Government of Tamilnadu

III STANDARD

TERM II

Volume 2

MATHEMATICS | SCIENCE | SOCIAL SCIENCE

NOT FOR SALE

Untouchability is Inhuman and a Crime

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SCIENCE (55-99)

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STANDARD THREE

TERM II

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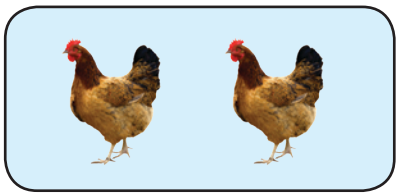
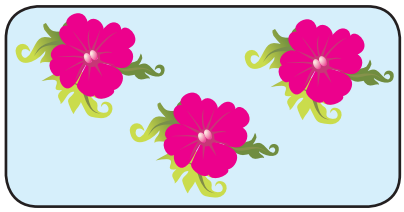
1 MULTIPLICATION

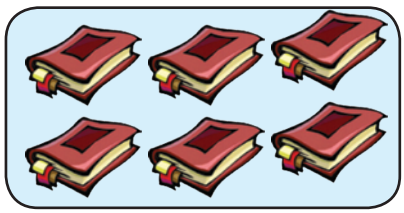
1. Identify the number of items in each group.



A group of [2] hens



A group of [ ] flowers



A group of [ ] books

These are the groups with different number of items.

ACTIVITY 1

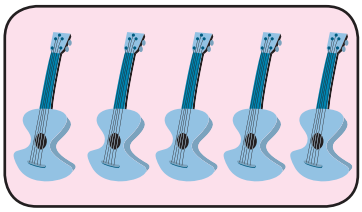
As given in the example list out some group of items in different numbers.

Example A group of 10 Mangoes

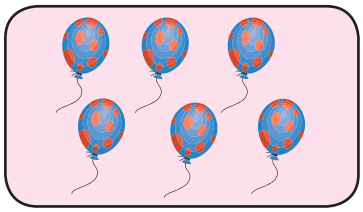
1.	
2.	
3.	
4.	
5.	

2. Identify the groups with equal number of items.

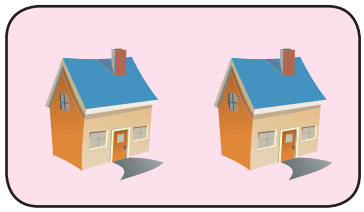
Group A



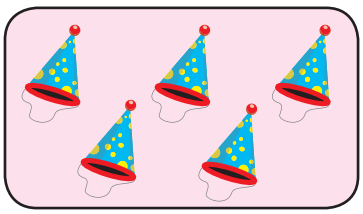
Group B



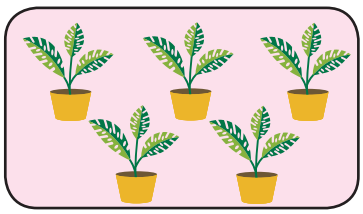
Group C



Group D



Group E



The groups ____ , ____ and ____ have equal number of items.

ACTIVITY 2

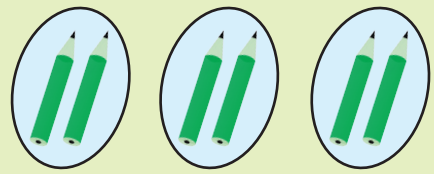
List out some pair of groups with equal number of items.

Example

A group of 3 locks ; A group of 3 keys

A group of 5 pencils ; A group of 5 erasers

1.	
2.	
3.	
4.	
5.	



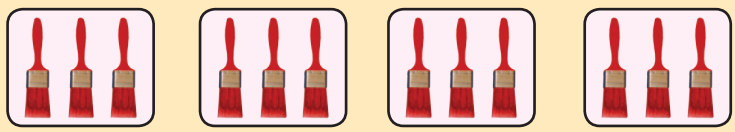
There are 3 groups of 2 pencils each

2 + 2 + 2 = 6 pencils

Let us do the following exercise

Exercise 1

Fill in the following

1. 

3 + 3 + 3 + 3 = ☐

☐ groups of ☐ brushes each is ☐ brushes in all.

2. 

4 + 4 = ☐

☐ groups of ☐ pots each is ☐ pots in all.

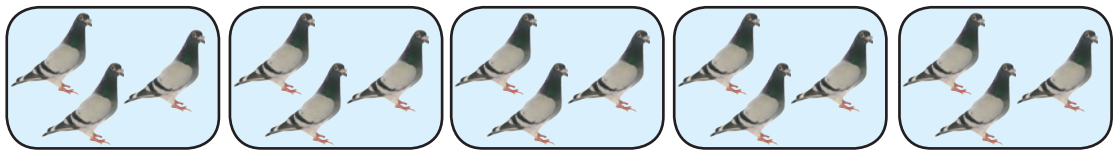
When each group has the same number of items, to find the total number of items, we can use another method called **Multiplication.**

Knowledge Bank

Multiplication is the quicker way to add the same number. That is multiplication is nothing but repeated addition.

'**X**' is the symbol used for multiplication

Multiplication fact



3 + 3 + 3 + 3 + 3 = 15

5 groups of 3 pigeons each is 15.

This can be written as 5 X 3 = 15

Number of pigeons in each group

5 X 3 = 15

Number of groups

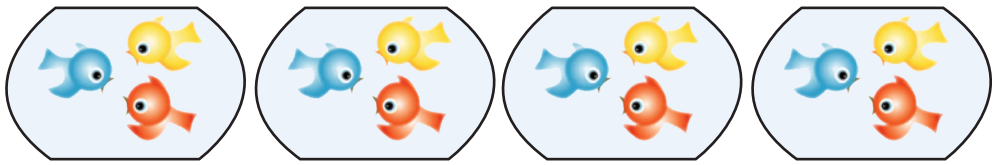
Total number of pigeons

Multiplier

Multiplicand — 5 X 3 = 15 — Product

Note that we used multiplication instead of repeated addition

Example

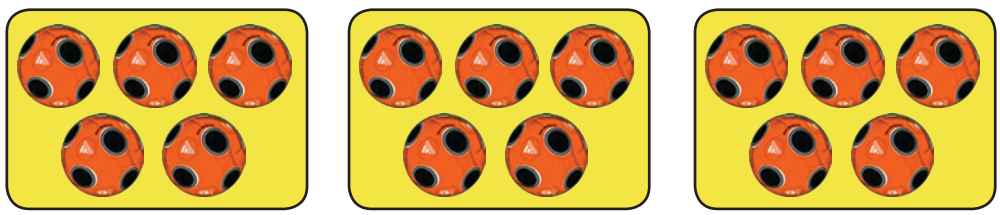


Number of groups	=	4
Number of fish in each group	=	3
Number of fish in all	=	12
Addition fact	=	3+3+3+3 = 12
Multiplication fact	=	4 X 3 = 12

Exercise 2

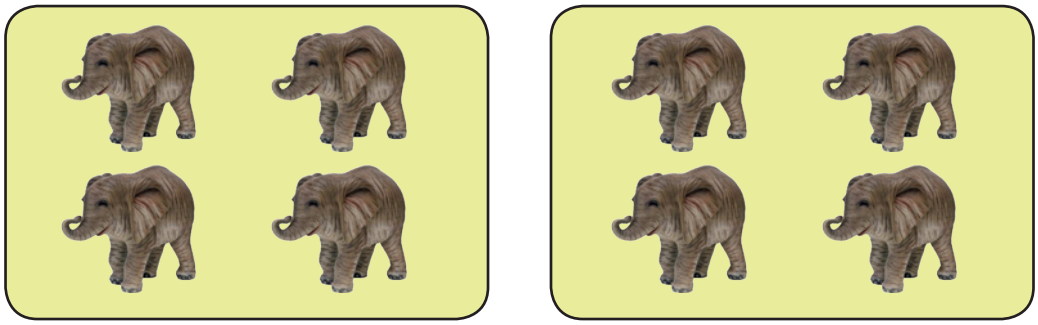
Fill in :

(1)



Number of groups	=	
Number of balls in each group	=	
Number of balls in all	=	
Addition fact	=	
Multiplication fact	=	

(2)



Number of groups = ____

Number of elephants in each group = ____

Number of elephants in all = ____

Addition fact = ____

Multiplication fact = ____

(3) Rewrite the following multiplication facts into repeated addition.

1) 6 X 3 = 3 + 3 + 3 + 3 + 3 + 3

2) 4 X 5 = ____ + ____ + ____ + ____ + ____

3) 7 X 4 = ____ + ____ + ____ + ____ + ____ + ____ + ____

4) 4 X 2 = ____ + ____ + ____ + ____

5) 2 X 10 = ____ + ____

(4) Rewrite the following into multiplication facts.

1) 6 + 6 + 6 + 6 + 6 = 5 X 6

2) 9 + 9 + 9 + 9 = 4 X

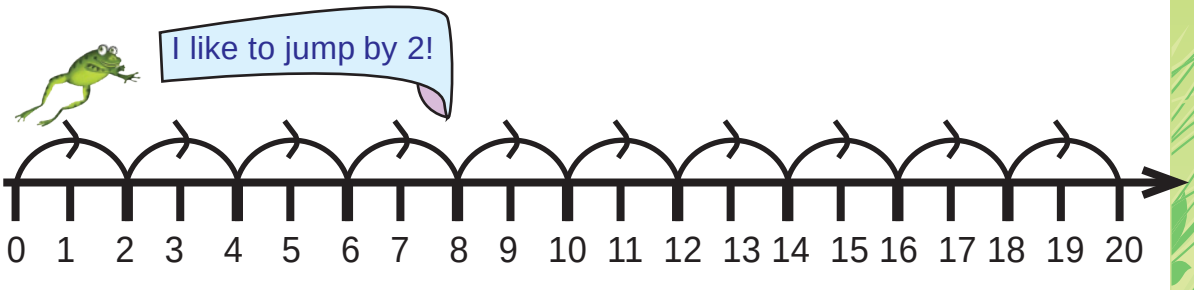
3) 8 + 8 + 8 =

Construction of multiplication tables

Multiplication table 2

One box of 2 stars	Addition facts	Multiplication facts
	2	1 x 2 = 2
	2+2	2 x 2 = 4
	2+2+2	3 x 2 = 6
	2+2+2+2	4 x 2 = 8
	2+2+2+2+2	5 x 2 = 10
	2+2+2+2+2+2	6 x 2 = 12
	2+2+2+2+2+2+2	7 x 2 = 14
	2+2+2+2+2+2+2+2	8 x 2 = 16
	2+2+2+2+2+2+2+2+2	9 x 2 = 18
	2+2+2+2+2+2+2+2+2+2	10 x 2 = 20

Shall we say multiples of 2 ?



Multiply by 2 :

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

Exercise 3

Fill in :

a) 8 X 2 = ____

b) 7 X 2 = ____

c) 9 X 2 = ____

d) 6 X 2 = ____

e) 10 X 2 = ____

f) 5 X 2 = ____

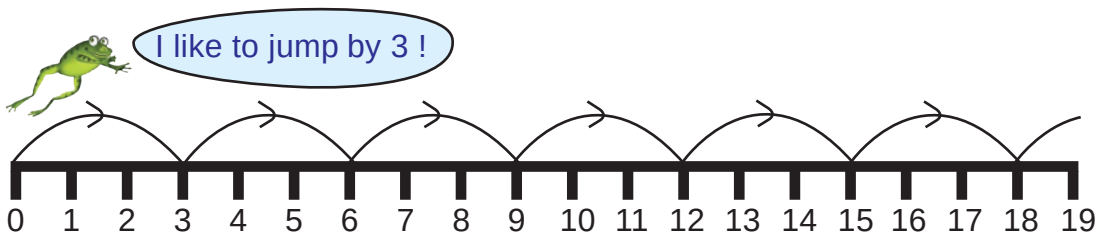
Puzzle

If you add or multiply me by myself the result will be the same. Who am I?

Multiplication table 3

One group of 3 persons	Addition facts	Multiplication facts
	3	1 X 3 = 3
	3+3	2 X 3 = 6
	3+3+3	3 X 3 = 9
	3+3+3+3	4 X 3 = 12
	3+3+3+3+3	5 X 3 = 15
	3+3+3+3+3+3	6 X 3 = 18
	3+3+3+3+3+3+3	7 X 3 = 21
	3+3+3+3+3+3+3+3	8 X 3 = 24
	3+3+3+3+3+3+3+3+3	9 X 3 = 27
	3+3+3+3+3+3+3+3+3+3	10 X 3 = 30

Shall we say multiples of 3?



Using the table, practise it

X	1	2	3	4	5	6	7	8	9	10
3	3			12			21			

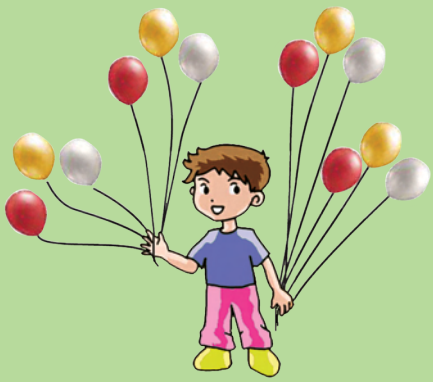
Exercise 4

1. Fill in :



3 X 3 = ☐

2. Fill in :



4 X 3 = ☐

3. Complete the Table.

X	2	3
1		3
2		
3		
4	8	
5		
6		18
7		
8		
9		
10	20	

Puzzle !

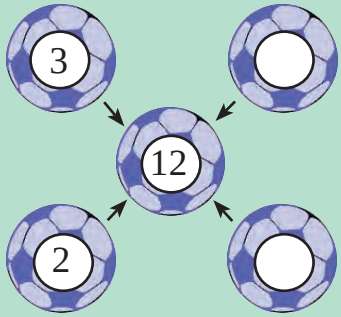
1. ☐ X ☐ = 6

☐ X ☐ = 9

☐ X ☐ = 4

Find out the number in ☐ and ☐

2.



Place the number in the boxes such that the product of the diagonal numbers should be 12.

Multiplication table 4

One chair of 4 legs	Addition facts	Multiplication facts
	4	1 X 4 = 4
	4+4	2 X 4 = 8
	4+4+4	3 X 4 = 12
	4+4+4+4	4 X 4 = 16
	4+4+4+4+4	5 X 4 = 20
	4+4+4+4+4+4	6 X 4 = 24
	4+4+4+4+4+4+4	7 X 4 = 28
	4+4+4+4+4+4+4+4	8 X 4 = 32
	4+4+4+4+4+4+4+4+4	9 X 4 = 36
	4+4+4+4+4+4+4+4+4+4	10 X 4 = 40

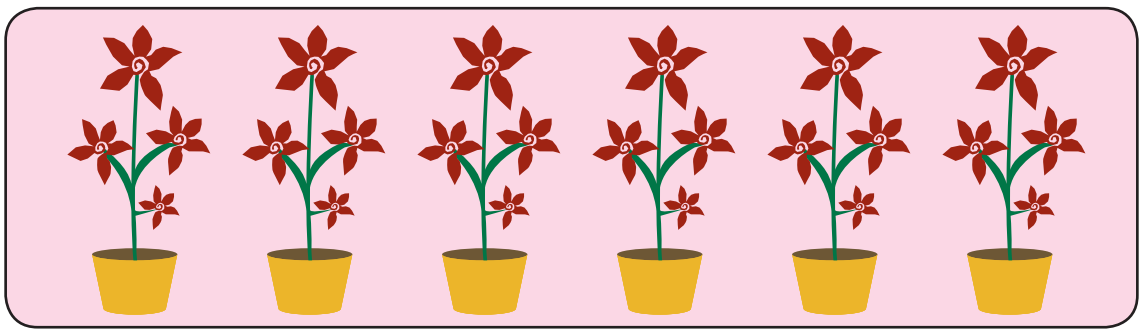
Using the table, practise it

X	1	2	3	4	5	6	7	8	9	10
4		8			20					

ACTIVITY 3

Draw a number line and mark only first 5 multiples of 4 on it.

Exercise 5



1. A flower pot contains 4 flowers. How many flowers are there in 6 such flower pots?

$\square \times \square = \square$

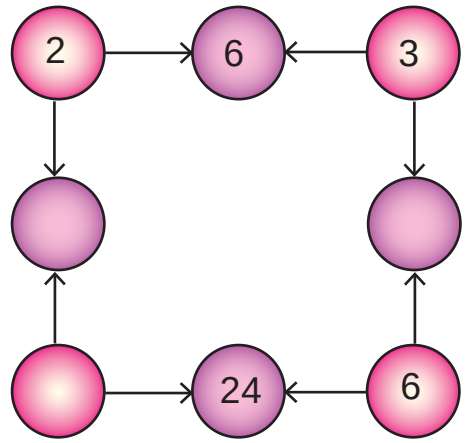
2. Fill in :

2 X $\square$	=	8	8 X 4	=	$\square$
4 X 4	=	$\square$	$\square$ X 4	=	40
$\square$ X 4	=	20	7 X $\square$	=	28
3 X $\square$	=	12	9 X 4	=	$\square$

3. Complete the table.

X	2	3	4
1			
2	4		
3		9	
4			16
5			
6		18	
7			28
8			
9	18		
10			

4. Fill the circles.



Multiplication table 5

One flower of 5 petals	Addition facts	Multiplication facts
	5	1 X 5 = 5
	5+5	2 X 5 = 10
	5+5+5	3 X 5 = 15
	5+5+5+5	4 X 5 = 20
	5+5+5+5+5	5 X 5 = 25
	5+5+5+5+5+5	6 X 5 = 30
	5+5+5+5+5+5+5	7 X 5 = 35
	5+5+5+5+5+5+5+5	8 X 5 = 40
	5+5+5+5+5+5+5+5+5	9 X 5 = 45
	5+5+5+5+5+5+5+5+5+5	10 X 5 = 50

Using the table practise it

X	1	2	3	4	5	6	7	8	9	10
5		10			25			40		

The units place in the product is either 0 or 5

ACTIVITY 4

Draw a number line and mark only first 5 multiples of 5 on it.

Exercise 6

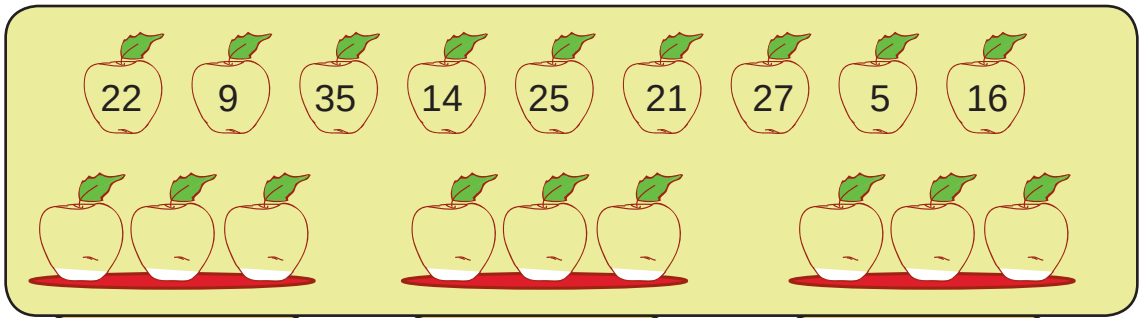
1. Complete the table.

X	2	3	4	5
1			4	
2				10
3	6			
4				
5		15		
6			24	
7	14			
8				40
9		27		
10				

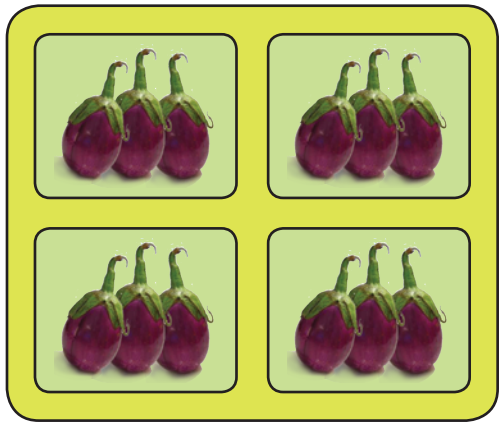
2. Fill in the boxes.

3 X ☐ = 15
☐ X 5 = 45
8 X ☐ = 40
☐ X ☐ = 25
☐ X 5 = 5
2 X 5 = ☐
10 X 5 = ☐

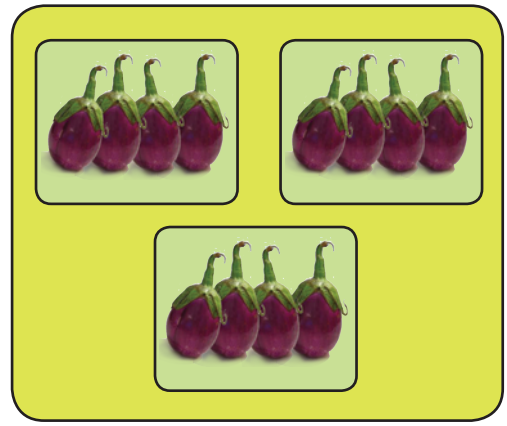
3. Keep the fruits in their appropriate plates.



See the magic!



4 groups of 3 brinjals



3 groups of 4 brinjals

4 X 3 = 3 X 4 = 12

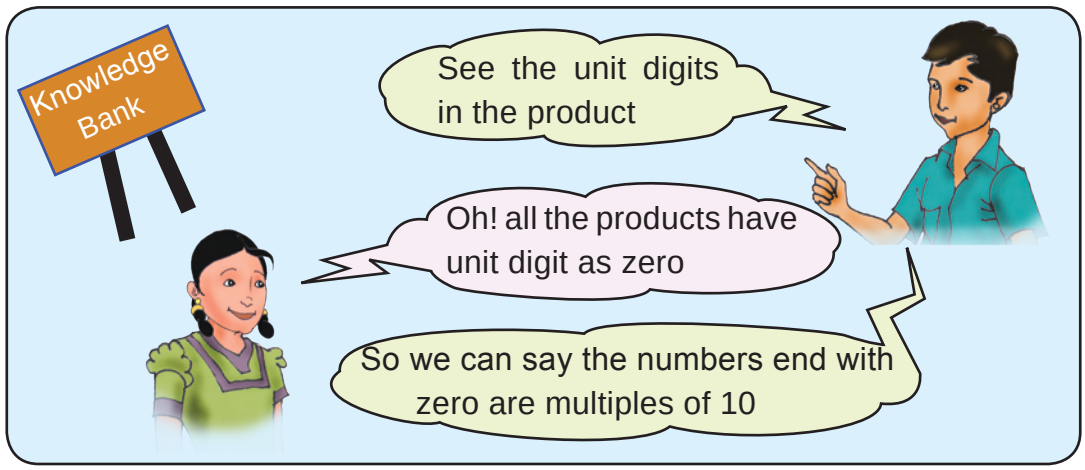
4 groups of 3 items and 3 groups of 4 items contains the same 12 items

Multiplication table 10

One bundle of 10 sticks	Addition facts	Multiplication facts
	10	1 X 10 = 10
	10+10	2 X 10 = 20
	10+10+10	3 X 10 = 30
	10+10+10+10	4 X 10 = 40
	10+10+10+10+10	5 X 10 = 50
	10+10+10+10+10+10	6 X 10 = 60
	10+10+10+10+10+10+10	7 X 10 = 70
	10+10+10+10+10+10+10+10	8 X 10 = 80
	10+10+10+10+10+10+10+10+10	9 X 10 = 90
	10+10+10+10+10+10+10+10+10+10	10 X 10 = 100

Using the table practise it

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

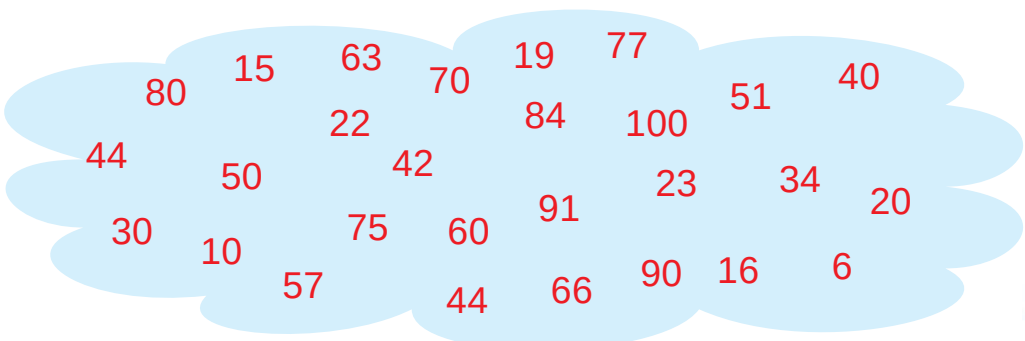


ACTIVITY 5

Using the 10 beeds and strings from the self learning material in maths, form the multiples of 10.

ACTIVITY 6

Circle the multiples of 10.



Exercise 7

1. Complete the multiplication table.

X	2	3	4	5	10
1					10
2		6			
3	6				
4			16		
5					
6				30	
7					
8					80
9	18				
10					

Multiplication with zero

Observe that there is no flower in any of the flower pots.

This can be written as

0 flowers in the 1st pot + 0 flowers in the 2nd pot + 0 flowers in the 3rd pot = 0 flowers on the whole

0 + 0 + 0 = 0

3 X 0 = 0

That is, if we multiply any number with zero then the product is zero.

Note that, if we multiply zero with any number, then also the product is zero.

3 X 0 = 0 X 3 = 0

Practise by saying

Multiplication table 2	Multiplication table 3	Multiplication table 4
1 x 2 = 2	1 X 3 = 3	1 X 4 = 4
2 x 2 = 4	2 X 3 = 6	2 X 4 = 8
3 x 2 = 6	3 X 3 = 9	3 X 4 = 12
4 x 2 = 8	4 X 3 = 12	4 X 4 = 16
5 x 2 = 10	5 X 3 = 15	5 X 4 = 20
6 x 2 = 12	6 X 3 = 18	6 X 4 = 24
7 x 2 = 14	7 X 3 = 21	7 X 4 = 28
8 x 2 = 16	8 X 3 = 24	8 X 4 = 32
9 x 2 = 18	9 X 3 = 27	9 X 4 = 36
10 x 2 = 20	10 X 3 = 30	10 X 4 = 40

Multiplication table 5	Multiplication table 10
1 X 5 = 5	1 X 10 = 10
2 X 5 = 10	2 X 10 = 20
3 X 5 = 15	3 X 10 = 30
4 X 5 = 20	4 X 10 = 40
5 X 5 = 25	5 X 10 = 50
6 X 5 = 30	6 X 10 = 60
7 X 5 = 35	7 X 10 = 70
8 X 5 = 40	8 X 10 = 80
9 X 5 = 45	9 X 10 = 90
10 X 5 = 50	10 X 10 = 100

Multiplication facts in life situations

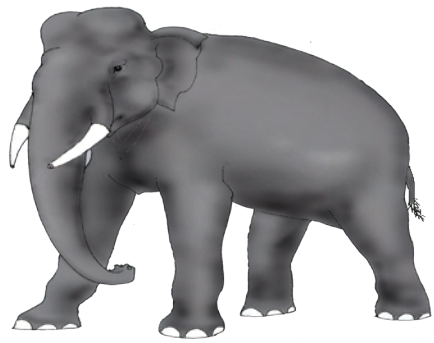
An elephant has 4 legs. How many legs will 5 elephants have?

Number of elephants = 5

Number of legs for an elephant = 4

Say the multiplication table 4 upto 5 X 4

1 X 4 = 4
2 X 4 = 8
3 X 4 = 12
4 X 4 = 16
5 X 4 = 20



Total number of legs for 5 elephants = 5 X 4 = 20

Example

The students of class III are arranged in 6 rows. In one row there are 5 students. Find the number of students in the class.

Number of rows = 6

Number of students in 1 row = 5

Total number of students in the class = 6 X 5

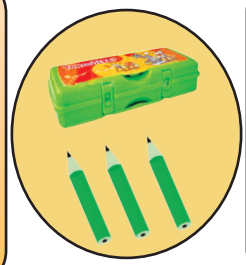
Say the multiplication table 5 upto 6 X 5

1 X 5 = 5
2 X 5 = 10
3 X 5 = 15
4 X 5 = 20
5 X 5 = 25
6 X 5 = 30

Total number of students = 30

Exercise 8

There are 3 pencils in a packet. How many pencils are there in 6 such packets?

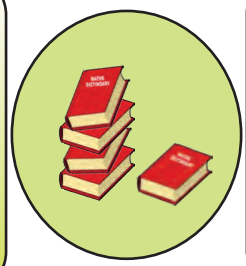


Number of packets =

Number of pencils =

Total number of pencils =

In a class each student has 5 books. How many books do 9 students have ?



Number of students =

Number of books =

Total number of books =

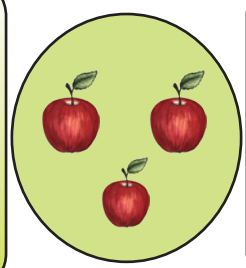
Ram gave sweets to 10 students. Each student got 4 sweets. Find out the number of sweets distributed by Ram ?

Number of students =

Number of sweets =

Total number of sweets distributed by Ram =

There are 3 apples in a box. How many apples are there in 8 boxes ?



Number of boxes =

Number of apples =

Total number of apples =

There are 5 colour pencils in one packet. Find the number of colour pencils in 9 such packets ?

Number of packets =

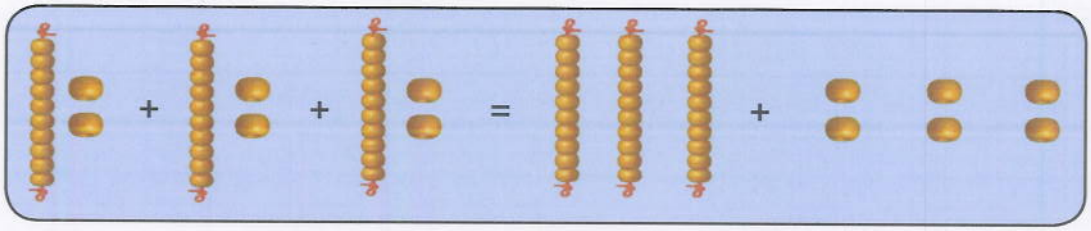
Number of colour pencils =

Total no. of colour pencils =

Multiplication of two digit number by one digit number

Multiply 12 by 3 :

12 x 3 = ? That is 3 times of 12 = ?



12 X 3 = 3 X 1 ten + 3 X 2 ones

= 3 X 10 + 3 X 2

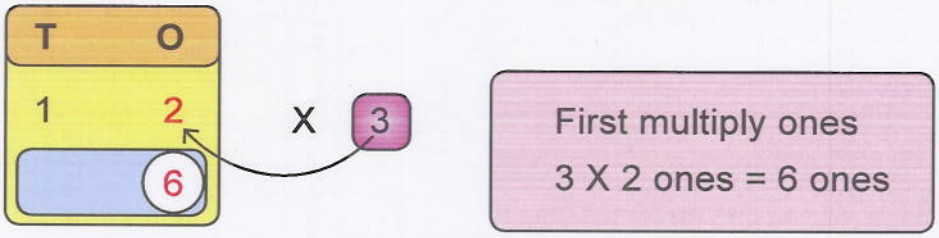
= 30 + 6

= 36

12 X 3 = 36

Using multiplication tables:

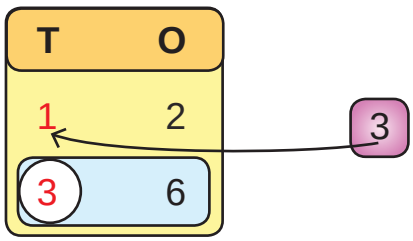
Step 1 :



First multiply ones

3 X 2 ones = 6 ones

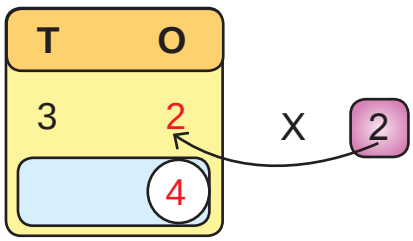
Step 2 :

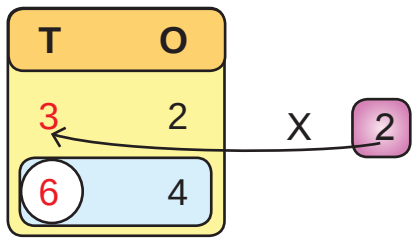


Then multiply tens
3 X 1 ten = 3 tens

12 X 3 = 36

Example



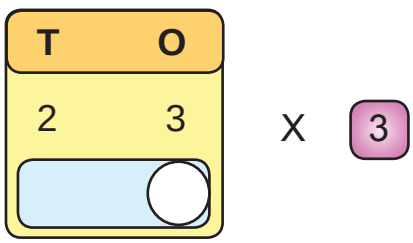


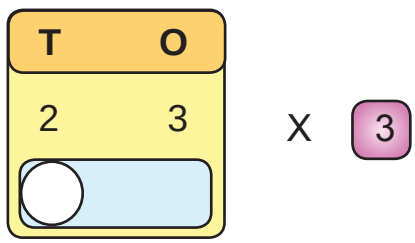
32 X 2 = 64

Exercise 9

(i) Find the product:

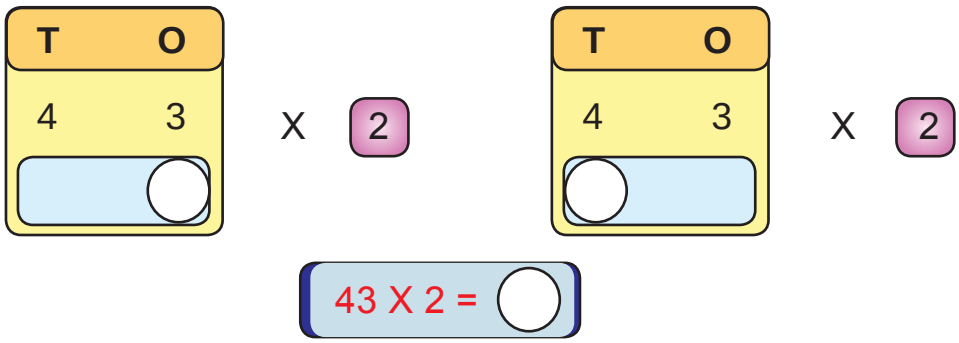
1



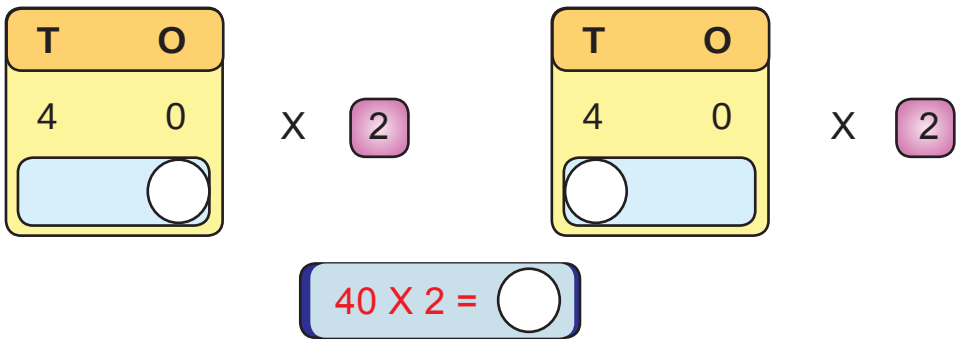


23 X 3 = ◯

2



3



(ii) Find the product using multiplication tables :

a 23 X 2

b 20 X 4

c 44 X 2

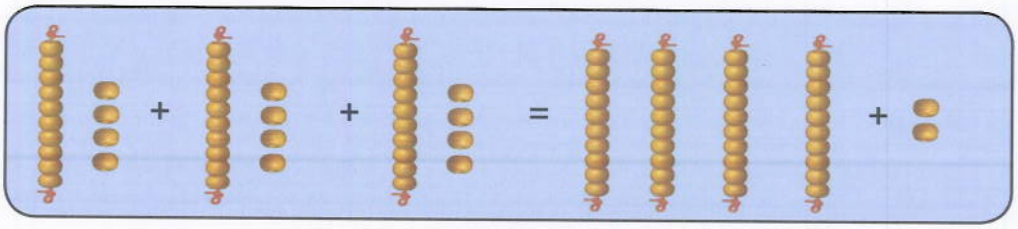
d 32 X 3

e 11 X 5

f 22 X 4

Multiply 14 by 3

14 X 3 = ? That is 3 times of 14 = ?



(Regroup 12 ones as 1 ten + 2 ones)

14 X 3 = 3 X 1 ten + 3 X 4 ones

(Regroup 3 X 4 ones = 12 ones as 1 ten + 2 ones)

= 3 tens + 1 ten = 4 tens + 2 ones

= 40 + 2

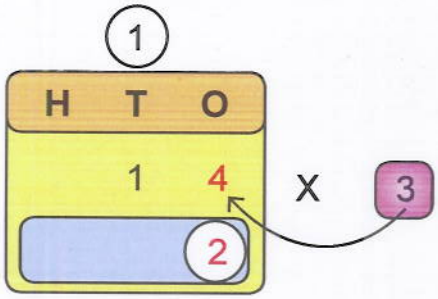
= 42

14 X 3 = 42

Using multiplication tables we can mulitply as follows:

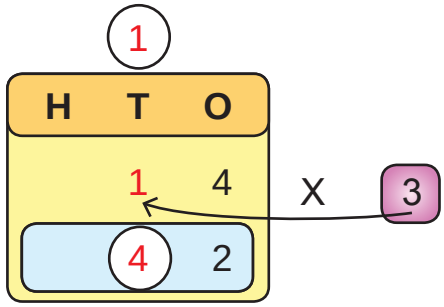
Find the product of 14 X 3

Step 1 :



- Multiply 4 ones by 3
  3 X 4 ones = 12 ones.
- 12 ones = 1 ten + 2 ones.
- Write 2 ones under ones place.
- Carry over 1 to tens place.

Step 2 :



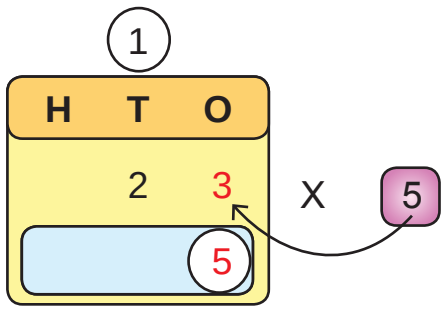
- Multiply 1 ten by 3
  3 X 1 ten = 3 tens
- Add with 1 ten (regrouped)
  3 tens + 1 ten = 4 tens
- Write 4 in tens place

14 X 3 = 42

Example

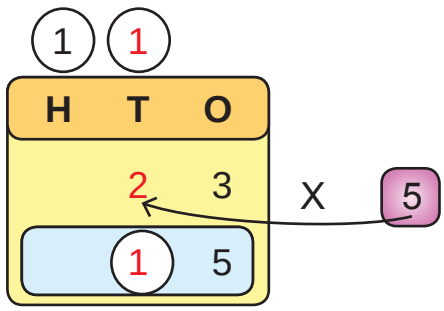
Find the product of 23 X 5

Step1 :



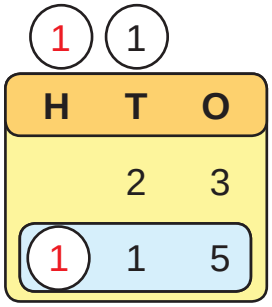
- Multiply 3 ones by 5
  5 X 3 ones = 15 ones.
- 15 ones = 1 ten + 5 ones.
- Write 5 ones under ones place.
- Carry over 1 to tens place.

Step 2 :



- Multiply 2 tens by 5.
- Add with 1 ten (regrouped).
- 10 tens + 1 ten = 11 tens
  11 tens = 1 hundred + 1 ten.
- Write 1 in tens place and
  1 in hundreds place.

Step 3 :



X 5

23 X 5 = 115

Exercise 10

1) Find the product :

a) 32 X 4

b) 23 X 3

c) 42 X 2

d) 20 X 2

e) 61 X 5

f) 21 X 5

2) Find the product :

a) 14 X 3

b) 48 X 2

c) 23 X 4

d) 24 X 5

e) 62 X 5

f) 26 X 3

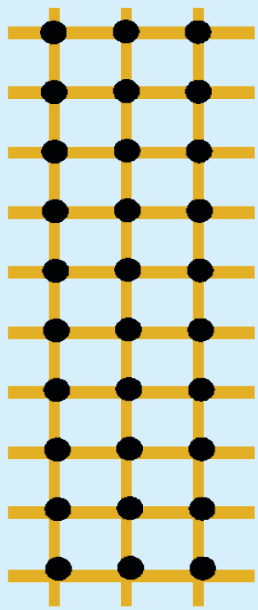
Project

1. Colour the pair of numbers adjacent to each other whose product is 12.

6	2	8	3	4
2	7	1	6	3
4	3	12	4	3
4	9	1	8	1
3	4	7	1	12

2. We can construct multiplication tables through sticks.

Let us construct the multiplication table 3



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

- Take 3 sticks and keep them vertically.
- Take one stick and keep it across as shown above.
- Count the number of points where they meet each other.
- There are three meeting points.
- 1 time of 3 meeting points = 3 or 1 X 3 = 3.
- Take one more stick and keep it across as shown above.
- Count the total number of meeting points, it is 6.
- 2 times of 3 meeting points is 6 or 2 X 3 = 6.
- Continue this process to get 3 times, 4 times etc up to 10 times.

3. Multiplication tables through playway method.

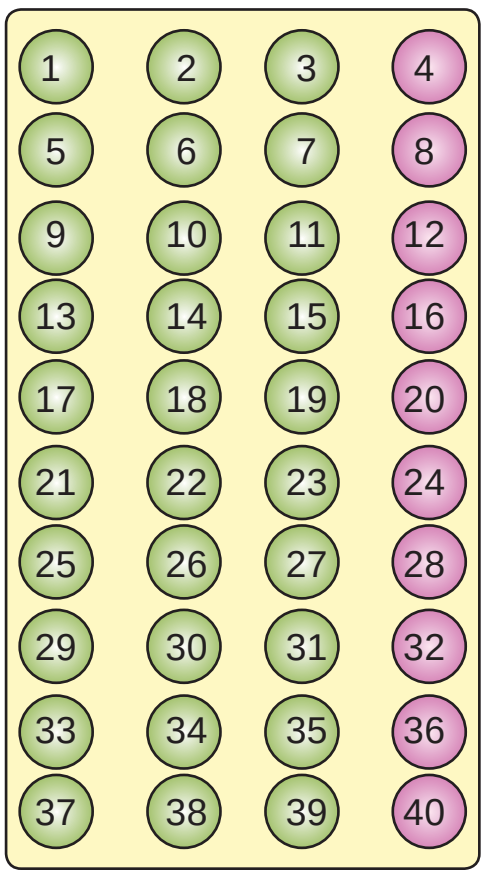
Let us construct the multiplication table 4.

Step 1 :
Draw 4 circles in 10 rows.

Step 2 :
Fill the numbers 1 to 40 inside the circles.

Step 3 :
The numbers in the last column will be the product.

Construct other tables and enjoy



Mental sums

Ram's age is 30 years . His father's age is twice as much. Find the age of his father.

Geetha scored 45 marks in an exam. In the next exam she scored double of it. How much did she score in the next exam ?

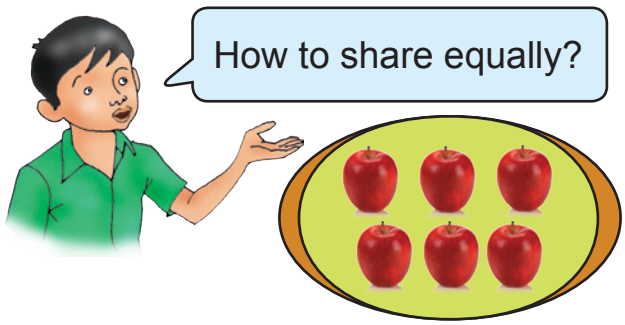
Sanjeeve scored 48 runs in the first match. He scored double in the second match. How much did he score in the second match?

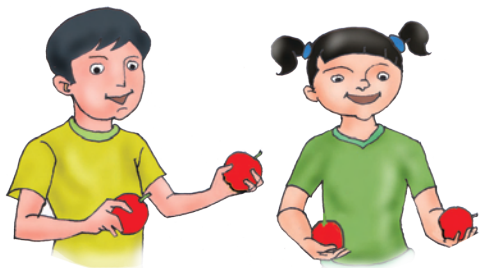
Seetha's weight is 16 kg. Her brother krishna weighs double. What is the weight of krishna?

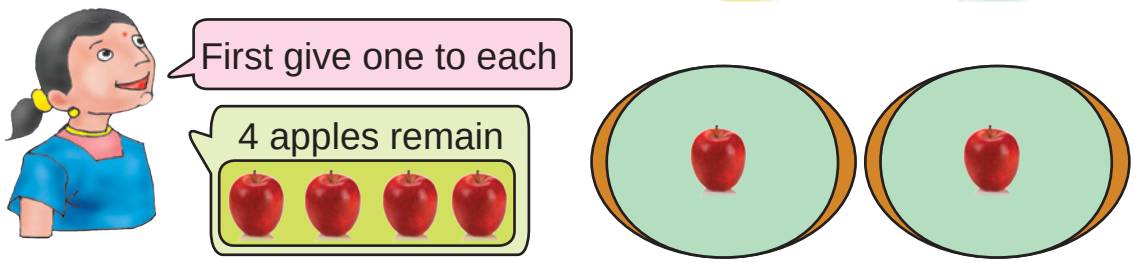
Sheela bought a dozen of plantain.
Saro bought 4 less than double of it.
How many plantains did saro buy?

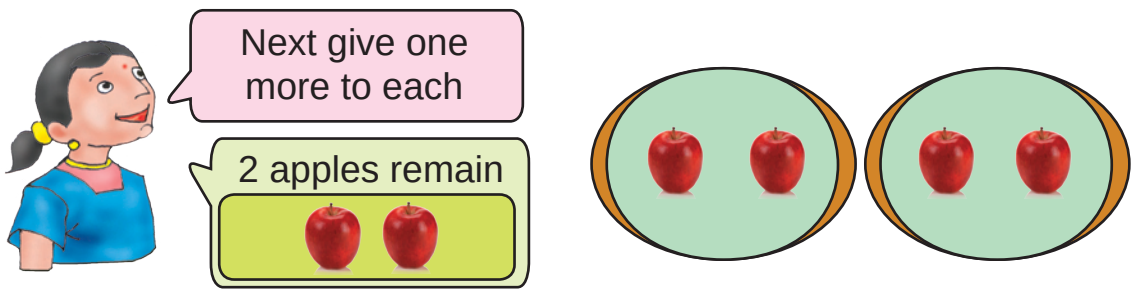
2 DIVISION

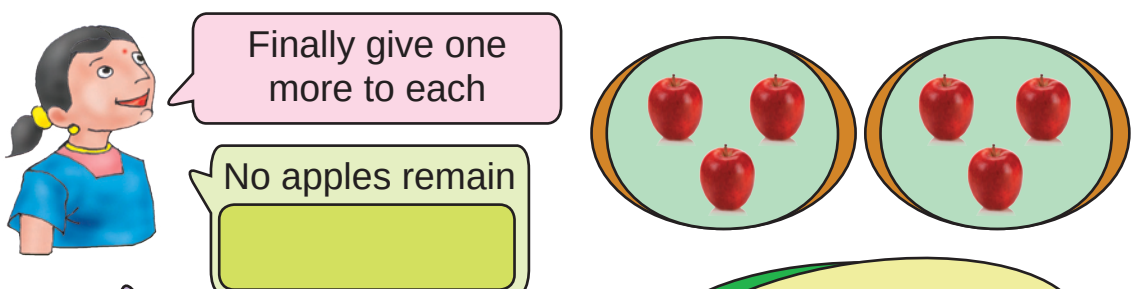
Ram has 6 apples. He wants to share them equally to 2 children.











Each child got 3 apples

"Equal sharing" is known as "Division".

Thus Ram shared 6 apples equally between the 2 children with the help of his sister vidhya and finally each child got 3 apples.

Number of apples = 6

Number of persons = 2

Number of apples got by each = 3

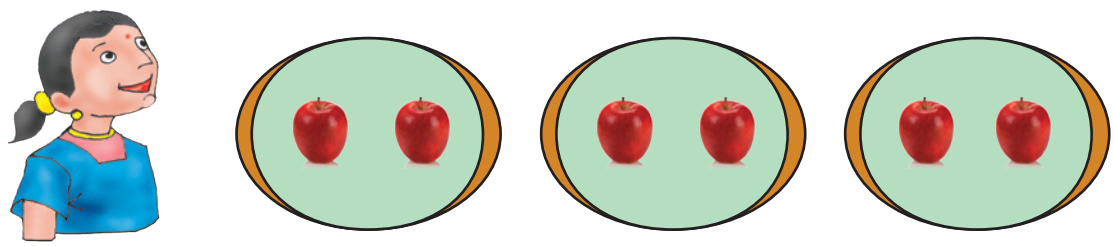
We write this as $6 \div 2 = 3$

This is read as 6 divided by 2 is equal to 3

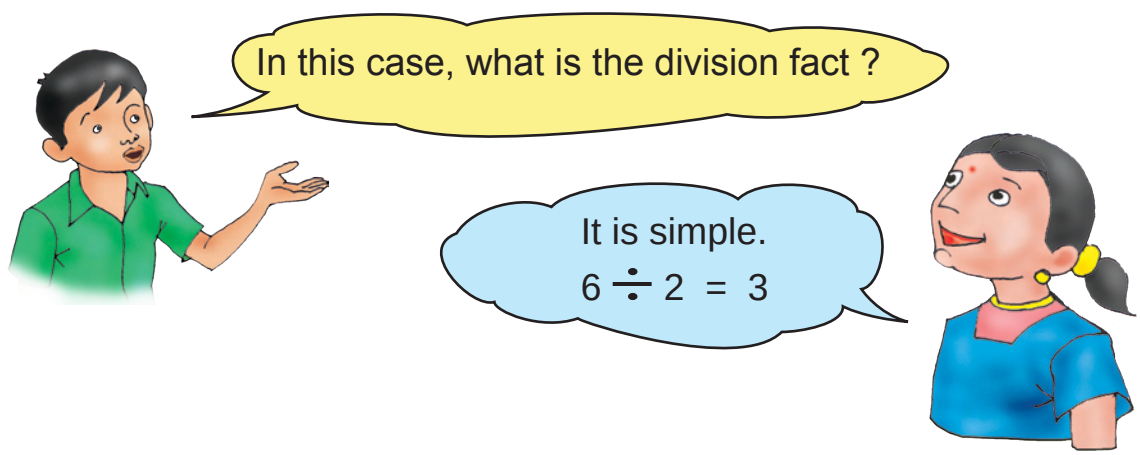
$6 \div 2 = 3$ is called as "division fact"

$\div$ symbol represents "division"

Let us see how did vidhya share 6 apples equally into the groups of 2 each.



She shared 6 apples equally into 3 groups so that each group got 2 apples.



ACTIVITY 1

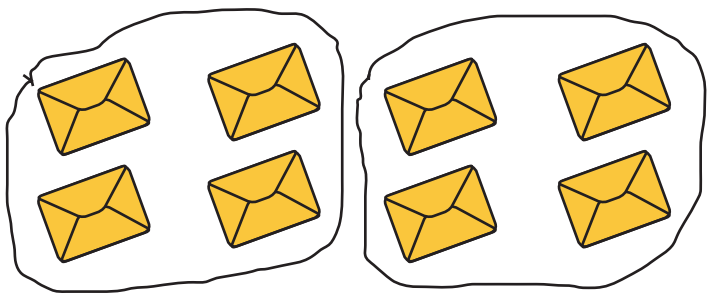
Complete the table by sharing the given items equally.

Total number of items	Number of items in a group	Total number of groups
8 Pencils	4 Pencils	2 Groups
9 Erasers	3 Erasers	
15 Pebbles		3 Groups
20 Seeds		

As given in the example, complete the following division facts.

Example

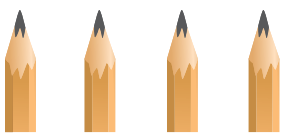
$8 \div 4 = ?$



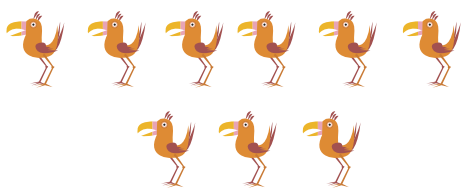
The division fact is $8 \div 4 = 2$

Exercise 1

a. $4 \div 2 =$



b. $9 \div 3 =$

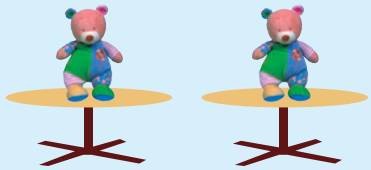


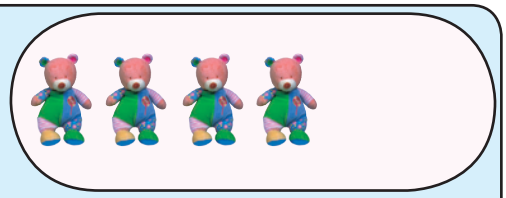
Division is repeated subtraction

Division is not only sharing but it is also repeated subtraction of the same number.

There are 6 toys. Let us divide these toys equally.

1st time, keep one toy on each table





Subtract 2 from 6 $6 - 2 = 4$

2nd time, keep again one toy on each table

Subtract 2 from 4 $4 - 2 = 2$

3rd time, keep again one toy on each table

Subtract 2 from 2 $2 - 2 = 0$

We have repeatedly subtracted 2 from 6, three times.

That is $6 \div 2 = 3$

Division is nothing but, "repeated subtraction"

Division through repeated subtraction :

Example

15 ÷ 3

Let us subtract 3 from 15 repeatedly

```
  1 5
–   3   ⟶  1st time
  1 2
–   3   ⟶  2nd time
    9
–   3   ⟶  3rd time
    6
–   3   ⟶  4th time
    3
–   3   ⟶  5th time
    0
```

Thus 3 is subtracted from 15, 5 times.

Therefore 15 ÷ 3 = 5

Exercise 2

Divide through repeated subtraction:

a. 15 ÷ 3

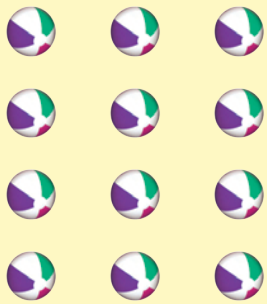
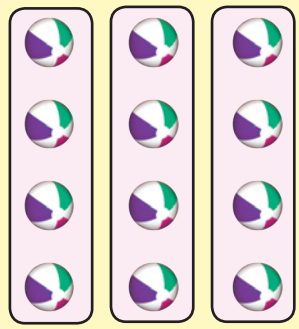
15 ÷ 3 =

b. 12 ÷ 4

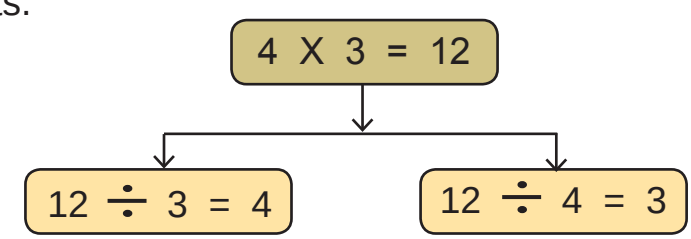
12 ÷ 4 =

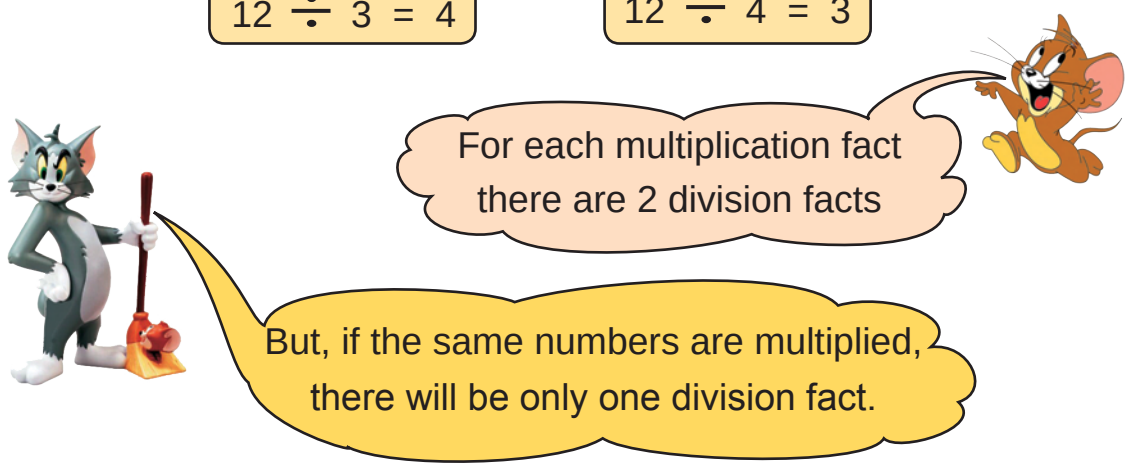
Relation between multiplication and division.

Some balls are arranged as follows:

Multiplication	Division - 1	Division - 2
		
Total number of balls 4 X 3 = 12	12 ÷ 3 = 4	12 ÷ 4 = 3

From the above table we see that the multiplication fact has two division facts.





Example

3 X 3 = 9
Multiplication fact

→

9 ÷ 3 = 3
Division fact

Note

If a number is multiplied with zero, it has only one division fact.

Example

5 X 0 = 0
Multiplication fact

→

0 ÷ 5 = 0
Division fact

Zero ÷ Any non zero number = Zero

Exercise 3

Do the following :

Multiplication fact	Division facts	
3 X 2 = 6	6 ÷ 3 = 2	6 ÷ 2 = 3
4 X 3 = 12		
7 X 2 =		
6 X 5 =		
3 X 3 =		
5 X 4 =		
2 X 0 =		
4 X 4 =		
9 X 0 =		
8 X 5 =		

Division table

Using the multiplication tables we can get a lot of division facts.

Construct the division facts from the multiplication table 2

Multiplication table (2)	Division facts	
1 X 2 = 2	2 ÷ 2 = 1	2 ÷ 1 = 2
2 X 2 = 4	4 ÷ 2 = 2	4 ÷ 2 = 2
3 X 2 = 6	6 ÷ 2 = 3	6 ÷ 3 = 2
4 X 2 = 8	8 ÷ 2 = 4	8 ÷ 4 = 2
5 X 2 = 10	10 ÷ 2 = 5	10 ÷ 5 = 2
6 X 2 = 12	12 ÷ 2 = 6	12 ÷ 6 = 2
7 X 2 = 14	14 ÷ 2 = 7	14 ÷ 7 = 2
8 X 2 = 16	16 ÷ 2 = 8	16 ÷ 8 = 2
9 X 2 = 18	18 ÷ 2 = 9	18 ÷ 9 = 2
10 X 2 = 20	20 ÷ 2 = 10	20 ÷ 10 = 2

Project

Try to construct the division facts from the tables 3,4,5 and 10.

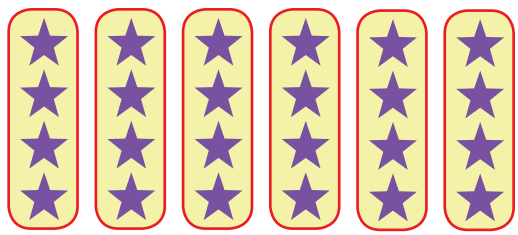
Simple Division Problems

(a) Division with grouping:

Example

Divide 24 stars in to groups of 4 stars each

Make groups of 4 stars each

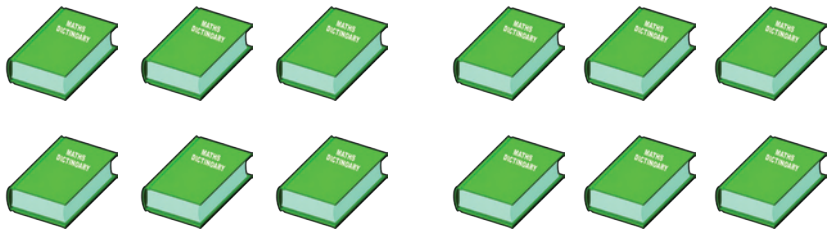


24 stars were divided into 6 groups of 4 stars each

24 ÷ 4 = 6

Exercise 4

1) Divide 12 books into groups of 3 books each.



12 ÷ 3 = ☐

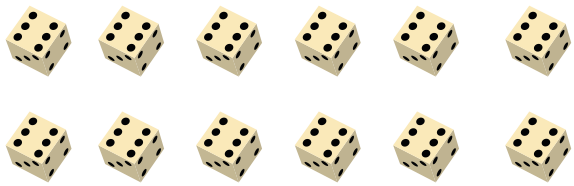
2) Divide 15 candles into groups of 5 candles each.

15 ÷ 5 = ☐

3) Divide 16 flowers into groups of 2 flowers each.

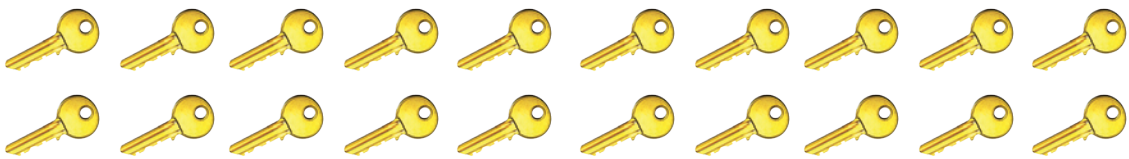
16 ÷ 2 = ☐

4) Divide 12 dice into 4 equal groups.



12 ÷ 4 = ☐

5) Divide 20 keys into 2 equal groups.



20 ÷ 2 = ☐

Division using multiplication tables :

Example 1

Divide 15 ÷ 3

1 X 3 = 3
2 X 3 = 6
3 X 3 = 9
4 X 3 = 12
5 X 3 = 15

Say the multiplication table 3 till you get product 15.

15 ÷ 3 = 5

Example 2

Divide 30 ÷ 5

1 X 5 = 5
2 X 5 = 10
3 X 5 = 15
4 X 5 = 20
5 X 5 = 25
6 X 5 = 30

Say the multiplication table 5 till you get product 30.

30 ÷ 5 = 6

Exercise 5

Divide :

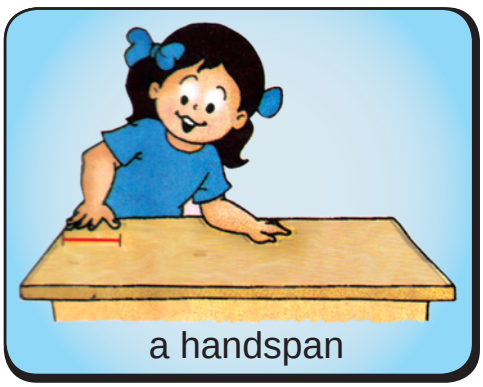
1.	15 ÷ 3 =		4.	28 ÷ 4 =		7.	35 ÷ 5 =	
2.	18 ÷ 2 =		5.	10 ÷ 5 =		8.	27 ÷ 3 =	
3.	20 ÷ 10 =		6.	16 ÷ 4 =		9.	25 ÷ 5 =	

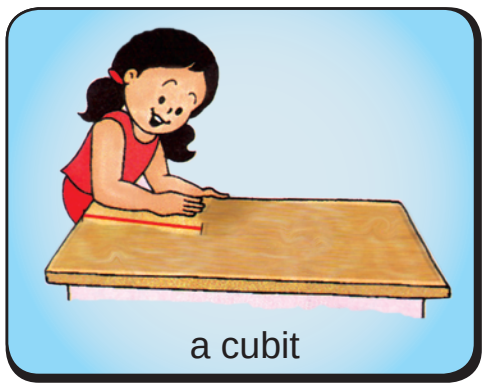
3 LENGTH

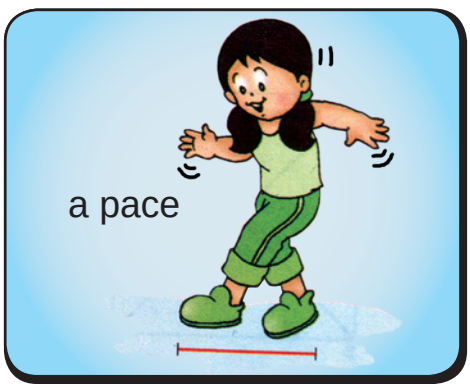
Recall

We measure the length of the objects to find out how long they are.

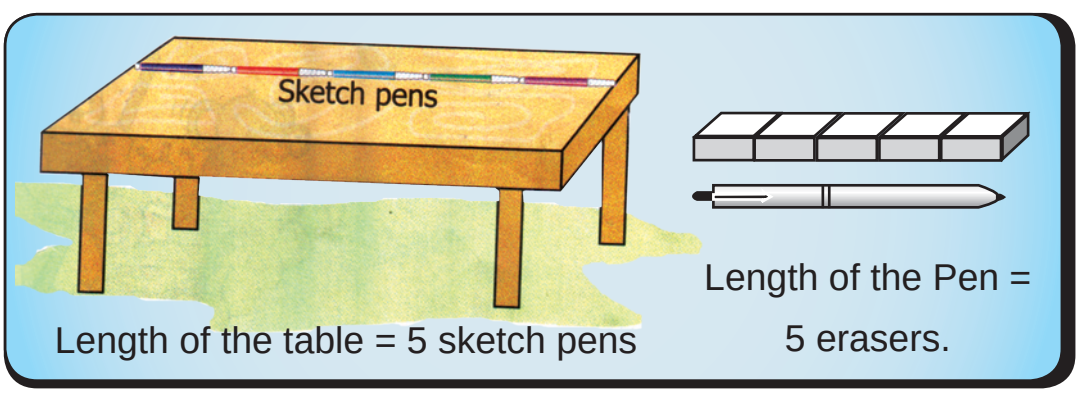
We can measure the length using non standard units such as


a handspan


a cubit



Similarly we can measure the length using objects.



Length of the table = 5 sketch pens

Length of the Pen = 5 erasers.

ACTIVITY 1

1. Class table is ..... cubit long.

2. Length of your class room is ..... pace long.

3. Maths book is ..... handspan long.

4. Class room is ..... foot span long.

Need for a standard Unit

ACTIVITY 2

Take a rope. Measure it in hand span and fill the table given below.

S.No	Name of the students	Length of the rope (in handspan)
1. 2. 3. 4.		

Look at the above measurements.

Are these measurements same?

No, they are not the same. Because each hand span of the students is different.

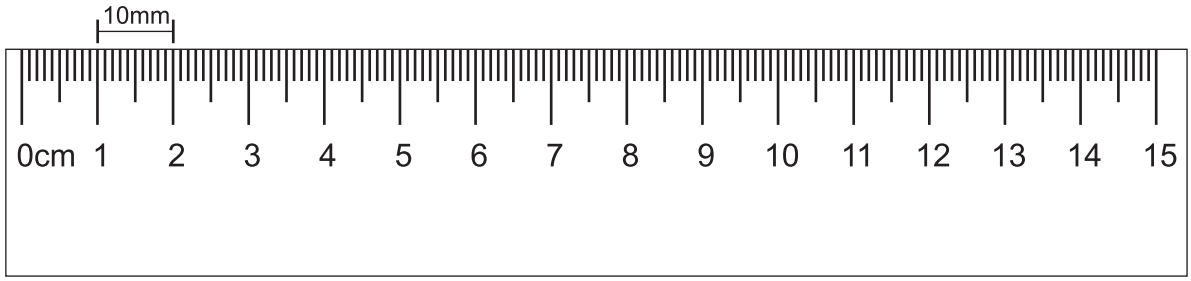
So, we need a standard unit to measure the length.

We use a metre or centimetre scale to measure length

Standard unit of length

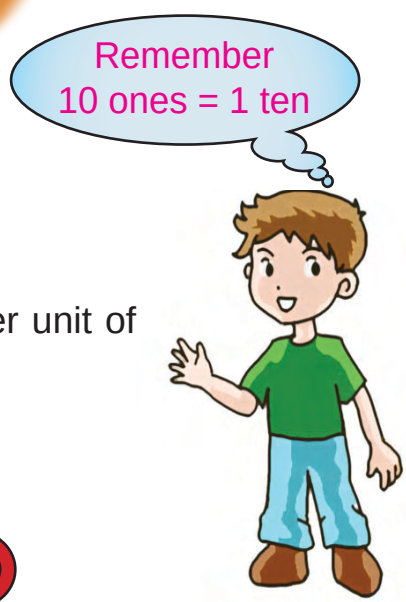
Millimetre

Millimetre is the smallest unit of measuring length. It is used to measure smaller measurements. Look closely at your ruler. You will see very small lines between two numbers on the centimetre ruler as shown below. These are called millimetre. It is written as mm.



Centimetre

Look at the picture :



The thickness of the book is 10mm.
This is otherwise written as 1cm.

Centimetre is the next immediate higher unit of measuring length to that of millimetre.

It is written as cm.

10 mm = 1 cm

Metre

Look at the picture :

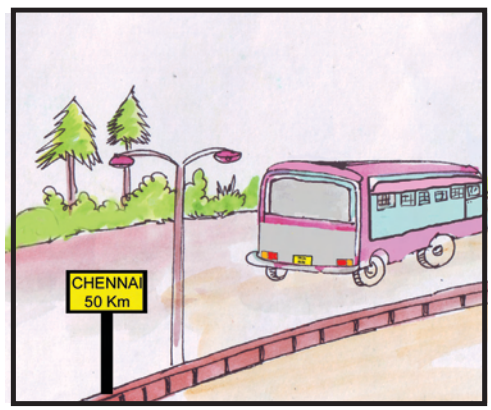
The shopkeeper uses the metre scale to measure clothes which consists of 100 cm.

Metre is the next applicable higher unit of measuring length to that of centimetres. It is written as m.

100 cm = 1 m

Kilometre

Look at the picture :



The bus covers the distance in kilometre.

1 kilometre consists of 1000 m.

Kilometre is the bigger unit of length than metre.

It is written as km. It is used to measure longer distance.

1000 m = 1 km

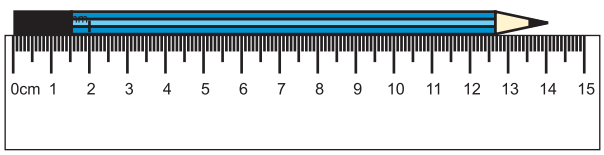
ACTIVITY 3

Complete the table by mentioning any two places in your school / locality and write their distance in meters / kilometers with the help of your teacher.

Place I	Place II	Distance between them

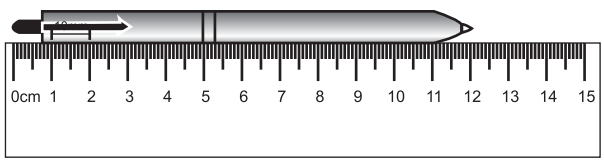
Measuring in Centimetres

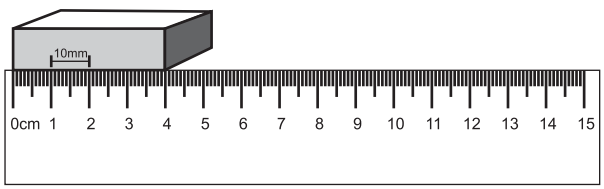
Place the zero mark on centimetre ruler against one end of the object. Read the number at the other end.



◀ Pencil is 14 cm long.

Pen is 12 cm long. ▶





◀ Eraser is 4 cm long.

ACTIVITY 4

Measure the length of your objects such as pencil box, duster, maths book, crayan in centimetre and table it.

ACTIVITY 5

Measure the heights of the students in your class in centimetre and tabulate them.

S.no	Name of the student	Height of the student(in cm)

ACTIVITY 6

Estimate the length of the following objects and verify it.

S.no	Name of the objects	Estimated length	Actual length
1.	Chalk piece		
2.	Duster		
3.	Pencil box		
4.	Table		
5.	Bench		
6.	Black board		

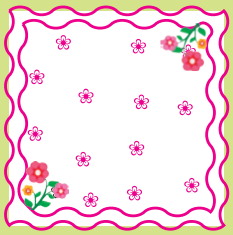
Project

Tabulate the estimated length and actual length of the materials available in your environment.

4 WEIGHT

Recall

Chalk pieces



Hand Kerchief

Pencil Box

Duster

Book

Look at the pictures

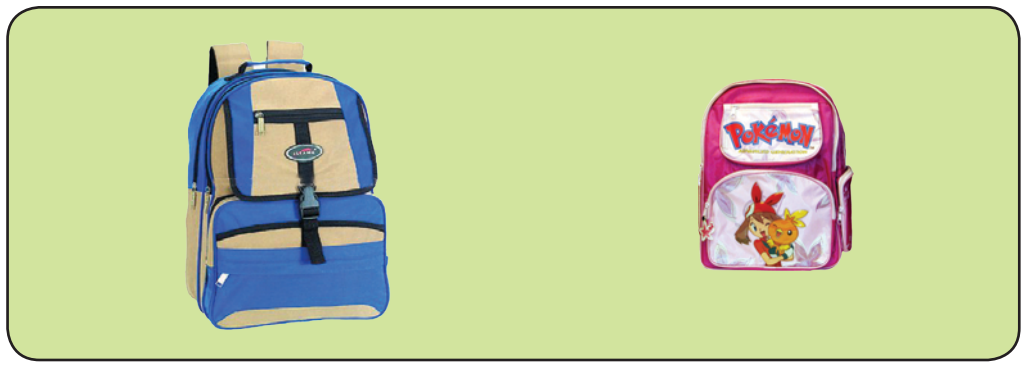
List out the objects in descending order based on their weight that you feel.

1. 
2. 
3. 
4. 
5. 

What do you infer from the above activity?

Every object has its own weight!

Can you guess which school bag is heavier?



Exercise 1

In each group circle the object which is heavier?

1

2

3

4

Simple Balance

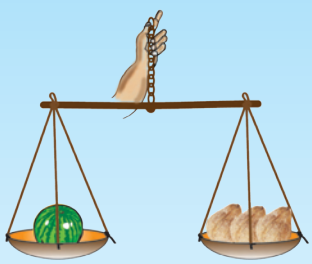
Use a thin stick, thread and plastic plates. Make a simple balance as shown in the picture

Weighs objects using non-standard units

Now we measure the weight of the objects by non standard units using simple balance.

Example

1



Weight of one watermelon

= 3 coconuts

2

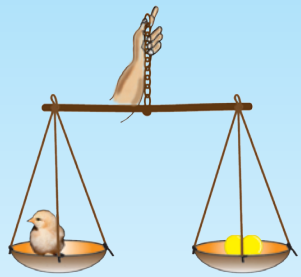
Weight of one box

= 4 pens

Exercise 2

From the following pictures find the weight of the objects.

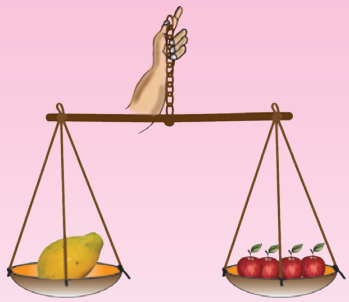
1



Weight of one chick

= _____ balls.

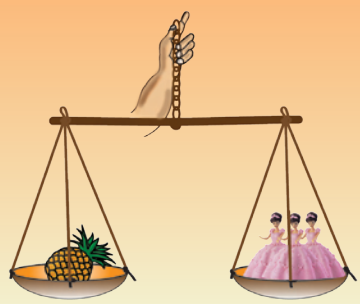
2



Weight of one Papaya

= _____ apples.

3



Weight of one Pineapple.

= _____ dolls.

Project

Weigh some objects by your locally available non standard units such as seeds, stones etc., using the simple balance and tabulate.

5 CAPACITY

The amount of liquid that a container can hold is the capacity of the container.

Container A

Container B

Mug

Container A holds 25 mugs of water.

Container B holds 18 mugs of water.

Which container has larger capacity?

Answer : _____

Example

The pot is filled with 9 jugs of water.

So, the capacity of the pot is 9 jugs.

In non-standard units for measuring capacity, we use a small container to find out the capacity of big container.

Exercise 1

Find the measurement of the following container :

1. Two  of milk fill one 

   The capacity of the  is = [2] 

2. Eight  of water fill one 

   The capacity of the  is = [ ] 

3. One  holds 15  of tea.

   The capacity of the  is = [ ] 

4. Five  of juice fill one. 

   The capacity of the  is = [ ] 

5. Ten  of oil fill one . 

   The capacity of the  is = [ ] 

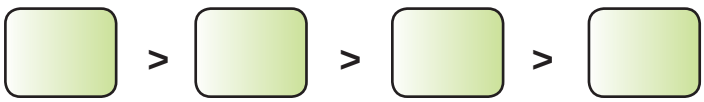
ACTIVITY 1

- Divide the students into four groups.
- For each group give different size of buckets.
- Give the same size of jug to each group.
- Ask them to fill their buckets with water using the jug.

Compare the capacity of the buckets and discuss:

Name of the groups	Capacity of the buckets
A	
B	
C	
D	

Arrange the groups based on the capacity of the buckets:



For filling a particular tank, Kala needs 40 pots of water whereas Sathya needs 50 pots of water. Find out the reason.

Date:.....

MATHEMATICS

1) Which vessel helps quicker in filling a container?

The capacity of the container is 5 mugs (or)

The capacity of the container is 3 mugs.

Answer : _____

2) If a narrow container holds 8 bottles of petrol and a wider container holds 8 bottles of diesel then the capacity of narrow container is _____ the capacity of wider container

(greater than / equal to / less than)

3) A beaker holds 25 cups of milk. The capacity of the beaker is _____ cups.

4) A flask was filled with 7 cups of tea. Then the number of similar cups required to make the flask empty is _____.

5) The capacity of the watercan is 30 bottles. Then the number of bottles of same size that will fill another watercan of same size is _____ .

Comments

Teacher's signature