Step 2 : Subtract the ones.

4 ones – 2 ones = 2 ones

Write 2 in the ones column.

Step 3 : Subtract the tens.

8 tens – 8 tens = 0 tens

Write 0 in the tens columns.

Therefore, 84 – 82 = 2.

	T	O
	8	4
–	8	2
	0	2

E. Subtract the following.

1. 68 − 68 = _____
2. 97 − 72 = _____
3. 84 − 24 = _____
4. 28 − 27 = _____
5. 78 − 36 = _____
6. 49 − 28 = _____
7. 78 − 46 = _____
8. 98 − 78 = _____
9. 57 − 34 = _____
10. 48 − 24 = _____
11. 79 − 42 = _____
12. 88 − 37 = _____

F. Solve the following.

1. There are 37 students in class IA.
   6 are absent.
   How many students are present?
   37 – 6 = 31 are present.

	T	O
	3	7
–		6
	3	1

	T	O
	5	8
−	3	2

2. Ranjan had 58 bottles of water. 32 were used for drinking. How many are left?

58 − 32 = ... bottles left.

	T	O
	2	7
−	1	8

3. There are 27 people. 18 are women. How many are men?

..... − ..... = ... are men.

	T	O
	6	9
−	2	7

4. There are 69 cups and plates. 27 are cups.

How many are plates?

..... − ..... = ... are cups.

	T	O
	8	2
−	4	0

5. There are 82 insects on the walls.

40 are mosquitos.

How many are lizards?

..... − ..... = ... are lizards.

Points to Remember :

- Addition means putting together.
- Subtraction means taking away.
- If zero (0) add to any number answer is the number itself.
- If a smaller number subtract from bigger number then answer is called difference.
- If zero (0) subtract from any number answer is number itself.

HOTS

Ask the rupees of Atul and Anand. Now, find the sum and difference of the rupees of both persons.

- ..... + ... = ...
- ..... − ..... = ...

Lab Activity

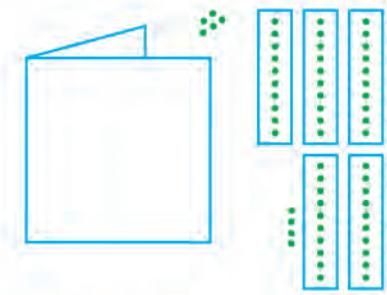
ADDITION OF 2-DIGIT NUMBERS

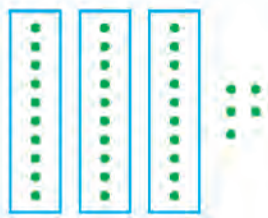
Objective : To build an understanding of addition of 2-digit numbers.

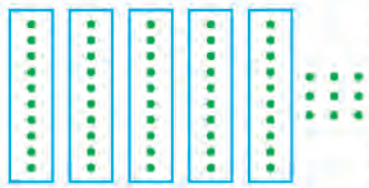
Materials Required : Used greeting cards and self-sticking *bindis*

Activity :

- Cut the greeting cards into strips of about 4 cm × 10 cm. Ten *bindis* may be stuck on each strip. Some *bindis* are kept loose. children work in pairs with the tens strips and loose *bindis*. To find 24 + 35.
- One student keeps 2 strips of ten and 4 loose *bindis* to make 24.
- The partner adds another 3 strips of ten and 5 loose *bindis*.
- They count how many loose *bindis* there are in all.
- Then, they count how many strips of ten are there in all.
- They record the answer.







Record the Activity :

5 tens 9 ones = 59

24 + 35 = 59

Do yourself :

22 + 16 =	37 + 42 =

A. Fill in the following.

1. Number of hands

2 + 2 = 4

2 twos are 4.

2 × 2 = 4

2. Number of mangoes

3 + 3 = ...

2 threes are ..... .

2 × 3 = ...

3. Number of balls

..... + ... + ... = ...

3 ..... are ..... .

3 × ..... = ...

4. Number of apples

..... + ... + ... + ... = ...

..... twos are ..... .

..... × ..... = ...

5. Number of bananas

..... + ... = ...

2 ..... are ..... .

..... × ..... = ...

B. Write as multiplication fact.

1. $2+2+2+2$ = 2 × 4
2. 6 = 6 × 1
3. $7+7+7$ = 7 × 3
4. $0+0+0+0$ = ...
5. $1+1+1+1+1$ = ...
6. $5+5+5+5+5+5$ = ...
7. $9+9+9+9+9+9+9+9$ = ...
8. $4+4+4+4+4+4+4$ = ...
9. $3+3+3+3+3+3+3+3+3$ = ...

C. Write as addition fact.

1. 4×7 = 4 + 4 + 4 + 4 + 4 + 4 + 4
2. 2×6 = ...
3. 6×2 = ...
4. 3×8 = ...
5. 7×1 = ...
6. 8×5 = ...

Facts to know

- The product is either than or equal to the numbers we multiply.

Building the Tables

Table of 1 ⟶ Multiplying by 1

1 + 1 + 1 + 1 + 1 = 5 × 1 = 5

D. Count and build the table of 1.

1×1 = 1	
2×1 = 2	
3×1 =	
4×1 =	
5×1 =	
6×1 =	
7×1 =	
8×1 =	
9×1 =	
10×1 =	

Table of 2 ⟶ Multiplying by 2

E. Count and build the table of 2.

	1 × 2 = 2
	2 × 2 = 4
	3 × 2 =
	4 × 2 =
	5 × 2 =
	6 × 2 =
	7 × 2 =
	8 × 2 =
	9 × 2 =
	10 × 2 =

Table of 3 ⟶ Multiplying by 3

F. Count and build the table of 3.

	1 × 3 =
	2 × 3 =
	3 × 3 =
	4 × 3 =
	5 × 3 =
	6 × 3 =
	7 × 3 =
	8 × 3 =
	9 × 3 =
	10 × 3 =

Table of 4 ⟶ Multiplying by 4

G. Count and build the table of 4.

1 × 4 =		
2 × 4 =		
3 × 4 =		
4 × 4 =		
5 × 4 =		
6 × 4 =		
7 × 4 =		
8 × 4 =		
9 × 4 =		
10 × 4 =		

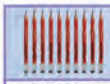
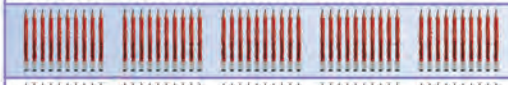
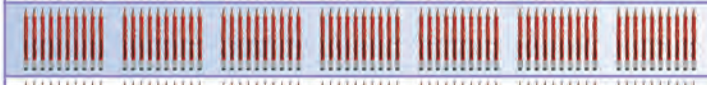
Table of 5 ⟶ Multiplying by 5

H. Count and build the table of 5.

1 × 5 =		
2 × 5 =		
3 × 5 =		
4 × 5 =		
5 × 5 =		
6 × 5 =		
7 × 5 =		
8 × 5 =		
9 × 5 =		
10 × 5 =		

Table of 10 ⟶ Multiplying by 10

I. Count and build the table of 10.

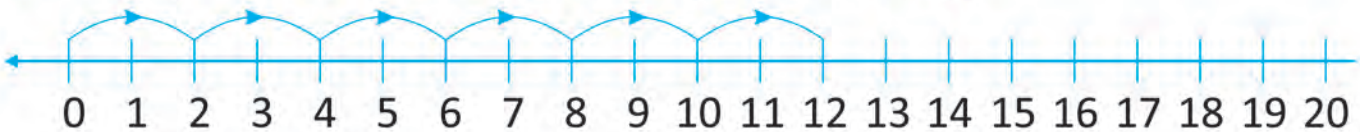
	1 × 10 =
	2 × 10 =
	3 × 10 =
	4 × 10 =
	5 × 10 =
	6 × 10 =
	7 × 10 =
	8 × 10 =
	9 × 10 =
	10 × 10 =

Skip Counting

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

We have coloured the boxes, starting from 2 and leaving a number in between. This is called counting by twos, as we count every second number.

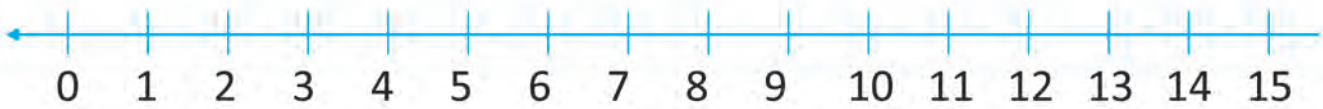
Multiply with the help of skip counting



6 times 2 = 6 × 2 = 12

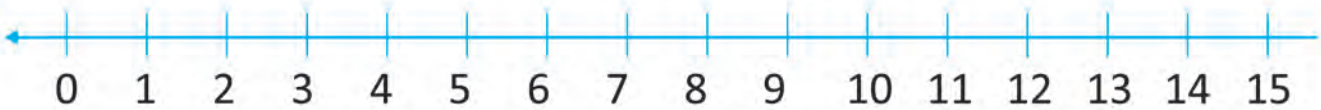
J. Multiply the following with the help of skip counting.

1.



3 times 4 = 3 × 4 =

2.



3 times 5 = 3 × 5 =

Multiplying Facts

Which three numbers have the same answer whether they are added or multiplied together?

- Any number multiplied by zero is zero.
  $8 \times 0 = 0$ $62 \times 0 = 0$
- Any number multiplied by 1 is the number itself.
  $6 \times 1 = 6$ $49 \times 1 = 49$

Vertical Multiplication

4 sets of 3

T	O
	4
×	3
1	2

4 × 3 = 12

4 sets of 5

T	O
	4
×	5
2	0

4 × 5 = 20

3 sets of 6

T	O
	3
×	6
1	8

3 × 6 = 18

K. Find the product of the following.

1.

T	O
1	0
×	6

2.

T	O
	7
×	5

3.

T	O
	8
×	2

4.

T	O
	9
×	7

Multiplication of 2-digit Numbers

Multiply 24 by 2.

Step 1 : Multiply the ones.

2 × 4 ones = 8 ones.

Write 8 in the ones column.

Step 2 : Multiply the tens

2 × 2 tens = 4 tens.

Write 4 in the tens column.

Product = 48

T	O
2	4
×	2
4	8

L. Multiply the following.

1.

T	O
1	2
×	4

2.

T	O
2	2
×	4

3.

T	O
3	4
×	2

4.

T	O
2	3
×	2

5.

T	O
2	1
×	4

6.

T	O
3	1
×	3

7.

T	O
3	2
×	3

8.

T	O
3	2
×	2

Points to Remember :

- The repeated addition of a number is called 'Multiplication'.
- We skipped one number and took the second number. This type of counting is called skip counting in twos.
- Any number multiplied by zero the result is zero.
- Any number multiplied by 1, the result is the number itself.
- The sign of multiplication is 'x'.

HOTS

There were 5 bags. Each bag had 6 books. How many books were there in all?

Total books = ...

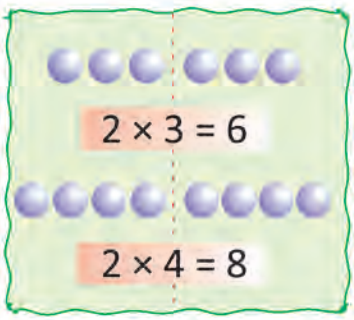
Lab Activity

Objective : Using patterns to write multiplication facts.

Materials Requried : Art paper 18 cm by 18 cm for each child, paint box and a paint brush

Activity :

- The teacher will understand the process and the students will follow the steps.
- Fold the paper like a card.
- Paint 3 dots on the inner left of the card.
- Fold the card and press it. Now, you have two sets of dots on either side of the card.



- Write the multiplication fact, i.e., $2 \times 3 = 6$.
- Now, try with 4 paint dots in different colours. Fold, press, and write the multiplication fact, i.e., $2 \times 4 = 8$.
- If there is space, try another multiplication fact.
- When the paint is dry, fold it back as before.
- With a paint brush write MULTIPLICATION FACTS.

11 Division

Division

One each of course!

I have two tomatoes to be shared equally between Vipin and Rahul. How many will each one get?

Two each. Aren't they lucky!

If there are four tomatoes to be shared equally between Vipin and Rahul, how many will each one get?

Three each this time!

If there are six tomatoes to be shared equally between Vipin and Rahul, how many will each one get now?

Two each.

If their friend Naman joins them, and they have to share the six tomatoes, how many will each one get?

In the examples, we see that we are sharing into equal groups according to the number of groups needed. This is called dividing into equal groups or division.

Divide the following into equal groups by drawing circles around.

4 groups of 2 each

3 groups of 3 each

2 groups of 4 each

5 groups of 1 each

Division by Grouping

A. Divide the following.

1. Divide 30 toffees into 5 heaps.

$30 \div 5 =$ ○

2. Divide 21 paint brushes into 7 pots.

$21 \div 7 =$ ○

3. Divide 16 *choclates* into 4 trays.

$16 \div 4 =$ ○

4. Divide 20 apples into 5 baskets.

$20 \div 5 =$ ○

5. Divide 21 bananas into 3 plates.

$21 \div 3 =$ ○

6. Divide 25 mangoes into 5 plates.

$25 \div 5 =$ ○

Division by Repeated Subtraction

Division is repeated subtraction.

I have 9 *balls*. I have to divide them into groups of 3.

If subtract 3 *balls* from 9, I have 6 balls left with me. $9 - 3 = 6$

If subtract 3 *balls* from 6, I have 3 balls left with me. $6 - 3 = 3$

If I subtract 3 balls from 3, I have 0 ball left with me. $3-3=0$

$9-3-3-3=0$ So I have 3 groups of 3 balls.

This process of repeated subtraction helps us to divide things into many equal groups. We are subtracting the same number repeatedly.

B. Find the number of groups by subtracting as instructed.

1. 6 in groups of 2

$6-2=4$; $4-2=2$, $2-2=0$ or $6-2-2-2=0$ or $6\div 2=3$

2. 12 in groups of 3

3. 20 in groups of 5

Properties of Division

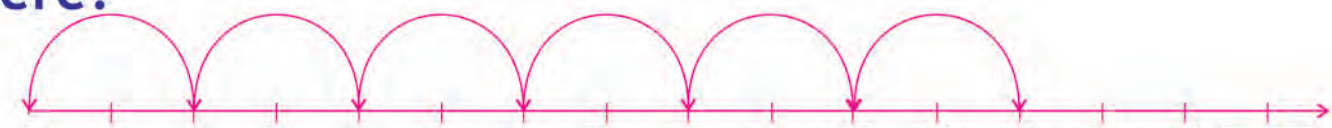
- The sign of division is '÷'
- Any number divided by 1, answer is the number itself always.
  For Example : 8 ÷ 1 = 8, 79 ÷ 1 = 79
- Any number divide by itself, answer is 1 always.
  For Example : 25 ÷ 25 = 1, 83 ÷ 83 = 1
- Zero divided by any number, answer is zero always.
  For Example : 0 ÷ 32 = 0, 0 ÷ 98 = 0

Facts to know

- Division by zero is not possible. 65 ÷ 0 is not possible.

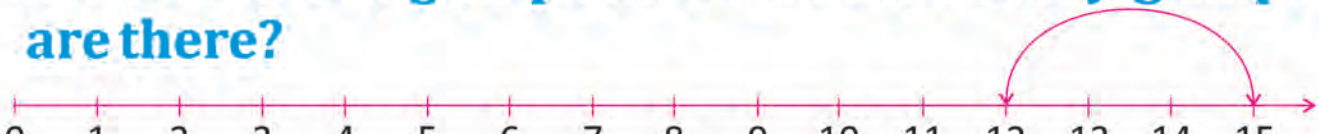
Number Line Division

Divide 12 into groups of two. How many groups are there?



12 – 2 – 2 – 2 – 2 – 2 – 2 = 0 There are 6 groups. 12 ÷ 2 = 6

C. Divide 15 into groups of three. How many groups are there?



15 – 3 – ..... There are .....groups. 15 ÷ 3 =

Points to Remember :

- The repeated subtraction is called 'Division'.
- The sign for division is '÷'.
- Any number divided by 1, answer is the number itself.
- Any number divided by itself answer is 1.
- Zero divided by any number answer is zero.

HOTS

There are 28 pictures in all. Out of which 4 are pasted on one wall. How many walls are needed to paste all of them?

..... walls

Lab Activity

Objective : To use repeated subtraction to find the result.

Materials Required : A measuring tape, child scissors and a roll of a rope or a string

Activity :

- Children may work in pairs. To find 56 ÷ 8
- One child measures and cuts out a length of string 56 cm long.
- Starting at one end of the rope the children take turns in measuring out 8 cm pieces and cutting it.
- They count how many 8 cm pieces they have.
- They find they have 7 pieces.
- They record the activity as 56 ÷ 8 = 7

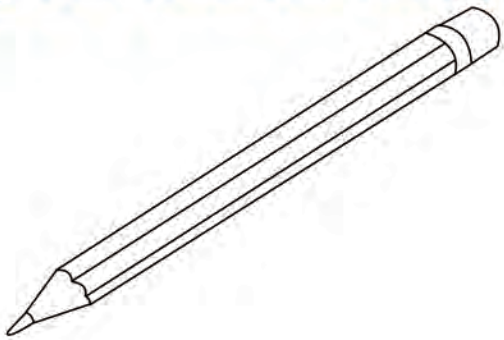
Record of the Activity :

Length of rope	Cut into lengths	Number of pieces
56 cm	8 cm	7
81 cm	9	
64 cm	8	
100 cm	10	

12 Measurement

Measurement of Lengths

A. Colour the longer object in green and the shorter object in red.



B. Tick (✓) the taller one.

In the early days, people used the handspan, footspan, pace and cubit to get idea of length.

Handspan

Cubit

Footspan

Pace

Making Fairly Correct Measurement

C. Measure the length of the following using your footspans and fill in the boxes.

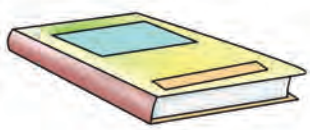
1. Dinner room: ..... footspans
2. Classroom : ..... footspans
3. Kitchen : ..... footspans
4. Garden : ..... footspans

D. Measure the length of the following using your handspans and fill in the boxes.

1. Your height : ..... handspans
2. Blackboard : ..... handspans
3. Table : ..... handspans
4. Bed : ..... handspans

You can also use your pencil, eraser, sharpener, and crayons to measure length.

E. Measure the length of your science book and science notebook with crayons.

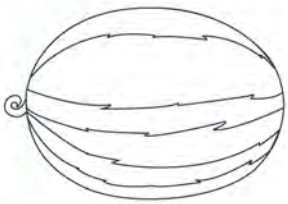


1. That notebook is ..... crayons long.
2. This book is ..... crayons long.
3. The book is ..... (longer, shorter) than the notebook.

Measurement of Weight

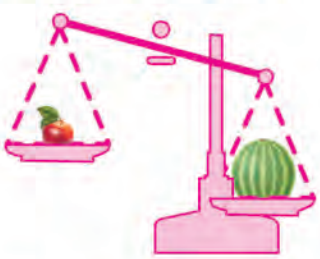
Colour the lighter animal.

Colour the heavier fruit.



- A balance is a simple device used to find and compare weights of different things.
- The balance has two pans of equal size and weight.
- The object to be weigh is placed in one pan and a known weight is put in the other pan.
- When the pans balance, the weight on both pans are same.

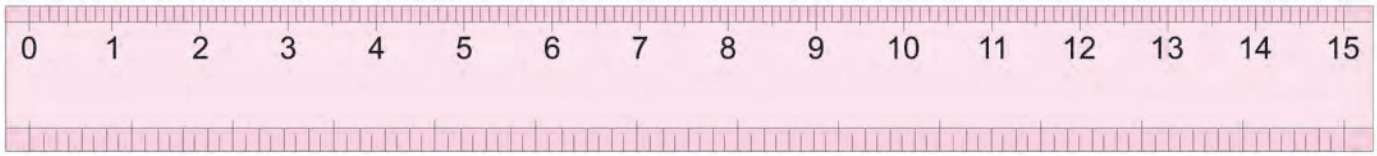
F. Tick (✓) the circle for the lighter one.



G. Tick (✓) the circle for the heavier one.

Measuring with a Scale

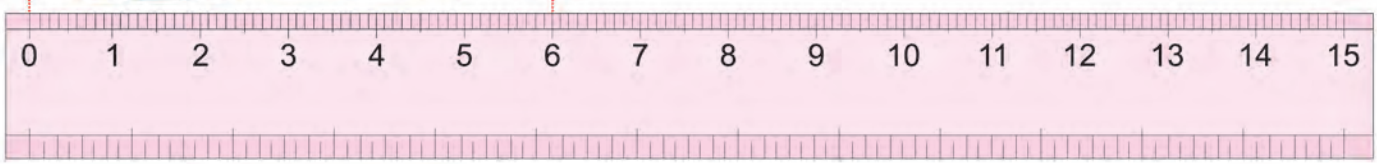
Learning to measure length with a centimetre scale



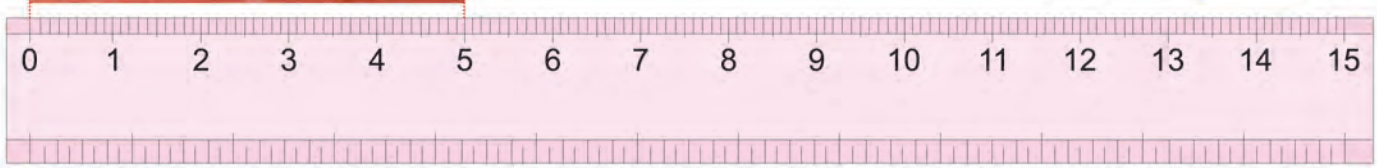
Look at the markings on the scale. Smaller lengths are measured in centimetres.

H. Write the length of the following.

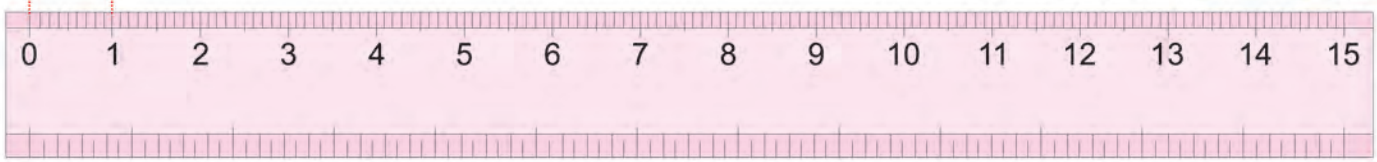
Pen = ☐ cm

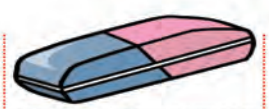


Brick = ☐ cm

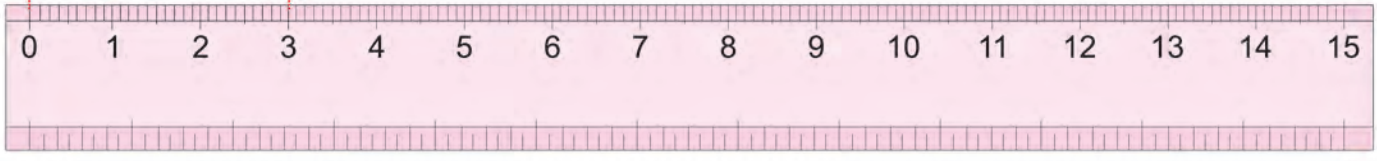


Needle = ☐ cm





Eraser = ☐ cm



Measurement of Capacity

I. Tick (✓) the one which contains more liquid.

Capacity is the quantity of liquid a container can hold. We can use cups, mugs, small vessels etc., to measure the quantity of any liquid.

The bucket can hold ten jugs of water.

The jar can hold two jugs of water.

So, the capacity of the ..... is more than that of the ..... .

Measuring Cup 1 Litre

We measure liquids in litres (*l*). Ask your teacher to help you find out how many glasses of water can fill this measuring cup.

..... glasses of water makes 1 litre.

Points to Remember :

- A balance is a device to find and compare weights.
- When the pans balance, the weights on both the pans are same.
- We measure weight in kilogram (kg) and gram (g).
- We measure liquids in litres (*l*).

HOTS

Name two liquids you can drink.

..... and .....

Lab Activity

Objective : Estimating length.

Materials Required : 4 different colour paper strips of different lengths, white paper, fevicol and paper clips

Activity:

- The teacher will understand the process and the students will follow the steps.
- Students can work in groups of four.
- Paste the coloured paper strips on the white paper.
- One student uses the paper clips to measure the length of the yellow strip and records his/her measurement.
- The second student measures the green strip.
- The third student measures the orange strip.
- The fourth student measures the red strip.
- Compare the measurements.
  - Which strip is the longest?
  - Which strip is the shortest?
- The length of the red strip is 6 clips.