measure the hands, feet, and figures of your friends and find out their area.

Teaching instructions:

Collect different things as mentioned above and show their plane surface and let them compare. And also give the concept that big surface has greater area and small surface has less area.

7. Which one of the following figures has greater area and which one has less? Write in your exercise book.

(a)



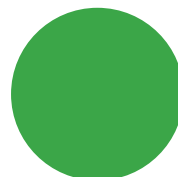
(b)



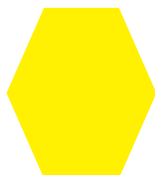
(a)



(b)



(a)



(b)



(a)



(b)



8. Write the names of five things that have greater area than that of your Maths book.

9. Write the names of five things that have less area than your bench.

10. Write the names of five things that have greater area than the window of your house.

Teaching instructions:

Divide the students of your class into two groups. Tell group A to tell or show the surface of an object. Tell B group to show or tell the name of objects with bigger and let them play such game. At the end the group announces the winner by counting the correct answer.

23

Weight

Weight of objects and weight (Dhakas)

Read, discuss and learn:

Which one of the following objects is lighter and which one is heavier?



Box



Pencil

The box is heavier than pencil,.
Therefore the box has more
weight than the pencil.

The pencil is lighter than
box. Therefore it has less
weight than box.



We measure weight of objects with the help of weight and balance.

Look at the weights, discuss and recognize.



1 kilogram



500 gram



250 gram



100 gram



50 gram

$$1 \text{ kilogram} = 500 \text{ gram} + 500 \text{ gram} = 1000 \text{ gram}$$

Therefore, **1 kilogram(kg) = 1000 gram**

Rita stood on a weighting machine to take weight. Her weight was 25 kg.



The cauliflower and dhaka is in balance, here the weight of cauliflower is 1 kilogram.

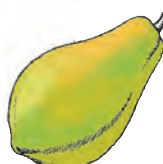
Write the name and weight of different objects while taking their weight in your home, shops, school.

Exercise

- Which one is heavier in 1 kg or 500 gram?
Which has more weight?
- 30 kg is written in the packet of rice.
How many weight of 1kg will be equal to it?



Guess the weight of the following objects and write in your exercise book.

4 kilogram 20 kilogram (a) 4 kilogram	  20 kilogram 200 kilogram (b)
1 kilogram 50 gram (c) 	2 kilogram 500 gram (d)  

24

Algebra

Exercise

Copy in your exercise book and fill in the boxes with correct numbers.

a. $4 + 2 = 6$

$3 + \square = 6$

$5 + \square = 6$

$2 + \square = 6$

$1 + \square = 6$

c. $4 + \square = 10$

$5 + \square = 10$

$8 + \square = 10$

$7 + \square = 10$

$9 + \square = 10$

e. $9 + \square = 15$

$10 + \square = 15$

$8 + \square = 15$

$11 + \square = 15$

$1 + \square = 15$

g. $\square + 7 = 16$

$\square + 7 = 16$

$\square + 8 = 16$

$\square + 4 = 16$

$\square + 10 = 16$

$\square + 6 = 16$

b. $9 + \square = 17$

$8 + \square = 17$

$10 + \square = 17$

$12 + \square = 17$

$4 + \square = 11$

d. $7 + \square = 11$

$9 + \square = 11$

$6 + \square = 11$

$3 + \square = 11$

$10 + \square = 11$

f. $4 + \square = 13$

$10 + \square = 13$

$7 + \square = 13$

$8 + \square = 13$

$1 + \square = 13$

h. $\square + 8 = 17$

$\square + 8 = 17$

$\square + 9 = 17$

$\square + 6 = 17$

$\square + 7 = 17$

$\square + 16 = 17$