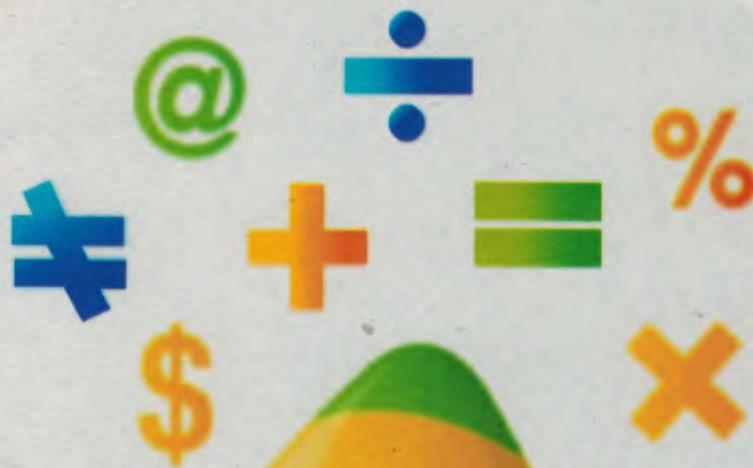


*New Edition*

*Book 2*

# My Mathematics



Class Two

# My Mathematics

Class 2

Government of Nepal  
Ministry of Education  
**Curriculum Development Centre**  
Sanothimi, Bhaktapur

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Government of Nepal

Ministry of Education

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Comments and suggestions from the valued readers are always welcome.

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**Website : [www.moescds.gov.np](http://www.moescds.gov.np)**

If you find any technical errors, you can exchange the books from the nearest local book distributor.

## Preface

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

The contents of “**My Mathematics**” of grade 2 are presented in the two page display system with clear teaching instructions, pictures and activities. This book (Nepali version) was originally written by Mr. Shambhu Narayan Baidhya and Sungma Tuladhar. Likewise, in accordance with the revised curriculum of primary level, it was revised by Mr. Bhoj Raj Sharma, Mr. 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. In the same way, the language of Nepali version was edited by Mr. Bishnu Prasad Adhikari and Mr. Lok Prasad Pandit. Hence, the CDC would like to express its thanks to all of them.

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

## About the English Version

The Curriculum Development Centre (CDC), from the very beginning of its inception, has been involved in developing school curricula and textbooks of school education. Moreover, it revises school curricula and textbooks at different time intervals as mandated by the government of Nepal with a view of making school education more purposeful, practical and employment oriented. In the present era, creating a sense of national integrity and democratic culture on students is increasingly becoming a need of Nepalese society. Equally important is to developing linguistic and mathematical skills, and providing fundamental knowledge relating to the fields of Technology, Environment and Health.

In Nepal, English language, as a medium of instruction, is gaining popularity. The public schools are gradually making efforts in using English as a medium of instruction. Keeping this fact in view, the CDC made an attempt to translate all the textbooks of primary level from Nepali into English, mainly to meet the needs of learners, parents and teachers. The CDC is hopeful that these textbooks in English versions will definitely help in meeting the needs of both public and private schools of the country. Besides, we look forward to reducing our dependency on textbooks written by foreign writers.

The subject experts involved in translating the textbook "My Mathematics" was Mr. Viranchi Shah. The CDC would like to express its gratitude to him for bringing the book in the present form. At the end, Ms. Durpada Sapkota also deserves a lot of thanks for her painstaking efforts in editing the language of the textbook.

A textbook is not all in all. It is only a means of executing the curriculum. An experienced and well trained teacher can use a variety of instructional resources for effective teaching-learning transaction in the classroom. Last but not the least; the CDC would be glad to express its hearty thanks to all experts who directly or indirectly made meaningful contributions to the translation of this book. The book could have some mistakes and errors despite the CDC's endeavors in making it child friendly and interesting. So, the CDC welcomes all the constructive suggestions for its further improvement in the forthcoming editions.

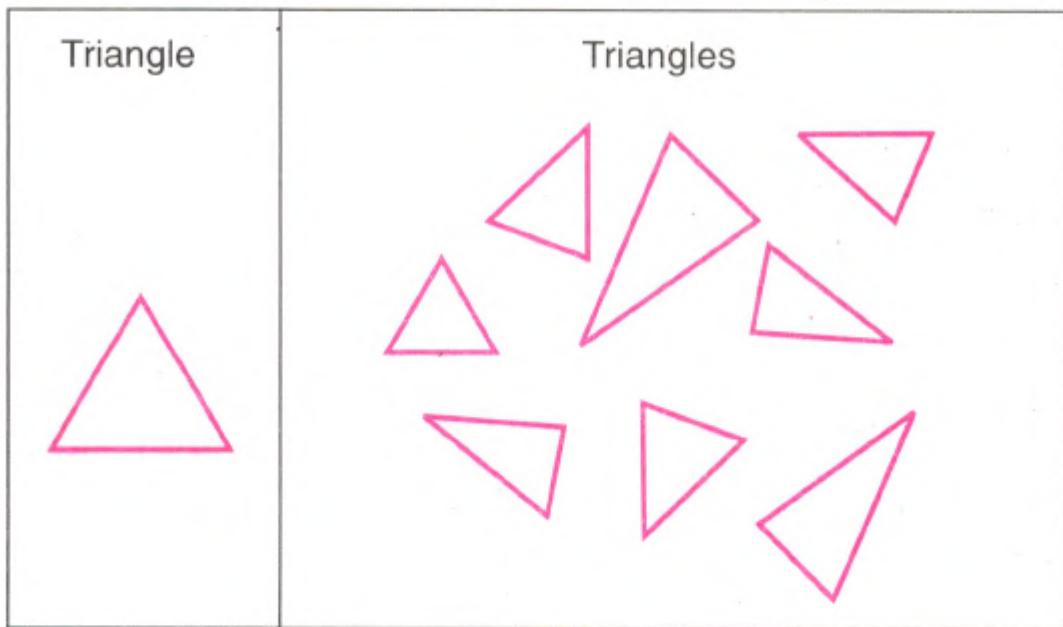
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# GEOMETRICAL SHAPES

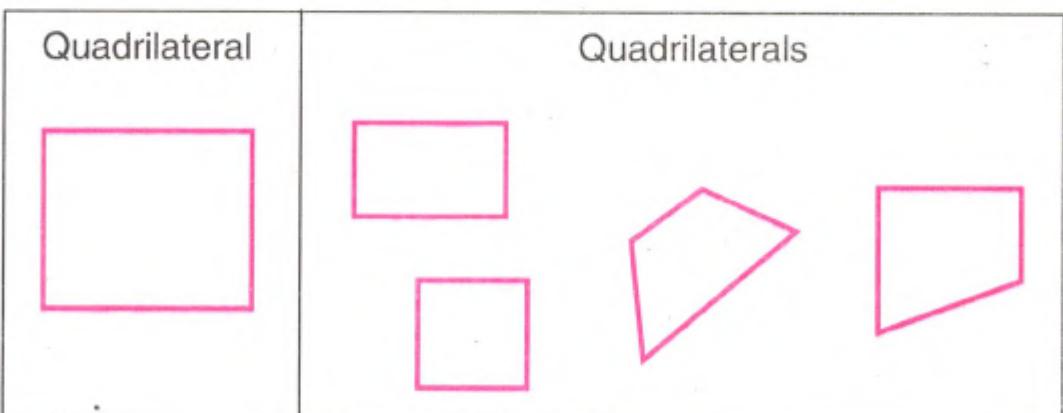
Look, read and recognise:



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

How many straight lines are there in a triangle? Find

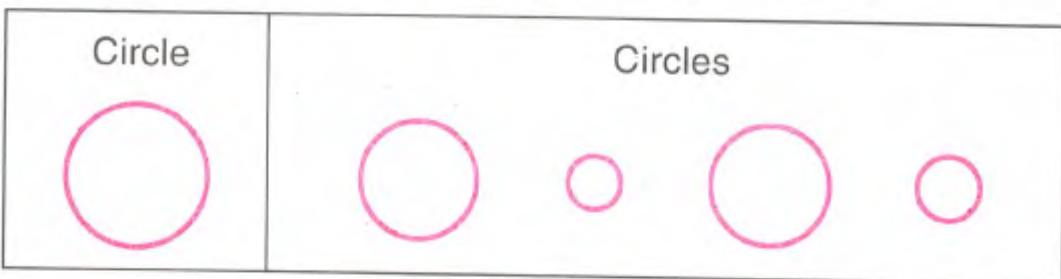
How many corners are there in a triangle? Find.



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

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

How many corners are there in a quadrilateral? Find.



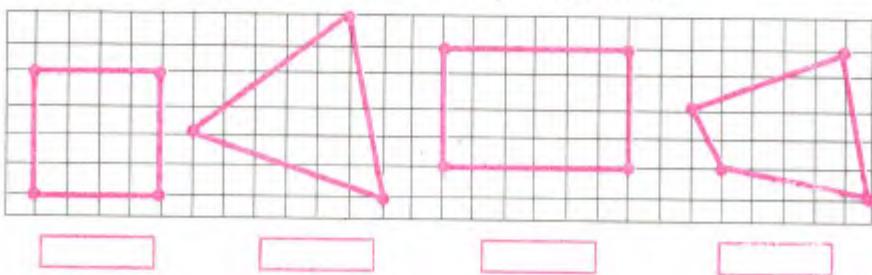
The figures above are round. These are called circles.

**Teaching  
instructions**

1. Make them to 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 draw different shapes on blackboard or in their exercise books by adding dot-lines and by folding the and cutting the paper with scissors.

**EXERCISE**

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

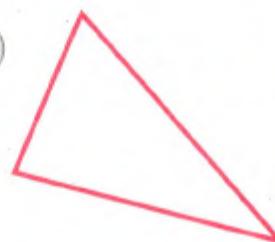


4. How many straight lines and corners are there in each figure below, Find out.

(a)



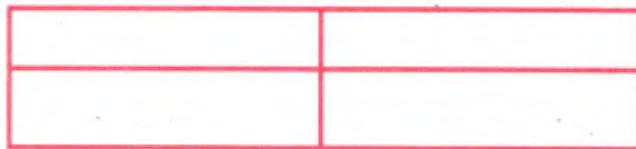
(b)



(c)

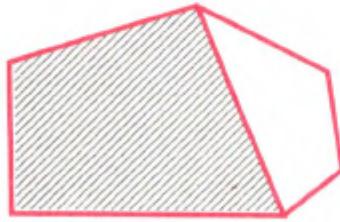


5. Draw two triangles, quadrilaterals and circles in your exercise book.  
6. Draw a quadrilateral with the help of your mathematics book.  
7. What is shape of the window, door and blackboard in your school?  
8. Write down how many quadrilaterals are there in the figure below.



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

(A)



(B)



(C)



(D)



---

**Teaching  
instructions:**

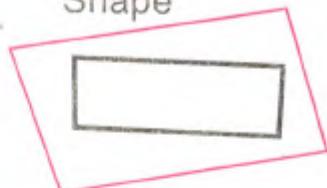
1. Make students draw the shapes of wall-clocks they have seen.

Lesson 2 **SOLID OBJECT AND ITS SHAPE  
IN PLANE SURFACE**

Look and discuss:



Shape



Quadrilateral

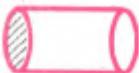
The surface of match box is quadrilateral.

Let us look the shape of outer lines of the following objects:



### EXERCISE

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



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

**Teaching  
instructions:**

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

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

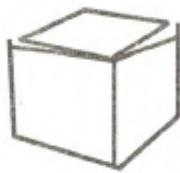
(a)



(b)



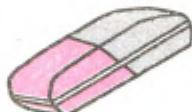
(c)



(a)



(b)



(c)

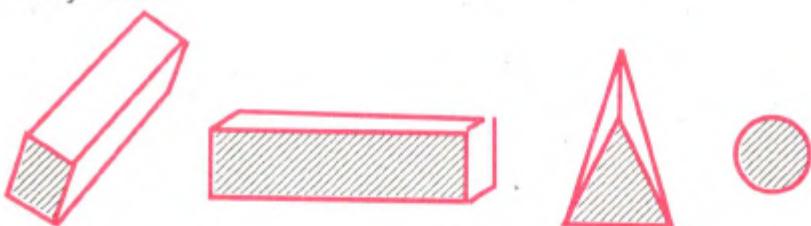


### REPEAT EXERCISE

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

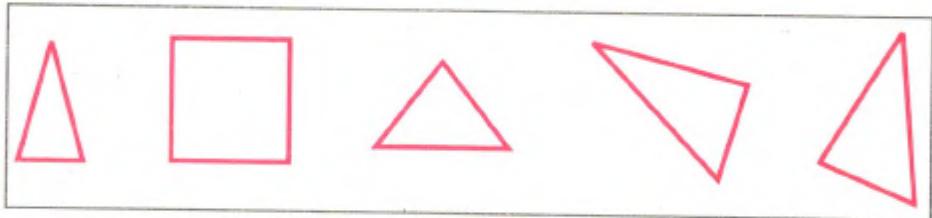
- A triangle is made up of three straight lines.
- A triangle has two corners.
- A quadrilateral has four corners.
- The shape of a brick is circular.

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

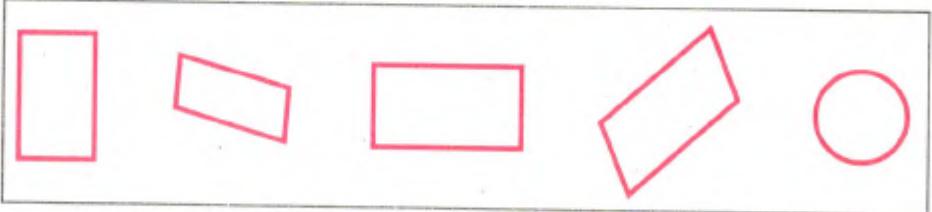


4. Draw two quadrilaterals, triangles and circles in your exercise book.
5. Recognise the odd shape and draw in your exercise book.

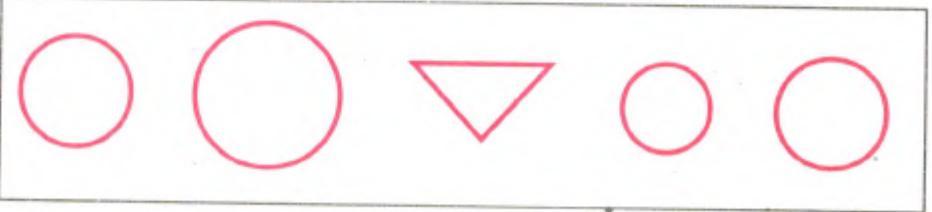
(a)



(b)

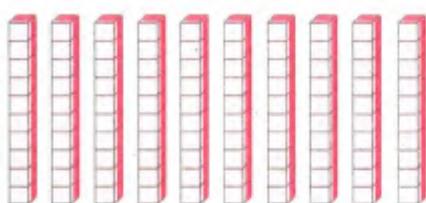


(c)

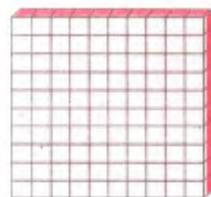


# NUMBERS UPTO THOUSANDS IN DEVNAGARI

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



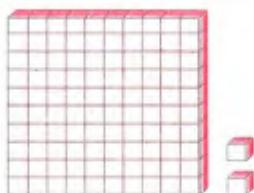
10 Ten



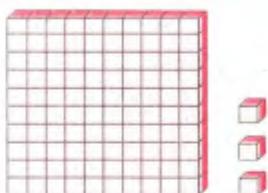
1 Hundred = 100



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 =

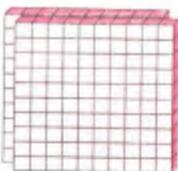
100 and 22 =  122 100 and 31 =  131 100 and 81 =  181

**Teaching  
instructions:**

Practise additional activities and exercises on already learnt number system in grade one. Make students change the word 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

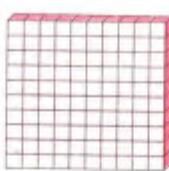
Count, read and write the numbers of hundreds in your exercise book:



100

1 hundred = 100

One hundred



100

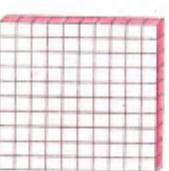
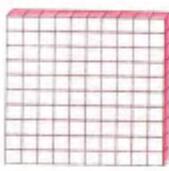
+ 100

Two hundred



Hundred	Tens	Ones
---------	------	------

2	0	0
---	---	---



Hundred	Tens	Ones
3	0	0

100 + 100 + 100 3 hundred = 300 (Three hundred)

## EXERCISE

Fill in the blanks with the appropriate number:

one hundred	1	hundred =	100	six hundreds		hundreds =	
two hundreds		hundreds =		seven hundreds		hundreds =	
three hundreds		hundreds =		eight hundreds		hundreds =	
four hundreds		hundreds =		nine hundreds		hundreds =	
five hundreds		hundreds =		one thousands		hundreds =	

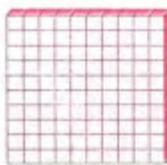
100	200	300	400	500
-----	-----	-----	-----	-----

**Teaching  
Instructions:**

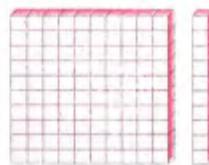
Give the concept of the numbers of 100/100 by using the local materials like, stick, chart, block, etc. to the students. And also give the concept that ten hundreds make one thousand.

## Numbers upto thousand (In number and number name)

Count, read and write in your exercise book:



Hundred	Tens	Ones
1	0	1



Hundred	Tens	Ones
1	1	0

$$100 + 1 = 101$$

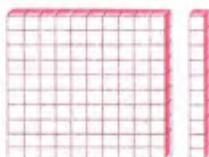
one hundred one

$$100 + 10 = 110$$

one hundred ten



Hundred	Tens	Ones
1	1	1



Hundred	Tens	Ones
1	2	0

$$100 + 10 + 1 = 111$$

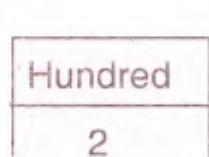
one hundred eleven

$$100 + 20 = 120$$

one hundred twenty

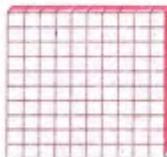


Hundred	Tens	Ones
2	3	6

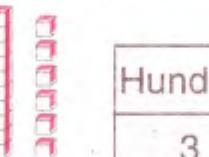


$$200 + 30 + 6 = \square$$

two hundreds thirty six



Hundred	Tens	Ones
3	0	6



$$300 + 6 = \square$$

three hundreds six

### EXERCISE 1

Write the number names of the following numbers:

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

**Teaching  
instructions:**

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

## EXERCISE 2

1. Recognise the following numerals in numbers and number 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	three	113	
104		114	
105		115	
106		116	
107		117	
108		118	
109		119	
110	one hundred and ten	120	

2. Write the number names of the numbers 121 to 200 as given in question 1.

## EXERCISE 3

1. Write the number names of the following numbers:

Example : 503 = Five hundred and three

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

2. Write the numerals for the following number names:

Example : Five hundred and seventy = 570

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

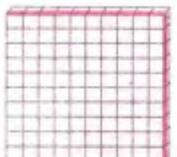
**Teaching  
instructions:**

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

# HINDU-ARABIC NUMERALS UPTO THOUSAND

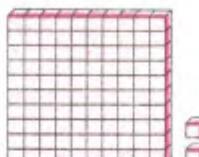
**Hindu-Arabic numerals:**

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

**102** one hundred and two

**103** one hundred and three

**104** one hundred and four

**105** one hundred and five

**106** one hundred and six

**107** one hundred and seven

**108** one hundred and eight

**109** one hundred and nine

**110** one hundred and ten

**111** one hundred and eleven

**112** one hundred and twelve

**113** one hundred and thirteen

**114** one hundred and fourteen

**115** one hundred and fifteen

**116** one hundred and sixteen

**117** one hundred and seventeen

**118** one hundred and eighteen

**119** one hundred and nineteen

**120** one hundred and twenty

**Teaching  
instructions:**

Practise students to recognise, read and write the numbers and number names upto 1,000.

## EXERCISE 1

1. Read, recognise the numbers and number names and fill in the boxes with the correct number in your exercise book.

Number	Number Name
121	one hundred and twenty-one
129	one hundred and twenty-nine
<input type="text"/>	one hundred and thirty-three
138	one hundred and thirty-eight
141	<input type="text"/>
<input type="text"/>	one hundred and fifty-seven
166	one hundred and sixty-six
170	one hundred and seventy
182	<input type="text"/>
199	one hundred and ninety-nine
200	two hundred

2. Write the number from 201 to 500 and their number names as given in question 1.  
3. Fill in the blanks with the appropriate the number:

(a) 

991	992	<input type="text"/>	1000						
-----	-----	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	------

(b) 

545	546	<input type="text"/>						
-----	-----	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

(c) 

700	701	<input type="text"/>						
-----	-----	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

## EXERCISE 2

(a) Write the number names for the following numbers:

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 eighty six
- (e) two hundred and seventeen
- (f) three hundred and seven
- (g) 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) 180      (h) 139

(d) Write down in Hindu-Arabic:

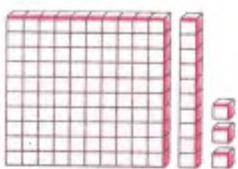
Example : ६२८ = 628

- (1) ३१५      (2) २५५      (3) ९३७      (4) ९३६
- (5) २४८      (6) ६३९      (7) ७७७      (8) ८१५

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

# PLACE VALUE OF THREE DIGIT NUMBERS

**Look, read and learn:**



$$100 + 10 + 3$$

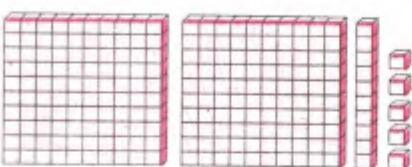


Place value table

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

1. 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

(a)

Hundred	Tens	Ones
3	0	0

(b)

Hundred	Tens	Ones
6	7	2

(c)

Hundred	Tens	Ones
7	8	9

(d)

Hundred	Tens	Ones
3	8	5

(e)

Hundred	Tens	Ones
9	2	1

(f)

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 their number names:**

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 hundred's place:**

Example : 365

3

(a) 565

(b) 376

(c) 251

(d) 655

(e) 741

(f) 821

**4. Write the number in tens place:**

Example 451

5

(a) 213

(b) 463

(c) 584

(d) 673

(e) 671

(f) 992

**5. Write the number in ones place in your exercise book:**

Example : 764

4

(a) 115

(b) 346

(c) 411

(d) 678

(e) 879

(f) 287

**6. Write the place value of the circled digits.**

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	105	106	107	108	109
-----	-----	-----	-----	-----	-----	-----	-----	-----

Which number comes just after 105 ?

106 comes after 105.

Which number comes just before 105?

104 comes before the 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

**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 to practise more as above.

## Smallest and greatest numbers

Find out the greatest and the smallest number

536

312

784

First, let us look the numbers in hundreds place.



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 us look the numbers of tens place.



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

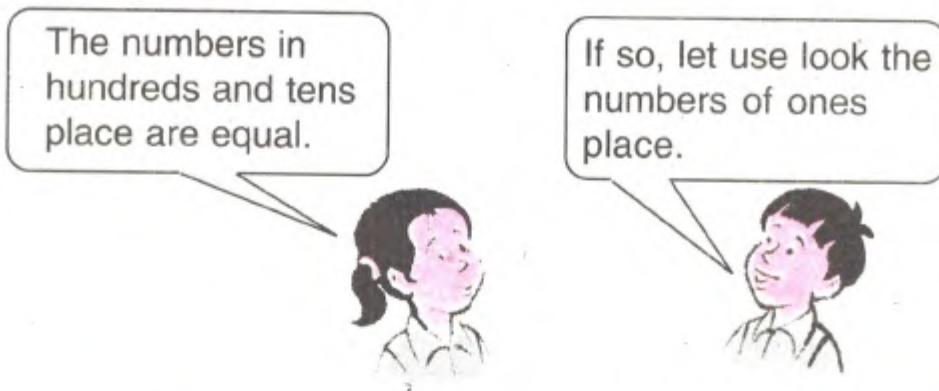
3 is the smallest number in 3, 4 and 7. So, 632 is the smallest.

Find out the greatest and the smallest numbers:

375

372

378



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)



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 us 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
-----	-----	-----

- Give the concept of the number that comes just after, just before and

**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 to practise.

# 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 us see in the place value table:

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

First, let us look the digits in hundreds place:

5 is greater than 4  
 $5 > 4$



So,  $524 > 425$

Which is smaller 203 or 511 ? Let us 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 us compare 619 and 657.

The numbers in hundred place are equal.

Now, let us see the digits in tens place.

1 is smaller than 5  
 $1 < 5$



So,  $619 < 657$

## Let us compare 718 and 715:

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



Now, let us see the numbers in ones place.



8 is greater than 5.

$$8 > 5$$



$$\text{So, } 718 > 715$$

Let us see 531 and 531.

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

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

### EXERCISE

1. Copy in your exercise book and put the appropriate symbol in the box:  
 $9 \boxed{\phantom{0}} 7$ ,  $98 \boxed{\phantom{0}} 99$
2. Example :  $9 > 7$ ,  $98 < 99$   
(a)  $621 \boxed{\phantom{0}} 680$       (b)  $140 \boxed{\phantom{0}} 146$   
(c)  $384 \boxed{\phantom{0}} 438$       (d)  $758 \boxed{\phantom{0}} 240$

# 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

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

<input type="text"/>	<input type="text"/>	III	<input type="text"/>	V	<input type="text"/>	<input type="text"/>	<input type="text"/>	IX	<input type="text"/>
----------------------	----------------------	-----	----------------------	---	----------------------	----------------------	----------------------	----	----------------------

3. 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

**Teaching instructions:**

Give the concept of Roman numerals with the help of the fingers. In addition to this, use the clocks with Roman numerals.

#### **REPEAT EXERCISE**

1. Write the numbers 250 to 300 and their number names.
  2. Write in Devnagari and Hindu Arabic:
    - (a) Three hundred and eighty-seven
    - (b) Five hundred and seventy-five
    - (c) One thousand
    - (d) Two hundred and seven
  3. Write in English alphabet:
    - (a) 277
    - (b) 888
    - (c) 996
    - (d) 627
  4. Write in both Nepali and English alphabet:
    1. 561
    2. 801
    3. 320
    4. 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) २५३      (b) १०५      (c) २९१      (d) ८७१

(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:

Hundreds	Tens	Ones
5	2	0

520

Hundreds	Tens	Ones
3	0	8

Hundreds	Tens	Ones
9	9	9

Hundreds	Tens	Ones
8	3	5

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)  $\textcircled{5} \ 8 \ 0$   (b)  $\textcircled{3} \ 4 \ 4$   (c)  $5 \ 1 \ \textcircled{1}$    
(d)  $7 \ 3 \ \textcircled{7}$   (e)  $2 \ \textcircled{0} \ 8$   (f)  $9 \ 5 \ \textcircled{9}$

11. Copy in your exercise book and put correct numbers in the 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      (f) 339, 263, 177

17. Write the following Devnagari numbers in Roman numerals:

- (a) 7      (b) 5      (c) 8      (d) 10
- (e) 12      (f) 4      (g) 3      (h) 2

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

**Sets and their members**

Look and discuss:



Set of books



Set of fruits

**ACTIVITIES**

1. Can you choose the similar objects and form three groups in 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:**

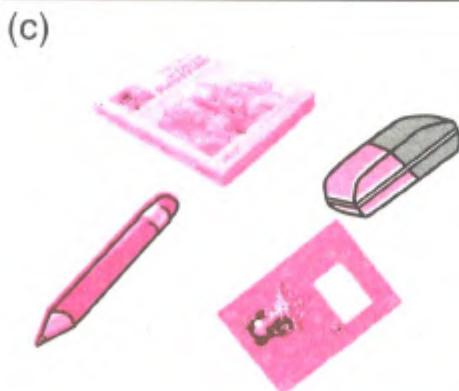
Mix the objects of different qualities and give to students. Then ask one quality of them with the students. On the basis of same quality, tell them to form the group of things .

## EXERCISE



1. Match the objects given above with the following groups:
  - (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:

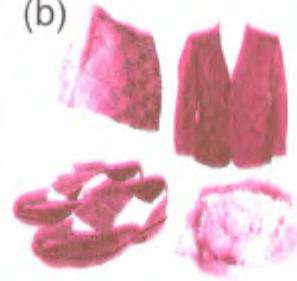


3. Find the odd object in the following groups:

(a)



(b)



(c)



4. Find the odd number in the following groups:

(a) 1, 2, 3, 4  
5, 10, 6

(b) 10, 20, 30  
40, 13, 50

(c) 2 4, 6  
8, 9, 10, 12

5. Tell the five members of each group in the following groups:

- (a) Sets of birds found in jungle
- (b) Sets of domestic animals
- (c) Sets of objects in kitchen
- (d) Sets of grains
- (e) Sets of numbers in multiplication table of 2
- (f) Sets 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 group of numbers 10 and 20.
- (b) Form a group of numbers 40 and 50.

**Teaching  
Instructions:**

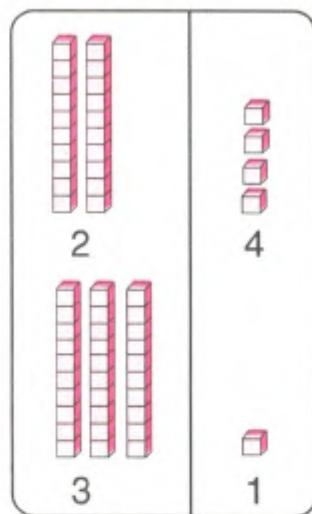
Have a discussion about set with the help of pictures and problems as given in exercise and develop the concept that a sets have the members with same qualities or the objects with similar qualities form a set.

**ADDITION**

**Read, count and learn addition:**

Add:

Tens	Ones
2    4	2    4
+ 3    1	+ 3    1
<input type="text"/>	<input type="text"/>



First, let us add the numbers of ones place.



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

Then, let us add the numbers of tens place.

Tens	Ones
2	4
+	1
5	5



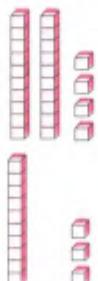
We get 5 tens by adding 2 Tens and 3 Tens.

**EXERCISE**

1. Add:

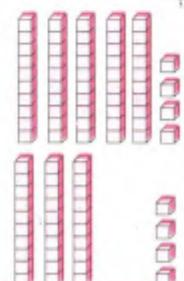
(a)

Tens	Ones
2	5
+	3



(b)

Tens	Ones
5	4
+	4



**Teaching instructions:**

Make additional problems like that in exercise and let them to practice.

Observe the given examples and learn to add:

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

First, let us add the numbers of ones place.

$$5 + 2 = 7$$

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

Finally, add the numbers at hundreds place

$$4 + 4 = 8$$



### EXERCISE

1. Add the following by using place value table:

(a) Tens Ones	(b) Tens Ones	(c) Tens Ones
5      3	3      4	6      2
+ 2      6	+ 5      5	+ 1      6
<hr/>	<hr/>	<hr/>

(d) Hundreds Tens Ones      (e) Hundreds Tens Ones (f) Hundreds  
Tens Ones

1      1      2	5      1      1	2      1      2
+ 5      3      1	+ 2      3      4	+ 3      5      7
<hr/>	<hr/>	<hr/>

(g) Hundreds Tens Ones      (h) Hundreds Tens Ones (i) Hundreds  
Tens Ones

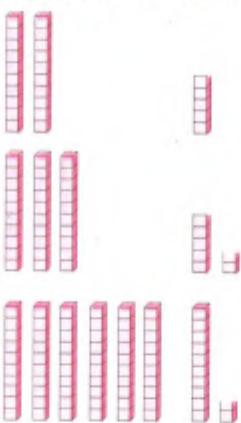
2      5      6	1      2      4	2      7      1
+ 5      4      0	+ 5      3      1	+ 3      2      5
<hr/>	<hr/>	<hr/>

## Addition with carryover

Look at the addition below, discuss and learn:

Add by using the place value table:

Tens	Ones
2	5
+ 3	7
5	12



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



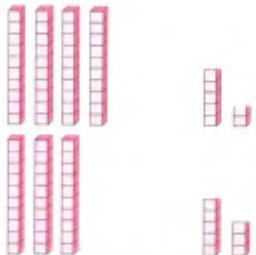
Now, add the 2 ones and 3 ones of tens place. We get 5 tens. Add one tens and write 6.



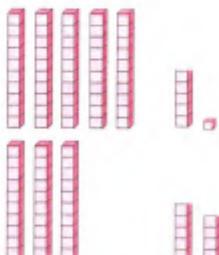
## EXERCISE

Add:

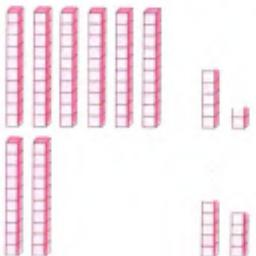
(a)  $47 + 38$



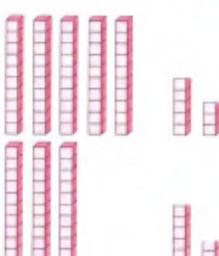
(b)  $56 + 39$



(c)  $67 + 29$



(d)  $58 + 37$



**Observe the following examples and learn to add:**

Add the following by using the place value table:

Example:

Tens	Ones
4	7
+ 2	9
<hr/>	
6 ← 16	
7	6

7 one and 9 one = 16 ones  
16 one = 1 ten and 6 one



Tens	Ones
2	9
3	2
+ 2	7
<hr/>	
7 ← 18	
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
<hr/>		+ 1      6	+ 1      6
		<hr/>	

Observe the following examples and learn to add:

Example:

(a)	1	6	3
	+ 4	2	6
	5	8	9
	<hr/>		

(b)	2	3	5
	1	4	0
	+ 5	0	3
	8	7	8
	<hr/>		

### EXERCISE

1. Solve the following sums:

(a) 5      6      3	(b) 7      4      7	(c) 2      2      1
+ 2      1      4	1      1      1	3      0      2
<hr/>	+ 1      2      0	+ 1      5      6
	<hr/>	

**Teaching Instructions:**

Practise students by giving additional problems as given in exercise.

## Verbal problems on addition

### Read and learn to add:

### Example:

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

Answer: money given by mother Rs. 39

Rs 39

money given by father Rs. 58

+ Rs 58

Therefore, Rita has total Rs. 97.

Bs 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

235

number of mangoes = 321

321

number of oranges = 122

+122

Therefore, he sells 678 fruits.

## EXERCISE

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

Answer: price of pen = Rs

price of book = Rs

total price of pen and book is Rs

## Teaching instructions:

Get students understand in their own language. Let them to 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 =

Total mangoes are .

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

**Answer** : goats in first pen =

goats in 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 collect in one place?

oranges of first tree =

oranges of another tree =

Total number of oranges =

Oranges in one place are

- (e) Kirshna 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 were there ?

English Books =

Mathematics Books =

Other Books =

Total Books =

There were  books in a cupboard.

- (g) Fill in the blanks with appropriate number.

1.  + 23 = 23 + 32

2. 37 + 49 =  + 37

3.  + 62 =  62 + 47

# SUBTRACTION

## Subtraction of three digit numbers

Look, read and learn:

Hundreds	Tens	Ones
4	7	6
$-$	2	4
$\underline{-}$		3
2	3	3

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

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

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

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

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

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

**Example:**

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

## EXERCISE

1. Subtract:

(a) Tens Ones	(b) Hundreds Tens Ones	(c) Hundreds Tens Ones
7    6	6    9    7	7    9    6
$- 3$	$- 4$	$- 6$
$\underline{-}$	$\underline{-}$	$\underline{-}$
4	5    2	6    3

(d) Hundreds Tens Ones	(e) Hundreds Tens Ones	(f) Hundreds Tens Ones
5    9    8	9    7    6	6    8    9
$- 2$	$- 6$	$- 1$
$\underline{-}$	$\underline{-}$	$\underline{-}$
7    0	0    4	7    2

**Teaching Instructions:**

Discuss on the subtraction of two digit numbers before teaching the subtraction of three digit numbers.

## Subtraction with borrowing

Look at the examples below and learn:

Tens      Ones	<b>7 ones cannot be subtracted from 3 ones</b>	Tens      Ones
$\begin{array}{r} 4 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 4 \\ \hline - 2 \end{array}$	$\begin{array}{r} 13 \\ 3 \\ \hline \end{array}$

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



Tens      Ones

$$\begin{array}{r} 3 & 13 \\ 4 & 3 \\ \hline - 2 & 7 \\ \hline 1 & 6 \end{array}$$

There will be six one while subtracting seven one 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

$$\begin{array}{r} \boxed{\phantom{0}} & \boxed{\phantom{0}} \\ 7 & 3 \\ - 2 & 8 \\ \hline \end{array}$$

(b) Tens      Ones

$$\begin{array}{r} \boxed{\phantom{0}} & \boxed{\phantom{0}} \\ 8 & 6 \\ - 5 & 7 \\ \hline \end{array}$$

(c) Tens      Ones

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

(d) Tens      Ones

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

2. Subtract:

(a) 9      4      (b) 7      3      (c) 8      1      (d) 6      0

$$\begin{array}{r} - 5 & 8 \\ - 4 & \phantom{8} \\ \hline \end{array}$$

(e) 9      6      (f) 6      3      (g) 8      2      (h) 5      8

$$\begin{array}{r} - 2 & 8 \\ - 4 & \phantom{8} \\ \hline \end{array}$$

$$\begin{array}{r} - 5 & 7 \\ - 3 & \phantom{7} \\ \hline \end{array}$$

(i) 6      0      (j) 5      2

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

**Teaching  
instructions:**

Use solid objects like small sticks to give the concept of subtraction with 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

$$\begin{array}{r} 82 \\ - 29 \\ \hline 53 \end{array}$$

There are 53 fresh apples in the basket.

**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. 565

he spent = Rs. 301

money left with him = ?

money left with him is Rs. 263

$$\begin{array}{r} 564 \\ - 301 \\ \hline 263 \end{array}$$

## EXERCISE

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

**Solution:**

total hens =

hens he sold =

Remained 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 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 selroties. Among them 45 were eaten. How many breads are left there?

Answer: total selroties

selroties eaten =

selroties left =

There were  selroties left.

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

Answer: total amount =

spent amount =

left amount =

He has Rs.

**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 ?



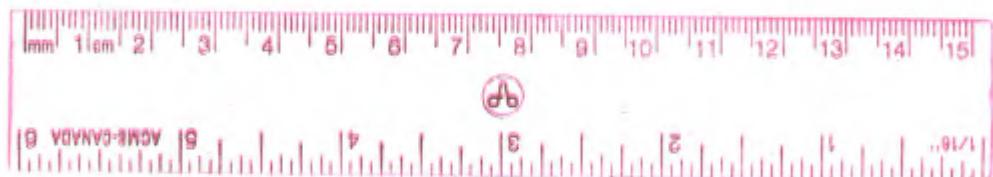
Eraser

Small objects like, eraser can be measured with ruler.

**Measurement of length**

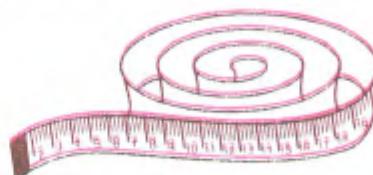
We use ruler as given to measure the length of objects:

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. Practise the students on 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 estimate length, breadth and height of different objects and later let them to measure and find their length, breadth and height.

## ACTIVITY

1. How long is 1 meter? Measure with rope or thread.
2. Is your pencil smaller or longer than 15 cm. ?
3. Is your pen is longer or smaller 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:

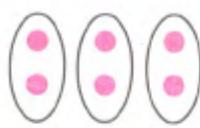


- (a) What is the length of longer pencil?
- (b) What is the length of the smaller pencil?
- (c) How long is longer pencil than the smaller one?
- (d) Draw five lines in your exercise book and measure them.

# MULTIPLICATION

**Knowledge of multiplication with the help of addition**

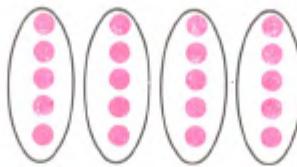
**Count, read and learn Multiplication:**



$$2 + 2 + 2 = 6$$

2 three times = 6

$$2 \times 3 = 6$$



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

5 four times = 20

$$5 \times 4 = 20$$

## EXERCISE

Look the pictures and fill in the blanks.

(a)

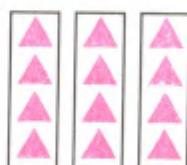


$$3 + 3 = \boxed{\phantom{00}}$$

$$3 \text{ two times} = \boxed{\phantom{00}}$$

$$3 \times 2 = \boxed{\phantom{00}}$$

(b)

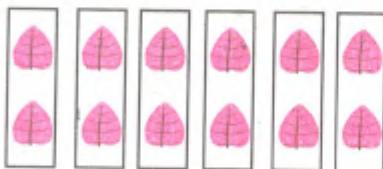


$$4 + 4 + 4 = \boxed{\phantom{00}}$$

$$4 \text{ three times} = \boxed{\phantom{00}}$$

$$4 \times 3 = \boxed{\phantom{00}}$$

(c)

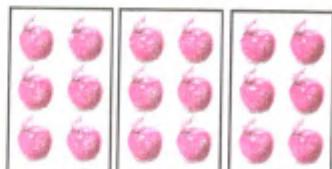


$$2 + 2 + 2 + 2 + 2 + 2 = \boxed{\phantom{00}}$$

$$2 \text{ six times} = \boxed{\phantom{00}}$$

$$2 \times 6 = \boxed{\phantom{00}}$$

(d)



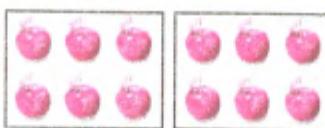
$$6 + 6 + 6 = \boxed{\phantom{00}}$$

$$6 \text{ three time} = \boxed{\phantom{00}}$$

$$6 \times 3 = \boxed{\phantom{00}}$$

**Count and fill in the blanks:**

**Example:**



$$\begin{array}{r} 6 \\ + \\ 6 \end{array} \quad = \boxed{12}$$
$$\begin{array}{r} 6 \\ \times \\ 2 \end{array} \quad = \boxed{12}$$

1.



$$\begin{array}{r} \boxed{\phantom{0}} \\ + \\ \boxed{\phantom{0}} \end{array} \quad + \quad \begin{array}{r} \boxed{\phantom{0}} \\ \times \\ \boxed{\phantom{0}} \end{array} \quad = \boxed{\phantom{0}}$$
$$= \boxed{\phantom{0}}$$

2.



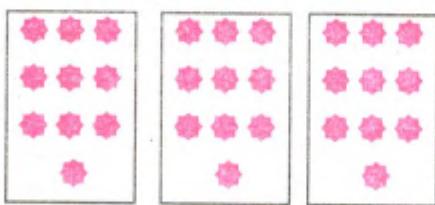
$$\begin{array}{r} \boxed{\phantom{0}} \\ + \\ \boxed{\phantom{0}} \end{array} \quad + \quad \begin{array}{r} \boxed{\phantom{0}} \\ \times \\ \boxed{\phantom{0}} \end{array} \quad = \boxed{\phantom{0}}$$
$$= \boxed{\phantom{0}}$$

3.



$$\begin{array}{r} \boxed{\phantom{0}} \\ + \\ \boxed{\phantom{0}} \end{array} \quad + \quad \begin{array}{r} \boxed{\phantom{0}} \\ \times \\ \boxed{\phantom{0}} \end{array} \quad + \quad \boxed{\phantom{0}} \quad = \boxed{\phantom{0}}$$
$$= \boxed{\phantom{0}}$$

4.

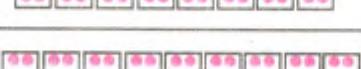


$$\begin{array}{r} \boxed{\phantom{0}} \\ + \\ \boxed{\phantom{0}} \end{array} \quad + \quad \begin{array}{r} \boxed{\phantom{0}} \\ \times \\ \boxed{\phantom{0}} \end{array} \quad = \boxed{\phantom{0}}$$
$$= \boxed{\phantom{0}}$$

## 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 students learn by heart the multiplication table from 3 to 10.

**Read the following multiplication table and learn:**

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

## EXERCISE

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

$2 \times 1 = 2$

$3 \times 2 =$

$4 \times 2 =$

$2 \times 5 =$

$4 \times 3 =$

$5 \times 4 =$

$6 \times 3 =$

$7 \times 2 =$

$6 \times 4 =$

$4 \times 8 =$

$7 \times 7 =$

$8 \times 6 =$

$9 \times 7 =$

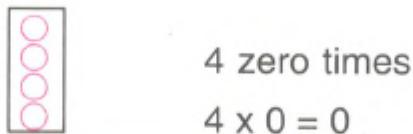
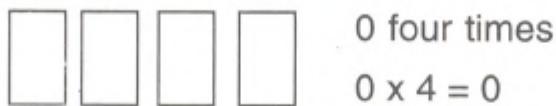
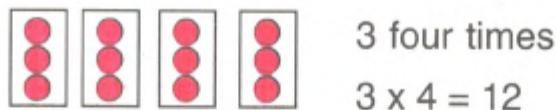
$8 \times 5 =$

$9 \times 9 =$

## Multiplication with zero

Read and learn the multiplication with zero:

Example



---

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

For example,  $0 \times 4 = 0$

And any number is multiplied with zero, the result is also zero.

For example,  $4 \times 0 = 0$

---

### EXERCISE

Fill in the blanks:

a.  $2 \times 0 = \boxed{\phantom{0}}$

d.  $7 \times \boxed{\phantom{0}} = 0$

b.  $0 \times 3 = \boxed{\phantom{0}}$

e.  $0 \times 9 = \boxed{\phantom{0}}$

c.  $0 \times 0 = \boxed{\phantom{0}}$

f.  $\boxed{\phantom{0}} \times 5 = 0$

Multiply:

a. 3

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

b. 0

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

c. 5

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

d. 0

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

e. 7

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

f. 0

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

g. 9

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

h. 0

$$\begin{array}{r} \times 8 \\ \hline \end{array}$$

## 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.  $10 \times 2 = \boxed{\phantom{0}}$  b.  $10 \times 3 = \boxed{\phantom{0}}$  c.  $10 \times 7 = \boxed{\phantom{0}}$

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 numbers ( without carryover)

Example

Ten	One	First,multiply by number of ones place.
1	3	3 x 3 ones = 9 ones
x	3	Then, multiply by number of tens place .
	9	3 x 1 ten = 3 tens
+ 3	0	= 3 tens + 9 ones
	3 9	= 30 + 9
		= 39

### Shortcut method

Ten	One	10 + 3
1	3	x 3
x	3	<u>30 + 9 = 39</u>
3	9	3 x 3 ones = 9 ones
		3 x 1 ten = 3 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

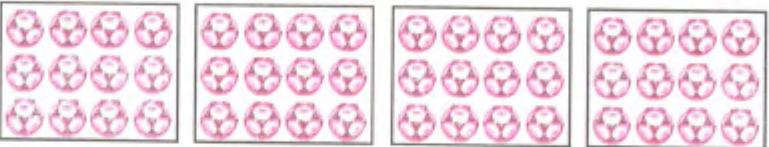
Look, read and recognize:

Example:

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


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

- A box contains 12 balls. How many balls are contained in 4 boxes?


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

## EXERCISE

Understand the questions and solve the following sums:

- 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?
- A spider has 6 legs. How many legs are of 7 spiders?
- 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.

**Read, discuss and learn the division:**

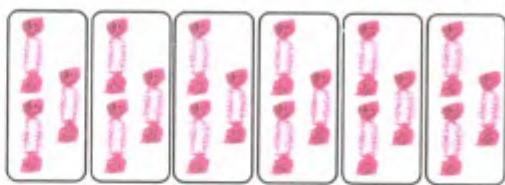
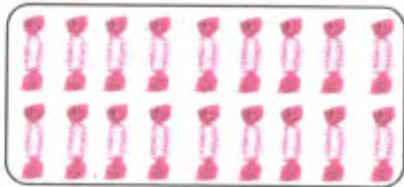
How many chocolates are there?

There are 18 chocolates.

Form the groups of 3 chocolates.

How many groups were there?

There were 6 groups.



Solve the following problems:



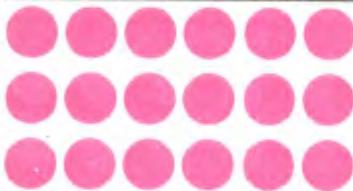
Form the group of 5.

How many groups were there?



Form the group of 4.

How many groups were there?



Form the groups of 6.

How many groups were there?



Form the groups of 7.

How many groups were there?



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

**Teaching Instructions:**

Ask the children the group of 2, 3, ..... 9 and have a discussion with them.

Use of symbol of division ( ÷ )

How many apples are there?

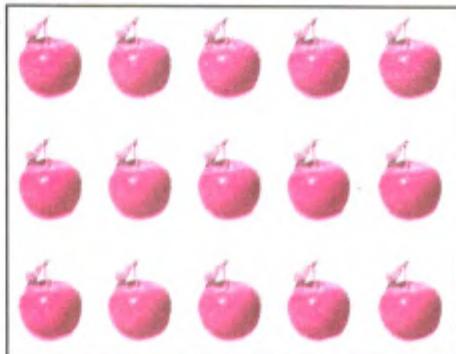
There are 20 apples.

Form the groups of 4 apples.

Then, there are 5 groups.

We can write using the symbol:

$$20 \div 4 = 5$$



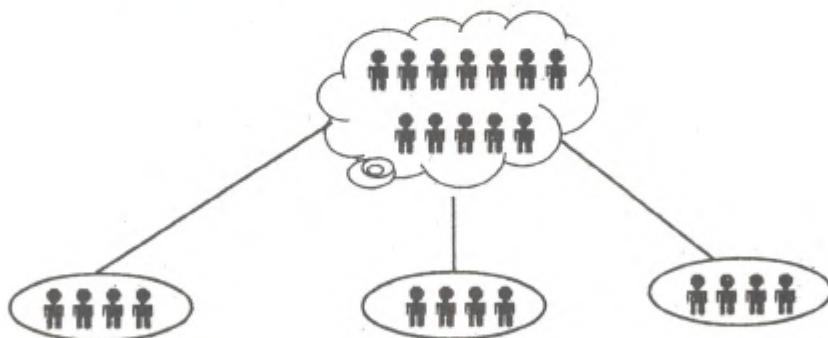
Again, form the groups of 5 apples.

$$20 \div 5 = 4$$

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

## ACTIVITY

Get 12 students 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 groups can be divided into several groups.

## EXERCISE

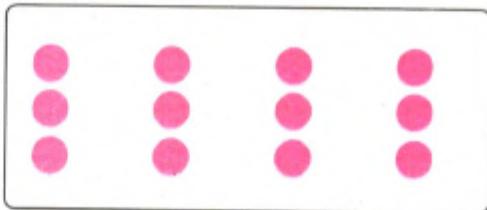
Count the following dots and fill in the blanks with appropriate number:

a.  $12 \div 2 = \boxed{\phantom{0}}$

$12 \div 3 = \boxed{\phantom{0}}$

$12 \div 4 = \boxed{\phantom{0}}$

$12 \div 6 = \boxed{\phantom{0}}$

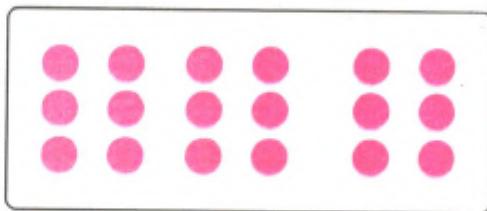


b.  $18 \div 2 = \boxed{\phantom{0}}$

$18 \div 3 = \boxed{\phantom{0}}$

$18 \div 6 = \boxed{\phantom{0}}$

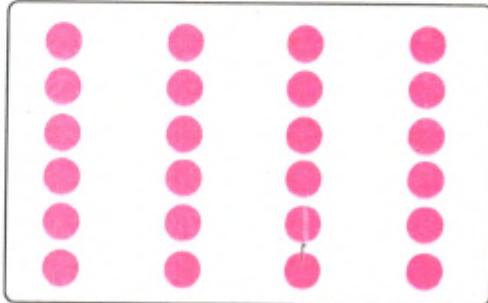
$18 \div 9 = \boxed{\phantom{0}}$



c.  $24 \div 4 = \boxed{\phantom{0}}$

$24 \div 6 = \boxed{\phantom{0}}$

$24 \div 8 = \boxed{\phantom{0}}$



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

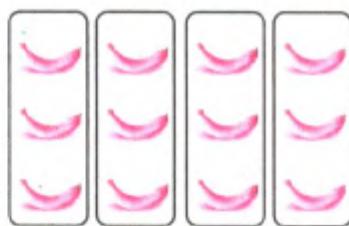
# RELATION OF MULTIPLICATION AND DIVISION

**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.

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

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

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

## EXERCISE

Fill in the blanks with appropriate number:

a.  $3 \times 4 = \boxed{\phantom{00}}$

b.  $6 \times 3 = \boxed{\phantom{00}}$

$12 \div 3 = \boxed{\phantom{00}}$

$18 \div 6 = \boxed{\phantom{00}}$

$12 \div 4 = \boxed{\phantom{00}}$

$18 \div 3 = \boxed{\phantom{00}}$

c.  $7 \times \boxed{\phantom{00}} = 28$

d.  $\boxed{\phantom{00}} \times 6 = 48$

$4 \times \boxed{\phantom{00}} = 28$

$48 \div 6 = \boxed{\phantom{00}}$

$28 \div \boxed{\phantom{00}} = 7$

$48 \div 8 = \boxed{\phantom{00}}$

$28 \div \boxed{\phantom{00}} = 4$

$\boxed{\phantom{00}} \div 8 = 6$

e. $5 \times 4 =$	f. $8 \times 3 =$ <input type="text"/>
$20 \div 4 =$	$24 \div 3 =$ <input type="text"/>
$20 \div 5 =$	$24 \div 8 =$ <input type="text"/>
g. $4 \times$ <input type="text"/> $= 20$	h. $4 \times 9 =$ <input type="text"/>
$20 \div$ <input type="text"/> $= 4$	$9 \times 4 =$ <input type="text"/>
$20 \div$ <input type="text"/> $= 5$	$36 \div 4 =$ <input type="text"/>
<input type="text"/> $\times 5 = 20$	$36 \div 9 =$ <input type="text"/>
<input type="text"/> $\div 9 = 4$	<input type="text"/> $\times 4 = 9$

### Method of division

$$8 \div 4$$

$$4 \times 1 = 4$$

$$4 \times 2 = 8$$

Divide with the help of multiplication table.

$$18 \div 6$$

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

$$\begin{array}{l} 6 \times 1 = 6 \\ 6 \times 2 = 12 \\ 6 \times 3 = 18 \end{array}$$

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

$$\text{To check: } 6 \times 3 = 18$$

### EXERCISE

Divide the following by using multiplication table:

$$\begin{array}{llll} \text{a. } 3 \overline{) 15} & \text{b. } 4 \overline{) 16} & \text{c. } 6 \overline{) 24} & \text{d. } 5 \overline{) 25} \\ \text{e. } 7 \overline{) 28} & \text{f. } 8 \overline{) 48} & \text{g. } 9 \overline{) 72} & \text{h. } 9 \overline{) 81} \end{array}$$

# 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

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

Each person get 9 oranges.

## EXERCISE

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

total amount =

$$3 ) 18$$

number of exercise book =

1 exercise book costs Rs.

- (b) If 24 balloons are divided equally among 8 persons, how many balloons will each get?

- (c) There were 28 students in a classroom. If these students are divided equally into 7 benches, how many students would 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 copies will he buy?

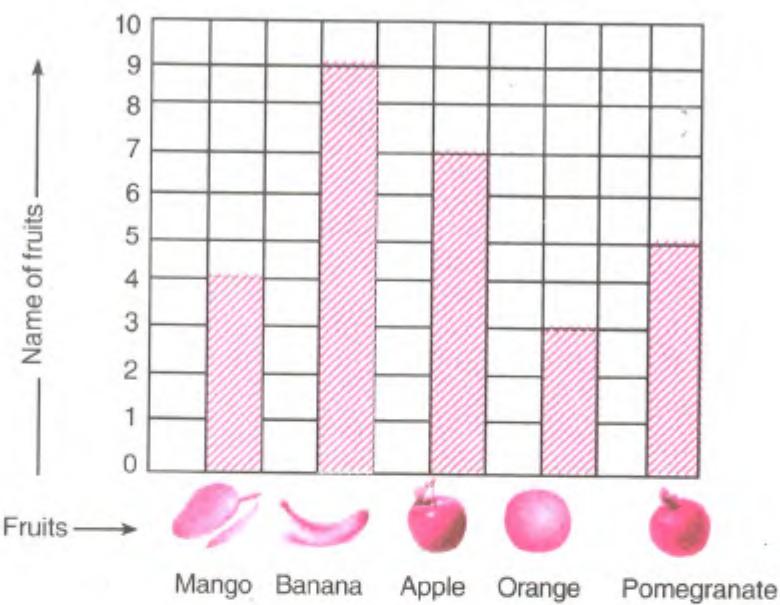
**Teaching Instructions:** Practise additional exercises by using the local materials like, small stick, stones etc. and dividing them into different groups.

# BARGRAPH

Bargraph and information from it

## Look, discuss and learn:

The fruits with Hari have shown in the following bargraph:



The figures as above are called bargraph.

This bargraph shows the types and numbers of fruits with Hari.

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

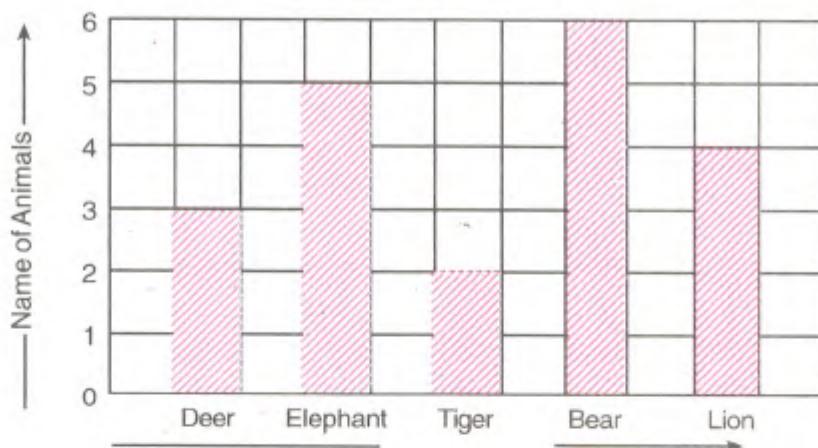
- How many mangoes are there?
- Which fruit is only five in number?
- How many oranges are more than mangoes?
- How many oranges are less than apples?
- Which fruits are most and least in number and how many are there?

**Teaching Instructions:**

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

### EXERCISE 3

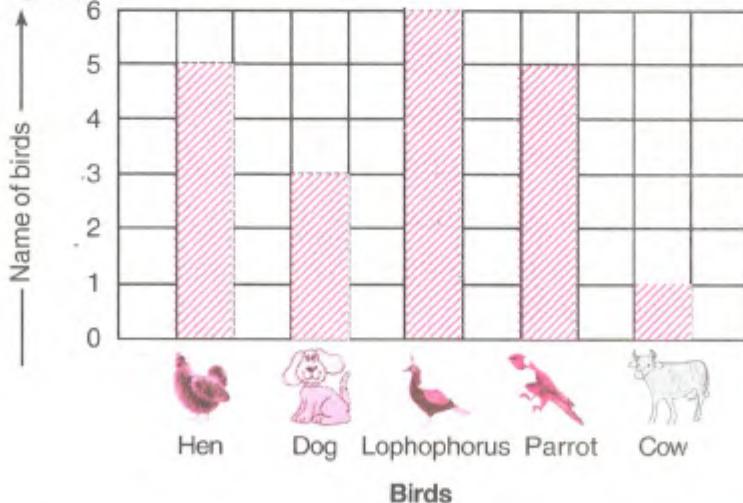
1. The animals in a zoo are shown in the bargraph below. Answer the following questions by with the help of bargraph.



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

**Bears 6**

- (a) How many tigers are there?  
(b) How many elephants are there?  
(c) How many elephants are more than tigers?  
(d) How many lions are less than bears?  
(e) 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:



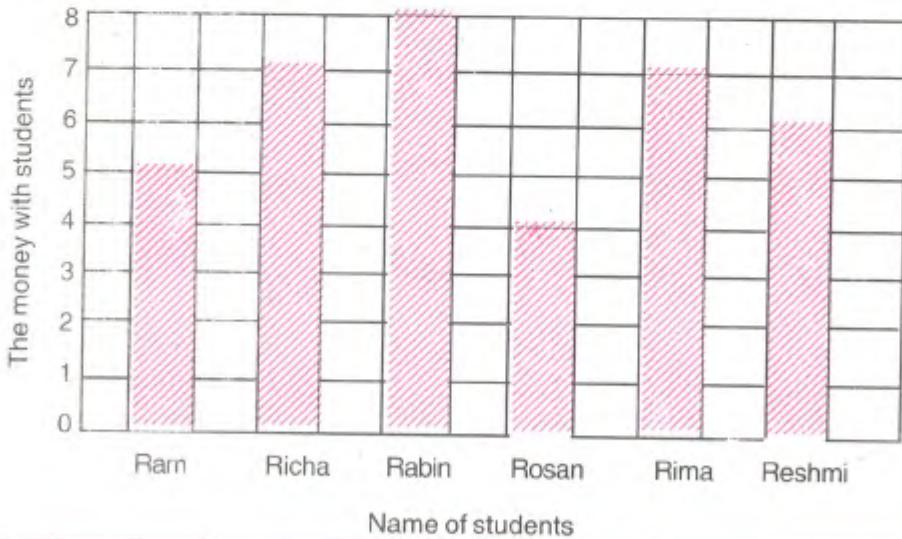
Look at the bargraph above and answer the following questions in your exercise book:

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 have shown in the following bargraph. Discuss by making questions as mentioned above:

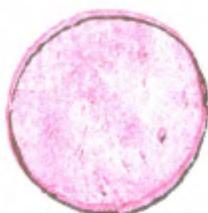


**Teaching Instructions:** Have a discussion on different bargraphs as above that are related with the student's daily life and practise more.

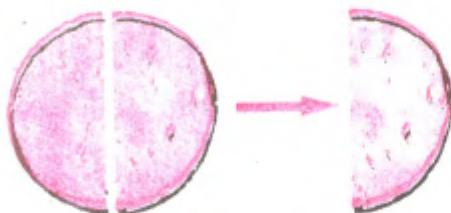
# FRACTION

## Concept of fraction

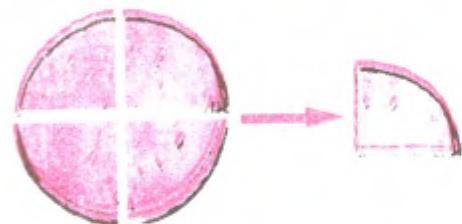
Look at the figure and discuss



Whole bread



Half  $\left(\frac{1}{2}\right)$  of a whole bread.

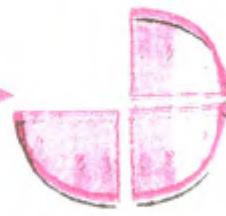


One fourth /... of a whole bread.

4 equal parts of a bread



Two fourth  
of a whole bread  $\left(\frac{2}{4}\right)$



Three fourth  
of a whole bread.  $\left(\frac{3}{4}\right)$

**Teaching  
instructions:**

Give the concept of half  $\left(\frac{1}{2}\right)$   $\left(\frac{1}{4}\right)$   $\left(\frac{2}{4}\right)$  and  $\left(\frac{3}{4}\right)$  demonstrating different solid objects like, paper, sticks etc.

## Half and quarter

Look at the figure and discuss:



$$\frac{\text{shaded parts}}{\text{total equal parts}} = \frac{1}{2}$$

2 equal parts one half of the figure is shaded.

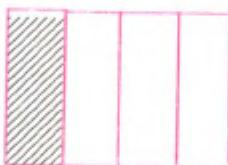
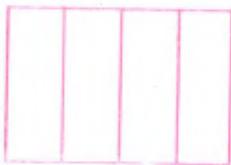
---



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



$$\frac{\text{shaded parts}}{\text{total equal parts}} = \frac{1}{4}$$

4 equal Parts

one-fourth of  
the figure is shaded

---

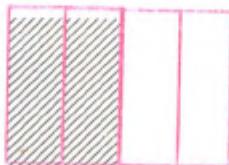
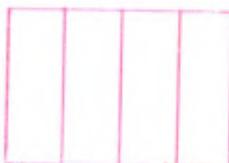


When a whole object is divided into four equal parts, each part is called a quarter.

In mathematics, it is written as  $\frac{1}{4}$ .

And it is read as 1 by 4.

---



$$\frac{\text{shaded parts}}{\text{total equal parts}} = \frac{2}{4}$$

4 equal parts

two-fourth of the figure is shaded.



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.



$$\frac{\text{shaded parts}}{\text{total equal parts}} = \frac{3}{4} \quad \left[ \begin{array}{l} \text{3 parts are shaded} \\ \text{divide into 4 equal} \\ \text{parts} \end{array} \right]$$

### Third fourth



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:



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



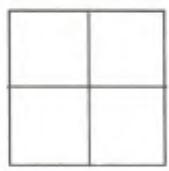
$$\frac{1}{4}$$



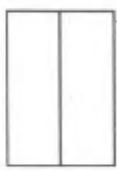
$$\frac{2}{4}$$



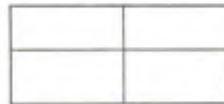
$$\frac{3}{4}$$



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



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



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



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



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



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



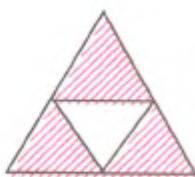
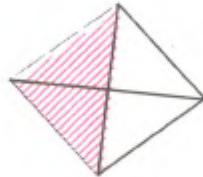
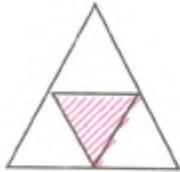
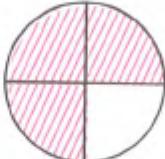
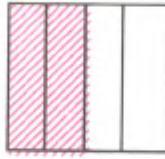
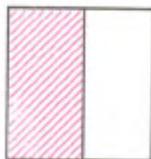
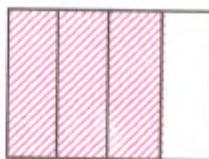
$$\frac{1}{2}$$

### Teaching instructions:

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

## EXERCISE

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



**Teaching instructions:**

- i. Make students write in fraction by demonstrating different solid objects and their parts.
- ii. Practise students to write in fraction by drawing figures on blackboard and by giving the flash cards to them.

## One third

Look at figure, discuss and learn:



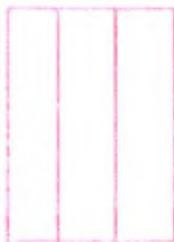
Whole bread



Bread divided into three parts



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



3 equal parts



one third part is shaded.

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

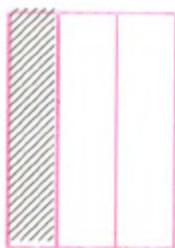
$$\frac{\text{shaded parts}}{\text{total equal parts}} = \frac{1}{3}$$



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:

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



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

two third

Two third part is shaded

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

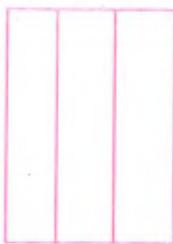
one third



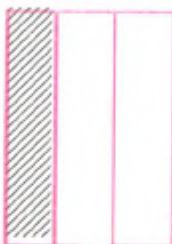
Among three equal parts two part is called two third of a whole. In mathematics, it is written as  $\frac{2}{3}$  and read as 2 by 3.

### ACTIVITY

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



3 equal parts



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

One third is shaded.

is not shaded.

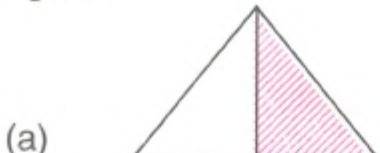
2. Shade one third and two third of the figures and show to your teacher.

**Teaching  
instructions:**

- i. Get them 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 to write the shaded parts in mathematical language.
- iii. Divide students into groups and tell them to draw picture, to shade it and make fractions.

## EXERCISE

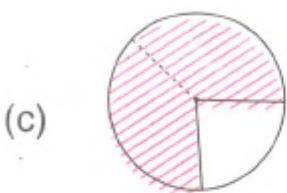
1. Copy the following fractions in your exercise book. Encircle the fraction to represent the shaded parts in the following figures:



$$\frac{3}{4} \quad \left( \frac{1}{2} \right) \quad \frac{1}{4}$$



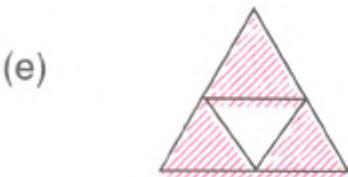
$$\frac{1}{2} \quad \frac{2}{4} \quad \frac{1}{3}$$



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



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



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



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

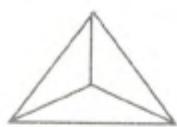


$$\frac{3}{4} \quad \frac{1}{4} \quad \frac{2}{4}$$



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

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



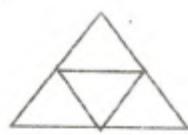
$$\frac{2}{3}$$



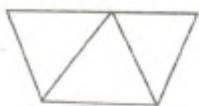
$$\frac{3}{4}$$



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



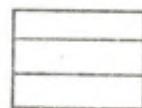
$$\frac{3}{4}$$



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



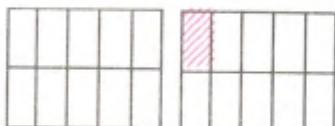
$$\frac{1}{3}$$



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

### Tenth and other fractions

**Tenth**



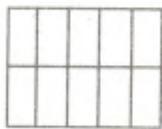
Ten equal parts

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

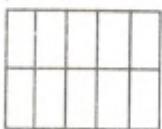


$$\frac{\text{shaded parts}}{\text{total parts}} = \frac{3}{10} \quad \text{third tenth}$$

- (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. four tenth

## 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:

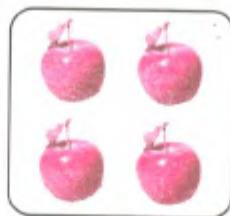
- Which is the greatest fraction in the above fractions?
- Which is the smallest fraction in the above fractions?
- Which is greater in  $\frac{1}{2}$  and  $\frac{2}{4}$ ? Are they equal or not?

**Teaching  
instructions:**

Get students 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:

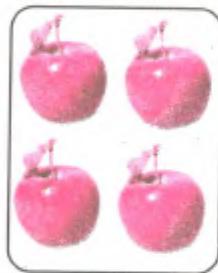


How many apples are there?

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

How many apples did Sagar and Sita get?

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



4 apples

4 apples are divided into two equal parts.



Sagar's part



Sita's part



Half  $\left(\frac{1}{2}\right)$  of  
4 apples  
= 2 apples.

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

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

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

What is the part of 1 apple among 4 apples?

What is the part of 2 apples among 4 apples?

What is the part of 3 apples among 4 apples?

**Teaching  
instructions:**

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

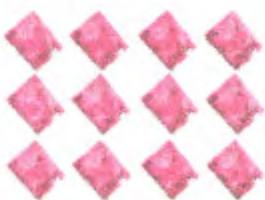
## EXERCISE

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



half  
of Star       $(\frac{1}{2})$

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



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



## REVIEW EXERCISE

1. Draw the figures and shade them to represent the following the fractions:

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

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

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

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

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

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

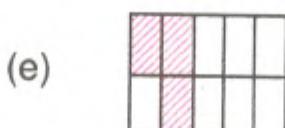
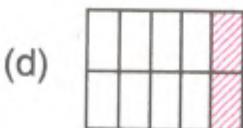
(g)  $\frac{1}{8}$

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

**Teaching  
instructions:**

Ask students to differentiate the fractions like  $1/2$ ,  $2/4$ ,  $3/3$ ,  $2/3$ ,  $1/10$ . with the help of solid objects and figures.  
Get them practised by using flashcards.

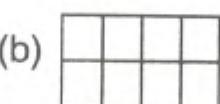
2. Copy the following figures in your exercise book. Write the fraction to represent shaded parts:



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



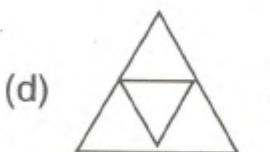
$$\frac{3}{10}$$



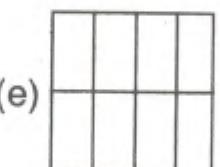
$$\frac{5}{8}$$



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



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



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



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

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  $3/10$ .

**Quarter past, half past and quarter to**  
**Look, read, discuss and learn:**

Ram arrived at school.  
 The short hand is at 10 and  
 the long hand 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 into the classroom.

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



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

The long hand of a clock takes 15 minutes to at 3 from 12. That is called quartet past. When the hand goes at 6, it gets 30 minutes. That is called half past. In the same way, it gets 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 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

---



11:30

o' clock

It is



02:15

o' clock

It is



03:45

o'clock

It is



04:00

o'clock

It is

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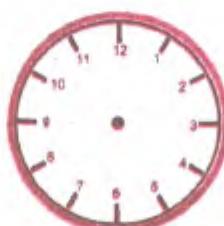
Copy the following clocks in your exercise book. Draw long hand short hand and show the given time:



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.

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

12 hours is in the clock.

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

Discuss, how many hours are there from today 10 o'clock of the morning to tomorrow morning's 10 o'clock ?

### **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 day      (c) 5 day (d) 7 day

(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 to tomorrow morning's 7 o'clock.

## Day, Month and Year

Chaitra, 2063						
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	

- (a) How many days are there in this month?
  - (b) When is the Ramnawami?
  - (c) 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      1 year = 12 months

$$\begin{array}{ll} \text{3 month} & = 3 \times 30 \text{ days} \\ & = 90 \text{ days} \end{array} \quad \begin{array}{l} 2 \text{ year} = 2 \times 12 = 24 \text{ months} \end{array}$$

## EXERCISE



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

Look the following rupees and recognize:



Rs. 10



Rs. 5



Rs. 20



Rs. 25



Rs. 50



Rs. 500



Rs. 100



Rs. 1000

**Look 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 about 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 Re. 1 = 100 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 and 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 them 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.

Rs. 5 = 5 × 100  
Paisa = 500 Paisa



## 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) Re. 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) Re. 1 and 90 Paisa

## Addition and subtraction of rupees and paisa

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

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



Biscuit



Chocolate



Kite

Rs. 15

+

Re. 1

+ Rs. 3 = Rs. 19

2. Maternal uncle gave the following notes to Farhin Hussain, who reads in grade 2 for shopping. How much rupees is there all together?



Rs 10 + Rs 50 + Rs 100

$$= \text{Rs } 160$$

Rs 100

Rs 50

$$+ \text{Rs } 10$$

$$= \text{Rs } 160$$

### EXERCISE

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

(a)



= Rs.

(b)



= Rs.

2. Add the costs of each sets of objects and find 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. 255



Rs. 10



Rs. 3

## Verbal Problems of Addition and Subtraction

Look at the price of 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 returned? Calculate.

### Answer:

The total cost of eraser and ball =  $\text{Rs. } 2 + \text{Rs. } 89 = \text{Rs. } 91$

The money that shopkeeper returned =  $\text{Rs. } 100 - \text{Rs. } 91 = \text{Rs. } 9$

Therefore, the shopkeeper returned Rs. 9 to Chhiring

### EXERCISE

Look 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 will he return to her?

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**Teaching Instructions:** Practise additional problems as above and other real problems through discussion and problem solving method.

## Addition and Subtraction of Rupees and Paisa

### Read and learn:

Example:

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

Answer: Let us, write the above problem in mathematical language and subtract:

Rupees	Paisa
20	50
- 15	25
<u>      5</u>	<u>      25</u>

Therefore, Ratna had 5 rupees and 25 paisa left.

### EXERCISE

1. See the sign and solve:

(a) Rupees	Paisa	(b) Rupees	Paisa	(c) Rupees	Paisa
40	15	75	75	97	20
- 20	12	+ 62	15	- 65	15

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

**Teaching  
instructions:**

Practise more exercises similar to above of addition and subtraction without conversion from rupees to paisa..

**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 gallon 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 the measuring pots and recognize:



100 mililitre



250 mililitre



500 mililitre



1 litre

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



500 mililitre

+



500 mililitre

=



1 litre

Therefore, 1 litre (*l*) = 1000 mililitre (ml)

### EXERCISE

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



Mililitre

+



mililitre

=



mililitre

- Fill in the blanks with appropriate number.



10 litre



litre



litre

**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.

**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 eraser's 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.

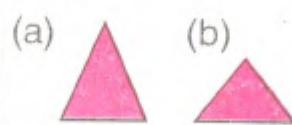
**EXERCISE**

Which one of the following similar shapes has greater area?

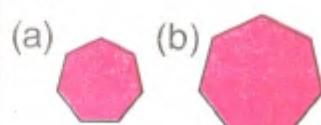
1.



2.



3.



**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 and which one has less?
3. Which one has the big surface or lower part whether 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?

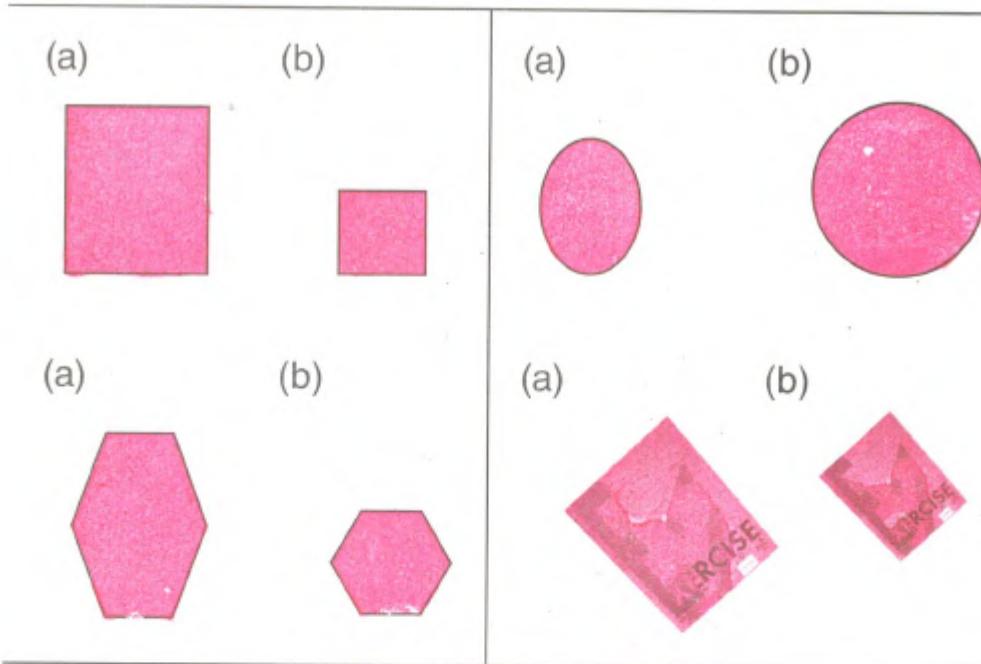


5. Measure the hands, feet, and figures of your friends and find out their area.

**Teaching  
Instructions:**

Collect different things as mentioned above and show their plane surface and let them to 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.



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 grade 2 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 that do not answer will be the looser.

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 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**

**Teaching Instructions:**

Give the introduction of dhakas by showing the standard weights and balance. And also tell them to compare and measure weight.

Rita stood on a 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

1. Which one is heavier in 1 kg or 500 gram? Which has more weight?
2. 30 kg is written in the packet of rice. How many dhakas of 1kg will be equal to it?



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

a. <table border="1"><tr><td>4 kilogram 20 kilogram</td></tr><tr><td>4 kilogram</td></tr></table>	4 kilogram 20 kilogram	4 kilogram	A pink illustration of a large orange pumpkin.	b. <table border="1"><tr><td>20 kilogram 200 kilogram</td></tr><tr><td></td></tr></table>	20 kilogram 200 kilogram		A pink illustration of a white cow with a dark brown patch on its side.
4 kilogram 20 kilogram							
4 kilogram							
20 kilogram 200 kilogram							
c. <table border="1"><tr><td>1 kilogram 50 gram</td></tr><tr><td></td></tr></table>	1 kilogram 50 gram		A pink illustration of a pinecone.	d. <table border="1"><tr><td>2 kilogram 500 gram</td></tr><tr><td></td></tr></table>	2 kilogram 500 gram		A pink illustration of a red rooster.
1 kilogram 50 gram							
2 kilogram 500 gram							

**EXERCISE**

Copy in your exercise book and fill in boxes with correct numbers:

a.  $4 + 2 = 6$

b.  $9 + \boxed{\phantom{0}} = 17$

$3 + \boxed{\phantom{0}} = 6$

$8 + \boxed{\phantom{0}} = 17$

$5 + \boxed{\phantom{0}} = 6$

$10 + \boxed{\phantom{0}} = 17$

$2 + \boxed{\phantom{0}} = 6$

$12 + \boxed{\phantom{0}} = 17$

$1 + \boxed{\phantom{0}} = 6$

$4 + \boxed{\phantom{0}} = 11$

c.  $4 + \boxed{\phantom{0}} = 10$

d.  $7 + \boxed{\phantom{0}} = 11$

$5 + \boxed{\phantom{0}} = 10$

$9 + \boxed{\phantom{0}} = 11$

$8 + \boxed{\phantom{0}} = 10$

$6 + \boxed{\phantom{0}} = 11$

$7 + \boxed{\phantom{0}} = 10$

$3 + \boxed{\phantom{0}} = 11$

$9 + \boxed{\phantom{0}} = 10$

$10 + \boxed{\phantom{0}} = 11$

e.  $9 + \boxed{\phantom{0}} = 15$

f.  $4 + \boxed{\phantom{0}} = 13$

$10 + \boxed{\phantom{0}} = 15$

$10 + \boxed{\phantom{0}} = 13$

$8 + \boxed{\phantom{0}} = 15$

$7 + \boxed{\phantom{0}} = 13$

$11 + \boxed{\phantom{0}} = 15$

$8 + \boxed{\phantom{0}} = 13$

$1 + \boxed{\phantom{0}} = 15$

$1 + \boxed{\phantom{0}} = 13$

g.  $\boxed{\phantom{0}} + 7 = 16$

h.  $\boxed{\phantom{0}} + 8 = 17$

$\boxed{\phantom{0}} + 7 = 16$

$\boxed{\phantom{0}} + 8 = 17$

$\boxed{\phantom{0}} + 8 = 16$

$\boxed{\phantom{0}} + 9 = 17$

$\boxed{\phantom{0}} + 4 = 16$

$\boxed{\phantom{0}} + 6 = 17$

$\boxed{\phantom{0}} + 10 = 16$

$\boxed{\phantom{0}} + 7 = 17$

$\boxed{\phantom{0}} + 6 = 16$

$\boxed{\phantom{0}} + 16 = 17$