# Maths World

## Class III

**Punjab School Education Board**

Sahibzada Ajit Singh Nagar

## Foreword

The Punjab School Education Board has been continuously engaged in developing syllabi, producing and renewing text books according to the changing educational needs at the state and national level.

This book has been developed in accordance to the guidelines of National Curriculum Framework (NCF) 2005 and PCF-2013, after careful deliberations in workshops involving experienced teachers and experts from the board and field as well. All efforts have been made to make this book interesting with the help of activities and coloured figures. This book has been prepared with the joint efforts of subject experts of Board, SCERT and experienced teachers/experts of mathematics. Board is thankful to all of them.

The authors have tried their best to ensure that the treatment, presentation and style of the book in hand are in accordance with the mental level of the students of class-III. The topics, contents and examples in the book have been framed in accordance with the situations existing in the young learner's environment. A number of activities have been suggested in every lesson. These may be modified, keeping in view the availability of local resources and real life situations of the learners.

I hope the students will find this book very useful and interesting. The Board will be grateful for suggestions from the field for further improvement of the book.

**Chairman**
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# Content

Name.................................................................

Class.......................... Section..........................

# 1 Numbers

## Objectives
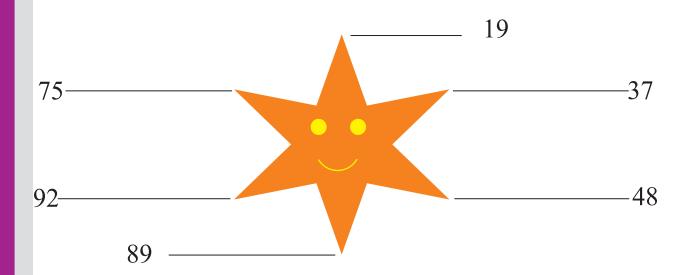
- To develop the understanding of ones, tens, hundreds, thousands with the help of currency notes, abacus and practical activities.
- To read and write three digit numbers, to write three digit numbers in words, understanding of predecessor, successor and in between.
- Understanding of place value, expanded form, comparison, ascending order and descending order.

**Do you remember?**
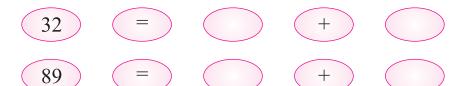
1. Complete the counting in blanks-

| 57 |    |    | 60 | 61 |    |    |    | 65 |
|----|----|----|----|----|----|----|----|----|
|    | 67 |    |    |    |    | 72 |    |    |
|    |    | 77 |    |    |    |    |    | 83 |
|    |    |    |    | 88 |    |    |    | 92 |

2. Write the given numbers in words-

19

75 ————————

37

92 ————————

48

89 ————————

3. Write in the expanded form-

| 32 | = | | + | |
| 89 | = | | + | |
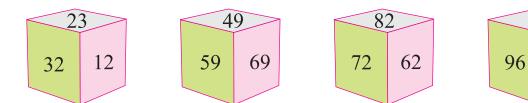
4. Tell the place value of encircled digit-

(5)6  =

9(4)  =

5. Put the sign of **>** , **<**  or **=**

49 ⬭ 59          76 ⬭ 67          82 ⬭ 82
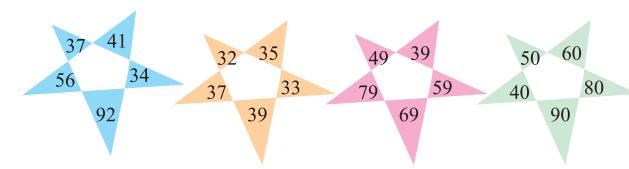
## 6. Encircle the smallest number-

| 23 | | 49 | | 82 | | 92 | |
|----|----|----|----|----|----|----|----|
| 32 | 12 | 59 | 69 | 72 | 62 | 96 | 93 |

## 7. Write the greatest number in the star-

37 41
56 34
92

32 35
37 33
39

49 39
79 59
69

50 60
40 80
90
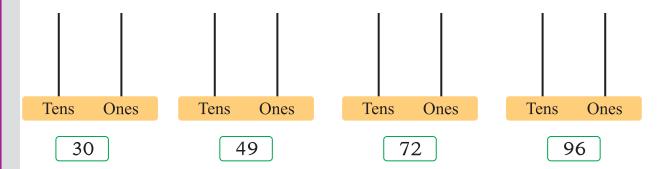
## 8. Write in ascending order-

| 52 | 59 | 56 |
| 69 | 49 | 59 |
| 87 | 47 | 37 |
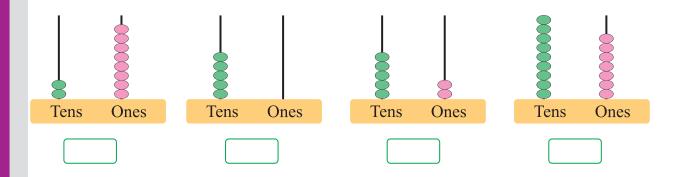
## 9. Write in descending order-

| 49 | 42 | 47 |
| 89 | 99 | 69 |
| 36 | 24 | 67 |

## 10. Put the beads in abacus for given number-

| Tens | Ones | | Tens | Ones | | Tens | Ones | | Tens | Ones |
|------|------|--|------|------|--|------|------|--|------|------|

| 30 | | 49 | | 72 | | 96 |
|----|--|----|--|----|--|----|

## 11. Count the beads in abacus and write the number-

| Tens | Ones | | Tens | Ones | | Tens | Ones | | Tens | Ones |
|------|------|--|------|------|--|------|------|--|------|------|
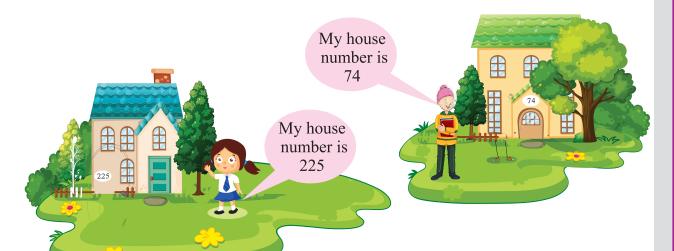
## 12. Fill same colour by matching the four columns-

| 17 | 3 Tens + 9 Ones | 80 | Twenty six |
|----|-----------------|------|------------|
| 26 | 8 Tens | 30 + 9 | Seventeen |
| 39 | 1 Tens + 7 Ones | 90 + 1 | Eighty |
| 80 | 9 Tens + 1 Ones | 20 + 6 | Ninety one |
| 91 | 2 Tens + 6 Ones | 10 + 7 | Thirty nine |

Numbers have a major role in our life. We use numbers in our daily life.

My house number is 74

My house number is 225

There are 340 students in my school

There are 39 students in my class

Digits are used to write these numbers.

# Three digit number

We have studied two digit numbers in 2nd class. As 99 is a two digit number.

If we add 1 more to number 99 then it will form three digit number 100.

$$99 \; + \; 1 \; = \; 100$$
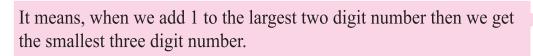
It means 99 is the largest two digit number.

Yes, 100 is the smallest three digit number.

It means, when we add 1 to the largest two digit number then we get the smallest three digit number.

If we add 1 more item to the 100 items then

$$100 \; + \; 1 \; = \; ?$$

Today, we will count with currency notes.
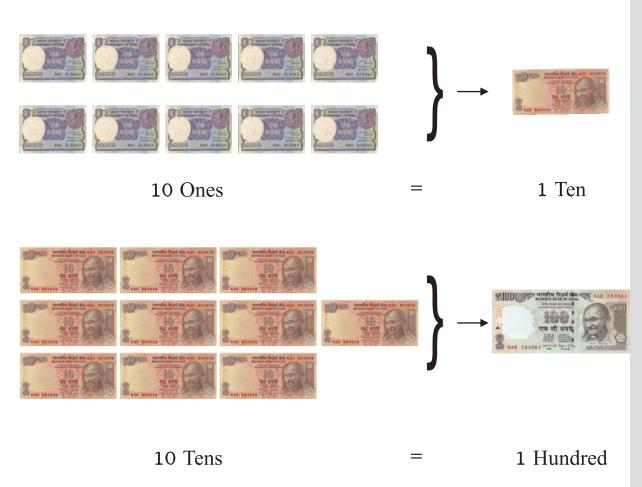
I have Rupees 99. If I add rupee one more then how many rupees do I have?

Rupees 100

You may remember, that we took Rupees 10 note in place of 10 notes of rupee 1 in class second and now we will take a note of Rupees 100, in place of 10 notes of Rupees10.

10 Ones = 1 Ten

10 Tens = 1 Hundred

**1 Hundred = 10 Tens = 100 Ones**
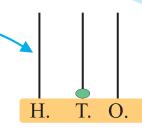
Let's count with abacus. Each stick of our abacus can contain only nine beads.

Since, we cannot put tenth bead in ones stick so put one bead in tens stick instead of putting ten beads in ones stick.

H. T. O.

H. T. O.
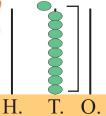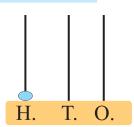
We will put one bead in ten's stick by removing all beads from one's stick..

We cannot put tenth bead in tens stick, so we put one bead in hundreds stick in place of ten beads

H. T. O.

H. T. O.
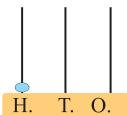
This is maan card of    100

**1 Hundred = 100**

Today we count upto 1000 by using Rs. 100 notes, abacus and maan cards

H. T. O.

100    One hundred

H. T. O.

200    Two hundred

| | | | |
|---|---|---|---|
| H. T. O. | 300 | Three hundred |
| H. T. O. | 400 | Four hundred |
| H. T. O. | 500 | Five hundred |
| H. T. O. | 600 | Six hundred |
| H. T. O. | 700 | Seven hundred |

800    Eight hundred

900    Nine hundred

1000    Thousand

H.  T.  O.

Th.  H.  T.  O.

**1 Thousand = 10 Hundred = 100 Tens = 1000 Ones**

100
1
↓
101
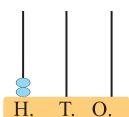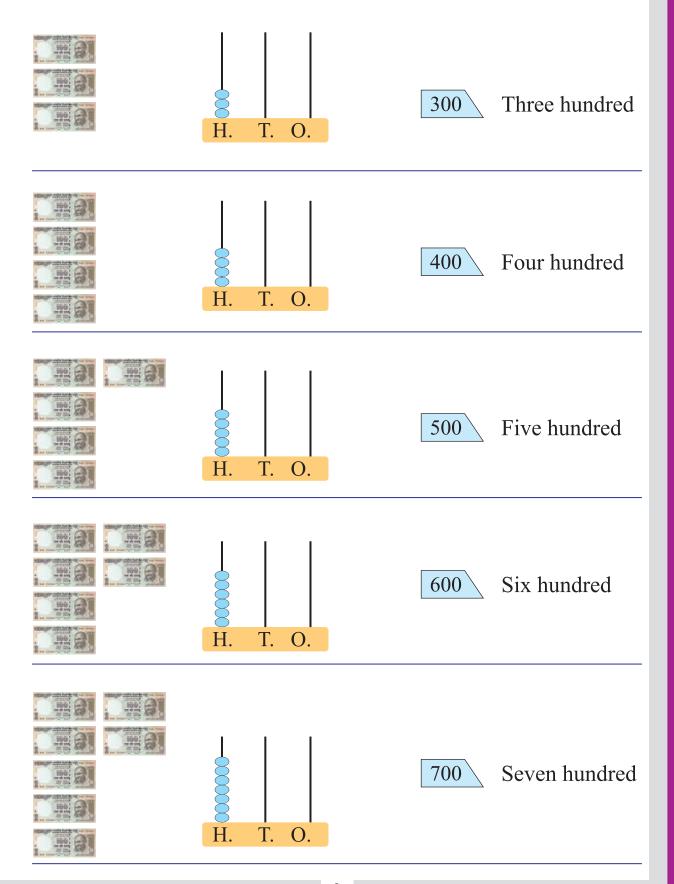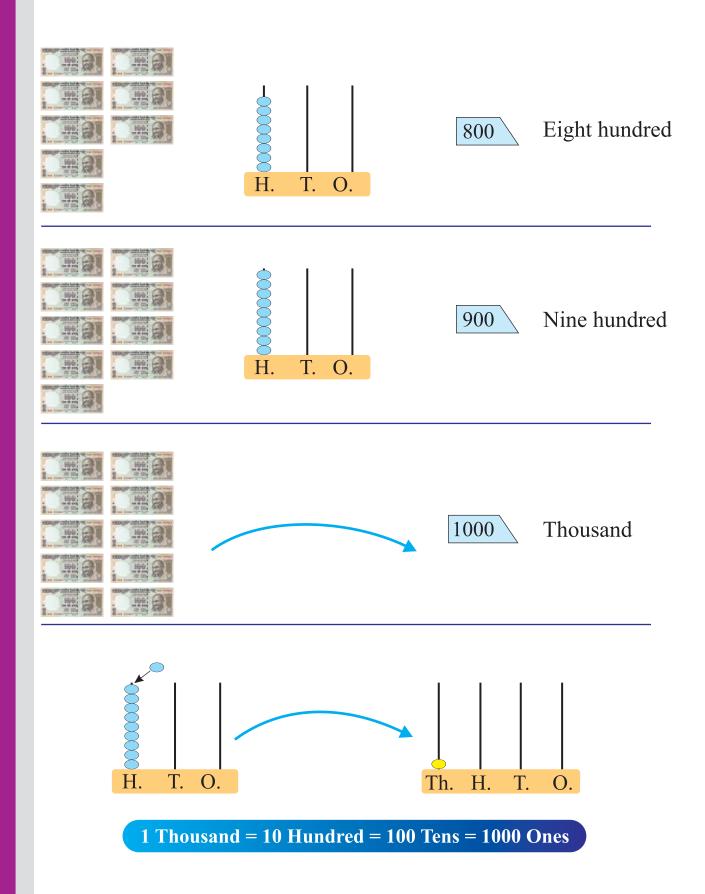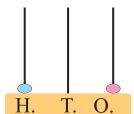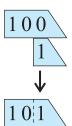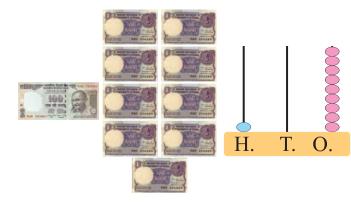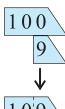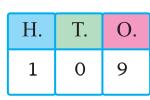
| H. | T. | O. |
|----|----|----|
| 1 | 0 | 1 |

One hundred one

100
9
↓
109
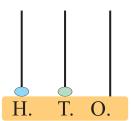
| H. | T. | O. |
|----|----|----|
| 1 | 0 | 9 |

One hundred nine
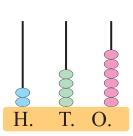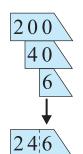
100
10
↓
110

| H. | T. | O. |
|----|----|----|
| 1 | 1 | 0 |

One hundred ten

200
40
6
↓
246
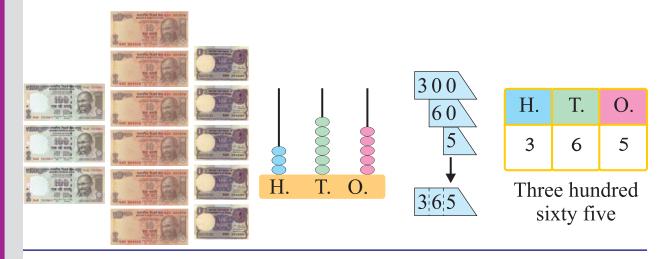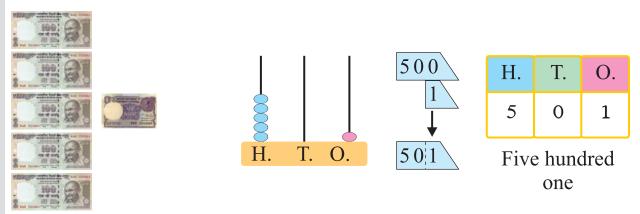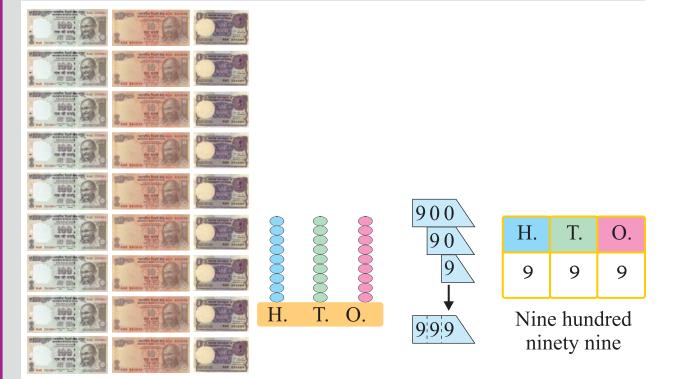
| H. | T. | O. |
|----|----|----|
| 2 | 4 | 6 |

Two hundred forty six

| H. | T. | O. |
|----|----|----|
| 3 | 6 | 5 |

300
60
5
365

Three hundred sixty five

| H. | T. | O. |
|----|----|----|
| 5 | 0 | 1 |

500
1
501

Five hundred one

| H. | T. | O. |
|----|----|----|
| 9 | 9 | 9 |

900
90
9
999

Nine hundred ninety nine
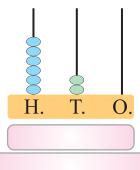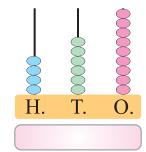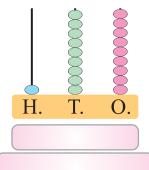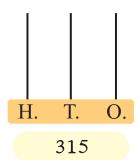
**1. According to the beads on abacus, write the numbers in figures and words :-**

| H. | T. | O. |
|----|----|----|

| H. | T. | O. |
|----|----|----|

| H. | T. | O. |
|----|----|----|
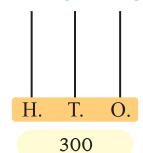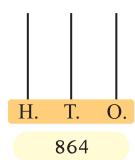
**2. Put the beads in abacus according to the given number :-**

| H. | T. | O. |
|----|----|----|
| 315 |

| H. | T. | O. |
|----|----|----|
| 300 |

| H. | T. | O. |
|----|----|----|
| 864 |

**3. Count the currency notes, write the number in figures and words :-**

=  [        ]  [                    ]

=  [        ]  [                    ]

=  [        ]  [                    ]

## 4. Write counting :-

100

110

120

130

140

150

160

170

180

190
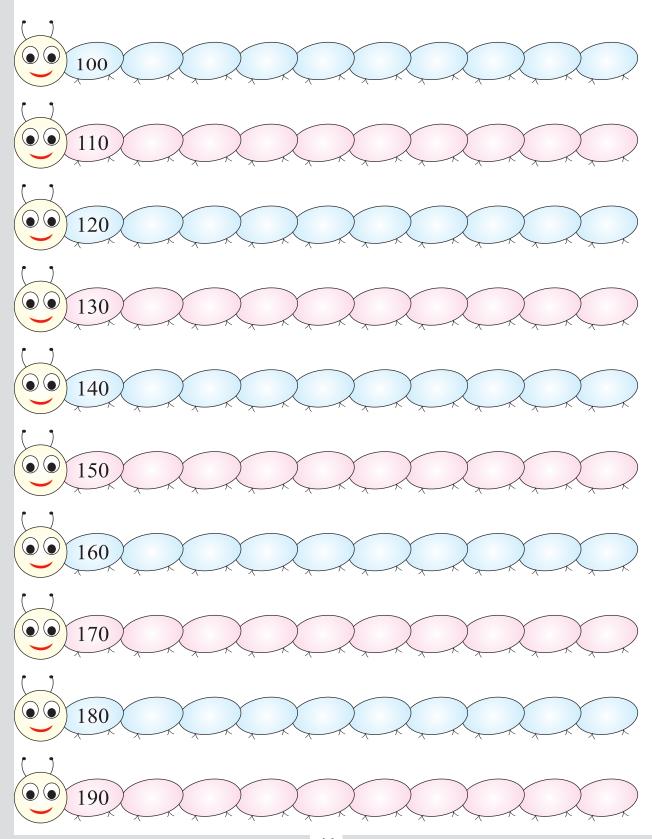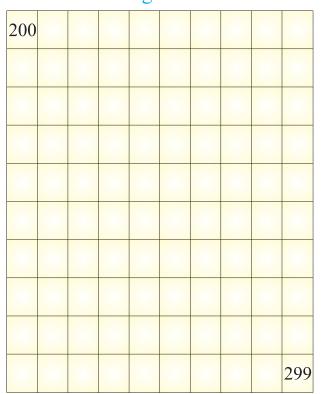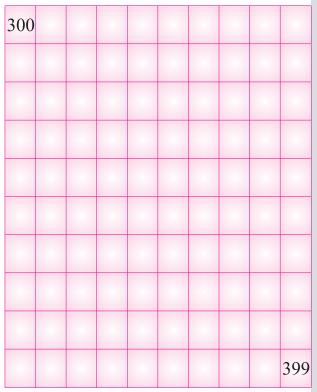
## Write counting from 200 to 299

| 200 | | | | | | | | | |
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| | | | | | | | | | 299 |
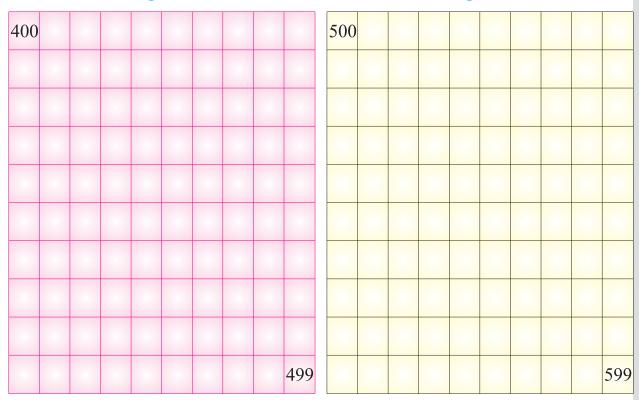
## Write counting from 300 to 399

| 300 | | | | | | | | | |
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| | | | | | | | | | 399 |
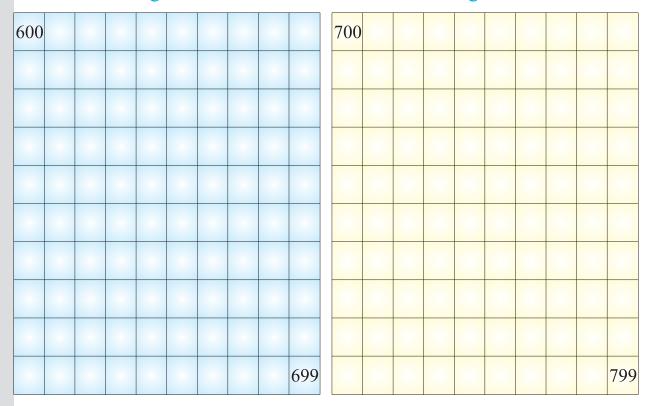
## Write counting from 400 to 499

| 400 | | | | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | 499 |

## Write counting from 500 to 599

| 500 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
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| | | | | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | 599 |
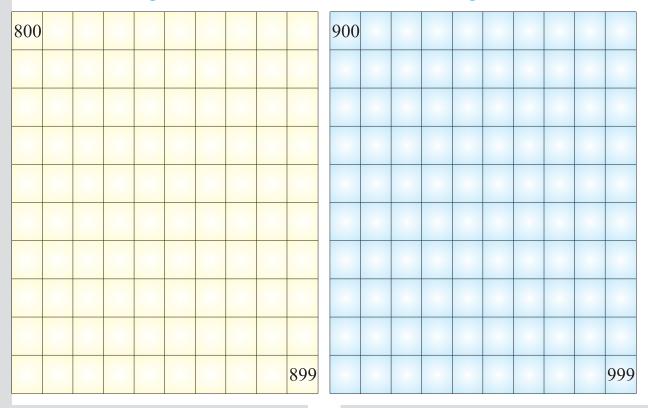
## Write counting from 600 to 699

| 600 | | | | | | | | | |
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| | | | | | | | | | 699 |

## Write counting from 700 to 799

| 700 | | | | | | | | | |
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| | | | | | | | | | 799 |
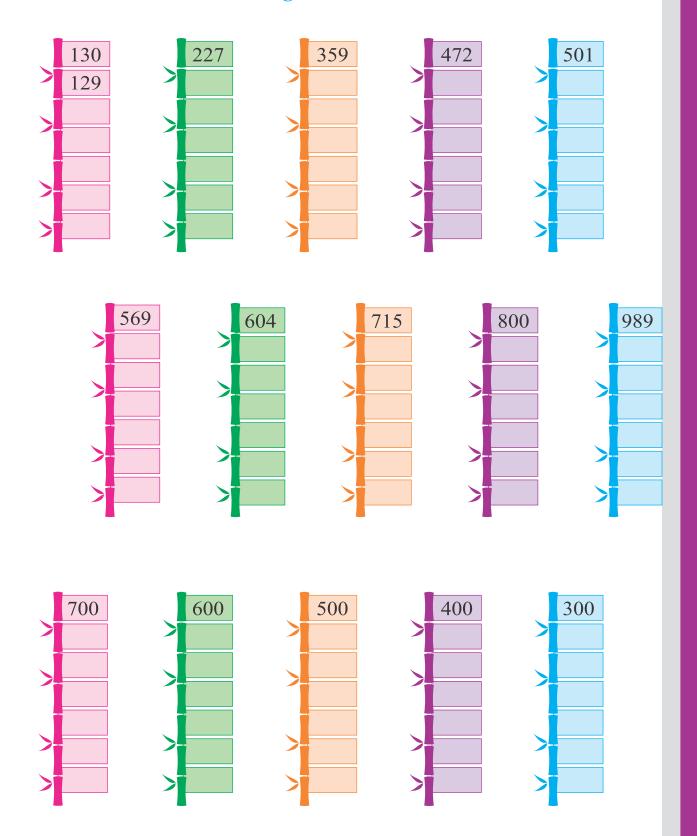
## Write counting from 800 to 899

| 800 | | | | | | | | | |
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| | | | | | | | | | 899 |

## Write counting from 900 to 999

| 900 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
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| | | | | | | | | | 999 |

## 5. Write backword counting :-

| | | | | |
|---|---|---|---|---|
| 130 | 227 | 359 | 472 | 501 |
| 129 | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| | | | | |
|---|---|---|---|---|
| 569 | 604 | 715 | 800 | 989 |
| | | | | |
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| | | | | |
| | | | | |

| | | | | |
|---|---|---|---|---|
| 700 | 600 | 500 | 400 | 300 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**6. Write the number just after the given number :-**

463 | 398 | 989

**7. Write the number just before the given number :-**

605 | 865 | 780

**8. Write the number in between the given numbers :-**

120 ___ 122 | 299 ___ 301 | 559 ___ 561

The number just before the given number is called its predecessor.

The number just after the given number is called its successor.
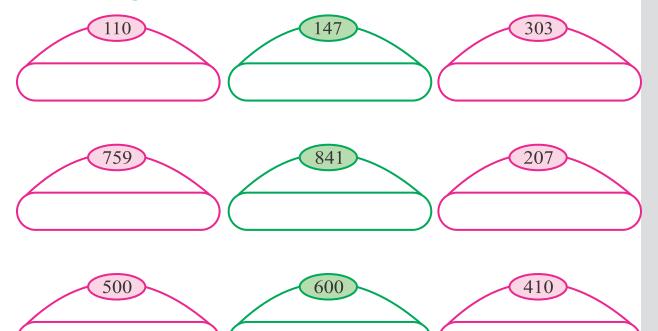
- By adding 1 to any number, we get its successor.
- By subtracting 1 from any number, we get its predecessor.
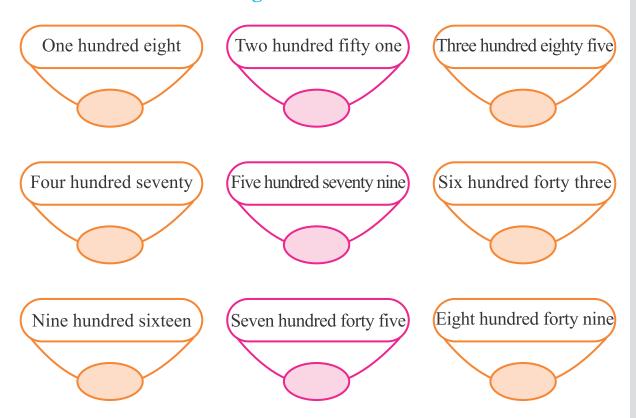
**In our daily life**

| Last year | Current year | Next year |
|-----------|--------------|-----------|
|           | 2018         |           |

## 9. Write the given numbers in words :-

| 110 | 147 | 303 |
| 759 | 841 | 207 |
| 500 | 600 | 410 |

## 10. Write the numbers in figures :-

| One hundred eight | Two hundred fifty one | Three hundred eighty five |
| Four hundred seventy | Five hundred seventy nine | Six hundred forty three |
| Nine hundred sixteen | Seven hundred forty five | Eight hundred forty nine |

**Practical Activity**

**Objective** : Teaching the place value to children by play way method.

**Material** : Maan cards of 0 to 9, 10, 20...90, 100, 200...900

**Procedure** :
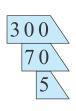
1. Say any 3-digits number and ask the children to form the number with maan cards.
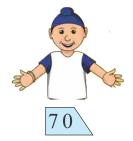
| 1 | 4 | 7 | 1 0 | 4 0 | 7 0 | 1 0 0 | 4 0 0 | 7 0 0 |
| 2 | 5 | 8 | 2 0 | 5 0 | 8 0 | 2 0 0 | 5 0 0 | 8 0 0 |
| 3 | 6 | 9 | 3 0 | 6 0 | 9 0 | 3 0 0 | 6 0 0 | 9 0 0 |

2. The child who forms the correct number first, then give the three cards of that number to the three children. Like 375.

3 0 0
7 0
5

3 0 0    7 0    5

3. To ask the place value of digit 7 from the number 375.   7 0
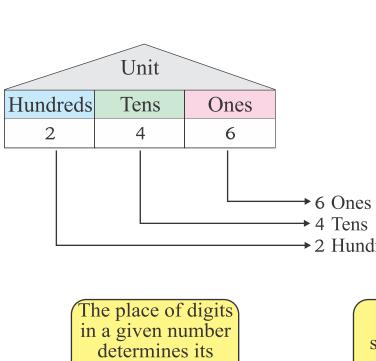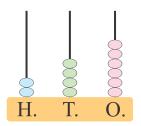
4. To ask the place value of digit 5 from the number 375.   5

5. To ask the place value of digit 3 from the number 375.   3 0 0

**Place value**

| Unit | | |
|---|---|---|
| Hundreds | Tens | Ones |
| 2 | 4 | 6 |

H.   T.   O.
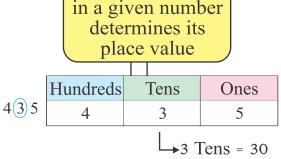
2 Hundreds 4 Tens 6 Ones

6 Ones      = 6 ×1      = 6
4 Tens      = 4 ×10     = 40
2 Hundreds = 2 ×100    = 200

The place of digits in a given number determines its place value

4 3 5

| Hundreds | Tens | Ones |
|---|---|---|
| 4 | 3 | 5 |

3 Tens = 30

Place value of same digits may be different

6 3 3
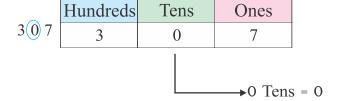
| Hundreds | Tens | Ones |
|---|---|---|
| 6 | 3 | 3 |

3 Ones = 3
3 Tens = 30

Moving from right to left, place value of digit is increased by 10 times

| Digit | Place value |
|---|---|
| 3 | 3 × 1 = 3 |
| 3 | 3 × 10 = 30 |
| 6 | 6 × 100 = 600 |

The place value of '0' is always 0

3 0 7

| Hundreds | Tens | Ones |
|---|---|---|
| 3 | 0 | 7 |

0 Tens = 0

**Find the place value of encircled digit in the number :**

④1 5 =

| Hundreds | Tens | Ones |
|----------|------|------|
| 4 | 1 | 5 |

4 Hundreds= 4 × 100 = 400

5 0⑦ =

| Hundreds | Tens | Ones |
|----------|------|------|
| | | |

6①0 =

| Hundreds | Tens | Ones |
|----------|------|------|
| | | |

70⓪ =

| Hundreds | Tens | Ones |
|----------|------|------|
| | | |

⑧4 7 =

| Hundreds | Tens | Ones |
|----------|------|------|
| | | |

## Practical activity

## Place value by play way method

**Objective** : In a number, the place value of digits change by changing their place.

**Material** : Dice, any 6 digits from 0 to 9, pencil/pen and place value chart.

**Procedure** : 1. The teacher will choose three children. All the three children will make place value chart on their note books.

| Hundreds | Tens | Ones | Hundreds | Tens | Ones | Hundreds | Tens | Ones |
|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  |

| Tarleen | | | Parneet | | | Rasleen | | |

2. First of all, Tarleen will role the dice, whichever digit will appear on the dice, three children will write that digit on their own place value chart by their choice. Suppose digit 6 has appeared on rolling the dice.

| Hundreds | Tens | Ones | Hundreds | Tens | Ones | Hundreds | Tens | Ones |
|---|---|---|---|---|---|---|---|---|
|  | 6 |  |  | 6 |  |  |  | 6 |

| Tarleen | | | Parneet | | | Rasleen | | |

3. Second time Parneet will roll the dice, whichever digit will appear on the dice, three children will write that digit on their own place value chart at the remaining two places by their choice. Suppose digit 4 has appeared on rolling the dice now.

| Hundreds | Tens | Ones | Hundreds | Tens | Ones | Hundreds | Tens | Ones |
|---|---|---|---|---|---|---|---|---|
|  | 6 | 4 |  | 6 | 4 | 4 |  | 6 |

| Tarleen | | | Parneet | | | Rasleen | | |

4. Third time, Rasleen will roll the dice, whichever digit will appear on the dice, three children will write that digit on their own place value chart at the remaining place, by their choice. Suppose digit 8 has appeared on rolling the dice now.

| Hundreds | Tens | Ones | Hundreds | Tens | Ones | Hundreds | Tens | Ones |
|---|---|---|---|---|---|---|---|---|
| 8 | 6 | 4 | 6 | 4 | 8 | 4 | 8 | 6 |

| Tarleen | | | Parneet | | | Rasleen | | |

5. Teacher will ask the three children to write the number formed at the place value chart on the blackboard. He will ask the children for the place value of 8.

Place value of 8 =

| 800 | 8 | 80 |
|---|---|---|
| Tarleen | Parneet | Rasleen |
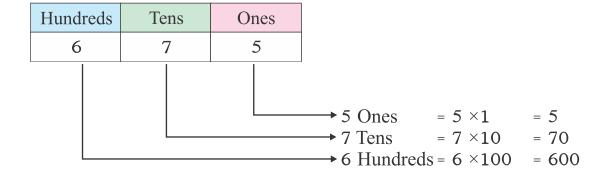
6. Teachers will ask all the children to form more numbers by using digits 8, 6 and 4 and then will ask the place value of 8, 6 and 4 from those numbers.

## Expanded form

To write any number in expanded form, the place value of every digit is determined. Then the number is expressed in the form of place values. For example, expanded form of 675 is as given below.

| Hundreds | Tens | Ones |
|----------|------|------|
| 6 | 7 | 5 |

5 Ones    = 5 ×1    = 5
7 Tens    = 7 ×10    = 70
6 Hundreds = 6 ×100    = 600

Expanded from of 675 =  6 Hundreds + 7 Tens + 5 Ones

Expanded from of 675 = 600 + 70 + 5

## Practical activity

Take the maan cards for 751.

1.    Ask one child to pick maan card for 751.
2.    If the number is correct, then show the maan card to all the children.
3 .    $751 = 700 + 50 + 1$

Method to learn

700
50
1

## Write in the expanded form :

| 149 | 1 Hundred | 4 Tens | 9 Ones |
| 270 | Hundreds | Tens | Ones |
| 369 | Hundreds | Tens | Ones |
| 402 | Hundreds | Tens | Ones |
| 788 | Hundreds | Tens | Ones |
| 818 | Hundreds | Tens | Ones |

## Write the expanded form of the following numbers :

413 = [400] + [10] + [3]          210 = [ ] + [ ] + [ ]

507 = [ ] + [ ] + [ ]             118 = [ ] + [ ] + [ ]

700 = [ ] + [ ] + [ ]             662 = [ ] + [ ] + [ ]

## Write the number from expanded form :

100 + 60 + 2 = [162]              100 + 40 = [ ]
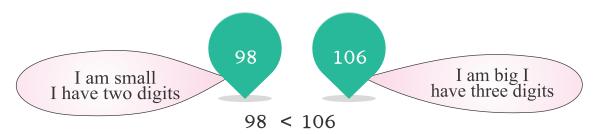
300 + 7 = [ ]                     800 + 60 = [ ]

400 + 10 = [ ]                    600 + 50 + 8 = [ ]

## Comparison of 3-digits numbers

98

106

I am small
I have two digits

I am big I
have three digits

98 < 106

**If the number of digits of one number is more than the number of digits of the second number, then the number having more digits is greater.**

383

421

I have 3 hundreds

I have 4 hundreds

383 < 421

| Hundreds | Tens | Ones |
|----------|------|------|
| 3 | 8 | 3 |

| Hundreds | Tens | Ones |
|----------|------|------|
| 4 | 2 | 1 |

**If two numbers have same number of digits then we will compare their hundreds place digits. The number having greater digit at hundreds place, is greater.**

575

515

I have 7 tens

I have one tens
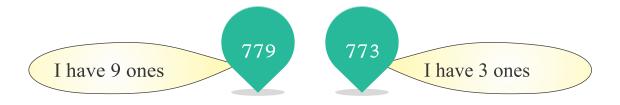
| Hundreds | Tens | Ones |
|----------|------|------|
| 5 | 7 | 5 |

| Hundreds | Tens | Ones |
|----------|------|------|
| 5 | 1 | 5 |

575 > 515

**If two numbers have same hundreds place digits then compare the tens place digits. The number having greater digit at tens place, is greater.**

I have 9 ones — 779    773 — I have 3 ones

| Hundreds | Tens | Ones |
|----------|------|------|
| 7 | 7 | 9 |

| Hundreds | Tens | Ones |
|----------|------|------|
| 7 | 7 | 3 |

779 > 773

**If two numbers have same digits at hundreds and tens place then compare the ones place digits. The number having greater digit at ones place, is greater.**

307    307

| Hundreds | Tens | Ones |
|----------|------|------|
| 3 | 0 | 7 |

| Hundreds | Tens | Ones |
|----------|------|------|
| 3 | 0 | 7 |

307 = 307

**If two numbers have same digits at hundreds, tens and ones place then both numbers are equal.**

**1. Fill the blank spaces with sign >, < or = :**

| 125 | | 115 | 829 | | 819 | 333 | | 44 |
|-----|--|-----|-----|--|-----|-----|--|----|
| 305 | | 315 | 440 | | 404 | 299 | | 399 |
| 205 | | 250 | 701 | | 710 | 390 | | 903 |
| 185 | | 185 | 500 | | 400 | 547 | | 547 |

**2. Write the smaller number in small fish and greater number in big fish :**
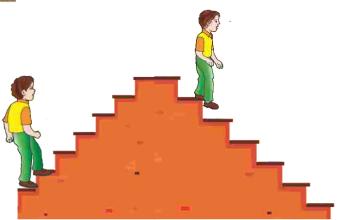
| 246, 393 | 160, 259 | 415, 610 |
|----------|----------|----------|
| 768, 566 | 908, 269 | 809, 980 |

**3. Write the smallest number in small fish and greatest number in big fish :**

| 700, 500, 900 | 480, 408, 840 | 271, 712, 721 |
|---------------|---------------|---------------|
| 629, 879, 389 | 584, 458, 845 | 999, 888, 777 |

**Ascending order/Descending order**

When the given numbers are written in order from the smallest to the greatest, then it is called ascending order

When the given numbers are written in order from the greatest to the smallest, then it is called descending order

- smallest to the greatest means ascending order

greatest to smallest means descending order

**Let's do**

## Write in the ascending order :
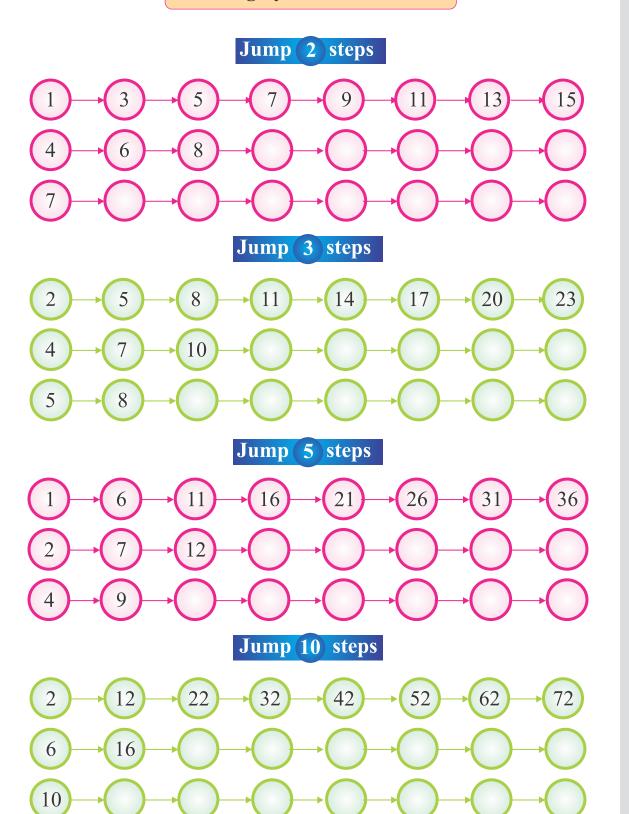
| 200, 900, 600, 400, 100 | 100 | 200 | 400 | 600 | 900 |
| --- | --- | --- | --- | --- | --- |

| 322, 475, 715, 805, 605, | | | | | |
| --- | --- | --- | --- | --- | --- |

| 169, 289, 359, 479, 539 | | | | | |
| --- | --- | --- | --- | --- | --- |

| 308, 820, 119, 426, 511 | | | | | |
| --- | --- | --- | --- | --- | --- |

**Write in the descending order :**

715, 810, 418, 751

306, 422, 86, 673

972, 949, 740, 704

865, 764, 467, 359

**Write in the ascending order ;**

575, 525, 700

...... ...... ......

331, 307, 340

...... ...... ......

403, 473, 440

...... ...... ......

721, 785, 716

...... ...... ......

202, 227, 222

...... ...... ......

175, 120, 150

...... ...... ......

**Write in the descending order :**

515, 545, 520

...... ...... ......

107, 109, 103

...... ...... ......

206, 260, 216

...... ...... ......

407, 418, 435

...... ...... ......

515, 218, 337

...... ...... ......

928, 375, 357

...... ...... ......

## Counting by different methods

### Jump 2 steps

| 1 | 3 | 5 | 7 | 9 | 11 | 13 | 15 |
|---|---|---|---|---|---|---|---|
| 4 | 6 | 8 |   |   |   |   |   |
| 7 |   |   |   |   |   |   |   |

### Jump 3 steps

| 2 | 5 | 8 | 11 | 14 | 17 | 20 | 23 |
|---|---|---|----|----|----|----|----|
| 4 | 7 | 10 |   |   |   |   |   |
| 5 | 8 |   |   |   |   |   |   |

### Jump 5 steps

| 1 | 6 | 11 | 16 | 21 | 26 | 31 | 36 |
|---|---|----|----|----|----|----|----|
| 2 | 7 | 12 |   |   |   |   |   |
| 4 | 9 |   |   |   |   |   |   |

### Jump 10 steps

| 2 | 12 | 22 | 32 | 42 | 52 | 62 | 72 |
|---|----|----|----|----|----|----|----|
| 6 | 16 |   |   |   |   |   |   |
| 10 |   |   |   |   |   |   |   |

## Practical activity

**Objective :** To make the greatest/smallest three digits number from the given digits.

**Material :** Flashcards from 0 to 9

**Procrdure :** 1. Spread the flashcards from 0 to 9 on the table

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

2. Call any three students from the class and ask them to choose one card each.

| 2 | 3 | 5 |

3. Now, ask the three students to make the smallest number by using three digits.

| 2 | 3 | 5 |

235

4. Ask them to make the biggest number with these digits.

| 5 | 3 | 2 |

532

5. Now ask them to make all numbers.

| 2 | 3 | 5 | | 2 | 5 | 3 | | 3 | 2 | 5 |
| 5 | 2 | 3 | | 3 | 5 | 2 | | 5 | 3 | 2 |

6. Teacher can ask them to write the numbers formed in step 5 in ascending order/descending order.

7. Teacher can ask them to write all the numbers in words.

### 📖 Tips for teacher

- If a Student chooses a flash card marked with '0' and to make three digits number he starts with '0', then teacher should explain him that it is a two digits number not a three digits number.
- Tell all the students that 3 digits greatest and smallest number can be made by repeating the three given digits.

1. Make the smallest 3-digits number.

    (i) 8, 4, 2         (ii) 7, 2, 5         (iii) 1, 0, 8

    (iv) 3, 8, 1        (v) 9, 6, 7        (vi) 7, 9, 8

2. Make the greatest 3-digits number.

    (i) 6, 0, 2         (ii) 4, 1, 3         (iii) 5, 9, 7

3. Make the greatest 3-digits number by repeating the digits.

    (i) 5, 1           (ii) 8, 2           (iii) 5, 8

4. Make the smallest 3-digits number by repeating the digits.

    (i) 2, 5           (ii) 7, 6           (iii) 7, 2

5. Encircle the correct answer.

| | | |
|---|---|---|
| 3 Hundreds + 2 Ones | 320 | 302 |
| 4 Hundreds + 3 Tens + 1 Ones | 431 | 413 |
| 2 Hundreds + 7 Tens | 207 | 270 |

6. Fill in the blanks

The number ............... is just before the smallest 2-digits number.

The number ............... is just before the greatest 2-digits number.

The number ............... is just after the smallest 3-digits number.

The number ............... is just after the greatest 3-digits number.

7. Form three digits number :

    That has 6 at tens place, has 2 more than 7 at ones
    place and has a digit between 4 and 6 at hundreds place.
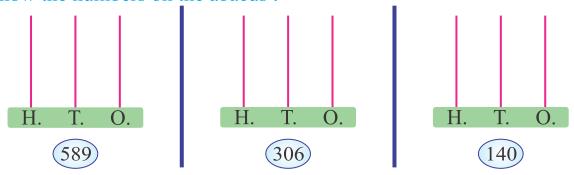
**1. Write the numbers in figures and words mentioned by currency notes :**

| | In figures | In words |
|---|---|---|
| = | | |
| = | | |

**2. Show the numbers on the abacus :**

| H. | T. | O. | | H. | T. | O. | | H. | T. | O. |
|---|---|---|---|---|---|---|---|---|---|---|

589          306          140

**3. Think, understand and complete the counting :**

100 → 200 → ◯ → ◯ → ◯

50 → 100 → ◯ → ◯ → ◯
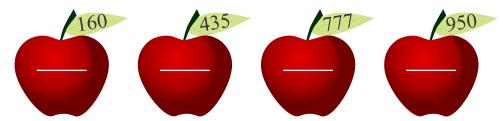
**4. Write the backward counting :**

◯ ← ◯ ← ◯ ← 308 ← 309

◯ ← ◯ ← ◯ ← ◯ ← 730

**5. Write the place value of the encircled digit :**

6⑨2

| Hundreds | Tens | Ones |
|---|---|---|
| | | |

7⑤0

| Hundreds | Tens | Ones |
|---|---|---|
| | | |

## 6. Write in words :

160 _____

435 _____

777 _____

950 _____

## 7. Write in figures :

Eight hundred nine ............

Five hundred sixty three ............

Six hundred eighty two ............

## 8. Write in the expanded form :

863 = _____ + _____ + _____

787 = _____ + _____ + _____

416 = ☐ + ☐ + ☐     393 = ☐ + ☐ + ☐

## 9. Form the numbers :

200 + 10 + 4 = ☐     600 + 90 + 7 = ☐
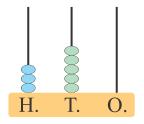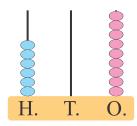
## 10. From the abacus write the numbers in figures and words :

H.   T.   O.

H.   T.   O.

In figures = ..........................

In words  = ..........................
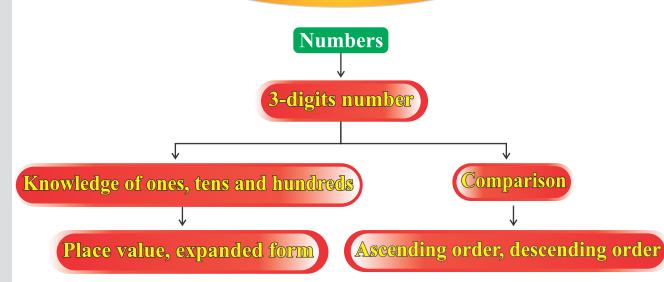
In figures = ..........................

In words  = ..........................

## 11. How many notes of Rs. 100, Rs. 10 and rupee 1 make a number 347 ?
## 12. How many notes of Rs. 100, Rs. 10 and rupee 1 make a number 865 ?

**Points to remember**

- The smallest 1-digit number   =   1
- The greatest 1-digit number   =   9
- The smallest 2-digits number   =   10
- The greatest 2-digits number   =   99
- The smallest 3-digits number   =   100
- Greatest 3-digits number   =   999

## We have learnt.

**Numbers**

↓

**3-digits number**

**Knowledge of ones, tens and hundreds**

↓

**Place value, expanded form**

**Comparison**

↓

**Ascending order, descending order**

# 2 Addition - Subtraction

## Objectives

- To solve the problems of addition and subtraction with the help of pictures and story method.
- To guess the sum or difference of the given digits.
- Formation of problems on facts of addition and subtraction.
- Addition and subtraction by vertical method with grouping and without grouping two numbers.
- Addition and subtraction with carrying, borowing using place value.

### Do you remember?

1. Add :

$3 + 6 =$
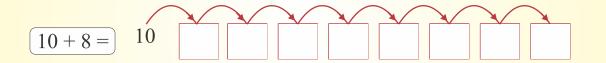
$8 + 6 =$

## 2. Addition by forward counting method :

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

$10 + 8 =$     10 □ □ □ □ □ □ □ □

$15 + 4 =$     15 □ □ □ □

$80 + 6$          $54 + 5$

## 3. Write the number in tens/ones :

42 = –––––– Tens    + ––––––– Ones
63 = –––––– Tens    + ––––––– Ones

## 4. Make the number

7 Tens + 4 Ones = ––––––––––
3 Tens + 0 Ones = ––––––––––
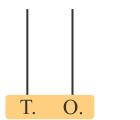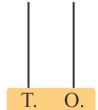
## 5. Addition by splitting one number :

42 + 26          70 + 19

## 6. Addition by splitting both numbers :

39 + 52
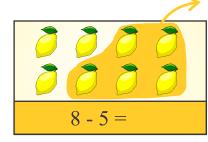
7. Add 35 + 23 by putting beads in the abacus :

T.　O.　　　　T.　O.
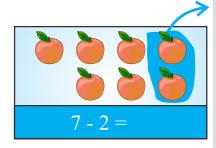
8. Subtract by omitting :

| 9 - 4 = | 8 - 5 = | 7 - 2 = |
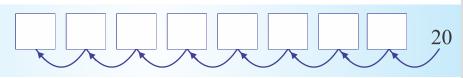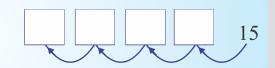
9. Subtract by backward counting :

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

20 - 8 = 　　　　　　　　　　　　　　　　　20

15 - 4 = 　　　　　　　　　　　　　　　　　15

76 - 4　　　　　52 - 2

10. Subtraction by splitting one number :

75 - 32

39

On monday, Avneet Singh, Sippi, Aslam and Sharishti were playing in the school playground. Sippi wanted to know that how many students are studying in 3rd class.

Aslam

Sippi, do you know how many students are there in 3rd class?

Yes Aslam, there are two sections of 3rd class. In section A there are 30 students and in section B there are 36 students.

Sippi

Avneet Singh

Then how many students are there in both sections?

Let's add them
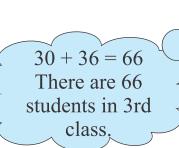
Sharishti

**Addition means adding all things together.**

| Tens | Ones |
|------|------|
| 3 | 0 |
| + 3 | 6 |
| 6 | 6 |

→ Sum

30 + 36 = 66
There are 66 students in 3rd class.

Sippi

**Let's do**

Sum of 2-digits numbers.

| Tens | Ones |
|------|------|
| 8 | 0 |
| + | 5 |
| | |

| Tens | Ones |
|------|------|
| 9 | 2 |
| + | 5 |
| | |

| Tens | Ones |
|------|------|
| 6 | 0 |
| + | 4 |
| | |

| Tens | Ones |
|------|------|
| 6 | 4 |
| + 2 | 2 |
| | |

## Different methods of addition
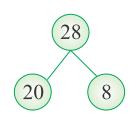
**By splitting one number :**

(i) $64 + 28$ 　$=$ 　$64 + \boxed{20 + 8}$

　　　　　　$=$ 　$\boxed{64 + 20} + 8$

　　　　　　$=$ 　$84 + 8$

　　　　　　$=$ 　$92$
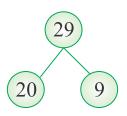
(ii) $125 + 29$ 　$=$ 　$125 + \boxed{20 + 9}$

　　　　　　$=$ 　$\boxed{125 + 20} + 9$
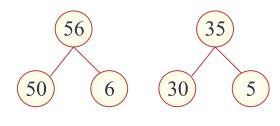
　　　　　　$=$ 　$145 + 9$

　　　　　　$=$ 　$154$

**By splitting both numbers :**

(i) $56 + 35$ 　$=$ 　$\boxed{50 + 6} + \boxed{30 + 5}$

　　　　　　$=$ 　$\boxed{50 + 30} + \boxed{6 + 5}$

　　　　　　$=$ 　$80 + 11 = 91$
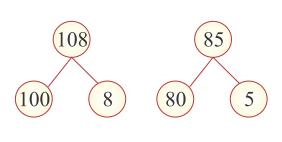
(ii) $108 + 85$ 　$=$ 　$\boxed{100 + 8} + \boxed{80 + 5}$

　　　　　　$=$ 　$\boxed{100 + 80} + \boxed{8 + 5}$
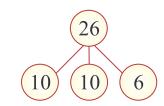
　　　　　　$=$ 　$180 + 13$

　　　　　　$=$ 　$193$
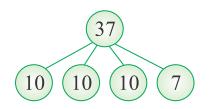
## By making pairs of 10's

(i) $67 + 26$
$$= \quad 67 + \boxed{10} + \boxed{10} + \boxed{6}$$
$$= \quad 67 \rightarrow 77 \rightarrow 87 \rightarrow 93$$
$$= \quad \boxed{67 + 26 = 93}$$

(ii) $148 + 37$
$$= \quad 148 + \boxed{10} + \boxed{10} + \boxed{10} + \boxed{7}$$
$$= \quad 148 \rightarrow 158 \rightarrow 168 \rightarrow 178 \rightarrow 185$$
$$= \quad \boxed{148 + 37 = 185}$$

**Let's do**

## Add by splitting one number

| (a) $46 + 18 =$ | (b) $48 + 29 =$ | (c) $40 + 20 =$ |
|---|---|---|
| (d) $76 + 40 =$ | (e) $92 + 18 =$ | (f) $33 + 44 =$ |
| (g) $104 + 30 =$ | (h) $316 + 22 =$ | (i) $526 + 47$ |

Add by splitting both numbers :
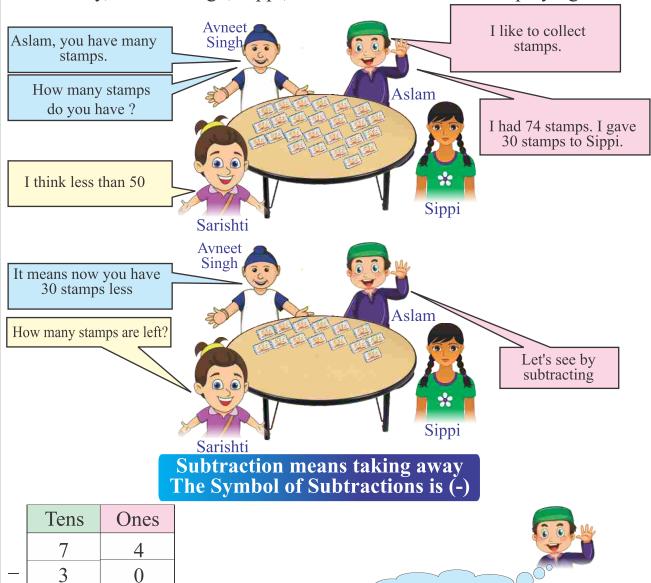
| | |
|---|---|
| 63 + 46 = | 90 + 40 = |
| 75 + 49 = | 76 + 52 = |
| 266 + 39 = | 317 + 69 = |

Add by counting, making pairs of 10's :

| | |
|---|---|
| 56 + 38 = | 90 + 50 = |
| 617 + 57 = | 217 + 35 = |

**Subtraction by picture and story method**

On Tuesday, Avneet Singh, Sippi, Aslam and Sharishti were playing.

Avneet Singh

Aslam, you have many stamps.

How many stamps do you have ?

I like to collect stamps.

Aslam

I had 74 stamps. I gave 30 stamps to Sippi.

I think less than 50

Sippi

Sarishti

Avneet Singh

It means now you have 30 stamps less

How many stamps are left?

Aslam

Let's see by subtracting

Sippi

Sarishti

**Subtraction means taking away
The Symbol of Subtractions is (-)**

| Tens | Ones |
|------|------|
| 7 | 4 |
| − 3 | 0 |
| 4 | 4 |

→ Difference

I have 44 stamps.

Aslam

## Find the difference of the given numbers

| Tens | Ones |
|------|------|
| 8 | 7 |
| − | 5 |
|  |  |

| Tens | Ones |
|------|------|
| 9 | 6 |
| − | 6 |
|  |  |

| Tens | Ones |
|------|------|
| 8 | 0 |
| − 6 | 0 |
|  |  |

| Tens | Ones |
|------|------|
| 7 | 2 |
| − 2 | 2 |
|  |  |

## Let's learn

**By making pairs of 10's :**

(i) 57 - 22  =  | 2 | | 10 | | 10 |   57

| 35 | ← | 37 | ← | 47 |   57

| 57 - 22 = 35 |
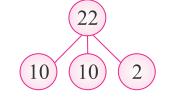


(ii) 63 - 46  =  | 6 | | 10 | | 10 | | 10 | | 10 | 63

| 17 | ← | 23 | ← | 33 | ← | 43 | ← | 53 | 63

| 63 - 46 = 17 |



**By Making any one of the given numbers as the multiple of 10 :**

(i) 56 - 37  =  | 56 + 3 | – | 37 + 3 |

=  | 59 | – | 40 |

=  19

(ii) 92 - 86  =  | 92 + 4 | – | 86 + 4 |

=  | 96 | – | 90 |

=  6

**By making any one of the given numbers as the multiple of 100 :**

(i) 427 – 192 =  | 427 + 8 | – | 192 + 8 |

=  | 435 | – | 200 |

=  235

(ii) 709 – 397 =  | 709 + 3 | – | 397 + 3 |

=  | 712 | – | 400 |

=  312

Subtract by making pairs of 10's :

| | | |
|---|---|---|
| 92 – 42 = | 78 – 40 = | 62 – 38 = |
| 175 – 100 = | 325 – 210 = | 478 – 150 = |

Subtract by making one of the given numbers as multiple of 10 :

| | | |
|---|---|---|
| 75 – 29 | 80 – 24 | 88 – 42 |
| 61 – 57 | 97–49 | 92 – 63 |

Subtract by making one of the given numbers as the multiple of 100 :

| | | |
|---|---|---|
| 709 – 395 | 587 – 195 | 591 – 123 |
| 488 – 190 | 893 – 410 | 776 – 592 |
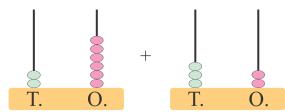
Rasleen had 26 beads. Parneet gave 32 more beads to Rasleen. How many beads do Rasleen have now ?

Objective : To develop the understading of addition.

Material : Abacus

Procedure : Put beads in two abacus as given (26 + 32).
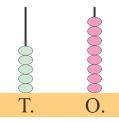


2. Add the beads of ones of both abacus and put them in one rod.

6 + 2 = 8

3. Add the beads of tens of both abacus and put them in one rod.

20 + 30 = 50



4. Answer = 5 Tens and 8 Ones  50 + 8 = 58

   Thus, Rasleen has 58 beads now.

Harmeet Singh has ₹ 142. Lakhveer Singh has ₹ 232. How many ₹ do they both have?
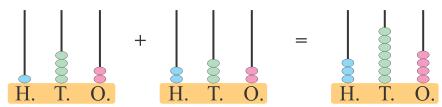
Procedure : 1. Put beads in two abacus as given (142 + 232).

2. Add the beads of ones of both abacus and put them in one rod

   2 + 2 = 4

3. Add the beads of tens of both abacus and put them in one rod

   40 + 30  = 70

4. Add the beads of hundreds of both abacus  100 + 200 = 300
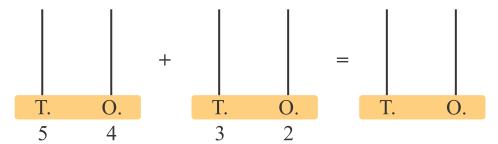


5. Answer = 3 Hundred, 7 Tens and 4 Ones  300 + 70 + 4 = 374

   Thus, both of them have ₹ 374 now.
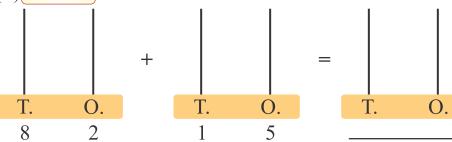
Add by putting beads in abacus :

(i) 54 + 32

| T. | O. | | T. | O. | | T. | O. |
|---|---|---|---|---|---|---|---|
| 5 | 4 | + | 3 | 2 | = | | |

(ii) 82 + 15

| T. | O. | | T. | O. | | T. | O. |
|---|---|---|---|---|---|---|---|
| 8 | 2 | + | 1 | 5 | = | | |

(iii) 715 + 222

| H. | T. | O. | | H. | T. | O. | | H. | T. | O. |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 1 | 5 | + | 2 | 2 | 2 | = | | | |

(iv) 310 + 406
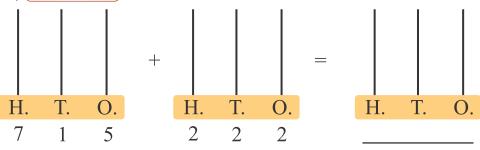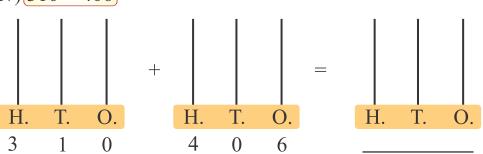
| H. | T. | O. | | H. | T. | O. | | H. | T. | O. |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | 0 | + | 4 | 0 | 6 | = | | | |
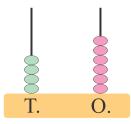
## Subtraction on abacus (without borrowing)

Supreet had 46 beads. She gave 22 beads to Manmeet. How many beads do supreet have now?
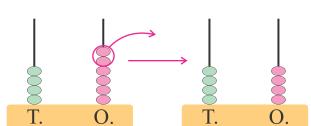
**Objective** : To develop the understanding of subtraction

**Material** : Abacus

**Procedure** : 1. Put beads in abacus according to the given greater number 46.



T.      O.
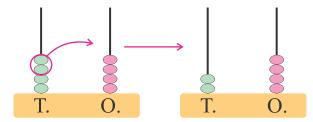
2. Here, in the greater number the digit 6 is at ones place and the number, which we have to subtract from it, has digit 2 at ones place. So we remove 2 beads from ones stick.

$$6 - 2 = 4$$



T.      O.          T.      O.

3. The digit at tens place is 4, which is greater than the tens digit 2 of the number 22. So we remove 2 beads from tens stick.



T.      O.          T.      O.

4. Write number : 2 Tens 4 Ones

$$= 20 + 4$$

Thus  $46 - 22 = 24$

Subtraction on abacus (without borrowing) :

(i) 95 − 40

 = 55

(ii) 375 − 242

 =

(iii) 60 − 20

 =

(iv) 824 − 312

 =

(v) 915 − 413

 =

## Addition of two numbers (without carrying)

23+51

Procedure

1. Add the ones 3+1 = 4

| T. | O. |
|----|----|
| 2  | 3  |
| 5  | 1  |
|    | 4  |

$\longrightarrow$

| T. | O. |
|----|----|
| 2  | 3  |
| 5  | 1  |
| 7  | 4  |

2. Add the tens 2+5=7

23+51= 74

## Addition of two numbers (with carrying)

75+25

Procedure

1. Add the Ones

5+5 = 10 Ones = 1 Tens + 0 Ones

| H. | T. | O. |
|----|----|----|
|    | ①  |    |
|    | 7  | 5  |
|  + | 2  | 5  |
|    |    | 0  |

Write the digit '0' under ones column and carry the digit '1' to tens column

2. Add the Tens

7+2+1 = 10 Tens = 1 Hundred + 0 Tens

| H. | T. | O. |
|----|----|----|
|    | ①  |    |
|    | 7  | 5  |
|  + | 2  | 5  |
|    | 0  | 0  |

Write the digit '0' under Tens column and carry the digit '1' to Hundred column

3. Add the Hundreds

75 + 25 = 100

| H. | T. | O. |
|----|----|----|
| ①  | ①  |    |
|    | 7  | 5  |
|  + | 2  | 5  |
| 1  | 0  | 0  |

## Addition of 2–digits numbers (without carrying)

|   | 3 | 0 |
|---|---|---|
| + | 4 | 0 |
|   | 7 | 0 |

|   | 5 | 0 |
|---|---|---|
| + | 3 | 0 |
|   |   |   |

|   | 6 | 0 |
|---|---|---|
| + | 2 | 0 |
|   |   |   |

|   | 1 | 0 |
|---|---|---|
| + | 3 | 0 |
|   |   |   |

|   | 3 | 7 |
|---|---|---|
| + | 2 | 0 |
|   |   |   |

|   | 5 | 9 |
|---|---|---|
| + | 4 | 0 |
|   |   |   |

|   | 7 | 0 |
|---|---|---|
| + | 2 | 9 |
|   |   |   |

|   | 4 | 0 |
|---|---|---|
| + | 4 | 6 |
|   |   |   |

|   | 5 | 2 |
|---|---|---|
| + | 3 | 3 |
|   |   |   |

|   | 4 | 6 |
|---|---|---|
| + | 2 | 3 |
|   |   |   |

|   | 6 | 2 |
|---|---|---|
| + | 1 | 7 |
|   |   |   |

|   | 7 | 4 |
|---|---|---|
| + |   | 4 |
|   |   |   |

## Addition of 2–digits numbers (with carrying)

|   | 3 | 7 |
|---|---|---|
| + | 4 | 6 |
|   |   |   |

|   | 4 | 8 |
|---|---|---|
| + | 3 | 6 |
|   |   |   |

|   | 7 | 5 |
|---|---|---|
| + | 1 | 8 |
|   |   |   |

|   | 9 | 4 |
|---|---|---|
| + |   | 8 |
|   |   |   |

|   | 8 | 0 |
|---|---|---|
| + | 3 | 0 |
|   |   |   |

|   | 7 | 0 |
|---|---|---|
| + | 3 | 2 |
|   |   |   |

|   | 5 | 4 |
|---|---|---|
| + | 8 | 0 |
|   |   |   |

|   | 9 | 2 |
|---|---|---|
| + | 7 | 0 |
|   |   |   |

|   | 7 | 0 |
|---|---|---|
| + | 5 | 0 |
|   |   |   |

|   | 8 | 7 |
|---|---|---|
| + | 2 | 4 |
|   |   |   |

|   | 6 | 6 |
|---|---|---|
| + | 5 | 9 |
|   |   |   |

|   | 7 | 4 |
|---|---|---|
| + | 8 | 8 |
|   |   |   |

## Subtractions of 2-digits numbers (Without borrowing)

75−23

Procedure

1. Subtract the ones 5−3 = 2

| T. | O. |
|----|----|
| 7  | 5  |
| − 2 | 3 |
|    | 2  |

| T. | O. |
|----|----|
| 7  | 5  |
| − 2 | 3 |
| 5  | 2  |

2. Subtract the tens 7−2 = 5

   75−23 = 52

## Subtractions of 2-digits numbers (With borrowing)

62−39

Procedure

1. Subtract the ones

   Since 9 > 2, so we cannot subtract 9 from 2. Thus, we did grouping as given below for one tens from the column of tens.
   1 Tens + 2 ones = 10 ones + 2 ones = 12 ones
   Now we can subtract 9 from 12.

   $$12 - 9 = 3$$

2. Subtract the tens :

   Since 1 tens is taken as 10 ones So, in tens column there are 5 tens remaining after borrowing one tens from 6 tens.
   Now subtract the tens

   50−30 = 20

   Thus 62−39 = 23

   For subtraction column method we can borrow from the left column, if needed.

## Subtraction of 2–digits numbers (without borrowing)

|   |   |   |
|---|---|---|
|   | 4 | 8 |
| − | 3 | 6 |
|   | 1 | 2 |

|   |   |   |
|---|---|---|
|   | 7 | 0 |
| − | 4 | 0 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 6 | 0 |
| − | 2 | 0 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 9 | 0 |
| − | 7 | 0 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 2 | 9 |
| − | 1 | 0 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 3 | 8 |
| − | 2 | 0 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 4 | 7 |
| − | 3 | 0 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 9 | 4 |
| − | 5 | 0 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 7 | 5 |
| − | 3 | 2 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 6 | 7 |
| − | 4 | 4 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 9 | 2 |
| − | 4 | 2 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 8 | 6 |
| − | 5 | 6 |
|   |   |   |

## Subtraction of 2–digits numbers (with borrowing)

|   | ⑤ | ⑮ |
|---|---|---|
|   | 6 | 5 |
| − | 4 | 7 |
|   | 1 | 8 |

|   |   |   |
|---|---|---|
|   | 7 | 2 |
| − | 5 | 8 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 8 | 5 |
| − | 6 | 9 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 9 | 6 |
| − | 5 | 8 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 3 | 0 |
| − | 1 | 8 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 4 | 0 |
| − | 3 | 8 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 7 | 0 |
| − | 5 | 2 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 9 | 0 |
| − | 6 | 5 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 5 | 2 |
| − | 2 | 6 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 6 | 4 |
| − | 3 | 7 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 7 | 8 |
| − | 4 | 9 |
|   |   |   |

|   |   |   |
|---|---|---|
|   | 9 | 1 |
| − | 8 | 7 |
|   |   |   |
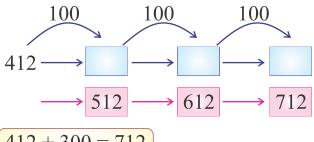
**Addition of 3–digits numbers (without carrying)**

(i) Addition by splitting in groups of 100's :

412 + 300



100    100    100

412 →  □  →  □  →  □

→ 512 → 612 → 712

412 + 300 = 712

| | H. | T. | O. |
|---|---|---|---|
| | 4 | 1 | 2 |
| + | 3 | 0 | 0 |
| | 7 | 1 | 2 |

(ii) Addition by place value

412 + 300

| | Hundred | Ten | One |
|---|---|---|---|
| + | | | |

(iii) Addition by splitting one number :

412 + 300  =  400 +12 + 300

          =  400 + 300 + 12

          =  700 + 12

400   12   =  712

400 + 300 = 700
700 + 12 = 712

| H. | T. | O. |
|---|---|---|
| 3 | 2 | 5 |
| 1 | 4 | 1 |
|  |  |  |

+

→

| H. | T. | O. |
|---|---|---|
| 3 | 2 | 5 |
| 1 | 4 | 1 |
|  |  | 6 |

+

→

| H. | T. | O. |
|---|---|---|
| 3 | 2 | 5 |
| 1 | 4 | 1 |
|  | 6 | 6 |

+

→

| H. | T. | O. |
|---|---|---|
| 3 | 2 | 5 |
| 1 | 4 | 1 |
| 4 | 6 | 6 |

+

We can also add the three numbers in the same way. For example

| H. | T. | O. |
|---|---|---|
| 3 | 0 | 2 |
| 4 | 1 | 4 |
|  | 4 | 3 |
| 7 | 5 | 9 |

+

| H. | T. | O. |
|---|---|---|
| 3 | 0 | 0 |
| 4 | 0 | 0 |
| 1 | 0 | 0 |
| 8 | 0 | 0 |

+

| H. | T. | O. |
|---|---|---|
| 2 | 1 | 0 |
| 1 | 7 | 0 |
| 3 | 0 | 0 |
| 6 | 8 | 0 |

+

Find the sum :

| 4 | 1 | 0 |
|---|---|---|
| 3 | 0 | 0 |
|  |  |  |

+

| 5 | 0 | 0 |
|---|---|---|
| 2 | 0 | 0 |
|  |  |  |

+

| 3 | 8 | 2 |
|---|---|---|
| 2 | 1 | 0 |
|  |  |  |

+

| 5 | 7 | 5 |
|---|---|---|
| 4 | 0 | 0 |
|  |  |  |

+

| 4 | 3 | 0 |
|---|---|---|
| 2 | 0 | 0 |
|  | 6 | 0 |
|  |  |  |

+
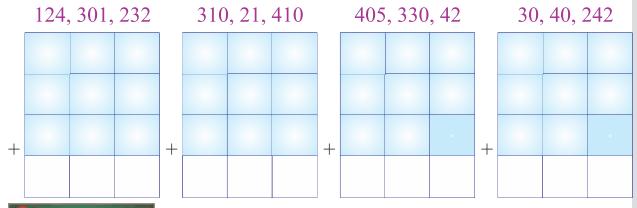
| 2 | 2 | 2 |
|---|---|---|
| 3 | 0 | 6 |
| 1 | 4 | 0 |
|  |  |  |

+

| 2 | 5 | 7 |
|---|---|---|
| 1 | 0 | 0 |
|  | 4 | 0 |
|  |  |  |

+

| 5 | 5 | 9 |
|---|---|---|
| 4 | 3 | 0 |
|  | 1 | 0 |
|  |  |  |

+

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
475 + 403     362 + 307     836 + 112     200 + 300

| 4 | 7 | 5 | | 3 | 6 | 2 | | 8 | 3 | 6 | | 2 | 0 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 0 | 3 | | 3 | 0 | 7 | | 1 | 1 | 2 | | 3 | 0 | 0 |
| + | | | | + | | | | + | | | | + | | |
| | | | | | | | | | | | | | | |

### Find the sum :

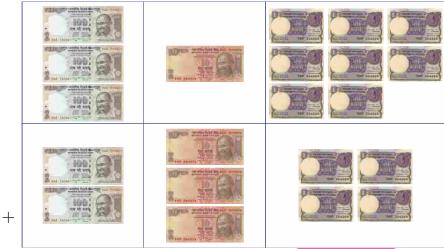124, 301, 232     310, 21, 410     405, 330, 42     30, 40, 242

**Let's learn**

**Addition of 3–digits number (with carrying)**

Carrying in ones only      318 + 234

1. To count the currency notes of Rs. 100, Rs. 10 and rupee 1 according to the given number.



2. To count the currency notes of rupee 1 : 8 + 4 = 12
   Since these are more than 10. So, count the notes after adding the note of Rs. 10 in notes of tens. In the remaining notes of ones, 2 notes of rupee 1 will be left.

3. To count the currency notes of Rs. 10



$$10 + 30 + 10 = 50$$

4. To count the currency notes of Rs. 100

$$300 + 200 = 500$$

5. To count all the notes together

$$500 + 50 + 2 = 552$$

We can also solve this question as given below :

Carrying in ones only:

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | 8 | **First step** | 3 | ①1 | 8 | **Second step** | 3 | ①1 | 8 | **Third step** | 3 | ①1 | 8 |
| + 2 | 3 | 4 | | + 2 | 3 | 4 | | + 2 | 3 | 4 | | + 2 | 3 | 4 |
| | | | | | | 2 | | | 5 | 2 | | 5 | 5 | 2 |

Carrying in tens only:

| 5 | 7 | 2 | **First step** | 5 | 7 | 2 | **Second step** | ①5 | 7 | 2 | **Third step** | ①5 | 7 | 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + 2 | 6 | 5 | | + 2 | 6 | 5 | | + 2 | 6 | 5 | | + 2 | 6 | 5 |
| | | | | | | 7 | | | 3 | 7 | | 8 | 3 | 7 |

Carrying in ones and tens only:

| 4 | 8 | 8 | **First step** | 4 | ①8 | 8 | **Second step** | ①4 | ①8 | 8 | **Third step** | ①4 | ①8 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| + 3 | 4 | 5 | | + 3 | 4 | 5 | | + 3 | 4 | 5 | | + 3 | 4 | 5 |
| | | | | | | 3 | | | 3 | 3 | | 8 | 3 | 3 |

Find the sum :

| 2 | 0 | 8 |
|---|---|---|
| 3 | 1 | 6 |
|   |   |   |
+

| 4 | 1 | 5 |
|---|---|---|
| 1 | 0 | 6 |
|   |   |   |
+

| 2 | 7 | 4 |
|---|---|---|
| 1 | 7 | 6 |
|   |   |   |
+

| 5 | 7 | 6 |
|---|---|---|
| 3 | 8 | 9 |
|   |   |   |
+

| 5 | 6 | 0 |
|---|---|---|
| 2 | 8 | 8 |
|   |   |   |
+

| 6 | 7 | 0 |
|---|---|---|
| 2 | 5 | 4 |
|   |   |   |
+

| 8 | 7 | 0 |
|---|---|---|
| 1 | 5 | 0 |
|   |   |   |
+

| 7 | 7 | 7 |
|---|---|---|
| 1 | 4 | 8 |
|   |   |   |
+

| 6 | 4 | 0 |
|---|---|---|
| 2 | 0 | 7 |
| 1 | 1 | 0 |
|   |   |   |
+

| 4 | 9 | 0 |
|---|---|---|
| 2 | 1 | 6 |
| 1 | 6 | 5 |
|   |   |   |
+

| 3 | 7 | 3 |
|---|---|---|
| 2 | 1 | 2 |
| 2 | 1 | 8 |
|   |   |   |
+

| 6 | 1 | 8 |
|---|---|---|
| 1 | 9 | 2 |
| 1 | 0 | 4 |
|   |   |   |
+

| 3 | 0 | 0 |
|---|---|---|
| 2 | 0 | 0 |
| 4 | 0 | 0 |
|   |   |   |
+

| 4 | 2 | 8 |
|---|---|---|
| 2 | 3 | 9 |
| 2 | 4 | 0 |
|   |   |   |
+

| 5 | 0 | 6 |
|---|---|---|
| 3 | 0 | 7 |
| 1 | 6 | 3 |
|   |   |   |
+

| 3 | 9 | 1 |
|---|---|---|
| 2 | 0 | 2 |
| 1 | 0 | 4 |
|   |   |   |
+

| 2 | 2 | 1 |
|---|---|---|
| 2 | 7 | 6 |
| 3 | 6 | 1 |
|   |   |   |
+

| 2 | 5 | 6 |
|---|---|---|
| 2 | 4 | 5 |
| 3 | 7 | 2 |
|   |   |   |
+
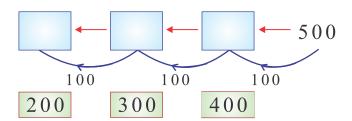
| 7 | 5 | 9 |
|---|---|---|
| 2 | 3 | 1 |
| 1 | 2 | 3 |
|   |   |   |
+

| 2 | 9 | 9 |
|---|---|---|
| 2 | 6 | 6 |
| 2 | 2 | 2 |
|   |   |   |
+
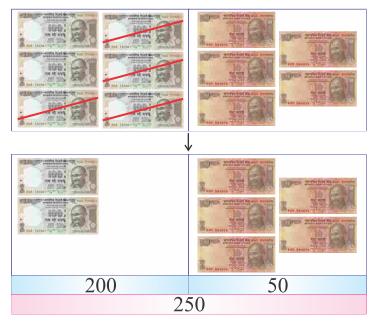
## Subtraction of 3–digits numbers

(i) To subtract by splitting in group of 100's :

500-300



$$500-300 = 200$$

(ii) Subtraction by their place value :

650-400



|   | 6 | 5 | 0 |
|---|---|---|---|
| - | 4 | 0 | 0 |
|   | 2 | 5 | 0 |

200     50

250

$$650-400 = 250$$

(iii) Find the difference :

424-300

| 4 | 2 | 4 |
|---|---|---|
| - 3 | 0 | 0 |
|   |   |   |

First step

| 4 | 2 | 4 |
|---|---|---|
| - 3 | 0 | 0 |
|   |   | 4 |

Second step

| 4 | 2 | 4 |
|---|---|---|
| - 3 | 0 | 0 |
|   | 2 | 4 |

Third step

| 4 | 2 | 4 |
|---|---|---|
| - 3 | 0 | 0 |
| 1 | 2 | 4 |

$$346-40 \qquad 792-62 \qquad 840-30$$
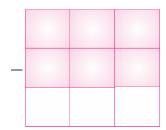
| 3 | 4 | 6 |
|---|---|---|
|   | 4 | 0 |
| 3 | 0 | 6 |

| 7 | 9 | 2 |
|---|---|---|
|   | 6 | 2 |
| 7 | 3 | 0 |

| 8 | 4 | 0 |
|---|---|---|
|   | 3 | 0 |
| 8 | 1 | 0 |

**Let's do**
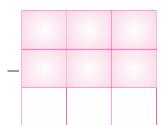
Solve the following sums :

| 5 | 7 | 0 |
|---|---|---|
| − |   | 7 | 0 |
|   |   |   |

| 2 | 4 | 0 |
|---|---|---|
| − |   | 3 | 0 |
|   |   |   |

| 4 | 4 | 5 |
|---|---|---|
| − |   | 3 | 4 |
|   |   |   |

| 8 | 5 | 7 |
|---|---|---|
| − | 2 | 2 | 3 |
|   |   |   |

| 9 | 4 | 2 |
|---|---|---|
| − | 5 | 4 | 0 |
|   |   |   |

| 4 | 7 | 5 |
|---|---|---|
| − |   | 3 | 2 |
|   |   |   |

Find the difference :
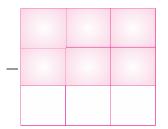
(i) 688 and 243     (ii) 375 and 140     (iii) 482 and 212

Subtract by splitting any one number in 100's :

700 - 500     880 - 400     360 - 200

Subtract using place value :

| 650 - 300 | 435 - 200 | 350 - 100 |

Find the difference :

| 5 | 3 | 2 |
|---|---|---|
| – 3 | 0 | 0 |
|   |   |   |

| 4 | 0 | 0 |
|---|---|---|
| – 3 | 0 | 0 |
|   |   |   |

| 6 | 1 | 8 |
|---|---|---|
| – 4 | 0 | 0 |
|   |   |   |

Let's learn

## Properties of addition :

1. By adding 1 to a given number, we get the successor of that number.

$$400 + 1 = 401 \qquad 375 + 1 = 376$$

2. By adding 0 to a given number, the value of that number does not change.

$$136 + 0 = 136 \qquad 256 + 0 = 256$$

3. By changing the order of the terms of addition, sum of the terms remains the same.

$$375 + 64 = 64 + 375 \qquad 200 + 300 = 300 + 200$$

## Properties of subtraction :

1. By subtracting 1 from a given number, we get the predecessor of that number.

$$847 - 1 = 846 \qquad 736 - 1 = 735$$

2. By subtracting 0 from a given number, the value of that number does not change.

$$125 - 0 = 125 \qquad 147 - 0 = 147$$

3. By subtracting a number from itself gives 0 as the difference.

$$375 - 375 = 0 \qquad 215 - 215 = 0$$

1. Fill in the blanks :

(i)   310 + 25 = _____ + 310

(ii)   0 + _____ = 475

(iii)  _____ + 1  = 918

(iv)  347 – _____ = 346

2. Tick ✓ the correct answer :

(i)   425 + 25 = 400  ☐

(ii)   310 + 0 = 310  ☐

(iii)  743 + 1  = 744  ☐

(vi)  540 – 0 = 541  ☐

## Let's learn

Add :

140, 222, 320

| | 1 | 4 | 0 |
|---|---|---|---|
| | 2 | 2 | 2 |
| + | 3 | 2 | 0 |
| | 6 | 8 | 2 |

140 + 222 + 320 = 682

204, 220, 36

| | 2 | 0 | 4 |
|---|---|---|---|
| | 2 | 2 | 0 |
| + | | 3 | 6 |
| | 4 | 6 | 0 |
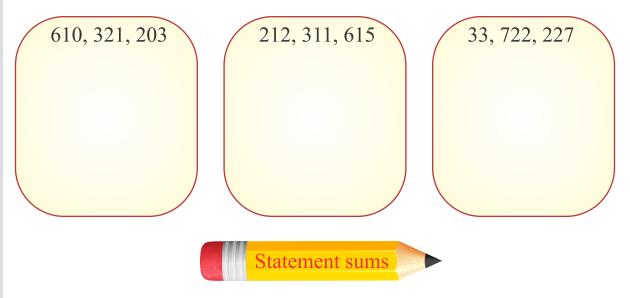
204 + 220 + 36 = 460

310, 21, 410

| | 3 | 1 | 0 |
|---|---|---|---|
| | | 2 | 1 |
| + | 4 | 1 | 0 |
| | 7 | 4 | 1 |

310 + 21 + 410 = 741

Let's do

Find the sum :

124, 301, 232

405, 330, 42

| 610, 321, 203 | 212, 311, 615 | 33, 722, 227 |
|---|---|---|
|  |  |  |

**Statement sums**

1. Sukhdev bought a toy car for ₹ 120 and a flower pot for ₹ 135 from a fare. How much money did Sukhdev spend in all ?

2. There are 140 pages in Pooja's Punjabi book and 156 in her Mathematics book. How many total pages are there in both books?

3. Tarleen bought a bag for ₹ 255 for herself and a watch for ₹ 368 for her brother. How much money did she spend?

4. There are 164 guavas in one basket and 128 guavas in another basket. How many guavas are there in the two baskets?

5. One box contains 350 marbles. If 268 marbles are taken out. How many marbles are left in the box?

6. A farmer has 763 cows and second farmer has 459 cows. How many cows do they have in total ?

7. In a garden, there were 215 mango trees. If 169 more mango trees were planted in the garden, then how many mango trees are there in the garden?

8. There are 368 boys and 327 girls in a school. How many total students are there in the school?

9. Tejas had ₹ 563 in his piggy bank. His father gave him ₹ 278 more. How many rupees Tejas has now?

10. There were 375 toffees in a toffee box. If 167 more toffees were put in that box. How many toffees were there in the box now?

11. Parneet has ₹ 680. He bought a bag for ₹ 575. How many rupees is he left with ?

12. Sukhdev's school is 824 walking steps far from his house. If he has covered 379 steps. How many more steps he has to walk to reach the school?

1. Fill in the blanks :

(i) 62 + 0 = ____

(ii) 115 + 1 = ____

(iii) ____ + 0 = 348

(iv) 518 + ____ = 519

(v) 410 + 35 = ____ + 410

2. Tick ✓ the correct answer :

(i) 45 + 30 =   75 ☐  65 ☐  85 ☐

(ii) 82 – 32 =   40 ☐  50 ☐  60 ☐

(iii) 90 – 50 =   40 ☐  60 ☐  30 ☐

3. Add :

> 4 Hundreds + 2 Tens + 3 Ones and 3 Hundred + 2 Ones

4. Add by splitting the number :

(i) 55 + 42

(ii) 416 + 110

5. Subtract by splitting the number :

(i) 78 – 20

(ii) 525 – 225

6. Put the sign of (+) or (-) :

(i) 400 ......... 200 = 600

(ii) 700 ......... 300 = 400

(iii) 210 ......... 210 = 0

(iv) 515 ......... 1 = 514

7. 295 passengers boarded a train from Sahibzada Ajit Singh Nagar. 190 more passengers boarded the train at the station Morinda. How many total passengers are there in the train now?

8. At Fatehgarh Sahib railway station, out of total of 485 passengers, 210 got down from the train. How many passengers are left in the train now?

**Points to remenber**

- If we add or subtract '0' to any number, it remains the same.
- Compare smaller and greater number before subtraction.

**We have learnt**

**Addition/subtraction of 3–digits numbers**

**By grouping**

**Without grouping**

**Properties of addition/subtraction**

**Story sums**

**Addition of 2 and 3 numbers in 3–digits**

**Subtraction of 2 and 3 numbers in 3–digits**
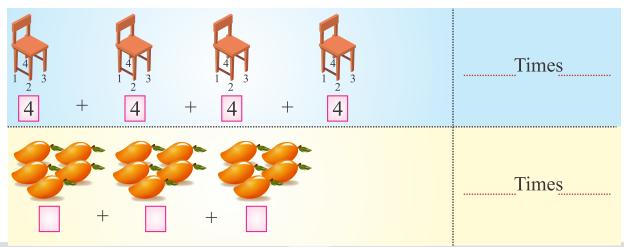
# 3 Multiplication

## Objectives

- Step counting by play way method.
- To develop the understanding of repeated addition in multiplication.
- From groups to multiplication.
- To develop the understanding of the multiplication table of 2, 3, 5, and 10.
- To develop the understanding of multiplication of 1-digit, 2-digits numbers by splitting 1-digit and 2-digits numbers.
- Multiplication of 3-digits numbers with 1-digit numbers.

**Do you remember?**

**Fill in the blanks :**

4 + 4 + 4 + 4 ............ Times
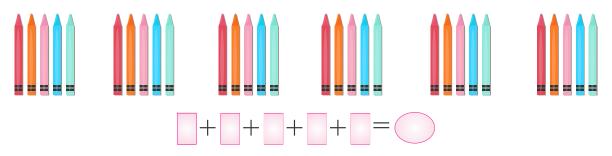
[ ] + [ ] + [ ] ............ Times

Avneet Singh has three toy cars. One car has 4 wheels. How many wheels are there in the three cars together?



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

If there are 6 children in a class and each child has 5 pencils. How many pencils do all the children have ?



$$\boxed{\phantom{0}} + \boxed{\phantom{0}} + \boxed{\phantom{0}} + \boxed{\phantom{0}} + \boxed{\phantom{0}} = \bigcirc$$

Write repeated addition in the form of multiplication :

| | |
|---|---|
| 2 + 2 + 2 + 2 + 2 | 5 × 2 |
| 3 + 3 + 3 | — × 3 |
| 4 + 4 + 4 + 4 | — × — |
| 5 + 5 + 5 + 5 + 5 + 5 | — × — |
| 6 + 6 + 6 + 6 + 6 | — × — |
| 7 + 7 + 7 + 7 + 7 + 7 | — × — |
| 8 + 8 + 8 + 8 | — × — |
| 9 + 9 + 9 + 9 + 9 + 9 + 9 | — × — |
| 8 + 8 + 8 + 8 + 8 + 8 | — × — |
| 7 + 7 + 7 + 7 + 7 | — × — |

Write multiplication as repeated addition :

| | |
|---|---|
| 2 × 8 = 16 | |
| 3 × 7 = 21 | |
| 5 × 5 = 25 | |
| 4 × 6 = 24 | |
| 7 × 2 = 14 | |
| 9 × 5 = 45 | |

**Activity**



Let's jump 2 steps today

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
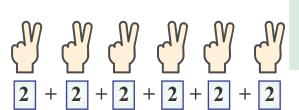
**Tips for teacher**
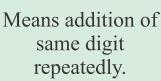
• Use jump of different digits to remember the step counting.

All the student, show 2-2 fingers of their hands.

Means addition of same digit repeatedly.

$2 + 2 + 2 + 2 + 2 + 2$

By adding the same number repeatedly, we can express it as multiplication

6 times 2 to write 6 × 2

$= 6 \times 2 = 12$

**Let's learn**

$3 + 3 + 3 + 3 = 4 \times 3 = 12$

$4 + 4 + 4 + 4 + 4 = 5 \times 4 = 20$
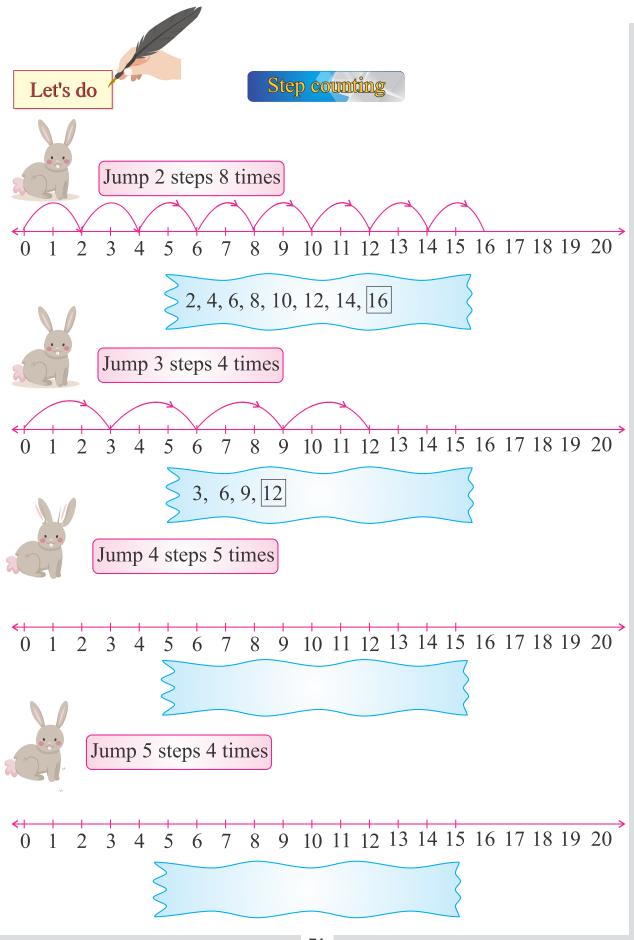
$5 + 5 + 5 + 5 + 5 + 5 + 5 = 7 \times 5 = 35$

**Tips for teacher**

- The teacher can develop the understanding of multiplication tables by using 10 fingers of hands.
- The teacher can develop the understanding by using different things (pencils, pens, sticks ).

Jump 2 steps 8 times

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

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

Jump 3 steps 4 times

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

3, 6, 9, 12

Jump 4 steps 5 times

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Jump 5 steps 4 times

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

**Multiply by 2**

2

1 time 2 = $1 \times 2 = 2$

2 + 2

2 times 2 = $2 \times 2 = 4$

2 + 2 + 2

3 times 2 =

2 + 2 + 2 + 2

4 times 2 =

2 + 2 + 2 + 2 + 2

5 times 2 =

2 + 2 + 2 + 2 + 2 + 2

6 times 2 =

2 + 2 + 2 + 2 + 2 + 2 + 2

7 times 2 =

2 + 2 + 2 + 2 + 2 + 2 + 2 + 2

8 times 2 =

2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2

9 times 2 =

2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2

10 times 2 =

We can write table of 2 by this method also.

| | |
|---|---|
| $2 \times 1 = 2$ | $2 \times \phantom{0}6 = 12$ |
| $2 \times 2 = 4$ | $2 \times \phantom{0}7 = 14$ |
| $2 \times 3 = 6$ | $2 \times \phantom{0}8 = 16$ |
| $2 \times 4 = 8$ | $2 \times \phantom{0}9 = 18$ |
| $2 \times 5 = 10$ | $2 \times 10 = 20$ |

3

3 + 3

3 + 3 + 3

3 + 3 + 3 + 3

3 + 3 + 3 + 3 + 3

3 + 3 + 3 + 3 + 3 + 3

3 + 3 + 3 + 3 + 3 + 3 + 3

3 + 3 + 3 + 3 + 3 + 3 + 3 + 3

3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3

3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3

1 time 3 = $1 \times 3 = 3$

2 times 3 =

3 times 3 =

4 times 3 =

5 times 3 =

6 times 3 =

7 times 3 =

8 times 3 =

9 times 3 =

10 times 3 =

We can write table of 3 by this method also.

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

4

1 time 4 = $1 \times 4 = 4$

4 + 4

2 times 4 =

4 + 4 + 4

3 times 4 =

4 + 4 + 4 + 4

4 times 4 =

4 + 4 + 4 + 4 + 4

5 times 4 =

4 + 4 + 4 + 4 + 4 + 4

6 times 4 =

4 + 4 + 4 + 4 + 4 + 4 + 4

7 times 4 =

4 + 4 + 4 + 4 + 4 + 4 + 4 + 4

8 times 4 =

4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4

9 times 4 =

4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4

10 times 4 =

We can write table of 4 by this method also.

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

5

1 time 5 = $1 \times 5 = 5$

5 + 5

2 times 5 = 

5 + 5 + 5

3 times 5 = 

5 + 5 + 5 + 5

4 times 5 = 

5 + 5 + 5 + 5 + 5

5 times 5 = 

5 + 5 + 5 + 5 + 5 + 5

6 times 5 = 

5 + 5 + 5 + 5 + 5 + 5 + 5

7 times 5 = 

5 + 5 + 5 + 5 + 5 + 5 + 5 + 5

8 times 5 = 

5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5

9 times 5 = 

5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5

10 times 5 = 

We can write table of 5 by this method also.

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

**Objective** - To develop the understanding of tables.

**Material** - Sticks

**Procedure** -

1. Arrange the sticks :
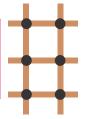
Sticks in vertical position = 2
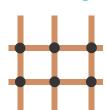
Sticks in vertical position = 3

2. Now arrange sticks over them in horizontal position.

Sticks in horizontal position = 3
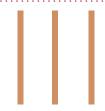
Sticks in horizontal position = 2

3. Count the intersection points by arranging sticks in vertical and horizontal position.

$2 \times 3 = 6$

$3 \times 2 = 6$

Sticks in vertical position = 3
Sticks in horizontal position = 0
Number of points of intersection = 0
$3 \times 0 = 0$

Sticks in vertical position = 0
Sticks in horizontal position = 4
Number of points of intersection = 0
$0 \times 4 = 0$
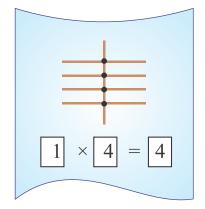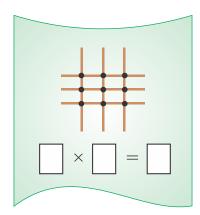
**Tips for teacher**
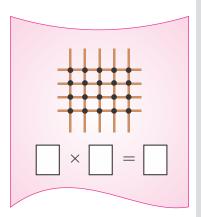
- Ask oral questions while changing the digit to the children in groups using sticks activity.
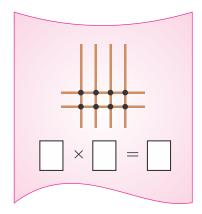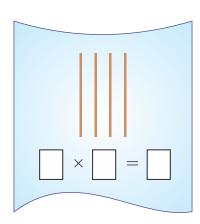
**Look at the pictures and fill in the blanks**



$1 \times 4 = 4$

$\square \times \square = \square$

$\square \times \square = \square$

$\square \times \square = \square$

$\square \times \square = \square$

$\square \times \square = \square$

$\square \times \square = \square$

$\square \times \square = \square$

$\square \times \square = \square$
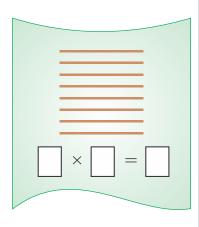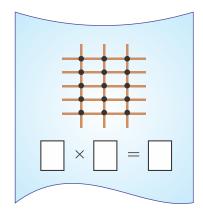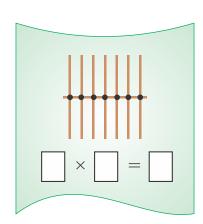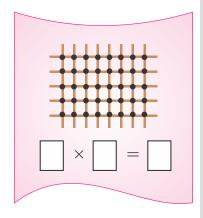
## Multiplication Tables

| | | | |
|---|---|---|---|
| 2 | × 1 | = | 2 |
| 2 | × 2 | = | 4 |
| 2 | × 3 | = | 6 |
| 2 | × 4 | = | 8 |
| 2 | × 5 | = | 10 |
| 2 | × 6 | = | 12 |
| 2 | × 7 | = | 14 |
| 2 | × 8 | = | 16 |
| 2 | × 9 | = | 18 |
| 2 | × 10 | = | 20 |

| | | | |
|---|---|---|---|
| 3 | × 1 | = | 3 |
| 3 | × 2 | = | 6 |
| 3 | × 3 | = | 9 |
| 3 | × 4 | = | 12 |
| 3 | × 5 | = | 15 |
| 3 | × 6 | = | 18 |
| 3 | × 7 | = | 21 |
| 3 | × 8 | = | 24 |
| 3 | × 9 | = | 27 |
| 3 | × 10 | = | 30 |

| | | | |
|---|---|---|---|
| 4 | × 1 | = | 4 |
| 4 | × 2 | = | 8 |
| 4 | × 3 | = | 12 |
| 4 | × 4 | = | 16 |
| 4 | × 5 | = | 20 |
| 4 | × 6 | = | 24 |
| 4 | × 7 | = | 28 |
| 4 | × 8 | = | 32 |
| 4 | × 9 | = | 36 |
| 4 | × 10 | = | 40 |

| | | | |
|---|---|---|---|
| 5 | × 1 | = | 5 |
| 5 | × 2 | = | 10 |
| 5 | × 3 | = | 15 |
| 5 | × 4 | = | 20 |
| 5 | × 5 | = | 25 |
| 5 | × 6 | = | 30 |
| 5 | × 7 | = | 35 |
| 5 | × 8 | = | 40 |
| 5 | × 9 | = | 45 |
| 5 | × 10 | = | 50 |

| | | | |
|---|---|---|---|
| 10 | × 1 | = | 10 |
| 10 | × 2 | = | 20 |
| 10 | × 3 | = | 30 |
| 10 | × 4 | = | 40 |
| 10 | × 5 | = | 50 |
| 10 | × 6 | = | 60 |
| 10 | × 7 | = | 70 |
| 10 | × 8 | = | 80 |
| 10 | × 9 | = | 90 |
| 10 | × 10 | = | 100 |

Yes, I have learnt tables.

## Write multiplication tables

| 2 × 1 = 2 |
|---|
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

| 3 × 1 = 3 |
|---|
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

| 4 × 1 = 4 |
|---|
|  |
|  |
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|  |
|  |
|  |
|  |
|  |
|  |

| 5 × 1 = 5 |
|---|
|  |
|  |
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|  |
|  |
|  |
|  |

| 3 × 1 = 3 |
|---|
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|  |

| 4 × 1 = 4 |
|---|
|  |
|  |
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|  |
|  |
|  |
|  |
|  |
|  |

| 5 × 1 = 5 |
|---|
|  |
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|  |
|  |
|  |
|  |
|  |

| 10 × 1 = 10 |
|---|
|  |
|  |
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|  |
|  |
|  |
|  |

**In our daily life**
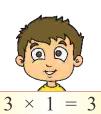
A cat has 2 eyes. How many eyes do four cats have?

$4 \times 2 = 8$

One rabbit has 2 ears. Find the number of ears of 5 rabbits.

$\square \times \square = \square$

One table has 4 legs. How many legs do 3 tables have ?

$\square \times \square = \square$

A flower has 3 petals. Find the number of petals of 8 flowers.

$\square \times \square = \square$

One jeep has 4 tyres How many tyres do 5 jeeps have ?

$\square \times \square = \square$

A necklace has 10 beads. How many beads do 8 necklaces have ?

$\square \times \square = \square$

One hand has 5 fingers. Find the number of fingers of two hands.

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

One chair has 4 legs. Find the number of legs of 5 chairs.

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

A cat has 4 legs. Find the number of legs of 10 cats.

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

One balloon costs ₹ 5. Find the cost of 4 balloons.

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

One toffee costs ₹ 2. Find the cost of 4 toffees.

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

**Properties of multiplication**

## Multiplication by changing the order :

$2 \times 5 = 10$

$5 \times 2 = 10$

$2 \times 5 = 5 \times 2$

**We get the same answer on multiplication by changing the order**

## Multiply by 1

$1 \times 5 = 5$

$7 \times 1 = 7$

**A number multiplied by 1 gives the number itself**

Number $\times 1 = $ same number

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | $\times$ | 1 | = | 1 | | | |
| 2 | $\times$ | 1 | = | 2 | | | |
| 3 | $\times$ | 1 | = | 3 | | | |
| 4 | $\times$ | 1 | = | 4 | | | |
| 5 | $\times$ | 1 | = | 5 | | | |

| | | | | |
|---|---|---|---|---|
| 6 | $\times$ | 1 | = | 6 |
| 7 | $\times$ | 1 | = | 7 |
| 8 | $\times$ | 1 | = | 8 |
| 9 | $\times$ | 1 | = | 9 |
| 10 | $\times$ | 1 | = | 10 |

## Multiply by zero (0) :

$3 \times 0 = 0$

$5 \times 0 = 0$

Number $\times 0 = 0$

**A number multiplied by '0' gives '0'**

| | | | | |
|---|---|---|---|---|
| 1 | $\times$ | 0 | = | 0 |
| 2 | $\times$ | 0 | = | 0 |
| 3 | $\times$ | 0 | = | 0 |
| 4 | $\times$ | 0 | = | 0 |
| 5 | $\times$ | 0 | = | 0 |

| | | | | |
|---|---|---|---|---|
| 6 | $\times$ | 0 | = | 0 |
| 7 | $\times$ | 0 | = | 0 |
| 8 | $\times$ | 0 | = | 0 |
| 9 | $\times$ | 0 | = | 0 |
| 10 | $\times$ | 0 | = | 0 |

- When we read a multiplication table of a number, then the numbers we get are the multiples of that number, like 2, 4, 6, 8, 10........ are the multiples of 2 .
- Multiple of 2 ends with 0, 2, 4, 6, 8.
- Multiple of 5 ends with 5 or 0 .

**Let's do**

**Fill in the blanks :**

$4 \times 2 = \boxed{\phantom{0}} \times 4$

$9 \times 3 = \boxed{\phantom{0}} \times 9$

$7 \times \boxed{\phantom{0}} = 4 \times 7$

$9 \times 7 = \boxed{\phantom{0}} \times \boxed{\phantom{0}}$

$5 \times 9 = \boxed{\phantom{0}} \times \boxed{\phantom{0}}$

$5 \times 7 = \boxed{\phantom{0}} \times \boxed{\phantom{0}}$

$\boxed{\phantom{0}} \times 5 = \boxed{\phantom{0}} \times \boxed{4}$

$\boxed{\phantom{0}} \times \boxed{2} = \boxed{\phantom{0}} \times \boxed{9}$

$\boxed{6} \times \boxed{\phantom{0}} = 8 \times \boxed{\phantom{0}}$

**Fill in the blanks :**

$5 \times 1 = \boxed{\phantom{0}}$

$7 \times 1 = \boxed{\phantom{0}}$

$4 \times 1 = \boxed{\phantom{0}}$

$3 \times 1 = \boxed{\phantom{0}}$

$8 \times 1 = \boxed{\phantom{0}}$

$9 \times 1 = \boxed{\phantom{0}}$

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

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

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

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

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

$0 \times 8 = \boxed{\phantom{0}}$

$4 \times 0 = \boxed{\phantom{0}}$

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

$6 \times 0 = \boxed{\phantom{0}}$

$0 \times 4 = \boxed{\phantom{0}}$

$0 \times 6 = \boxed{\phantom{0}}$

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

**Tick (✓) the correct multiples of 2 :**

14    13    18    16    20    17
☐     ☐     ☐     ☐     ☐     ☐

**Tick (✓) the correct multiples of 5 :**

12    15    10    18    20    30
☐     ☐     ☐     ☐     ☐     ☐

## Fill in the blanks :

| | | |
|---|---|---|
| 4 × 2 = ☐ | 5 × 2 = ☐ | 2 × 5 = ☐ |
| 4 × 4 = ☐ | 9 × 3 = ☐ | 9 × 4 = ☐ |
| 8 × 3 = ☐ | 4 × 10 = ☐ | 7 × 10 = ☐ |
| 5 × 5 = ☐ | 3 × 3 = ☐ | 2 × 2 = ☐ |
| 7 × 2 = ☐ | 7 × 4 = ☐ | 7 × 5 = ☐ |
| 8 × 2 = ☐ | 8 × 3 = ☐ | 2 × 10 = ☐ |

## Multiply 1-digit number with 1-digit number :

| | | | |
|---|---|---|---|
| 4 × 2 =<br>  4<br>× 2<br>——— | 5 × 3 =<br>  5<br>× 3<br>——— | 9 × 3 =<br>  9<br>× 3<br>——— | 7 × 5 =<br>  7<br>× 5<br>——— |
| 6 × 2 = | 5 × 3 = | 7 × 5 = | 7 × 4 = |
| 7 × 2 = | 6 × 4 = | 4 × 5 = | 3 × 10 = |
| 9 × 2 = | 8 × 3 = | 9 × 5 = | 8 × 10 = |

Raman has two almonds and Aman also has two almonds. How many total almonds do they both have ?

$$2 + 2 = 4$$

But $2 \times 2$ is also $= 4$

Double means multiplying by 2

$$3 + 3 = 6 \text{ or } 2 \times 3 = 6$$

**Let's do**

### Fill in the blanks

(a) Double of 2 —————          (b) Double of 3 —————

(c) Double of 4 —————          (d) Double of 5 —————

(e) Double of 6 —————          (f) Double of 7 —————

(g) Double of 8 —————          (h) Double of 9 —————

| × | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
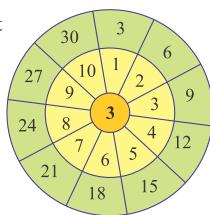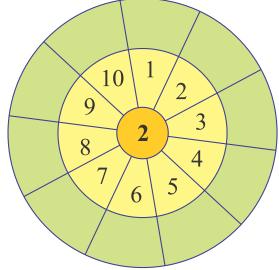
**Objective** - Write multiplication table.

**Material** - Paper plate and colours
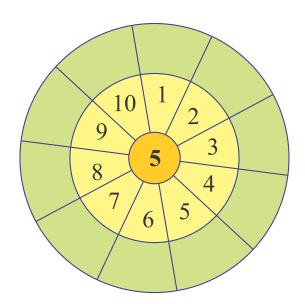
**Procedure** -

1. Draw lines on paper plate as shown.
2. In the central circle write any one digit from 2 to 5 that table which the child has to do.
3. Now write counting from 1 to 10 in the next circle.
4. Tell the students to multiply and complete the table.

**Let's do**

**Tips for teacher**

- Ask to write different multiplication tables.
- The teachers can ask to colour the paper plates with different colours and display them in the classroom.

86

Let's count the currency notes of Rs. 10 :

| | |
|---|---|
|  | $= 1 \times 10 \qquad = 10$ |
|  | $= 2 \times 10 \qquad = \underline{\hspace{1.5cm}}$ |
|  | $= 4 \times 10 \qquad = \underline{\hspace{1.5cm}}$ |
|  | $= \underline{\hspace{1.5cm}} \qquad = \underline{\hspace{1.5cm}}$ |
|  | $= \underline{\hspace{1.5cm}} \qquad = \underline{\hspace{1.5cm}}$ |

Tick (✓) the correct multiples of 10 :

| 18 | 20 | 30 | 70 | 37 | 40 |
|---|---|---|---|---|---|
| ☐ | ✓ | ✓ | ✓ | ☐ | ✓ |

| 35 | 40 | 50 | 86 | 90 | 60 |
|---|---|---|---|---|---|
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| 42 | 23 | 50 | 96 | 70 | 88 |
|---|---|---|---|---|---|
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

Multiples of 10 ends with '0'

## Multiply 2-digits number with 1-digit number

1. Write the number (20 × 2) according to its place.

| T. | O. |
|----|----|
| 2  | 0  |
| ×  | 2  |

2. Multiply 2 by 0 (ones place)

Write 2 × 0 = '0' at ones place

| T. | O. |
|----|----|
| 2  | 0  |
| ×  | 2  |
|    | 0  |

3. Multiply 2 by 2 (tens place)

Write 2 × 2 = '4' at tens place

| T. | O. |
|----|----|
| 2  | 0  |
| ×  | 2  |
| 4  | 0  |

**Let's do**

| T. | O. |
|----|----|
| 1  | 0  |
| ×  | 2  |

| T. | O. |
|----|----|
| 4  | 0  |
| ×  | 3  |

| T. | O. |
|----|----|
| 5  | 0  |
| ×  | 2  |

| T. | O. |
|----|----|
| 2  | 0  |
| ×  | 3  |

| T. | O. |
|----|----|
| 1  | 0  |
| ×  | 5  |

| T. | O. |
|----|----|
| 2  | 0  |
| ×  | 3  |

| T. | O. |
|----|----|
| 3  | 0  |
| ×  | 4  |

| T. | O. |
|----|----|
| 6  | 0  |
| ×  | 5  |

| T. | O. |
|----|----|
| 2  | 0  |
| ×  | 4  |

| T. | O. |
|----|----|
| 4  | 0  |
| ×  | 5  |

| T. | O. |
|----|----|
| 8  | 0  |
| ×  | 4  |

| T. | O. |
|----|----|
| 7  | 0  |
| ×  | 2  |

# Multiplication of large numbers

A neclace has 23 beads. How many beads do the 5 such neclaces have ?

How can we do it ?

Firstly split 23 into 20 + 3

| × | 20 | 3 |
|---|----|---|
| 5 |    |   |

$5 \times 20 = 100$ and $5 \times 3 = 15$

| × | 20 | 3 |
|---|-----|----|
| 5 | 100 | 15 |

Add 100 and 15

| × | 20 | 3 |
|---|-----|----|
| 5 | 100 | 15 |

= 115

This is very easy

## Tips for teacher

- To develop the concept of multiplication by splitting the numbers and by using activity.
- Multiplication taught with the traditional method, posses as a barrier in the understanding for the students.
- Ask them to multiply in mind or by guessing, then finally ask the question.

There are 32 flowers in a bed. How many flowers are there in 3 such beds?

Estimate

Number of beds $= 3$
One bed has flowers $= 32$
Total flowers $=$

$32 \times 3$ means
$30 \times 3$
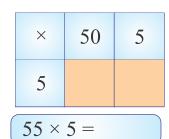
which is less than 100

| × | 30 | 2 |
|---|----|---|
| 3 |    |   |

→

| × | 30 | 2 |
|---|----|---|
| 3 |    | 6 |

→

| × | 30 | 2 |
|---|----|---|
| 3 | 90 | 6 |

$= 96$

Let's do

One ice cream costs ₹ 55. Find the cost of 5 such ice creams.

| × | 50 | 5 |
|---|----|---|
| 5 |    |   |

Estimate =

$55 \times 5 =$

A chalk box contains 43 chalks . How many chalks do the 3 boxes have ?

| × | 40 | 3 |
|---|----|---|
| 3 |    |   |

Estimate =

$43 \times 3 =$

## Multiplication with column method :

$12 \times 2$

   2 Ones $\times$ 2 = 4 Ones     $\longrightarrow$

   1 Tens $\times$ 2 = 2 Tens     $\longrightarrow$

| Tens | Ones |
|------|------|
|      | 4    |
| 2    | 0    |
| 2    | 4    |

$$
\begin{array}{r}
1 \quad 2 \\
\times \quad 2 \\
\hline
4 \leftarrow 2 \times 2 \\
2 \quad 0 \leftarrow 10 \times 2 \\
\hline
2 \quad 4 \\
\hline
\end{array}
$$
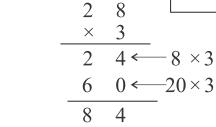
$28 \times 3$

  8 Ones $\times$ 3 = 24 Ones     $\longrightarrow$

           = 2 Tens + 4 Ones

  2 Tens $\times$ 3 = 6 Tens     $\longrightarrow$

| Tens | Ones |
|------|------|
| 2    | 4    |
| 6    | 0    |
| 8    | 4    |

$$
\begin{array}{r}
2 \quad 8 \\
\times \quad 3 \\
\hline
2 \quad 4 \leftarrow 8 \times 3 \\
6 \quad 0 \leftarrow 20 \times 3 \\
\hline
8 \quad 4 \\
\hline
\end{array}
$$

**Let's do**

$$
\begin{array}{r}
8 \quad 6 \\
\times \quad 5 \\
\hline
\phantom{00} \leftarrow 6 \times 5 \\
\phantom{00} \leftarrow 80 \times 5 \\
\hline
\phantom{00} \\
\hline
\end{array}
\qquad
\begin{array}{r}
6 \quad 2 \\
\times \quad 2 \\
\hline
\phantom{00} \leftarrow 2 \times 2 \\
\phantom{00} \leftarrow 60 \times 2 \\
\hline
\phantom{00} \\
\hline
\end{array}
\qquad
\begin{array}{r}
7 \quad 8 \\
\times \quad 3 \\
\hline
\phantom{00} \leftarrow 8 \times 3 \\
\phantom{00} \leftarrow 70 \times 3 \\
\hline
\phantom{00} \\
\hline
\end{array}
$$

## Multiplication of 2-digits numbers with 2-digits numbers

| | |
|---|---|
| If you have 10 currency notes of ₹ 10 then how much money do you have ? | $10 \times 10 = 100$ |
| If you have 15 currency notes of ₹ 10 then how much money do you have ? | $15 \times 10 = 150$ |
| If you have 20 currency notes of ₹ 10 then how much money do you have ? | $20 \times 10 = 200$ |

### Let's do

$20 \times 10 =$

$30 \times 10 =$

$40 \times 10 =$

$60 \times 10 =$

$70 \times 10 =$

$90 \times 10 =$

**Multiplication of 2-digits numbers with 2 digits-numbers**

One packet contains 25 biscuits. How many biscuits are there in 13 such packets?

How it can be done ?

Firstly, split 25 and 13

$$25 = 20 + 5$$
$$13 = 10 + 3$$
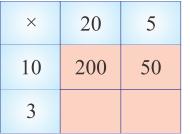
| × | 20 | 5 |
|---|----|---|
| 10 | | |
| 3 | | |

$10 \times 20 = 200$ and $10 \times 5 = 50$

| × | 20 | 5 |
|---|----|---|
| 10 | 200 | 50 |
| 3 | | |

$3 \times 20 = 60$ and $3 \times 5 = 15$

| × | 20 | 5 |
|---|----|---|
| 10 | 200 | 50 |
| 3 | 60 | 15 |

Find the sum of $200 + 50 + 60 + 15$

| × | 20 | 5 | |
|---|----|---|---|
| 10 | 200 | 50 | |
| 3 | 60 | 15 | = 325 |
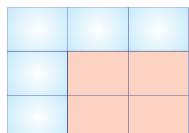
This is very easy
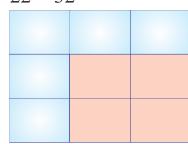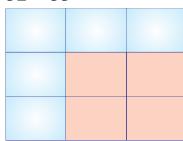
32 × 21 =

22 × 32 =

32 × 33 =

12 × 52 =

23 × 12 =

42 × 25 =

15 × 42 =

33 × 32 =

25 × 31 =

55 × 12 =
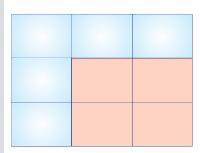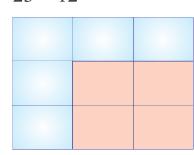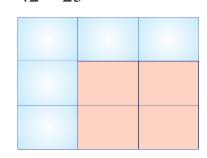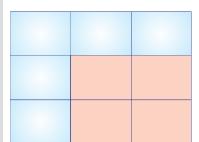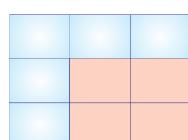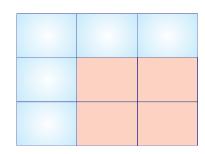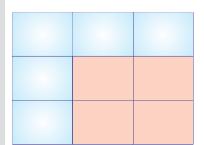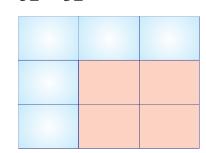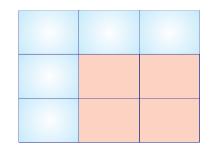
52 × 32 =

35 × 23 =

## 3-digits Multiplication

| | If you have 1 currency note of ₹100 then how much money do you have? | $1 \times 100 = 100$ |
|---|---|---|
| | If you have 2 currency notes of ₹100 then how much money do you have? | $2 \times 100 = 200$ |
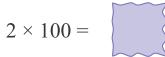
**Let's do**

$2 \times 100 =$

$3 \times 100 =$

$8 \times 100 =$

$5 \times 100 =$

$2 \times 200 =$

$2 \times 300 =$

$7 \times 100 =$

$3 \times 200 =$

$3 \times 300 =$

$9 \times 100 =$

$5 \times 200 =$

$2 \times 400 =$

## Multiplication of 3-digits number with 1-digit number

**We can split the 3-digits numbers as done in earlier question.**

For example $121 \times 4$

$121 = 100 + 20 + 1$

| × | 100 | 20 | 1 |
|---|-----|----|----|
| 4 | 400 | 80 | 4 |

$= 400$

$\phantom{=\ }80$

$+\ \ \underline{\phantom{00}4}$

$\phantom{=\ }\underline{484}$

$121 \times 4 = 484$
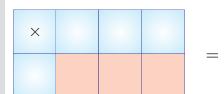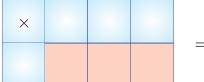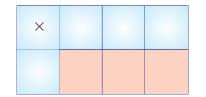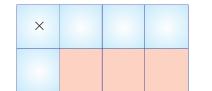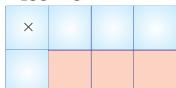
- Answer of multiplication is called product.

**Let's do**

$114 \times 2$

| × | 100 | 10 | 4 |
|---|-----|----|----|
| 2 |     |    |    |

=

$221 \times 3$

| × | | | |
|---|---|---|---|
|   |   |   |   |

=

$122 \times 3$

| × | | | |
|---|---|---|---|
|   |   |   |   |

=

$212 \times 4$

| × | | | |
|---|---|---|---|
|   |   |   |   |

=

$214 \times 2$

| × | | | |
|---|---|---|---|
|   |   |   |   |

=

$133 \times 3$

| × | | | |
|---|---|---|---|
|   |   |   |   |

=
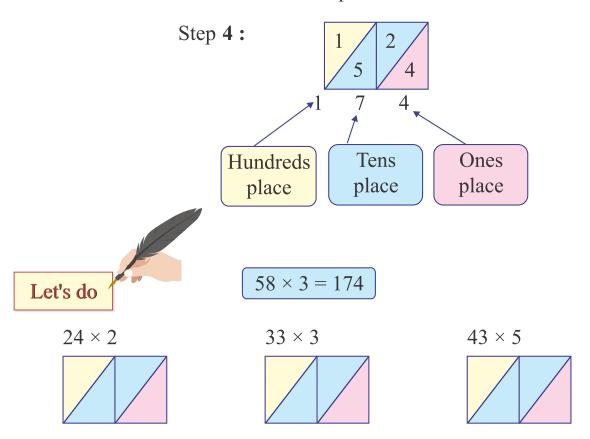
**Lettice Algoritham method of multiplication.**

58 × 3

Step 1 :   8 × 3 = [2/4]   Write like this

Step **2 :**  5 × 3 = [1/5]   Write like this

Step 3. Write ones place digit = 4, at tens place write one digit of the sum of diagonal digits (sky colour) = 5 + 2 = 7 Write diagonal digit (yellow colour) = 1 at hundreds place. Now we get the digits 1, 7, 4 which form the number  174 which is the result of multiplication of 58 and 3.

Step **4 :**

[1/5][2/4]

1   7   4

| Hundreds place | Tens place | Ones place |

**Let's do**

58 × 3 = 174

24 × 2              33 × 3              43 × 5

**Practical Activity**
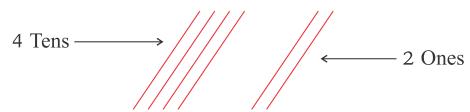
**Objective :** To develop the concept of multiplication

**Mateiral :** Sticks
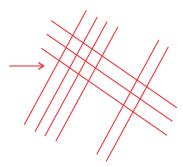
**Procedue :** 42 × 3

(i) Arrange the sticks according to the given number at tens and ones place (The numbers to be multiply)
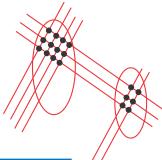
Example 42 = 4 Tens 2 Ones

4 Tens ⟶               ⟵ 2 Ones

(ii) Now put the sticks according to multiplier as shown in example. Then put 3 sticks on already kept sticks as shown in first step.

(ii) Now count the intersecting points as tens and ones.

12 Tens   6 Ones
= 126

**Tips for teachers**

The teachers can develop the concept of multiplication by changing the numbers.

1. Match the columns :–

| | |
|---|---|
| $4 \times 3$ | 18 |
| $3 \times 6$ | 35 |
| $5 \times 7$ | 90 |
| $9 \times 10$ | 12 |

2. Encircle the correct answer :–

(i) $12 \times 3 =$  39   36   63     (ii) $10 \times 5 =$ 60   40   50

3. Fill in the blanks :–

(i) $5 + 5 + 5 + 5 + 5$                =   ____ × ____

(ii) $10 + 10 + 10 + 10 + 10 + 10 + 10 =$   ____ × ____

4. Fill in the blanks :–

(i) $0 \times 5 =$

(ii) $4 \times 1 =$

(iii) $3 \times 2 =$ ☐ × ☐

5. Find the product :–

(i) $25 \times 3$

(ii) $42 \times 14$

(iii) $70 \times 10$

6. Fill in the blanks :–

(i)  $7 \times$ ___ $= 21$

(ii) $4 \times$ ___ $= 16$
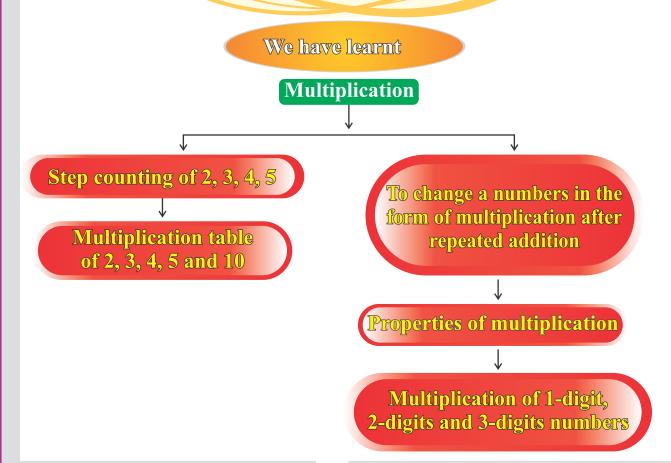
(iii) ___ $\times 5 = 20$

7. Write multiplication table of 4.

**Points to remember**

- We get the same number on multiplying number with '1'.
- We get '0' as answer on multiplying any number with '0'.
- The answer obtained after multiplication is called product.

**We have learnt**

**Multiplication**

**Step counting of 2, 3, 4, 5**

**Multiplication table of 2, 3, 4, 5 and 10**

**To change a numbers in the form of multiplication after repeated addition**

**Properties of multiplication**

**Multiplication of 1-digit, 2-digits and 3-digits numbers**

## Objectives

- Explaining the concept of division with by equal group distribution.
- Explain, division with the help of repeated subtraction.
- Relationship between multiplication and division.
- Explain division methods with group formation and with multiplication tables.
- Mental arithmetic addition and subtractions of one digit and two digits numbers orally.
- Doubling two digits numbers orally.

**Do you remember?**

(i) There are......ladoos in plates.

(ii) Ladoos are distributed in.....groups.

(iii) There are.....ladoos in each group.

**Division with subtraction method**

Let's divide 12 mangoes among 3 children.

Out of 12 mangoes, give one mango to each child. We are left with 9 mangoes.

$12-3 = 9$

Out of 9 mangoes, give one mango to each child again. We are left with 6 mangoes.

$9-6 = 3$

Out of 6 mangoes, give one mango to each child again. We are left with 3 mangoes.

$6-3 = 3$

Remaining three mangoes divided into three children. We are left with 0 mango.

$3-3 = 0$

Each child got 4 mangoes.

Thus $12 \div 3 = 4$

Division means subtracting same number repeatedly.

Let's divide 20 balloons among 5 children.

Out of 20 balloons, we give one balloon to each of the 5 children. We are left with 15 balloons.

20 - 5 = 15

Out of 15 balloons, we give one balloon to each of the 5 children. We are left with 10 balloons.

15 - 5 = 10

Out of 10 balloons, we give one balloon to each of the 5 children. We are left with 5 balloons.

10 - 5 = 5

Out of 5 balloons, we give one balloon to each of the 5 children. We are left with 0 balloon.

5 - 5 = 0

Each child got 4 balloons, Thus 20 ÷ 5 = 4

## Division by subtraction method

**20 ÷ 4**

|  | 2 | 0 |
|---|---|---|
| First time | − | 4 |
|  | 1 | 6 |
| Second time | − | 4 |
|  | 1 | 2 |
| Third time | − | 4 |
|  |  | 8 |
| Fourth time | − | 4 |
|  |  | 4 |
| Fifth time | − | 4 |
|  |  | 0 |

20 ÷ 4 = **5**

**15 ÷ 5**

**18 ÷ 6**

**8 ÷ 2**

**Let's make equal groups**
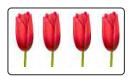
| | Number of groups |
|---|---|
|  | $8 \div 2 = \boxed{4}$ |
|  | $12 \div 4 = \boxed{3}$ |
|  | $12 \div 6 = \boxed{2}$ |

**Let's do**

| | |
|---|---|
|  | $\boxed{9} \div \boxed{3} = \boxed{\phantom{0}}$ |
|  | $\boxed{12} \div \boxed{4} = \boxed{\phantom{0}}$ |
|  | $\boxed{4} \div \boxed{2} = \boxed{\phantom{0}}$ |
|  | $\boxed{8} \div \boxed{4} = \boxed{\phantom{0}}$ |
|  | $\boxed{14} \div \boxed{2} = \boxed{\phantom{0}}$ |
|  | $\boxed{15} \div \boxed{5} = \boxed{\phantom{0}}$ |

## Divide equally
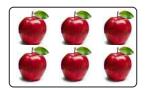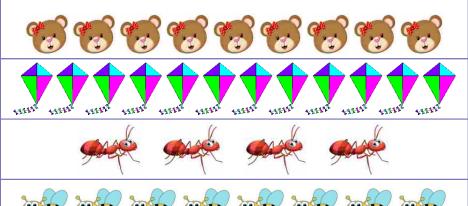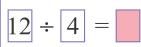
Today is my birthday. I have invited four of my friends.

I will distributed 12 chocolates among my friends.

Each one will get equal number of chocolates.

3    3    3    3
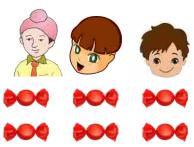
Each one has got 3 chocolates.
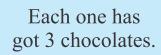
**Each got 3 choclates.**

**12 ÷ 4 = 3**

'÷' is the symbol for division.

**12 ÷ 4 means division or dividing equally.**

**Let's learn**
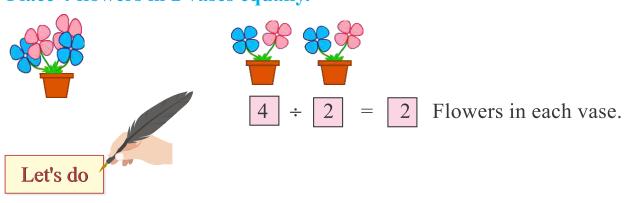
**Divide 6 toffees among 3 children equally.**
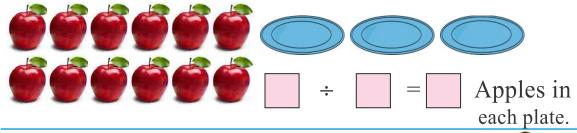
$$\boxed{6} \div \boxed{3} = \boxed{2}$$ Toffees to each child.
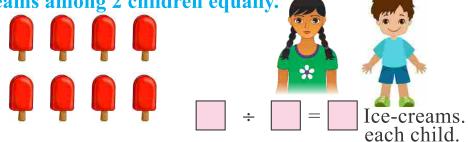
**Place 4 flowers in 2 vases equally.**

$$\boxed{4} \div \boxed{2} = \boxed{2}$$ Flowers in each vase.

**Let's do**

**Divide 12 apples in 3 plates equally.**

$$\boxed{\phantom{0}} \div \boxed{\phantom{0}} = \boxed{\phantom{0}}$$ Apples in each plate.
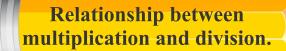
**Divide 8 ice creams among 2 children equally.**

$$\boxed{\phantom{0}} \div \boxed{\phantom{0}} = \boxed{\phantom{0}}$$ Ice-creams. each child.

**The method of distributing things equally is called division.**
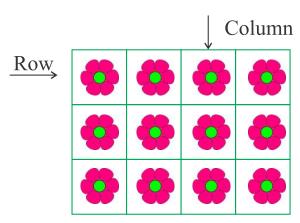
**The symbol of division is '÷'**

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**Relationship between multiplication and division.**

12 flowers are arranged in rows and columns.

Column ↓

Row →



| $12 \div 3 = 4$ | 4 flowers in each row. |

| $12 \div 4 = 3$ | 3 flowers in each column. |
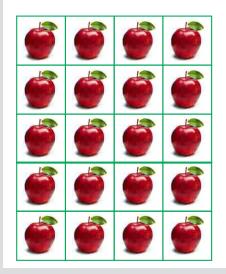
$3 \times 4 = 12$ →
- $12 \div 3 = 4$
- $12 \div 4 = 3$



$5 \times 4 = 20$ →
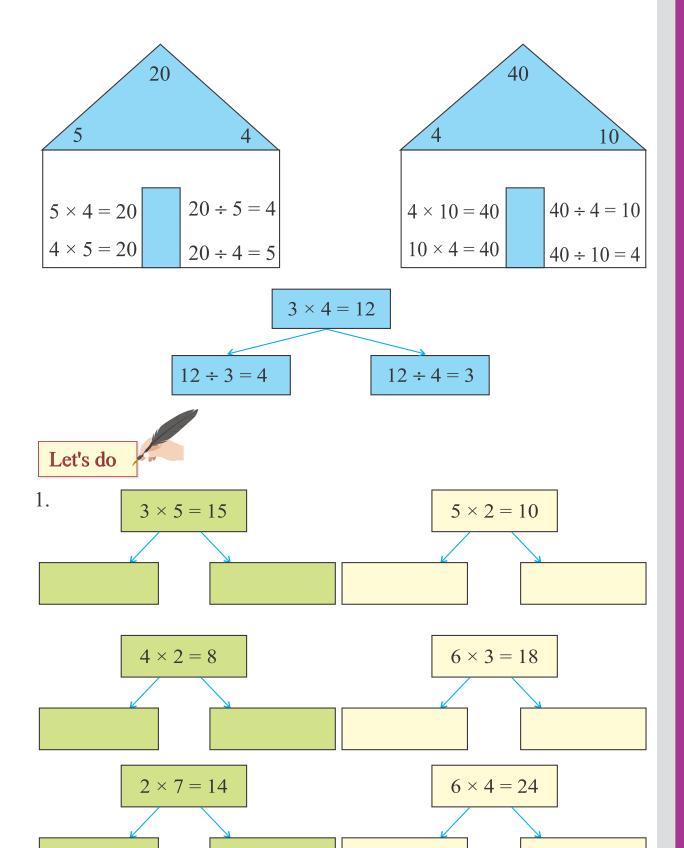
$20 \div 5 = 4$

4 apples in each row.

$20 \div 4 = 5$

5 apples in each column.

## 20

5      4

$5 \times 4 = 20$    $20 \div 5 = 4$

$4 \times 5 = 20$    $20 \div 4 = 5$

## 40

4      10

$4 \times 10 = 40$    $40 \div 4 = 10$

$10 \times 4 = 40$    $40 \div 10 = 4$

$3 \times 4 = 12$

$12 \div 3 = 4$          $12 \div 4 = 3$

**Let's do**

1.

$3 \times 5 = 15$              $5 \times 2 = 10$

$4 \times 2 = 8$               $6 \times 3 = 18$

$2 \times 7 = 14$             $6 \times 4 = 24$

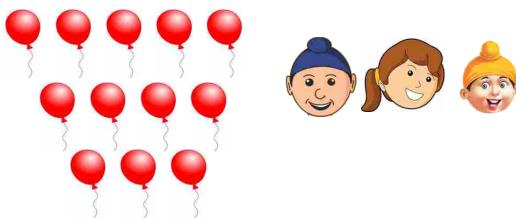**Avneet has 15 toffees. He distributes these to fees equally among the five children.**

(a)   (i)  each child will get.....toffees.

(ii) $15 \div 5 =$ _____

(b)  If he distributes these toffees among 3 children, then

(i)  each child will get....toffees.

(ii) $15 \div 3 =$ _____

**Rasleen has 12 Balloons, he distributes these balloons equally among 3 children.**

(a)   (i)  each child will get ....balloons.

(ii) $12 \div 3 =$ _____

(b)  If he distributes these balloons among 4 children, then

(i)  each child will get _____ balloons.

(ii) $12 \div 4 =$ _____

**Division by using multiplication tables**

- **Use multiplication table of 2 and divide.**

| | |
|---|---|
| $18 \div 2 = 9$ | $2 \times 9 = 18$ |
| $8 \div 2 =$ | $2 \times 4 = 8$ |
| $12 \div 2 =$ | $2 \times 6 = 12$ |
| $16 \div 2 =$ | $2 \times 8 =$ |
| $14 \div 2 =$ | $2 \times 7 =$ |
| $10 \div 2 =$ | $2 \times 5 =$ |
| $6 \div 2 =$ | $2 \times 3 =$ |

- **Use multiplication table of 5 and divide.**

| | |
|---|---|
| $15 \div 5 =$ | $5 \times 3 =$ |
| $20 \div 5 =$ | $5 \times 4 =$ |
| $25 \div 5 =$ | |
| $30 \div 5 =$ | |
| $10 \div 5 =$ | |
| $40 \div 5 =$ | |
| $35 \div 5 =$ | |

- **Use multiplication table of 10 and divide.**

| | |
|---|---|
| $40 \div 10 =$ | $10 \times 4 =$ |
| $50 \div 10 =$ | $10 \times 5 =$ |
| $30 \div 10 =$ | |
| $20 \div 10 =$ | |
| $80 \div 10 =$ | |
| $60 \div 10 =$ | |

**Properties of Division**

## 1. When a Number is divided by 1, we get the same number as answer.

8 Ladoos

$8 \div 1 = 8$

## 2. When a number is divided by it self, we get 1 as the answer.

5 balloons

$5 \div 5 = 1$

## 3. When we divide '0' by any number, we get '0' as the answer. always.

$0 \div 3 = 0$

It is not possible to divide any number by '0'

Let's do

### 1. Fill in the blanks.

(i)   $4 \div 4 =$ _____          (ii)   $3 \div$ ____ $= 1$

(iii)  $0 \div 5 =$ _____          (iv)   ____ $\div 2 = 0$

(v)   $2 \div 2 =$ _____          (vi)   $10 \div$____ $= 1$

# Division by play way method

## Let's learn
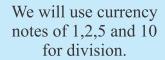
Today, we will learn division with the help of currency notes.

We will use currency notes of 1,2,5 and 10 for division.

I have ₹ 16. I want to distribute it equally between two children. How many rupees will each child get?
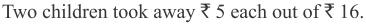
Choose any two children to demonstrate and one more child to take ₹ 16 from currency notes and tell him to distribute it in between two children.

Can you give ₹ 10 to each child ?

No Mam, It will be more than ₹ 16.

Can You give ₹ 5 to each child?

Yes Mam, 5 + 5 = 10

Two children took away ₹ 5 each out of ₹ 16.

Now, we are left with ₹ 6 we cannot give 5 to each. Then give ₹ 2 to each child (2+2=4).

Now, we are left with ₹ 2 we can give ₹ 1 to each child. Thus, each of the child got ₹ 8.
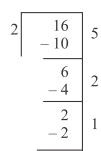
$16 \div 2 = 8$

$$\begin{array}{r|r|l} 2 & 16 & 5 \\ & -10 & \\ \hline & 6 & 2 \\ & -4 & \\ \hline & 2 & 1 \\ & -2 & \\ \hline & \times & \end{array}$$

$5 + 2 + 1 = ₹\ 8$

$36 \div 3$

$$
\begin{array}{r|l}
3 & 36 \\
& -30 \quad 10 \\
\hline
& \phantom{-}6 \quad 2 \\
& -6 \\
\hline
& \phantom{-}\times
\end{array}
$$

$10 + 2 = 12$

$48 \div 2$

$$
\begin{array}{r|l}
2 & 48 \\
& -20 \quad 10 \\
\hline
& 28 \quad 10 \\
& 20 \\
\hline
& \phantom{2}8 \\
& \phantom{2}4 \quad 2 \\
\hline
& \phantom{2}4 \\
& \phantom{2}4 \quad 2 \\
\hline
& \phantom{2}\times
\end{array}
$$

$10 + 10 + 2 + 2 = 24$
$48 \div 2 = 24$

To solve more complex sums add currency notes of ₹ 20 in Curency notes of ₹ 1, 2, 5 and 10.

$48 \div 2$

$$
\begin{array}{r|l}
2 & 48 \\
& -40 \quad 20 \\
\hline
& \phantom{2}8 \\
& \phantom{2}4 \quad 2 \\
\hline
& \phantom{2}4 \\
& \phantom{2}4 \quad 2 \\
\hline
& \phantom{2}\times
\end{array}
$$

$20 + 2 + 2 = 24$
$48 \div 2 = 24$

$75 \div 3$

$$
\begin{array}{r|l}
3 & 75 \\
& -60 \quad 20 \\
\hline
& 15 \\
& -15 \quad 5 \\
\hline
& \phantom{2}\times
\end{array}
$$

$20 + 5 = 25$
$75 \div 3 = 25$

$$75 \div 3 = 25$$

Dividend  Divisor  Quotient

## Divide 2-digits number by 1-digit number

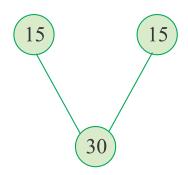| | | |
|---|---|---|
| 12 ÷ 2 | 18 ÷ 2 | 24 ÷ 3 |
| 30 ÷ 3 | 16 ÷ 4 | 28 ÷ 4 |
| 80 ÷ 10 | 57 ÷ 3 | 65 ÷ 5 |

Tania has 32 toffees. She wants to distribute these toffees equally between her two friends. How many toffees will each of her friend get?
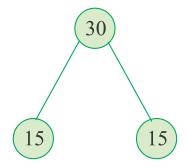
Avneet has 10 erasers. He wants to distribute these erasers equally among his 5 friends. How many erasers will each friend get?
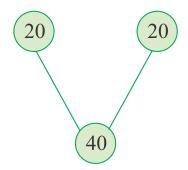
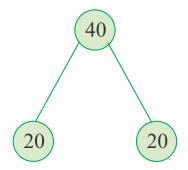There are 20 students in a class. They are sittings equally in 4 rows. How many students are sitting in each row?
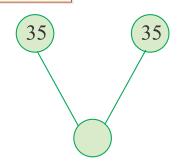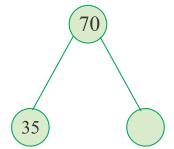
## Orally double/ half in following

```
  15     15              30
    \   /              /    \
     30              15      15
```

```
  20     20              40
    \   /              /    \
     40              20      20
```

```
  35     35              70
    \   /              /    \
     ( )             35      ( )
```

```
  50     50              100
    \   /              /    \
     ( )             50      ( )
```
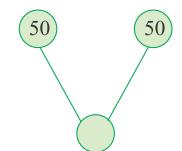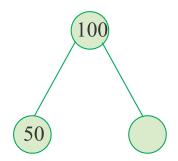
(i)   Think of any number — 27

(ii)  Add 3 to it. — $27 + 3 = 30$

iii)  multiply it by 2 — $30 \times 2 = 60$

iv)   Subtract 4 from it. — $60 - 4 = 56$

v)    Divide it by 2 — $56 \div 2 = 28$

vi)   Subtract 1 out of it. — $28 - 1 = 27$

**Answer :** Number you had thought.

---

(i)   Think of any 2-digits number — 23

(ii)  Add 7 to it. — $23 + 7 = 30$

iii)  Subtract 3 of it. — $30 - 3 = 27$

iv)   Again add 7 to it — $27 + 7 = 34$

(v)   Subtract 1 out of it. — $34 - 1 = 33$

**Answer :** 10 less than the result of calculations = 23

---

i)    Think of any two 1-digit numbers — 6, 7

ii)   Add them together — $6 + 7 = 13$

iii)  Subtract them — $7 - 6 = 1$

iv)   Find the difference of addition and subtraction — $13 - 1 = 12$

v)    Divide the answer by 2 — $12 \div 2 = 6$

**Answer :** The Smaller number you had thought

---

i) Think of any 2-digits number — 14

ii) Double it — $14 \times 2 = 28$

iii) Add 14 to it. — $28 + 14 = 42$

iv) Divide it by 2 — $42 \div 2 = 21$

v) Subtract out of it the number you had thought. — $21 - 14 = 7$

**Answer :** Always 7

**1. Divide using repeated subtraction method.**

(i)  $15 \div 5$      (ii)  $40 \div 10$      (iii)  $20 \div 4$
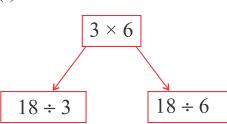
**2. Fill in the blanks.**
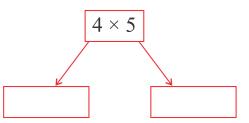


(i)  How many total balls are there?  .....................

(ii)  How many total groups are there?  .....................

(iii)  How many balls does each group has?  .....................

**3. Write the division fact of the given multiplication fact.**

(i)

$3 \times 6$

$18 \div 3$        $18 \div 6$

(ii)

$4 \times 5$

## 4. Solve :

(i) $2 \times 4 = \boxed{\phantom{0}}$   $4 \times 2 = \boxed{\phantom{0}}$   $\bigg|$   $8 \div 2 = \boxed{\phantom{0}}$   $8 \div 4 = \boxed{\phantom{0}}$

(ii) $4 \times 5 = \boxed{\phantom{0}}$   $5 \times 4 = \boxed{\phantom{0}}$   $\bigg|$   $20 \div 4 = \boxed{\phantom{0}}$   $20 \div 5 = \boxed{\phantom{0}}$

(iii) $3 \times 2 = \boxed{\phantom{0}}$   $2 \times 3 = \boxed{\phantom{0}}$   $\bigg|$   $6 \div 3 = \boxed{\phantom{0}}$   $6 \div 2 = \boxed{\phantom{0}}$

## 5. Fill in the blanks :

(i) $15 \div 15 = \boxed{\phantom{0}}$

(ii) $18 \div \boxed{3} = \boxed{18}$

(iii) $0 \div 20 = \boxed{\phantom{0}}$

(iv) $32 \div \boxed{\phantom{0}} = 1$

(v) $\boxed{\phantom{0}} \div 42 = 0$

## 6. Divide :

(i) $48 \div 3 =$   (ii) $56 \div 4 =$   (iii) $70 \div 5 =$

**We have learnt**

**Division**

- **Division by repeated subtraction**
- **To Distribute equally**
- **Properties of division**

**Division of 2-digits number with 1-digit number.**
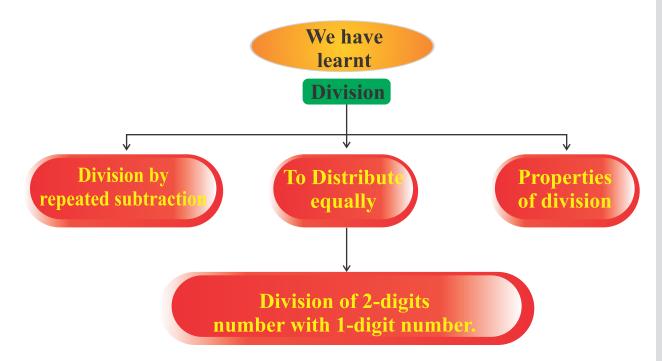
# Money(Curency)

## Objectives

- To know about use of money in our daily life.
- Knowledge of relationship between rupee and paise.
- To Change rupee into paise.
- Addition/Subtration of money.
- Knowledge about bill and rate list.

**Do you remember?**

1. **Add the amount of coins :**

(a) 

(b) 

2. **Convert the given amount into coins.**

 ₹5

 ₹25

- We need money to buy things from the market.
- In Indian currency money is expressed in rupees and paise.

**These are the pictures of currency coins and notes.**

You should know that symbol '₹' is used to write rupees.

These coins are used as paise.

Let's learn about the relationship between rupees and paise.
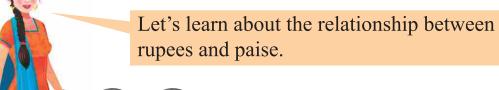
10 coins of 10 paise, 4 coins of 25 paise, 2 coins of 50 paise, they all are equal to ₹ 1.

₹ 1
= 100 paise

Now all the students
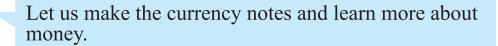will prepare currency notes and coins

Let us make the currency notes and learn more about money.

**Objective :** To make the students aware of currency notes of our country and enable them to buy-sell the objects in daily life.

**Procedure :**

1.  To give them paper of different sizes and also give them coin of ₹1, ₹2, ₹5,.

2.  Now put these coins under the given paper and tell the children to do the shading of the coin shape with help of pencil till the coins get imprinted on the paper.

3.  Then cut the paper according to the shape of coin.

4.  After making paper coins, children will exchange them with their friends and play.

5.  Similarly, they will prepare new currency notes with the given rectangular paper
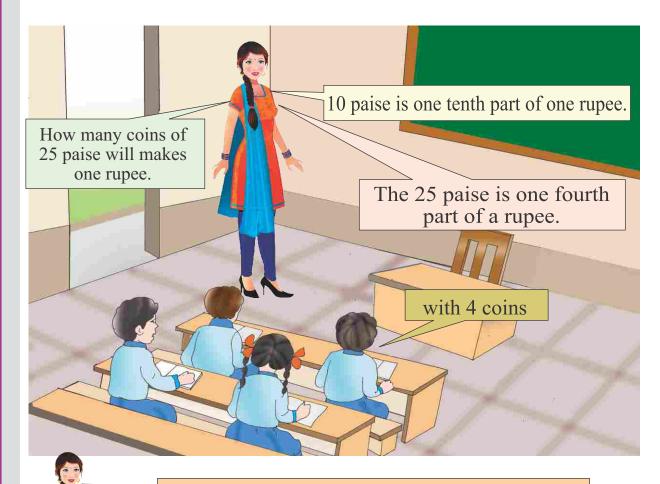
The teacher will tell them to put all their coins of 10 paise, 20 paise, 25 paise and 50 paise, that makes one rupee.

10 coins of 10 paise

50 coins of 20 paise

4 coins of 25 paise

2 coins of 50 paise

How many coins of 25 paise will makes one rupee.

10 paise is one tenth part of one rupee.

The 25 paise is one fourth part of a rupee.

with 4 coins

How many coins of 50 paise will make one rupee ?

with 2 coins

50 paise is half part of one rupee

100 paise = ₹ 1

1. Mark > or < between two coins given below :

**(a)**

**(b)**

**(c)**

**(d)**

Conversion of rupees into paise

Dear children ! you already know that ₹ 1 = 100 paise. Can you tell, how many paise are there in ₹ 2 ?

200 paise

How many paise are there in ₹ 3 ?

300 paise

We will write like this

| ₹ 1 | = | 100 paise |
|-----|---|-----------|
| ₹ 2 | = | 200 paise |
| ₹ 3 | = | 300 paise |
| ₹ 10 | = | 1000 paise |

10 paise and 25 paise coins are not used anymore.

We can write rupees/paise in two different ways.

Can you prepare coins?

| Rupees | paise | Long Form | Short Form |
|---|---|---|---|
|  |  | Rupees10 and 50 paise | ₹10.50 |
|  |  | Rupees 25 and 75 paise | ₹25.75 |
|  |  | Repees 100 and 50 paise | ₹100.50 |

Let's learn

₹ 4

₹ 5

Let's do

₹ 12

₹ 17

₹ 18
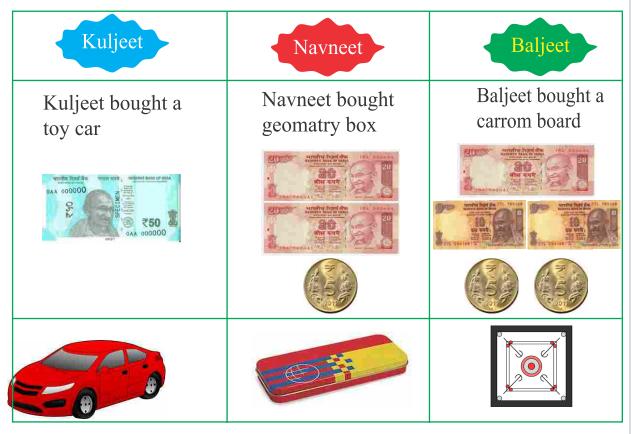
Kuljeet, Navneet and Baljeet went to the market to buy birthday gifts for his friend. They bought some toys from the toys shop. How many rupees did they give to the shopkeeper ? Calculate from the activity given below :-

| Kuljeet | Navneet | Baljeet |
|---|---|---|
| Kuljeet bought a toy car | Navneet bought geomatry box | Baljeet bought a carrom board |
| | | |

How many Rupees did kuljeet give to the shopkeeper ?  ₹

How many Rupees did Navneet give to the shopkeeper ? ₹

How many Rupees did Baljeet give to the shopkeeper ? ₹

While adding amount of money we should always count the bigger amount first and lesser amount in the end.

Let's learn

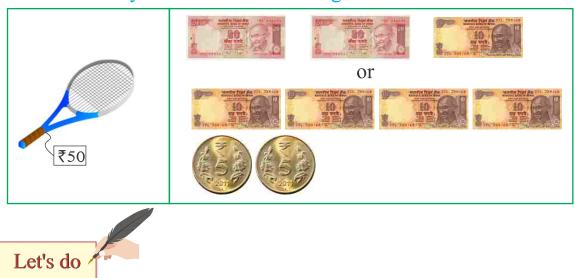Choose currency notes or coins for the given article :



or

Let's do

Draw currency notes or coins for the given article :

| | |
|---|---|
|  ₹25 | |
|  ₹10 | |
|  ₹50 | |
|  ₹80 | |

## How much money left with you ?

### Harjot had money

Harjot spent money = ₹ 10

Money left = ……………

### Prabhjot had money

Prabhjot spent money = ₹ 10

Money left = ……………

### Sandeep had money

Harjot spent money = ₹ 67

Money left = ……………

### Surjit had money

Surjit spent money = ₹ 52

Money left = ……………

### Manjeet had money

Manjeet spent = ₹ 110

Money left = ……………

### Simranjeet had money
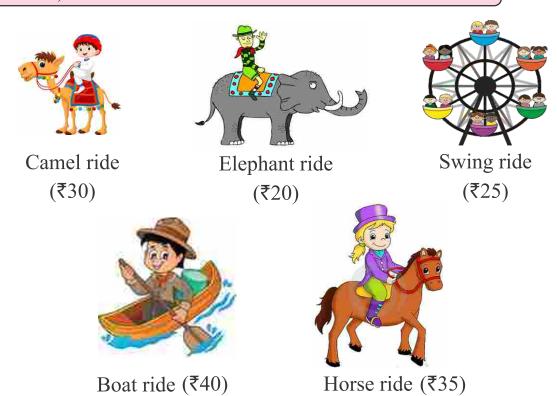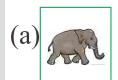
Simranjeet spent money = ₹ 500

Money left = ……………

In a zoo, there are different amount of fare for different rides

Camel ride
(₹30)

Elephant ride
(₹20)

Swing ride
(₹25)

Boat ride (₹40)

Horse ride (₹35)
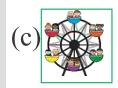
Help Chetan to pay the fare if he rides in the following manner

(a)

₹ ☐  +  ₹ ☐  =  ₹ ☐

(b)

₹ ☐  +  ₹ ☐  =  ₹ ☐

(c)

₹ ☐  +  ₹ ☐  =  ₹ ☐

(d)

₹ ☐  +  ₹ ☐  =  ₹ ☐

**Let's learn**
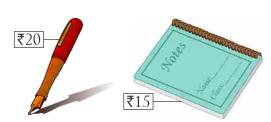
## Adding of money

Sonu bought a pen for ₹ 20 and a copy for ₹15. How much money did he spend ?

Cost of one pen = ₹ 20

Cost of one copy = ₹ 15

Total cost =    ₹ 20
            + ₹ 15
            _____
              ₹ 35

Thus, sonu spent total ₹35.

Anju had ₹ 85. Her brother gave her ₹ 13. How much many does she have now?

Anju had money =    ₹ 85

Her brother gave her =    ₹ 13

Anju has total money =    ₹ 85
                     + ₹ 13
                     _____
                       ₹ 98

Thus, Anju has total money = ₹98

**Let's do**

1. Kamal bought balloons for ₹ 40. Lovepreet bought balloons for ₹33. How much amount did they spend together to buy these balloons?

1. Honey had ₹36 in his money bank, He put ₹23 more into it, How much amount is in Honey's money bank now ?

**Let's learn**

Surjeet had ₹ 50. He bought a notebook for ₹ 20. How much money is left with him ?

$$
\begin{aligned}
\text{Surjeet had money} &= && ₹\,50 \\
\text{Cost of copy} &= && ₹\,20 \\
\text{Money left with surjeet} &= && ₹\,50 \\
&&& -\;₹\,20 \\
\hline
&&& ₹\,30
\end{aligned}
$$

Thus, ₹30 left with surjeet

Avneet had ₹ 98. She gave ₹46 to her brother. How much money does Avneet have now ?

$$
\begin{aligned}
\text{Avneet had money} &= && ₹\,98 \\
\text{Money given by Avneet to her brother} &= && ₹\,46 \\
\text{Money left with Avneet} &= && ₹\,98 \\
&&& -\;₹\,46 \\
\hline
&&& ₹\,52
\end{aligned}
$$

Thus, ₹52 left with Avneet

**Let's do**

1.  Meena had ₹85. She bought a geometry box  for ₹35. How much money is left with her ?

2.  Jagveer had ₹ 77. He bought  a choclate for ₹15. How much many is left with him ?

3.  Nazia had ₹ 66. She bought a pen for ₹ 12. How much many does she have now ?

## Bill amount of cash memo

**Let's learn**

I enjoyed reading the menu and ordered so many things

Seerat went to a restaurant with her family

We ordered one juice, two cups of tea, two samosas and a kulcha

Menu

| | |
|---|---|
| Tea | ₹ 10.00 |
| Juice | ₹ 30.00 |
| Lassi | ₹ 25.00 |
| Milk | ₹ 30.00 |
| Samosas | ₹ 15.00 |
| Bread pakoda | ₹ 15.00 |
| Kulcha | ₹ 25.00 |
| Tikki | ₹ 22.00 |
| Dahi-Bhalla | ₹ 35.00 |

How much amount we have to pay?

Let's see how much she paid the bill?

**Let's do**

Date :        Bill                          Table no.7

| S. No. | Particular items | Quantity | Rate | Table cost | ₹ | p. |
|---|---|---|---|---|---|---|
| 1. | Juice | 1 | 30 | ₹ 30.00 × 1 | 30 | 00 |
| 2. | Tea | 2 | 10 | ₹ 10.00 × 2 | 20 | 00 |
| 3. | Samosa | 2 | 15 | ₹ 15.00 × 2 | 30 | 00 |
| 4. | Kulcha | 1 | 25 | ₹ 25.00 × 1 | 25 | 00 |
| | | | | Total    ₹ | 105 | 00 |

Date :        Bill                          Table no.10

| S. No. | Particular items | Quantity | Rate | Table cost | ₹ | p. |
|---|---|---|---|---|---|---|
| 1. | Samosa | 1 | | ₹ 15.00 × 1 | | |
| 2. | Tikki | 1 | | ₹ 22.00 × 1 | | |
| 3. | Juice | 2 | | ₹ 30.00 × 2 | | |
| 4. | Bread Pakoda | 1 | | ₹ 15.00 × 2 | | |
| | | | | Total  = ₹ | | |

**The cost of each item = cost price of one item × its quantity**

**1.** Convert rupees into paise

    **a)** ₹ 9 = ........................    **b)** ₹ 6 = ........................

    **c)** ₹ 2 = ........................    **d)** ₹ 8 = ........................

**2.** Add

| | | |
|---|---|---|
| ₹ 6.50 | ₹ 9.50 | ₹ 23.50 |
| + ₹ 7.00 | + ₹ 14.75 | + ₹ 26.50 |
| ———— | ———— | ———— |
| ———— | ———— | ———— |

| | | |
|---|---|---|
| ₹ 19.50 | ₹ 40.05 | ₹ 55.50 |
| + ₹ 9.25 | + ₹ 18.30 | + ₹ 20.45 |
| ———— | ———— | ———— |
| ———— | ———— | ———— |

**3.** Subtract

| | | |
|---|---|---|
| ₹ 55.60 | ₹ 75.50 | ₹ 43.65 |
| – ₹ 25.50 | – ₹ 25.50 | – ₹ 20.60 |
| ———— | ———— | ———— |
| ———— | ———— | ———— |

| | | |
|---|---|---|
| ₹ 55.75 | ₹ 64.65 | ₹ 73.80 |
| – ₹ 23.10 | – ₹ 27.30 | – ₹ 52.10 |
| ———— | ———— | ———— |
| ———— | ———— | ———— |

**4.** Count and write

| | | | | |
|---|---|---|---|---|
| ₹ 50 | ₹ 100 | ₹ 5 | ₹ 10 | ₹ |
| ₹ 100 | ₹ 2500 | ₹ 10 | ₹ 10 | ₹ |
| ₹ 2500 | ₹ 20 | ₹ 5 | ₹ 10 | ₹ |

## Things be remember

- In ₹ 1 there are 2 coins of 50 paise.
- In ₹ 1 there are 4 coins of 25 paise.
- In ₹ 1 there are 5 coins of 20 paise.
- In ₹ 1 there are 10 coins of 10 paise.

## We have learnt

**Money (Currency) Introduction**

**Rupees**

**Paise**

**Addition Subtraction**

**Complete cash memo or to make bill**
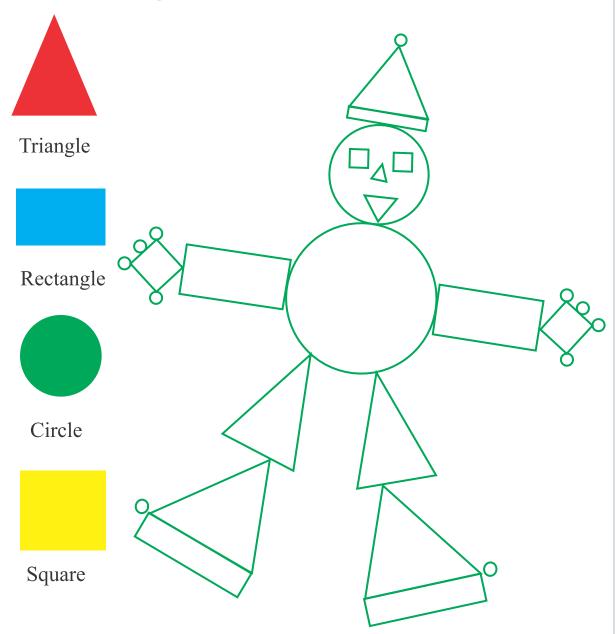
**6**

## Objectives

- The students should learn about shapes, with the help of paper cutting or papar pasting.

- To Identify 2-D shapes.

- To draw different shapes with linear, curved lines.

- Form shapes with help of pieces of tangram.

- To make special tiling patterns with tiles of special types.

- To learn about the map of an area.

- To make 2-D and 3-D shapes.

Three sides-say triangle,
square, rectangle have four.
circle has no side ,
even it is oval.

1. **A Jaker is given below. Colour it according to given guidelines and count the figures.**
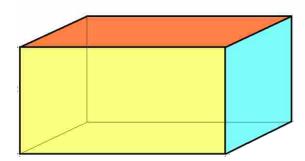
Triangle

Rectangle

Circle

Square

**See the picture and write**

(1) Number of triangles = ☐  (3) Number of rectangles = ☐

(3) Number of squares = ☐  (4) Number of circles = ☐

**2. Count and write faces, vertices and edges of the figure given below :**

Faces = ☐
Vertices = ☐
Edges = ☐

**3. Name the shapes of different figures :**

_____

_____

_____

_____

**4. Count the triangles :**
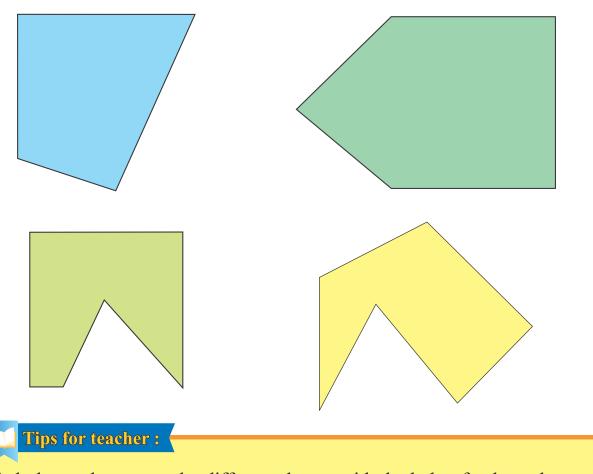
In previous class, we have learnt about triangle, rectangle, square and circle. In this class, we will learn more about these shapes with paper cutting activities and will try to understand more about these shapes.

**Activity**

On entering the class the teacher will tell the students that today, we will play a game of making different shapes of paper.

Cut the largest possible rectangle with the help of papers given below.

**Tips for teacher :**
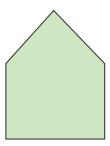
Ask the students to make different shapes with the help of coloured paper.
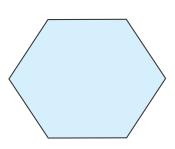
We know about circle, square, triangle and rectangle. Can we make any shape by using four or more lines ?
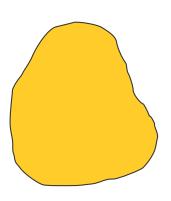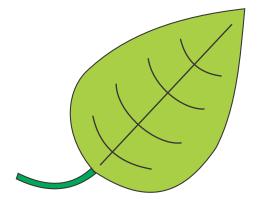
Pentagon                    Hexagon

There are also 2-D shapes like triangle, square and rectangle. Besides this, we have some more figures which have no fixed shape.
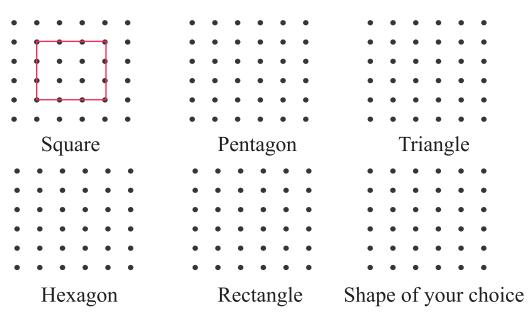
**Tips for teacher :**
The teacher will draw the shapes on the blackboard having 5 sides and 6 sides.
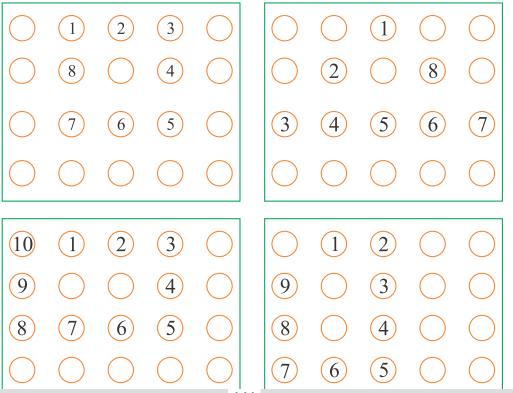
**Form shapes by joining the dots of the dot grid given below :**

Square                     Pentagon                     Triangle

Hexagon                    Rectangle            Shape of your choice

**Join the counting and make the shape :**

141
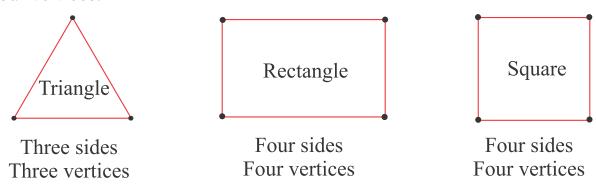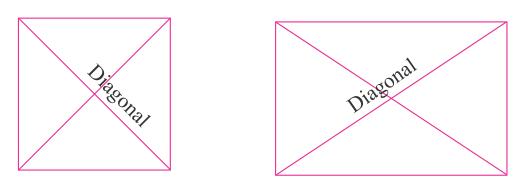
**Identify 2-D shapes according to their properties :**

We have already learnt about different 2-D shapes. These shapes have their own properties and characteristic. Now we will learn about their properties.

We know that each 2-D shape has sides and vertices. We can identify them from these sides and vertices. For example triangles have three sides and three vertices. Similarly rectangles and squares have four sides and four vertices.

Triangle

Rectangle

Square

Three sides
Three vertices

Four sides
Four vertices

Four sides
Four vertices

Now, we will know one more characteristic of the square and the rectangle. That is diagonal. If we join the opposite vertices of rectangle or square then use get the diagonal.

Diagonal

Diagonal

**Each rectangle and square have two diagonals. But a circle and a triangle has no diagonal at all.**
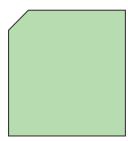
**Write the sides and vertices of the following 2-D slapes :**

(a)

Sides = 
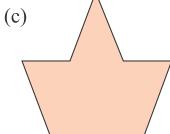
Vertices = 

(b)

Sides = 

Vertices = 

(c)

Sides = 

Vertices = 
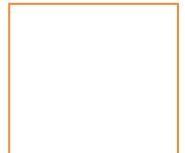
(d)

Sides = 

Vertices = 

**Draw the diagonals in the following figures :**
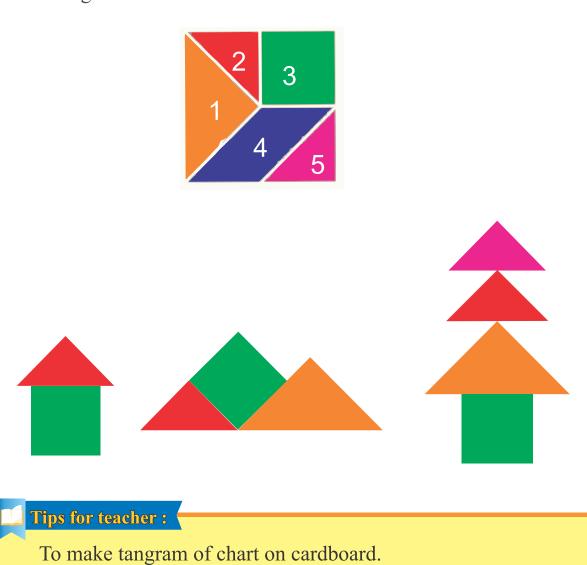
## Make shapes with Tangram
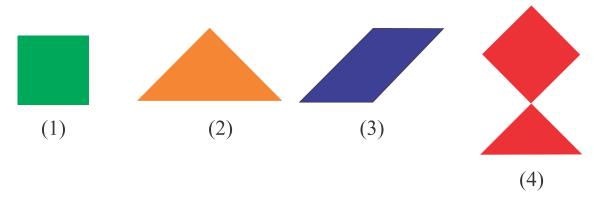
We can make many shapes with the help of different pieces of tangram. Today, we will make shapes with the help of tangram of 5 pieces and 7 pieces.

**Tangram of 5 pieces :** The square made from 5 pieces is called a tangram of 5 pieces. Draw the following shapes by using the tangram of 5 pieces shown in diagram.

1. How many triangles are there in your tangram ?
2. Make the following shapes by using pieces of tangram.

| (1) | (2) | (3) |
| --- | --- | --- |

(4)
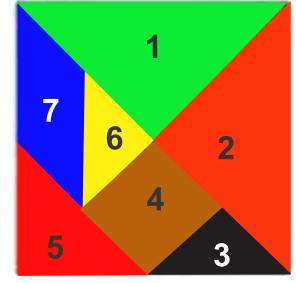
3. Try to know that which edge is equal in piece number 2 and 4.

**Let's learn**
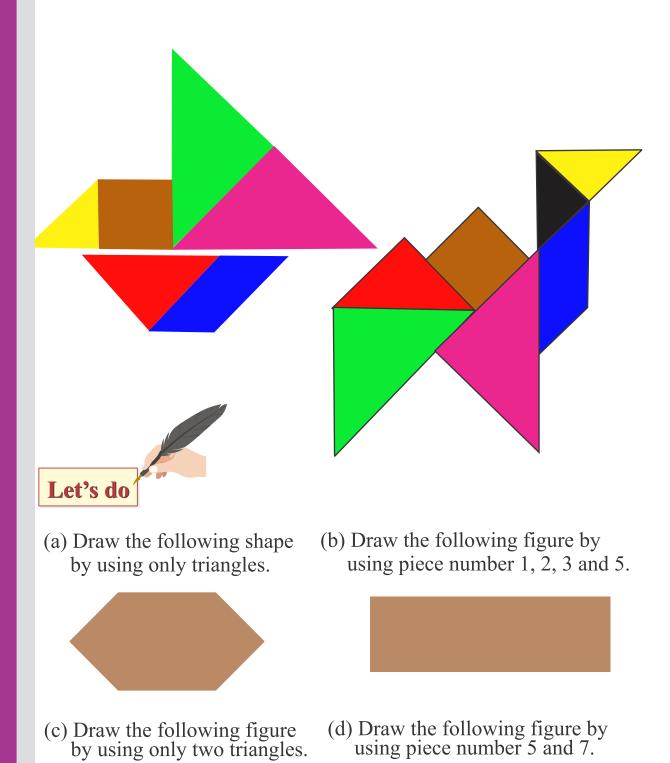
**Tangram of 7 pieces**

The square made from 7 pieces is called a tangram of 7 pieces. Draw the following shapes by using the tangram of 7 pieces shown in the diagramdiagram.

**Let's do**

(a) Draw the following shape by using only triangles.



(b) Draw the following figure by using piece number 1, 2, 3 and 5.



(c) Draw the following figure by using only two triangles.



(d) Draw the following figure by using piece number 5 and 7.
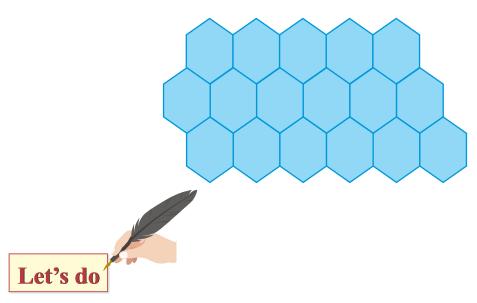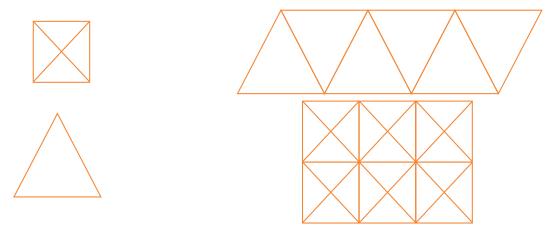
**Make shapes with the special type of tiles**

You must have seen the floor of your house. There are different design made with different tiles. For example look at this tile :
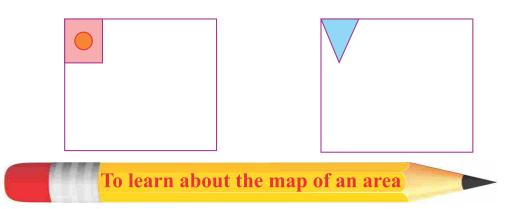
These tiles cover the floor completely without any gap

**Let's do**

1. Here, we have two tiles. There are two designs in front of them. Match the design with tile from which it was made.
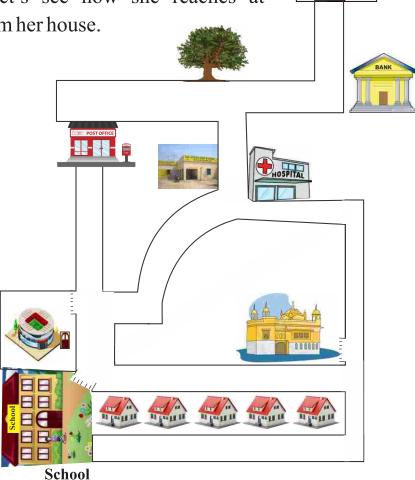
**2. Cover the following area with shown tiles and colour them.**

**To learn about the map of an area**

**Activity**

**The path of my school**

Manpreet has to go from her house to school. Let's see how she reaches at school from her house.

House

School

1. Manpreet starts off from her house.

2. She will go straight from her house, there is bank at left hand side.

3. From bank she turns right.

4. She goes straight and there is an old banyan tree.

5. If she goes straight the road is closed.

6. She turns to the left to go to school.

7. Then she turns to the left and walks straight. She walks along the curved road in front of Panchayat Ghar.

8. She turns right there is stadium gate.

9. She does not go towards stadium gate, she turns left.

10. Finally she sees her school gate.

11. Cover the road with tiles from Manpreet's house to her school.

**Let's do**

- Make a map to go the Gurudwara from your house.

- Does it take longer to reach Gurudwara than to the school.

- Is Manpreet's school farther from the Gurudwara ?

- List those places that comes between Manpreet's school and Gurudwara.
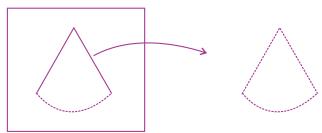
## Making 3-dimensional shapes

We have already learnt about 3-dimensional shapes in previous class. We also know about cube, cuboid, cone, cylinder and sphere. We also know about faces, vetices and edges of the solid 3-dimensional shapes. Now we will learn how to make 3-dimensional shapes by using 2-dimensional shapes.

**Activity**
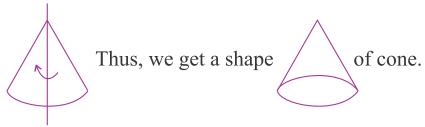
### Making Cone from a triangle

The teacher will cut the triangle from a paper with a base which has a curved edge.

Piece of paper
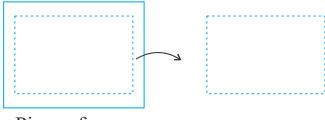
The teacher will rotate it on its vertices.

Thus, we get a shape of cone.

**Activity**
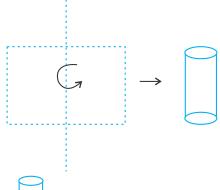
### Making a cylinder from a rectangle

The teacher will cut a rectangular shape from a paper.

Piece of paper

The teacher will rotate it from the centre.

Thus, formed shape is ⬚ called cylinder.
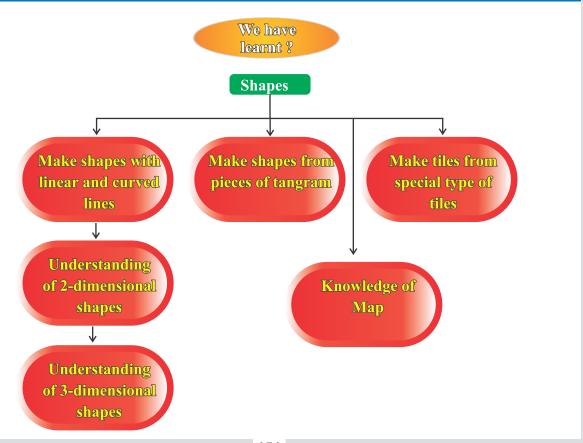
📖 **Tips for teacher :**

The teacher will make more 3-dimensional shapes like cube, cuboid with paper activity method.

**We have learnt ?**

**Shapes**

**Make shapes with linear and curved lines**

**Make shapes from pieces of tangram**

**Make tiles from special type of tiles**

**Understanding of 2-dimensional shapes**

**Knowledge of Map**

**Understanding of 3-dimensional shapes**

# PATTERNS

**7**

## Objectives

- Identify the same shape, number patterns and develop the patterns further.
- Identify the even and odd numbers with the help of patterns and add them.
- Recognise the patterns of numbers from daily life and help to develop patterns by using multiplication and division.
- Learn to make secret messages which will help children in pattern recognition.

**Do you remember ?**

**See carefully and fill in the blanks :**

| 3 | 6 | 9 | | | | | |
|---|---|---|---|---|---|---|---|

| 8 | 18 | 28 | | | | | |
|---|----|----|---|---|---|---|---|

| AB | CD | EF | | | | | |
|----|----|----|---|---|---|---|---|
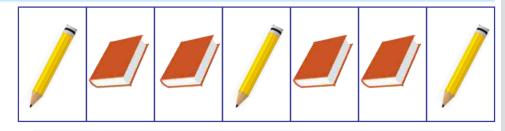
## Introduction

Study of patterns helps students to achieve results with simplicity and pre-assumption. Understanding of patterns those help the students to develop the skill of problem solving.
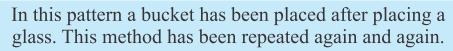
I have drawn some picture patterns, a rule has been followed in these patterns.

Look, In this pattern two books have been placed after placing a pencil.

In this pattern a bucket has been placed after placing a glass. This method has been repeated again and again.

**Tips for teacher :**
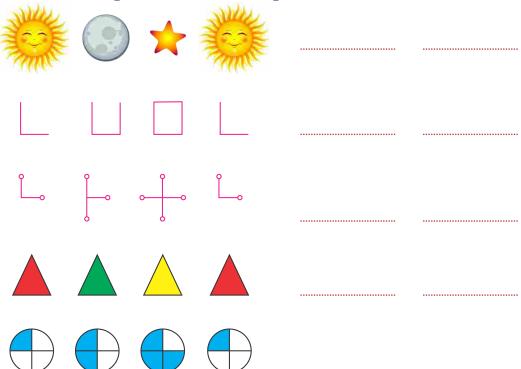
The teacher will give explanations by quoting examples from around the classroom like grills of windows, floor tiles and patterns in clothes to make them understanding the concept of patterns.

## Observe the patterns and complete them :

................................ ................................

................................ ................................

................................ ................................

................................ ................................

................................ ................................

## Make some beautiful patterns with your thumb :

## As first Pattern is given below, make the next patterns.

## Patterns of even and odd numbers :

| 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 |
| | | | | | | | | | |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

On the basis of above pattern we have observed that the numbers those ends with 1, 3, 5, 7 or 9 are called odd numbers and numbers those ends with 2, 4, 6, 8 or 0 are called even numbers.

**Complete the following blank spaces on the basis of above pattern.**

Write all the odd numbers from 1 to 20 :

1, 3, 5, 7, --, --, --, --, --

Write all the even numbers from 21 to 40 :

22, 24, 26, 28, --, --, --, --,

## Sum of the odd numbers :

| 1 | = | 1 | = | 1 | × | 1 |
|---|---|---|---|---|---|---|
| 1+3 | = | 4 | = | 2 | × | 2 |
| 1+3+5 | = | 9 | = | 3 | × | 3 |
| 1+3+5+7 | = | 16 | = | 4 | × | 4 |
| 1+3+5+7+9 | = | 25 | = | 5 | × | 5 |

## Sum of the even numbers

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 | = | 2 | = | 1 | × | 2 |
| 2 + 4 | = | 6 | = | 2 | × | 3 |
| 2 + 4 + 6 | = | 12 | = | 3 | × | 4 |
| 2 + 4 + 6 + 8 | = | 20 | = | 4 | × | 5 |

These patterns further grow in this manner.

Some patterns add one
Some patterns add two
Some pattern add three, four and five
Some add six, seven, eight and nine
Some patterns also follow multiplication
and Some to do subtraction
Some pattern also follow division
Think understand, and learn.

Let's do

1. Observe the patterns and complete the following :

(a) 51 $\overset{+2}{\frown}$ 53 $\overset{+2}{\frown}$ 55 $\overset{+2}{\frown}$ 57 $\overset{+2}{\frown}$ _____ _____

(b) 90 $\overset{-2}{\frown}$ 88 $\overset{-2}{\frown}$ 86 $\overset{-2}{\frown}$ 84 $\overset{-2}{\frown}$ _____ _____

(c) 61 $\overset{+3}{\frown}$ 64 $\overset{+3}{\frown}$ 67 $\overset{+3}{\frown}$ 70 $\overset{+3}{\frown}$ _____ _____

2. Add the odd numbers and complete the following patterns :

(a) $1 + 3 + 5 + 7 + 9 + 11$ $=$ $6 \times 6$

(b) $1 + 3 + 5 + 7 + 9 + 11 + 13$ $=$ $7 \times 7$

(c) $1 + 3 + 5 + 7 + 9 + 11 + 13 + 15$ $=$ _____

(d) $1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17$ $=$ _____

3. Add the even numbers and complete the following patterns :

(a) $2 + 4 + 6 + 8 + 10$ $=$ $5 \times 6$
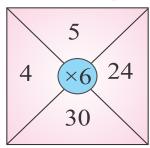
(b) $2 + 4 + 6 + 8 + 10 + 12$ $=$ $6 \times 7$
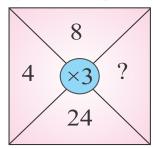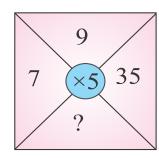
(c) $2 + 4 + 6 + 8 + 10 + 12 + 14$ $=$ _____

(d) $2 + 4 + 6 + 8 + 10 + 12 + 14 + 16$ $=$ _____

4. Observe the pattern carefully and complete it :



## Activity

### Secret messages

Harman and Adab are trying to tell each other something through secret messages, can you tell what they are trying to say ?

1W2H3A4T5A6R7E8Y9O1U2D3O4I5N6G

1I2A3M4S5T6U7D8Y1I2N3G

What are you doing ?
I am studying.

Some more patterns :

1W2E3L4 C5O6M7E8
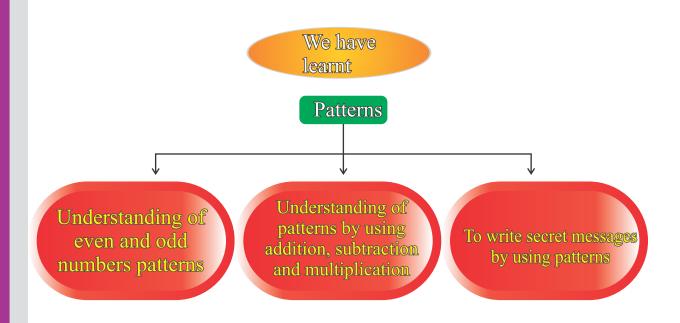
1L2E3T4U5S6F7U8N9

Now, you can also try to make more such messages :

........................................................................................................

........................................................................................................

........................................................................................................

📖 **Tips for teacher :**

The teacher will tell the students to read only English alphabets and leave all Mathematical digits. He will ask the students to make sentence of it.

We have learnt

Patterns

| Understanding of even and odd numbers patterns | Understanding of patterns by using addition, subtraction and multiplication | To write secret messages by using patterns |

# 8  MEASUREMENT
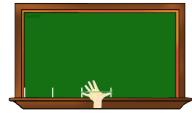
## Objectives

- To recognise standard units of measurement.
- Relationship of smaller and larger standard units.
- Knowledge of addition and subtraction using standard units.
- To compare.
- Think in a sequence.

**Length**

**Do you remember?**

1. How many hand spans wide is the table of your class ?
   ................................................

2. How many hand spans wide is the blackboard ?
   ................................................

3. How many steps is the classroom away from the school gate ?
   ................................................

- The answers of above questions will be different.
- It is because all the students have unequal length of hand spans and footsteps.

## In our daily life

Children, the cloth merchant uses a metre rod to measure a piece of cloth.

| 1|0 | 2|0 | 3|0 | 4|0 | 5|0 | 6|0 | 7|0 | 8|0 | 9|0 | 100 cm |

Metre rod

Does the tailor also use a metre rod to measure a piece of cloth ? Does he use metre rod to take your measurement ?

No, the tailor uses inches tape for measuring.

Now, children tell me, what does a mason use to measure the length?

Mason uses a measuring tape to take the measurement.

### Activity

Material – Stick or rope, measuring tape, marker.

Procedure – Take a stick and mark a point on it. Measure 1 metre, with the help of a measuring tape. Now every student has its own marked metre rod.

### Tips for teacher :

The teacher will help the students in preparing a metre rod.

160
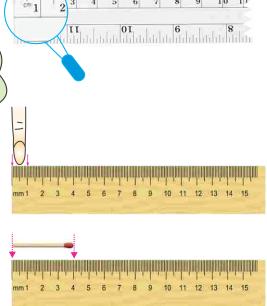
The standard unit of length is metre.

1 metre = 100 centimetre
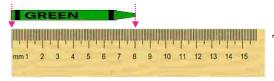
Children, you must be thinking, How Long will be 1cm. ?

Children, this is called a scale. The points marked on it are centimetres.

One centimetre is approximately equal to the width of your finger.

Matchstick is 4 cm long.

The wax colour is...........centimetre long.

GREEN

**Tips for teacher :**

The teacher will call students and ask them to measure length of different things with the help of scale/ruler.

**Fill the following chart with the height of your class mates.**

| Student Name | Estimated height (cm) | Actual height (cm) |
|---|---|---|
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
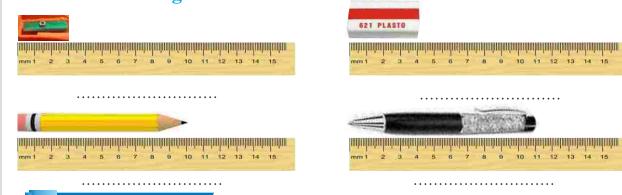
Estimate the height of door (in metres).

Then the teacher will measure it and will tell it is.....metre.

**Let's do**

**1. Measure the length :**

.........................

.........................

.........................

.........................

**Tips for teacher**

The teachers will help the students to measure length.

**2. Complete the following table by choosing some articles (things) :**

| Things | Estimated length | Actual length |
|--------|------------------|---------------|
| Chalk | 7 cm | 7 cm |
|  |  |  |
|  |  |  |
|  |  |  |

**3. Measure and write the length of the line segment in centimetres.**

....... cm ....... cm

....... cm ....... cm

Let's Leran
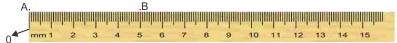
**Draw a line segment of given length.**

To draw a line segment of (suppose the length is 5 cm) the given length. We follow as given below :

Mark a point A. Place the 0 mark of the scale on point A as shown in the figure.

Now mark another point B at 5 cm mark.

Join A and B with the help of pencil and scale. AB is the required line segment.

**Draw the line segments of given length :**

(a) 5 cm.          (b) 8 cm.          (c) 6 cm.          (d) 10 cm.

(e) 2 cm.          (f) 7 cm.          (g) 9 cm.          (h) 12 cm.

**Measure and write the length and breadth of real ₹ 100 currency note.**

Length of real ₹ 100 currency note.............cm.

Breadth of real ₹ 100 currency note.............cm.

**Let's learn**

1. Add

$$\begin{array}{r} 44 \text{ cm} \\ + 16 \text{ cm} \\ \hline 60 \text{ cm} \\ \hline \end{array}$$

$$\begin{array}{r} 55 \text{ cm} \\ + 24 \text{ cm} \\ \hline 79 \text{ cm} \\ \hline \end{array}$$

2. Subtract

$$\begin{array}{r} 85 \text{ cm} \\ - 24 \text{ cm} \\ \hline 61 \text{ cm} \\ \hline \end{array}$$

$$\begin{array}{r} \overset{5}{\phantom{6}}\overset{10}{6\!\!\!/0} \text{ cm} \\ - 28 \text{ cm} \\ \hline 32 \text{ cm} \\ \hline \end{array}$$

**3. Suman has 80 cm long ribbon. Meena has 7.5 cm long ribbon. Find the total length of ribbon if both ribbons join together.**

Sol.

Length of Suman's ribbon = 80 cm.

length to meena's ribbon = 75 cm.

Total length of both ribbons =    80 cm.

$$\begin{array}{r} +\ \ 75 \text{ cm.} \\ \hline 155 \text{ cm.} \\ \hline \end{array}$$

Thus, total length of both ribbons is 155 cm.

## Let's do

### 1. Add

| 8 cm | 1 2 cm | 4 5 cm | 8 0 cm |
|------|--------|--------|--------|
| + 6 cm | + 1 8 cm | + 2 6 cm | + 2 5 cm |
| | | | |

| 9 cm | 8 2 cm | 6 7 cm | 3 0 cm |
|------|--------|--------|--------|
| + 4 cm | + 6 4 cm | + 5 7 cm | + 1 8 cm |
| | | | |

### 2. Subtract

| 9 cm | 7 4 cm | 4 2 cm | 7 0 cm |
|------|--------|--------|--------|
| – 4 cm | – 1 5 cm | – 1 6 cm | – 3 5 cm |
| | | | |

| 4 1 cm | 4 2 cm | 6 0 cm | 9 5 cm |
|--------|--------|--------|--------|
| – 2 5 cm | – 3 0 cm | – 2 8 cm | – 4 0 cm |
| | | | |

3. In a school cloth will be given to girl students. 2 metre cloth will be given to Simran for shirt and 3 metre will be given for salwar. Find how much cloth in total Simran requires for uniform.

4. Satveer's school is 175 m away from her house. Find the distance which she covers from her house to her school and from her school to her house ?

5. Saroj used 60 cm long red ribbon and 75 cm long green ribbon to make a flower. What is the total length of ribbon used by Saroj ?

# Weight
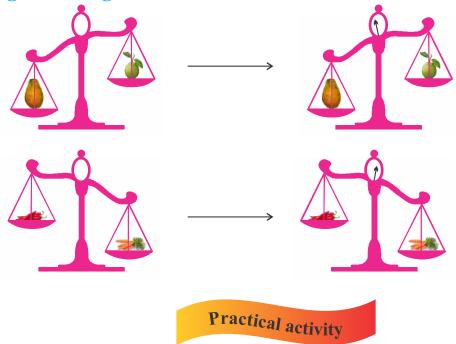
1) There is a bag in your one hand while a pencil in your other hand, which thing is heavier ?

2) There is a pappaya in your one hand while there is a apple in the other, which of these is heavier ?

3) There are 20 mangoes in one basket while another basket has 20 berries. Which basket is heavier ?

## Let's learn

**In our daily life**

Dear students, If there is less salt in the vegetable curry, will you like it ?

No

So dear students, if quantity of things is not measured properly the things will be tasteless and you will not like it.

Measure each item properly for preparing a dish delicious : be it curry, kheer, or poori.

**To show the position of the weighing machine according to the weight of things.**



**Practical activity**

**Objective :** Make your own weighing Machine/balance scale.
**Material Required :** Two plastic lids, rope, stick of same size.
**Procedure :** 1. The teacher will help the students to punch the holes in these lids.



Put the rope through these holes and tie it on both ends of the stick as shown in the picture.



Tie small portion of rope in the centre of the stick. Your balance machine is ready now.

**Let's do**

**1. Show the position of the pointer according to the weight of the objects.**









**2. Find heavier, lighter or equal.**





(a) Cauliflower is........than apple.  (b) Both of the  oranges are.........
in weight.
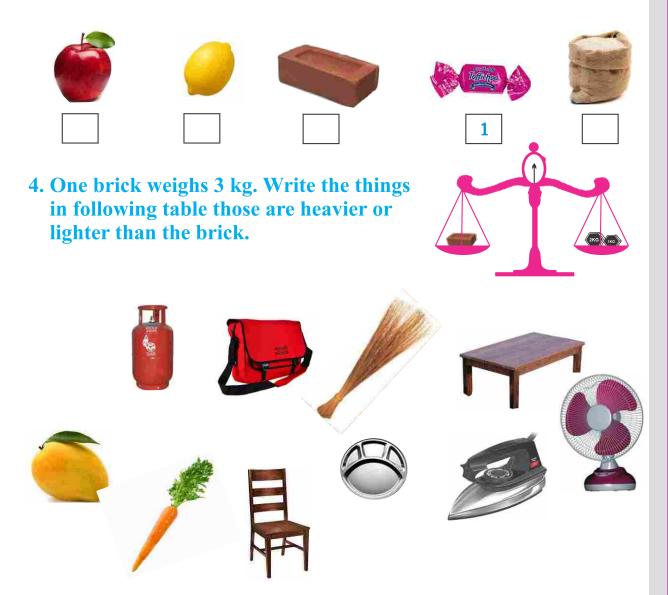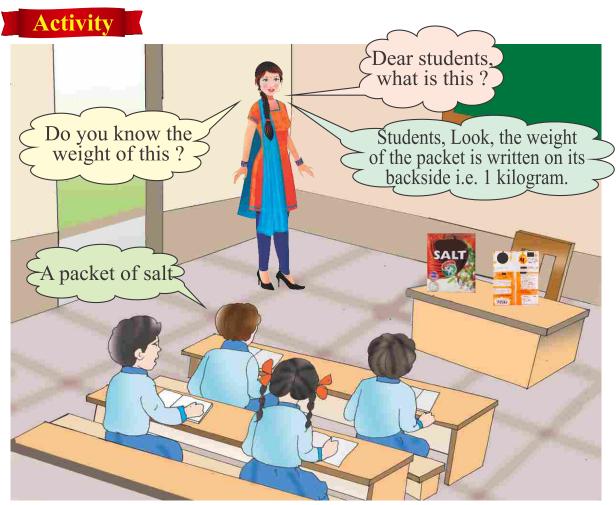




(c) Muskmelon is........than watermelon.

(d) Book is............than geometry box.

**3. Write the following things in light weight to heavy weight order (1 to 5) based on their weight.**

| | | | | |
|---|---|---|---|---|
| ☐ | ☐ | ☐ | 1 | ☐ |

**4. One brick weighs 3 kg. Write the things in following table those are heavier or lighter than the brick.**

| Things heavier than the brick | Things lighter than the brick |
|---|---|
| 1. Chair | 1. Plate |
| 2. | 2. |
| 3. | 3. |
| 4. | 4. |
| 5. | 5. |

Students, bring some empty packets from your house and note the weight written on them and cut them and paste them below :

| Name of thing | Weight | Place to paste |
|---|---|---|
|  |  |  |

**Let's learn**

## 1. Addition and subtraction of units of weight.

$$
\begin{array}{r}
7\,6\text{ kg}\\
+\ 54\text{ kg}\\
\hline
130\text{ kg}
\end{array}
\qquad
\begin{array}{r}
28\text{ kg}\\
+\ 74\text{ kg}\\
\hline
102\text{ kg}
\end{array}
\qquad
\begin{array}{r}
4\ 10\\
\cancel{5}\cancel{0}\text{ kg}\\
-\ 26\text{ kg}\\
\hline
24\text{ kg}
\end{array}
\qquad
\begin{array}{r}
80\text{ kg}\\
-\ 37\text{ kg}\\
\hline
43\text{ kg}
\end{array}
$$

**2. The weight of Raman is 30 kg. The weight of Jot is 25 kg. Whose weight is more and how much ?**

Weight of Raman = 30 kilogram
Weight of Jot = 25 kilogram

More weight =   30 kilogram
                − 25 kilogram
                _____
                 5 kilogram

Raman's weight is 5 kg more than Jot's weight.

**Let's do**

**1. Add**

| 82 Kg | 50 Kg | 48 Kg | 85 Kg |
|-------|-------|-------|-------|
| + 65 Kg | + 94 Kg | + 75 Kg | + 55 Kg |

**2. Subtract**

| 87 Kg | 71 Kg | 90 Kg | 42 Kg |
|-------|-------|-------|-------|
| - 50 Kg | - 51 Kg | - 76 Kg | - 25 Kg |

3.   Amrik Singh bought 25 kg flour and 8 kg sugar. He bought how many kg of grocery ?

4.   Vegetable seller Shanker bought 90 kg potatoes from vegetable market. He sold 42 kg potatoes. How much potatoes left with him ?

5.   In a Govt. school 103 kg wheat and 98 kg rice are used in mid-day meal during one month. How much grains is used in school during one month ?

# Capacity

**The capacity of a bottle is equal to the 3 glasses of water then**

(a) Capacity of 2 bottles will be equal to the.............glasses of water.

(b) Capacity of 3 bottles will be equal to the.............glasses of water.

(c) Capacity of 4 bottles will be equal to the.............glasses of water.

(d) Capacity of 5 bottles will be equal to the.............glasses of water.

(e) Capacity of 6 bottles will be equal to the.............glasses of water.

**Activity**

Fill the water in different shaped vessels and see.

You will see that water will take the shape of that vessel.

Children, Raman has filled the jug with 6 glasses of water.

Raman

It means capacity of jug is equal to the capacity of 6 glasses of water.

See here ! Meenu has filled the same jug with only 4 glasses of water.
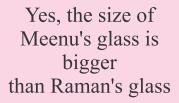
Meenu

Children, can you tell why it has happened ?

It happened becasue Meenu's glass is bigger in size

Yes, the size of Meenu's glass is bigger than Raman's glass

Students, you must have seen that a milkman does not use any ordinary mug to measure the quantity of milk. He has a measuring mug generally of 1 litre. With the help of it, he measures the milk correctly.

Write the following objects as 1 to 5 as per their capacity.
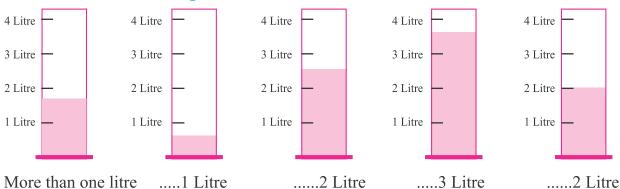


The capacity of this mug is 1 litre. Classify the things given below, more or less in capacity as compared to mug.
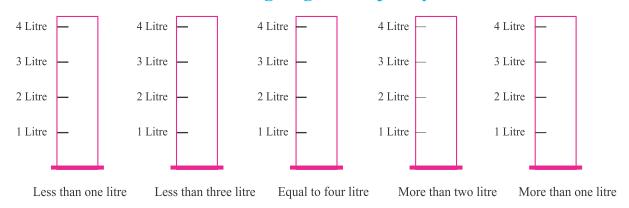


| Things having more quantity than mug | Things having less quantity than mug |
|---|---|
| 1.        Jug | 1.     Spoon |
| 2. | 2. |
| 3. | 3. |
| 4. | 4. |
| 5. | 5. |
| 6. | 6. |

## Find less, more or equal.

| 4 Litre | 4 Litre | 4 Litre | 4 Litre | 4 Litre |
| 3 Litre | 3 Litre | 3 Litre | 3 Litre | 3 Litre |
| 2 Litre | 2 Litre | 2 Litre | 2 Litre | 2 Litre |
| 1 Litre | 1 Litre | 1 Litre | 1 Litre | 1 Litre |

More than one litre     .....1 Litre     ......2 Litre     .....3 Litre     ......2 Litre

## Colour the vessels according to given capacity.

| 4 Litre | 4 Litre | 4 Litre | 4 Litre | 4 Litre |
| 3 Litre | 3 Litre | 3 Litre | 3 Litre | 3 Litre |
| 2 Litre | 2 Litre | 2 Litre | 2 Litre | 2 Litre |
| 1 Litre | 1 Litre | 1 Litre | 1 Litre | 1 Litre |

Less than one litre     Less than three litre     Equal to four litre     More than two litre     More than one litre

5. Fill some vessels with the help of a glass and find out how many glasses are needed to fill each of them.

| Things | Estimated number of glasses | Actual number of glasses |
|---|---|---|
| 1. Jug | | |
| 2. Mug | | |
| 3. Bucket | | |
| 4. Tub | | |

5. Find the capacity of above vessels with the help of and .

## Let's learn

### 1. Addition/subtraction of units of capacity.

$$
\begin{array}{r}
4\ 9\ l.\\
+\ 7\ 2\ l.\\
\hline
121\ l.
\end{array}
\qquad
\begin{array}{r}
9\ 4\ l.\\
+\ 2\ 6\ l.\\
\hline
120\ l.
\end{array}
\qquad
\begin{array}{r}
\overset{4}{\cancel{5}}\ \overset{13}{\cancel{3}}\ l.\\
-\ 2\ 6\ l.\\
\hline
27\ l.
\end{array}
\qquad
\begin{array}{r}
\overset{4}{\cancel{5}}\ \overset{10}{\cancel{0}}\ l.\\
-\ 1\ 6\ l.\\
\hline
34\ l.
\end{array}
$$

**2. Harjot's water tank has 500 litre capacity. His father filled the tank in the morning with the help of motor pump. They used 350 litre of water during the day. How much water is left in the tank ?**

Sol.

Water in the tank = 500 *l.*

Water used = 350 *l.*

$$
\text{Water left in the tank} = \begin{array}{r} 500\ l.\\ -\ 350\ l.\\ \hline 150\ l. \end{array}
$$

Thus, 150 litre water is now in the tank.

## Let's do

### 1. Add

$$
\begin{array}{r}
5\ 9\ l.\\
+\ 9\ 1\ l.\\
\hline
\end{array}
\qquad
\begin{array}{r}
3\ 6\ l.\\
+\ 9\ 0\ l.\\
\hline
\end{array}
\qquad
\begin{array}{r}
4\ 0\ l.\\
+\ 2\ 5\ l.\\
\hline
\end{array}
\qquad
\begin{array}{r}
8\ 4\ l.\\
+\ 5\ 6\ l.\\
\hline
\end{array}
$$

### 2. Subtract

$$
\begin{array}{r}
4\ 9\ l.\\
-\ 2\ 5\ l.\\
\hline
\end{array}
\qquad
\begin{array}{r}
5\ 8\ l.\\
-\ 1\ 0\ l.\\
\hline
\end{array}
\qquad
\begin{array}{r}
2\ 0\ l.\\
-\ 1\ 3\ l.\\
\hline
\end{array}
\qquad
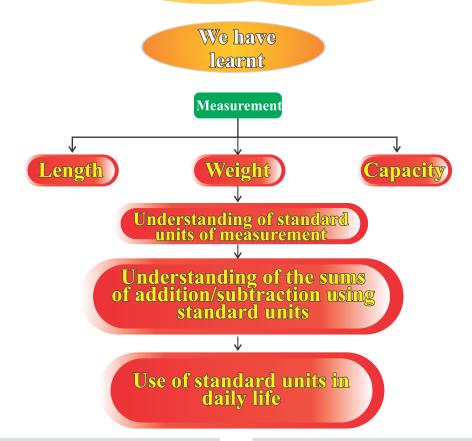\begin{array}{r}
7\ 8\ l.\\
-\ 4\ 9\ l.\\
\hline
\end{array}
$$

3. Smt Devki Rani bought 5 litre of refined oil and 2 litre of mustard oil for her house. How much oil did she buy ?

4. One family consumes 375 *l* of water in a day. If the capacity of water tank is 500 *l* then how much water is left in the tank ?

## Worksheet

### Tick (✓) the correct answer :

1. How many centimeters are there in one meter ?

   (a) 10 cm.     (b) 100 cm.     (c) 1000 cm.     (d) 10,000 cm.

2. How many centimeter are there in 4 metres ?

   (a) 300 cm.     (b) 4000 cm.     (c) 400 cm.     (d) 40 cm.

3. The length of pencil is 18 cm and a length of piece of chalk is 6 cm. How much is the pencil longer than the piece of a chalk ?

   (a) 18 cm     (b) 16 cm   (c) 12 cm     (d) 14 cm

4. The length of pen is 12 cm and sharpner's length is 2 cm. How much is the pen longer than the sharpner ?

   (a) 8 cm     (b) 6 cm     (c) 9 cm     (d) 10 cm

5. Raman's mother bought 5 kg potatos and 4 kg onions from a vegetable shop. What is total quantity she bought ?

   (a) 7 kg     (b) 9 kg     (c) 12 kg     (d) 8 kg

6. A sweet seller made 20 kg laddoo's in one day and sold 10 kg of ladoos out of it. How much quantity of laddoos was left with him ?

   (a) 7 kg     (b) 10 kg   (c) 20 kg     (d) 25 kg

7. A vessel contains 10 litres of milk and another vessel contains 15 litres of milk. What is total quantity of milk in both the vessels.

   (a) 25 *l*     (b) 15 *l*     (c) 10 *l*     (d) 35 *l*

## Points to Remember

- 1 metre = 100 centimetres.
- We measure small things in centimetres.
- 1 kg = 1000 g
- We measure liquids like water, milk in litres.

**We have learnt**

**Measurement**

**Length**     **Weight**     **Capacity**

**Understanding of standard units of measurement**

**Understanding of the sums of addition/subtraction using standard units**

**Use of standard units in daily life**

# DATA HANDLING

**10**

## Objectives

- To collect data and represent it on bar graph.
- To represent data in tabular form.
- To understand the pictograph.
- To represent the data in tally marks and find the result.

**Activity**

The teacher will discuss about the beautiful school garden with students in the classroom. They discuss about flowers in the garden. The teacher ask them about their favourite flowers.

Teacher : Students, Do you like your school garden ?

Students : Yes teacher, we really like flowers of different colours in our school garden.

Now the teacher takes the students out in the school garden.

Children are very happy to see their favourite flowers in the garden. They sit in a circle in the garden.

Teacher : Students, which colour of flowers are there in the garden ?

Students : Blue, Yellow, Red, Orange, White.

Teacher divides the students in groups according to the colour of flowers. Teacher tells the students to count the number of flowers according to the colour of their group.

📖 **Tips for teacher**

If there is no garden in the school campus then the teacher can take the students to any other garden out side the school.

When they count all flowers in their groups then the teacher asks them to tell the number of flowers. All the children of each group will tell the number of flowers of their colour.



The teacher will ask students to make a table in their note book and write the counting of colourful flowers.

Sumandeep :  Teacher, there are so many flowers. How can we represent them in a tabular form.

Teacher :  Well, we can use symbols for it. When the things are in large number we use symbols for them. These symbols are called pictorial representation of the data or pictograph.

The teacher asks the students to use this symbol  for two flowers and completes the table like this.

| Colour of flowers | Number of flowers |
|---|---|
|  | 10 |
|  | 12 |
|  | 14 |
|  | 6 |
|  | 20 |

**Pictograph**

When the numerical data is shown through pictures it is called pictograph. In pictograph we use same picture or symbols to represent particular number of objects. One symbol may represent 1, 5, 10 or 20 or more numbers of like objects. They are simple, easy, clear and complete in the form to answer the questions. Each symbol clearly represents the number of objects.

## Let's learn

### Representing data with the help of pictograph

**1. Look at the Attendance board of your school showing today's attendance**

| Attendance Board | | Dated ........... | |
| --- | --- | --- | --- |
| Class | Number of student | Students present | Students absent |
| Class I | 20 | 17 | 3 |
| Class II | 18 | 18 | 0 |
| Class III | 23 | 22 | 1 |
| Class IV | 22 | 20 | 2 |
| Class V | 17 | 15 | 2 |
| Total | 100 | 92 | 8 |

This board shows the number of students in each class. It also shows the number of students present and absent.

(a)  How many total students are there in the school ?

Ans : 100

(b)  How many students are present according to the attendance board ?

Ans : 92

(c) According to attandence board Which class has highest number of absent students ?

Ans : Class I

Make a pictograph of absent students by using above attendance board.

Symbol used    😊 = 1 absent student

| Class | Absent students |
|-------|-----------------|
| Class I | 😊 😊 😊 |
| Class II | |
| Class III | 😊 |
| Class IV | 😊 😊 |
| Class V | 😊 😊 |

2. The school celebrated the tree plantation day and each class planted trees as given below :

1 plant represents    🪴 = 5 plants

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| Class | Number of trees planted |
|-------|-------------------------|
| I |  |
| II |  |
| III |  |
| IV |  |
| V |  |

(a) How many plants were planted by

Ans :  Class I = 3 × 5 = 15

Class II = 5 × 5 = 25

Class III = 4 × 5 = 20

Class IV = 2 × 5 = 10

Class V = 10 × 5 = 50

(b) Which class planted less number of trees and how many ?

Ans. Class IV ; 10 trees

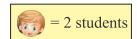(c) Which class planted more number of trees and how many ?

Ans : Class V ; 50 trees

3. The following table shows the number of students of Class III those like to eat vegetables.

| Vegetable's Name | Cauliflower | Bottle gourd | Brinjal | Capsicum |
|------------------|-------------|--------------|---------|----------|
| No. of students | 8 | 6 | 14 | 10 |

Represent the above information with the help of pictograph.

Sol.

= 2 students
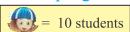
| Vegetable's Name | Number of students who like that vegetable |
|---|---|
| Cauliflower | 😊 😊 😊 😊 |
| Bottle gourd | 😊 😊 😊 |
| Brinjal | 😊 😊 😊 😊 😊 😊 😊 |
| Capsicum | 😊 😊 😊 😊 😊 |

**Let's do**

1. Following pictograph shows cartoon programme liked by students of school.

= 10 students

| Name of cartoon | Number of students |
|---|---|
| Chhota Bhim | 👧 👧 👧 |
| Motu Patlu | 👧 👧 |
| Tom and Jerry | 👧 👧 👧 👧 👧 👧 |
| Doremon | 👧 👧 👧 👧 |
| Dora | 👧 👧 👧 👧 👧 👧 👧 |
| Krishna | 👧 👧 👧 👧 👧 |

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Answer the questions on the basis of above pictograph.

(i) Which cartoon is most popular among students ?

(ii) Which cartoon is least popular among students ?

(iii) How many student like the cartoon of Doremon ?

(iv) Which of the two cartoons are equally popular among students ?

(v) How many students like Chota Bheem and Motu Patlu ?

(vi) Is there any other way to represent the above data ?

**2. Look at the pictograph given below and answer the questions :**

 = 3 runs

| Name of Player | Runs scored by the player |
|---|---|
| Rohit Sharma | 🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴 |
| Mohinder Singh Dhoni | 🔴🔴🔴🔴 |
| Virat Kohli | 🔴🔴🔴🔴🔴🔴🔴 |
| Yuvraj Singh | 🔴🔴🔴🔴🔴 |
| Shikhar Dhawan | 🔴🔴🔴🔴🔴🔴 |

(i) Who scored maximum number of runs and how many ?

(ii) Who scored minimum number of runs and how many ?

(iii) Which two players scored same number of runs and how many ?

(iv) Total runs scored by Shikhar Dhawan and Virat Kohli ?

3. The following table shows the marks obtained by a IIIrd class student Gurjot in her exams :

| Subject | Mathematics | Punjabi | English | Environment Studies |
|---|---|---|---|---|
| Marks obtained | 60 | 80 | 70 | 50 |

Represent the above information with the help of a pictograph (Assume one picture = 10 marks]

4. In a school, Five classes have been given the responsibility to take care of 5 flower beds. The following table shows the number of flowers in each bed, alloted to the different classes.

| Class | I | II | III | IV | V |
|---|---|---|---|---|---|
| Number of flowers | 20 | 8 | 16 | 12 | 24 |

Represent the above information with the help of a pictograph

Assume     = 2 flowers

**Tally Marks**

So far, we have used pictographs to represent the data. But when the data is more complicated or is in mixed form we use tally marks to represent data instead of pictograph.

We can classify the given data in set of five's by using tally marks. We use tally marks in this manner.

| Number | Tally Marks |
|---|---|
| 1 | \| |
| 2 | \|\| |
| 3 | \|\|\| |
| 4 | \|\|\|\| |
| 5 | ЖΝ |
| 6 | ЖΝ \| |
| 7 | ЖΝ \|\| |
| ……… | ……… |
| ……… | ……… |
| and so on | |
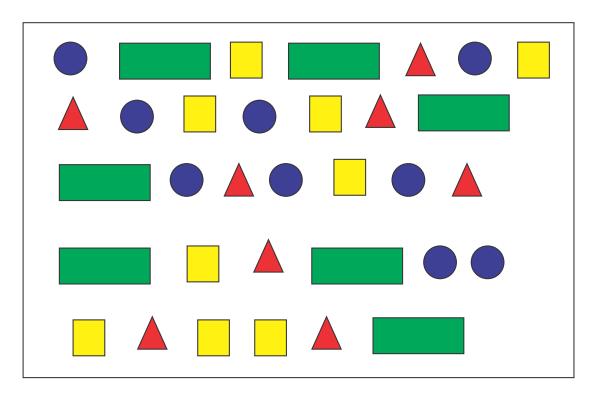
Find tally marks carefully
don't leave a mistake
Fifth one is slanting line on four
learn it for right answer's sake

**Let's learn**

1. The different figures/shapes of maths kit are shown in the following box :



1. Represent the above data by using tally marks.

| Shape | Tally Mark | Number |
|-------|-----------|--------|
| ● | ЖЖ IIII | 9 |
| ▬ | ЖЖ II | 7 |
| ■ | ЖЖ IIII | 9 |
| ▲ | ЖЖ III | 8 |

2. Today is Manjit Singh's birthday. He is the student of 3rd class. His classmates have decorated a wall of the classroom with some colourful balloons.
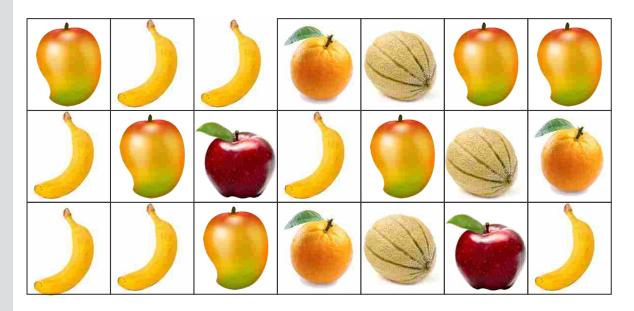
Represent the information given at previous page with the help of tally marks.

| Colours of baloon | Tally marks | Number |
|---|---|---|
| 🔴 | | |
| 🟢 | | |
| 🟡 | | |
| 🔵 | | |
| 🟠 | | |

Find :

(i) Which colour has maximum number of balloons ?

(ii) How many yellow balloons are there ?

(iii) How many balloons are there in total ?

3. Third class student were asked about their favourite fruits. Their choices are given below :

Represent the information given at previous page with the help of tally marks.

| Fruit | Tally Marks | Numbers |
|---|---|---|
| 🥭 | | |
| 🍎 | | |
| 🍌 | | |
| 🍊 | | |
| 🍈 | | |

Find :

(i) Which fruit is the choice of maximum students ?

(ii) Which fruit is the choice of least number of students ?

(iii) How many students opt for Banana ?

(iv) How many students like Apples ?

4. The following table shows the favourtie games of Third class students :

| Names of game | Tally Marks |
|---|---|
| Kabbadi | ⅢⅢ Ⅲ |
| Kho-Kho | ⅢⅢ ⅢⅢ Ⅱ |
| Football | ⅢⅢ |
| Cricket | ⅢⅢ ⅢⅢ ⅢⅢ |

**Answer the following questions :**

(i) Which is the most favourite game of students ?

(ii) Which is the least favourite game of students ?

(iii) How many students like to play Kho-Kho ?

(iv) How many students in total like to play Football and Cricket ?

(v) How many students are studying in class III ?

**5. The table given below shows the favourite colours of 3rd class students :**

| Colour | Tally Marks |
|---|---|
| 🟥 | ⲀⲀ |
| 🟫 | ||| |
| 🟩 | ⲀⲀ |
| 🟧 | ⲀⲀ ||| |
| 🟦 | ⲀⲀ ⲀⲀ || |

**Answer these questions :**

(i) Which is the most favourite colour of the students ?

(ii) Which is the least favourite colour of students ?

(iii) How many students like red colour ?

(iv) Which two colours are equally liked by the students ?

(v) How many students study in class III ?

**Objectives :**

1) To represent data in tally marks.

2) To use tally marks by playway method.

3) To give the chance for counting.

4) To understand less/more quantity.

**Material :** Pencil, Note book, dice, black board, chalk.

**Procedure :**

1) Divide the students in groups and show them the dice. Show the number of dots on the different faces of dice.

2) The teacher draws a table on the blackboard.

3) Dice is thrown by a student.

4) On throwing the dice, the dots are counted on the face which comes up.



5) For each throw a mark '|' is drawn in the table against the number appeared on the dice.

6) The dice is thrown 30 times and each time the number shown by dice is noted in the table and a symbol (Tally mark) is marked against that number.

7) Students also make table in their notebooks and they mark tally marks against the number shown by the dice.

| Face of dice | Number of times/For each throw |
|---|---|
|  | |
|  | |
|  | |
|  | |
|  | |
|  | |

## To find result

(1) Which face of dice appeared maximum number of time and how many times ?

(2) Which face of dice appeared minimum number of times and how many times ?

(3)  How many times did  appear ?...............

(4) How many times did  appear ?...............

(5) How many faces does a dice has ?

(1) If 😊 = 5 students then 😊😊😊😊😊 = .............. students.

(2) In a school's annual day function four students of class III made bouquets that are shown in the pictograph as below.

| Name | Flowers to be used |
|---|---|
| Jaspreet Singh | 🌼 |
| Harpreet Singh | 🌼 🌼 🌼 🌼 🌼 |
| Amandeep Kaur | 🌼 🌼 🌼 🌼 🌼 |
| Sandeep | 🌼 🌼 🌼 🌼 |

🌼 = 5 Flowers

(i) Jaspreet Singh used one flower to make a bouquet.

(✓ Or ✗)

(ii) Sandeep used 20 flowers to make a bouquet. (✓ Or ✗)

(iii) Sandeep used maximum number of flowers to make a bouquet.

(✓ Or ✗)

(iv)  Which of the student used 5 flowers to make a bouquet ?

(a) Jaspreet Singh                    (b) Harpreet Singh

(c) Amandeep Kaur                 (d) Sandeep

(v)   All students used ................... flowers to make a bouquet.

(vi)  Which of the two students used same number of flowers to make

bouquets ?

(a) Jaspreet Singh and Harpreet Singh

(b) Harpreet Singh and Amandeep Kaur

(c) Amandeep Kaur and Sandeep

(d) Harpreet Singh and Sandeep

(vii) Which tally marks is used to show the flowers used by Amandeep

Kaur ?

(a)  𝍩                          (b)  𝍩 𝍩

(c)  𝍩 ||||                     (d)  𝍩 𝍩 𝍩 𝍩 𝍩

(viii) Which student used 𝍩 𝍩 𝍩 𝍩 for the number of flowers shown in

the tally marks ?

(a) Amandeep Kaur                 (b) Jaspreet Singh

(c) Sandeep                        (d) Harpreet Singh

(ix)  In the above table stands for 🌼 5 flowers. ( ✓ Or ✗ )

**Points to remember**

- Collection of facts in numbers is called data. Representing data in picture form is called pictograph.
- We use picture symbols to represent large number of data.
- We can use pictograph or 'Tally marks' to represent data.

**We have leant**

**Data**

To collect data and represent by pictograph

To collect data and represent in table

Understanding of pictograph

To draw tally marks and pictograph of data and draw conclusion

# 9 TIME

## Objectives

- To develop the understanding about different units of time.
- To develop the understanding to read clock and calender so that students make the best use of time in their daily life.

(1) When does the sun rise ?

(2) When do we come back to home from school ?

(3) In which month summer vacations start ?

(4) How many days are there in a week ?

## Calender

The calender is a chart that tells us about days, weeks, months and years.

- There are 365 days in an ordinary year.
- There are 12 months in a year.
- There are 52 weeks in a year.

- First month of the year is January and twelfth month is December.
- The year is said to be a leap year, if year number is exactly divisible by 4.
- There are 29 days in the month of February in leap year.
- There are 7 days in a week.

| | |
|---|---|
| 1 year | = 365 days |
| Leap year | = 366 days |
| 1 year | = 12 months |
| 1 week | = 7 days |

Let's learn

### April 2018

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--------|--------|---------|-----------|----------|--------|----------|
| 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 | | | | | |

(1) How many days are there in the month of April ?

28 ☐     29 ☐     30 ☑     31 ☐

(2) What day was it on 2nd April ?

Monday ☑     Tuesday ☐     Wednesday ☐     Thursday ☐

| May 2018 | | | | | | |
|---|---|---|---|---|---|---|
| **Sunday** | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Saturday** |
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 | | |

(1)  How many days are there in the month of May ?

(a) 28 ☐    (b) 29 ☐    (c) 30 ☐    (d) 31 ☐

(2)  Which day falls on 5th May ?

(a) Monday ☐    (b) Tuesday ☐    (c) Saturday ☐    (d) Friday ☐

(3)  Which day falls on 28th May ?

(a) Sunday ☐    (b) Monday ☐    (c) Thursday ☐    (d) Saturday ☐

(4)  What date is on the first Sunday of the month of May ?

(a) 1 ☐    (b) 2 ☐    (c) 5 ☐    (d) 6 ☐

(5)  What date is it on the first day in May ?

(a) 1 ☐    (b) 2 ☐    (c) 3 ☐    (d) 7 ☐

(6)  Which day is on 31 May ?

(a) Sunday ☐    (b) Monday ☐    (c) Thursday ☐    (d) Saturday ☐

## Calender 2018

### January
| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
|  | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 |  |  |  |

### February
| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
|  |  |  |  | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 |  |  |  |

### March
| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
|  |  |  |  | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |

### April
| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 |  |  |  |  |  |

### May
| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
|  |  | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 |  |  |

### June
| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
|  |  |  |  |  | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |

### July
| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 |  |  |  |  |

### August
| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
|  |  |  | 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | 31 |  |

### September
| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
|  |  |  |  |  |  | 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 |  |  |  |  |  |  |

### October
| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
|  | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 |  |  |  |

### November
| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
|  |  |  |  | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 |  |

### December
| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
|  |  |  |  |  |  | 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | 31 |  |  |  |  |  |

**(1) See calender and Fill the dates in these blanks :**

(a)    3 days after 12th June                      ☐

4 days after 24th May                      ☐

2 days after 29th April                     ☐

10 days after 25th January              ☐

(b)    Five days before 20th July            ☐

2 days before 12th June                   ☐

3 days before 6th March                  ☐

7 days before 5th May                      ☐

## (2) See the calender and Fill in the blanks

(1) How many Sundays are there in month of October ?

(2) What day of week is on 6th September

(3) What day of week is on 25th October

(4) In which month you were born ?

(5) What day of the week is 18th May ?

(6) How many Sundays are there in the month of May ?

(7) How many Thursdays are there in the month of August ?

(8) What day of the week is on Ist May ?

(9) What is the last day of May ?

(10) How many days are in the month of February ?

**Wall Clock**

Walks in tune,
    Never returns,
Small hand says hours
    Divide and spread equal showers
Middle hand is for minutes
    All can run for infinite
Second hand says rhymes
    Moves in a hour 60 times
Equal time can everyone found
    All clock needles move round and round

The teacher will show the wall clock in the classroom. He will discuss the basics of wall clock to the students.

Dear students, this is a wall clock. It has counting from 1-12 on its face that makes it easier to read. These numbers will help us to understand about seconds, minutes and hours.

Dear students a wall clock commonly has two or three hands.
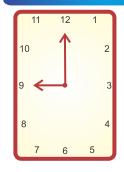
1. The long hand, that moves fast is the seconds hand and thinner than the minute hand. It tells us about seconds.

2. Second long hand is the minute hand. It tells us about minutes.

3. The smaller hand which moves slower than others is the hour hand. It tells us about hours.
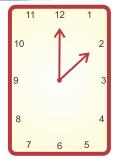
In this way we understand about hours, minutes and seconds from the wall clock.
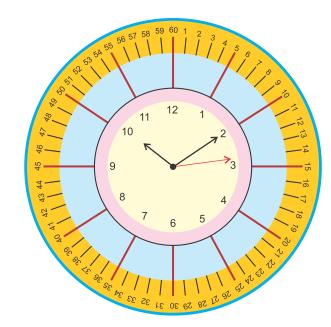
| 1 Hour = 60 minutes | 1 minute = 60 seconds | 1 day = 24 hours |
|---|---|---|

## Let's do

(1) What does the long hand on the clock tells us ?

(2) What does the smallest hand of the clock tells us ?

(3) What does the hand which moves fast tells us ?

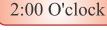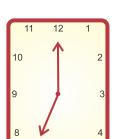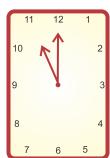## To read the time on clock

9:00 O'clock

2:00 O'clock

8:00 O'clock

4:00 O'clock

7:00 O'clock

11:00 O'clock
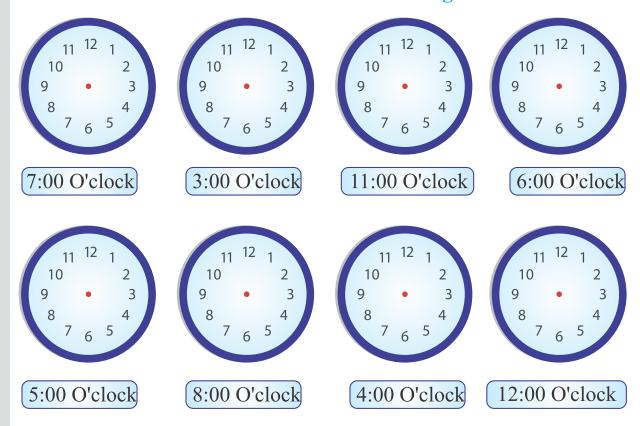
## Let's do
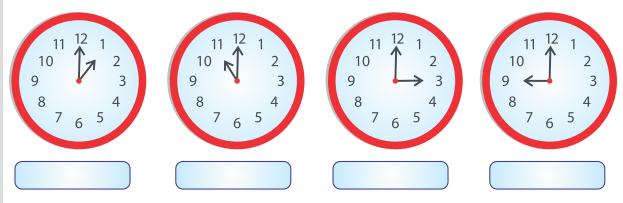
**1. Write the time shown on each clock.**

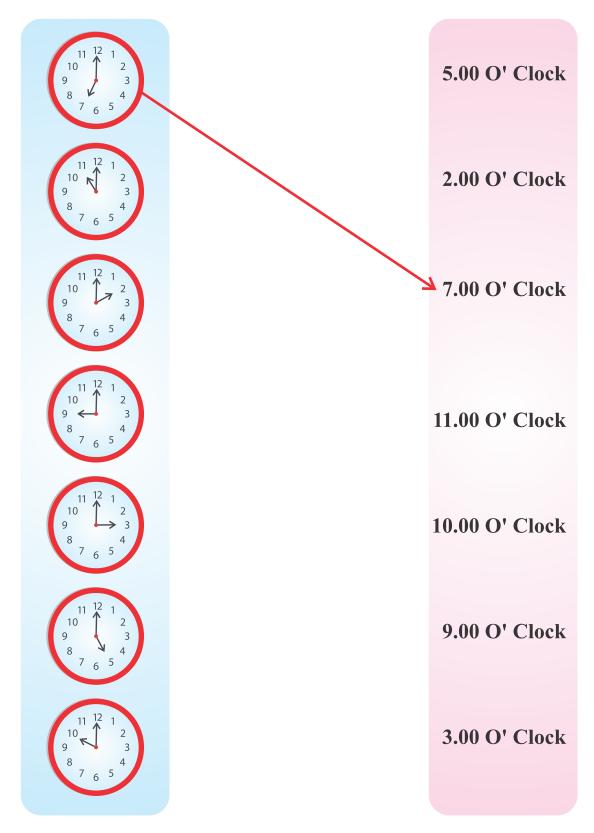## 2. Draw the hour and minute hand to show the given time.


7:00 O'clock


3:00 O'clock


11:00 O'clock


6:00 O'clock


5:00 O'clock


8:00 O'clock


4:00 O'clock


12:00 O'clock

## 3. Read the time shown in the central clock and write the correct time on the left and the right hand clocks.


One hour before


One hour after

**4. Match the columns with time shown on the clocks.**



5.00 O' Clock

2.00 O' Clock

7.00 O' Clock

11.00 O' Clock

10.00 O' Clock

9.00 O' Clock

3.00 O' Clock

## 1. Fill in the blanks :

(a) There are.............days in an ordinary year.

(b) There are.............months in a year.

(c) There are...............days in a week.

## 2. Answer the following questions :

(a) How many days are there in the month of April ?

(b) How many days are there in the month of May ?

(c) In which month you were born ?

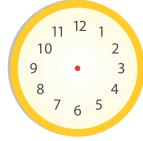## 3. Write the time shown on each clock.

## 4. Draw the hour and the minute hand in the clock as per the time written under each clock.

7 : 00    9 : 00    5 : 00    3 : 00

**Points to remember**

- There are 12 months in a year.
- There are 28 days in the month of February in an ordinary year.
- 1 hour = 60 minutes.
- 1 minute = 60 seconds.
- 12 months = 1 year.

**We have learnt**

**Time**

**Calender**

Understanding the concept of days, weeks and months

**Clock**

Understanding the concept of looking and reading time on clock

Relationship of seconds, minutes and hours