GOVERNMENT OF TAMIL NADU

STANDARD THREE

TERM - III

VOLUME 2

MATHEMATICS
SCIENCE
SOCIAL SCIENCE

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MATHEMATICS

Term - III

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UNIT-1

GEOMETRY

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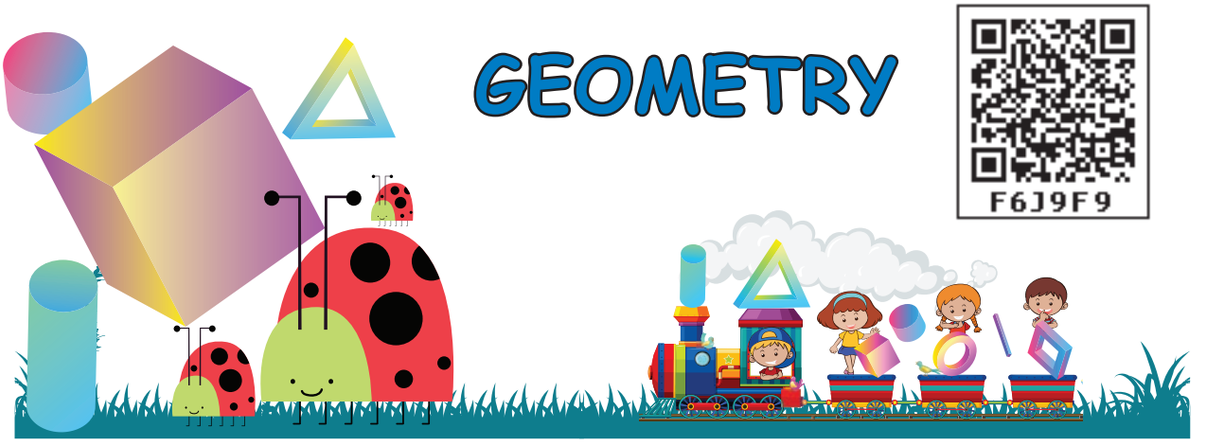
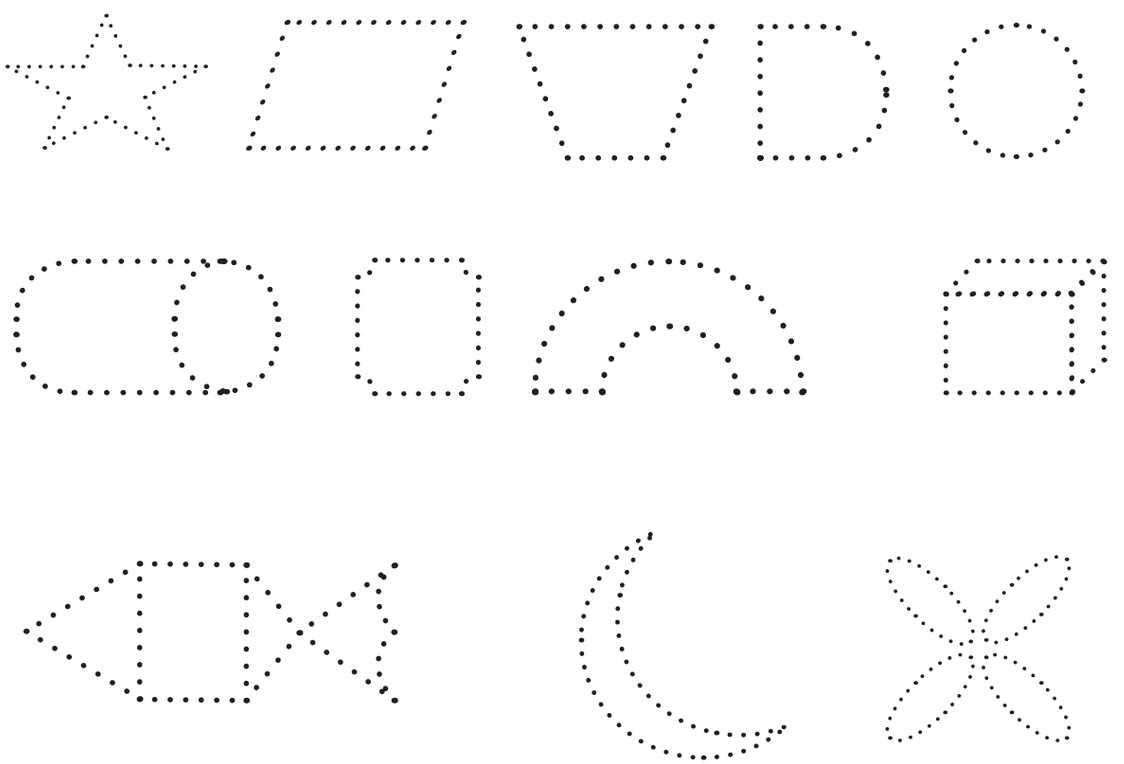


1.1 Straight Lines and Curved Lines

Draw the shapes similar to the shapes given in the dotted grid and sort them by writing 'c' for shapes made of curved lines 's' for shapes made of straight lines and 'cs' for shapes with both curved and straight lines



Draw shapes in each category on your own.

i) Curved lines

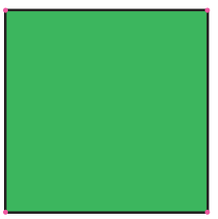
ii) straight lines

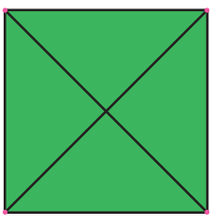
iii) Curved lines and straight lines.

1.2 Diagonal

Diagonal is the line joining opposite corners of a geometrical shape.

Observe the corners of the square.





The line joining opposite corners of a square is called the **diagonal** of the square.

A square has two diagonals.

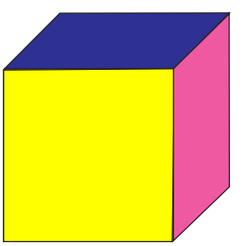
Diagonals of a cube:

A Cube has six square faces. Each square has two diagonals.

Diagonals in the faces = 6 × 2 = 12.

Diagonals in the inner sides of 4 corners = 4.

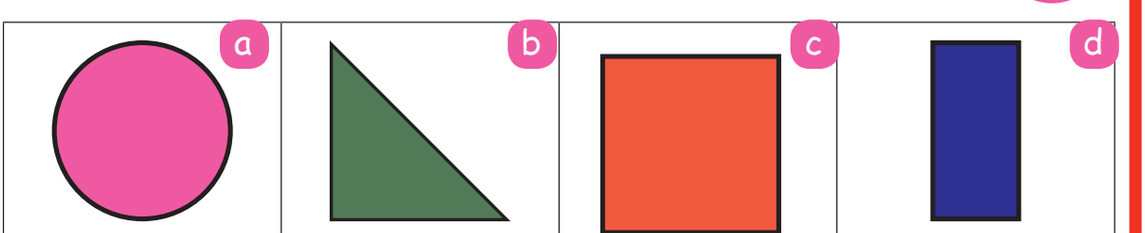
Total number of diagonals of a cube = 12 + 4 = 16.



Draw the diagonals for the given rectangle.

How many diagonals will be there in a cuboid? _____.

Match the properties of 2D shapes by observing their sides and corners (vertices).



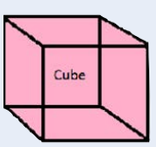
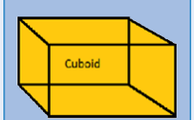
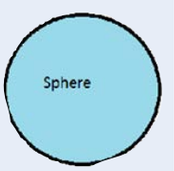
1. Opposite sides are equal. ( )
2. There are no sides and corners. ( )
3. Sides may or may not be equal. ( )
4. All the four sides are equal. ( )

1.3 Properties of 3D Objects

1. Pick out the shapes with (i) curved surfaces (ii) flat surfaces (iii) curved and flat surfaces from the given picture and completed table.

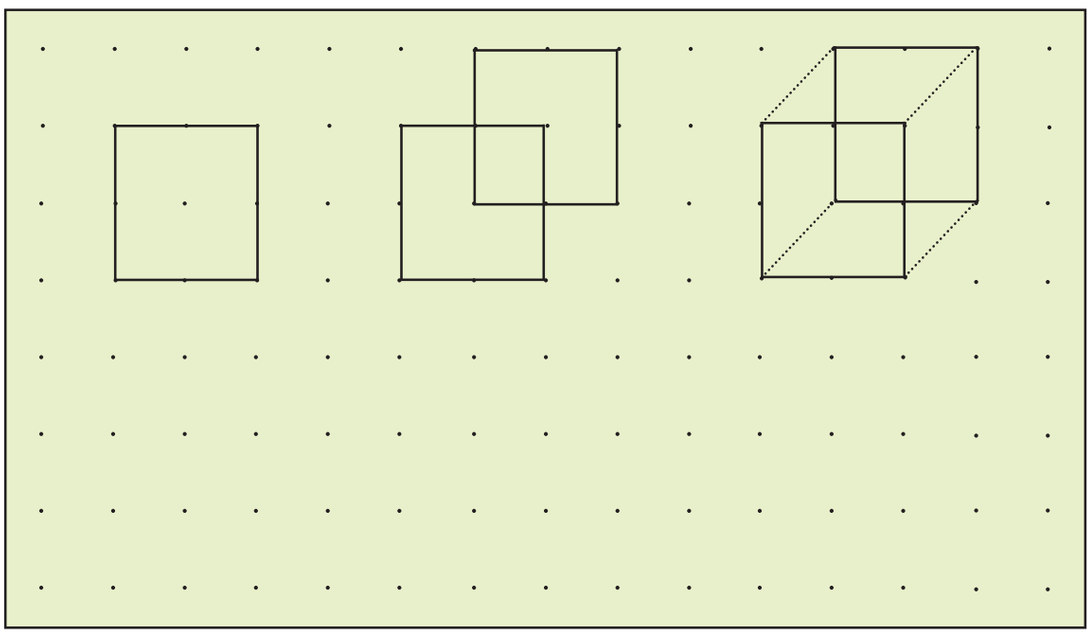
curuved surface
flat surface
curved and flat surface

2. Complete the table by counting the sides, corners and diagonals of the given 3D shapes.

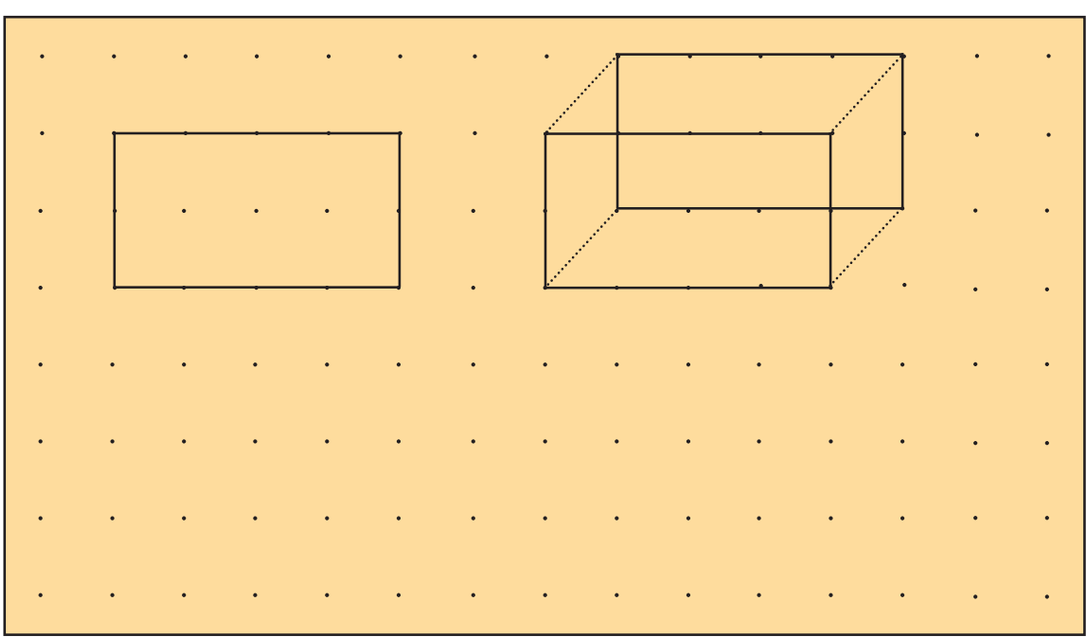
3D shapes					
Name of the 3D shapes	Cube	Cuboid	Cylinder	Cone	Sphere
Number of sides					
Number of edges					
Number of corners					
Number of diagonals					

3. Follow the given steps and draw the 3-D objects.

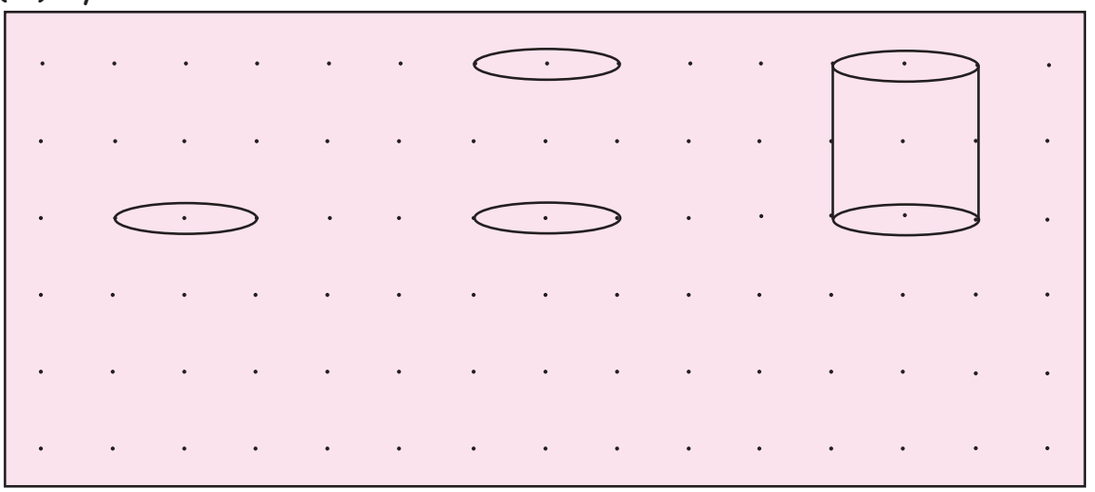
(i) Cube



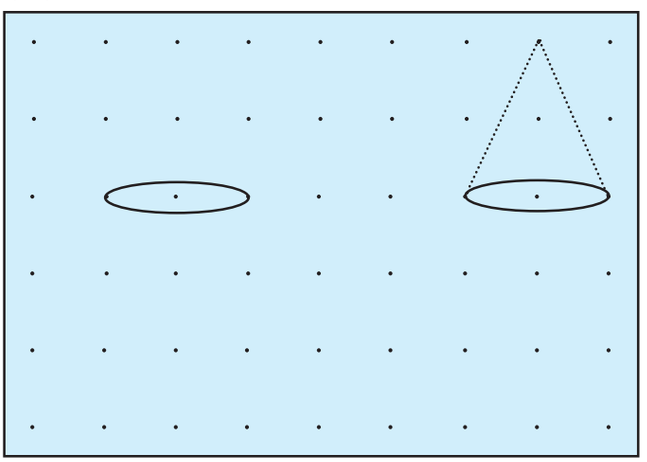
(ii) Cuboid



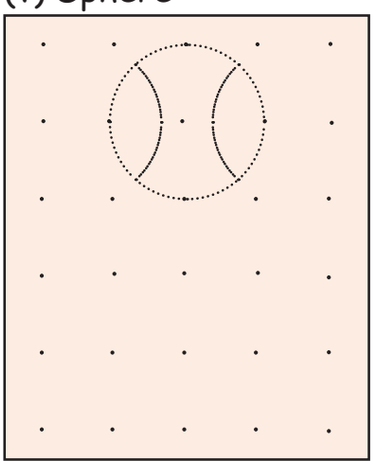
(iii) Cylinder



(iv) Cone



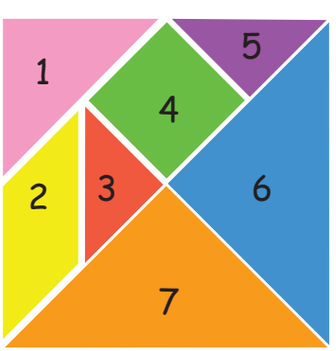
(v) Sphere

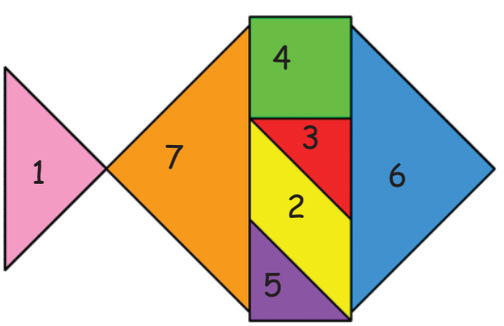


1.4 Tangrams

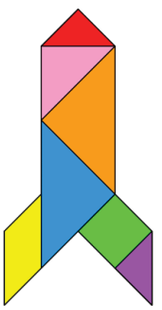
Let us recall tangrams

A traditional Chinese puzzle made of a square divided into seven pieces (one parallelogram, one square and five triangles) that can be arranged to match particular designs. We can make figures of animals, people and many things using these 7 pieces.

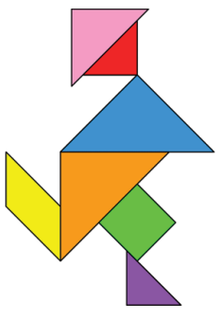




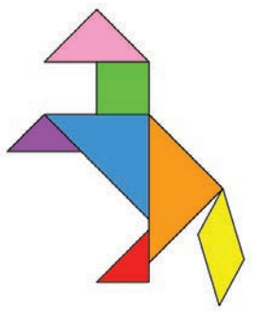
A tangram rocket



A tangram dancing girl

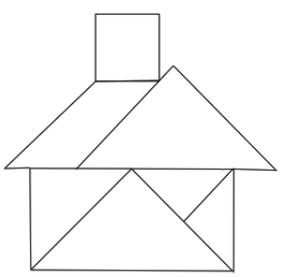


A tangram horse

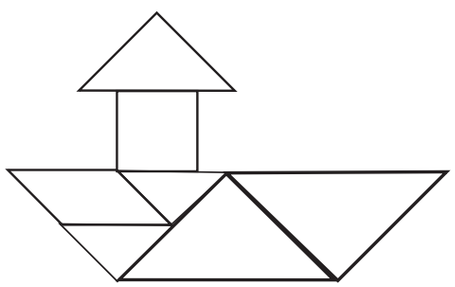


Identify the tangram pieces used in the given images by colouring and numbering the pieces as in the reference figure.

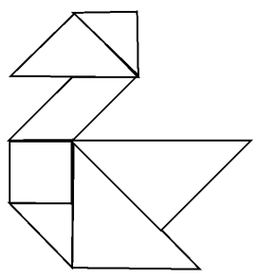
A tangram house



A tangram boat



A tangram swan

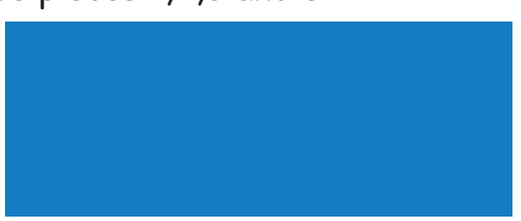


Activity

Collect or make a set of tangram piece with the help of your parents, teacher or elders and try to make shapes as instructed.

1.Use only triangles

2.Use pieces 1,2,3 and 5



3.(i) Rabbit
(ii) Telephone
(iii) Various shapes of your choice

K9A7L9

1.5 Tessellation

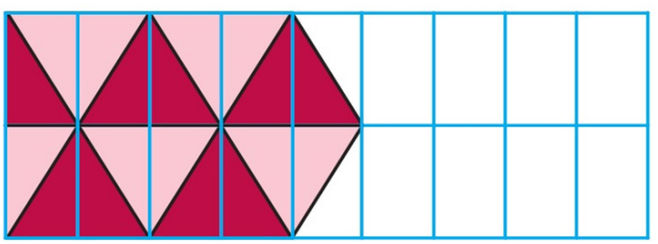
A tessellation is created when a shape is repeated over and over again covering a plane without any gap or overlap.

When you fit individual tiles together with no gap or overlap to fill a flat space, you have a **tiled floor**.

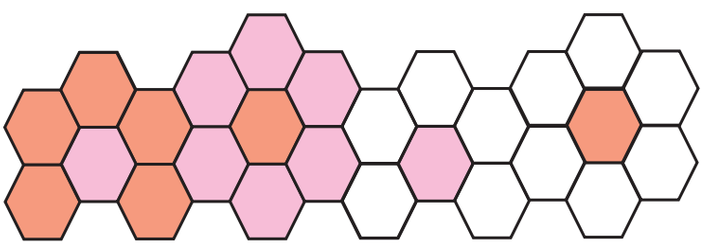
We have already learnt that few shapes such as triangles, squares, hexagons tile on a plane while few figures such as pentagons, heptagons do not tessellate on a plane.

1. Complete the shapes by filling the tiles.

i)

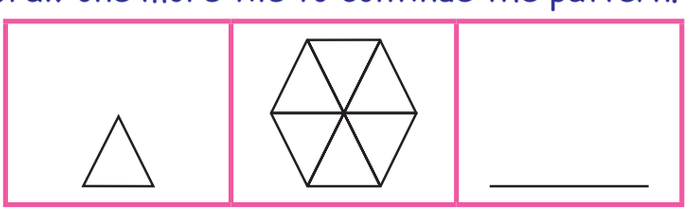


ii)

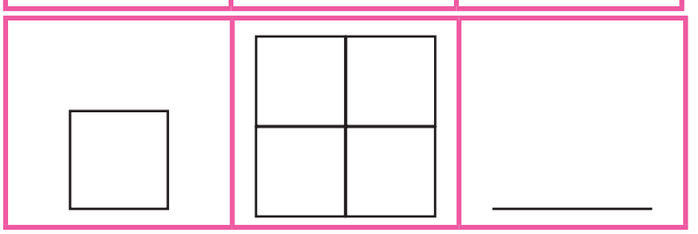


2. Draw one more tile to continue the pattern.

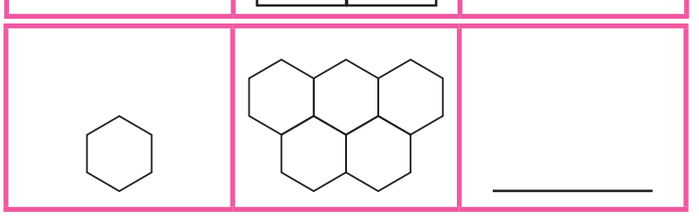
i)



ii)



iii)



R3X9A5

UNIT-2

NUMBERS

2.1 Equal sharing and repeated subtraction

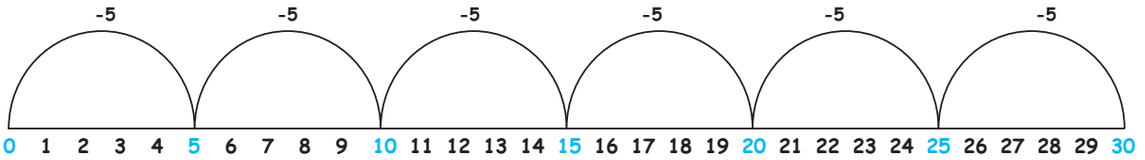
Kabilan had 30 mangoes and wanted to share them among 5 of his friends.Let us see the way he shared the one by one mangoes equally among his friends.

Number of steps	Number of mangoes with Kabilan	Friends					Number of mangoes remaining
		F 1	F 2	F 3	F 4	F 5	
Step 1	30						25
Step 2	25						20
Step 3	20						15
Step 4	15						10
Step 5	10						5
Step 6	5						0
Total number of mangoes each had at the end	0	6	6	6	6	6	0

F=Friend

Number of steps = 6

Let us express this in a number line



Repeated subtraction statement 30 - 5 - 5 -5 - 5 -5 -5 = 0

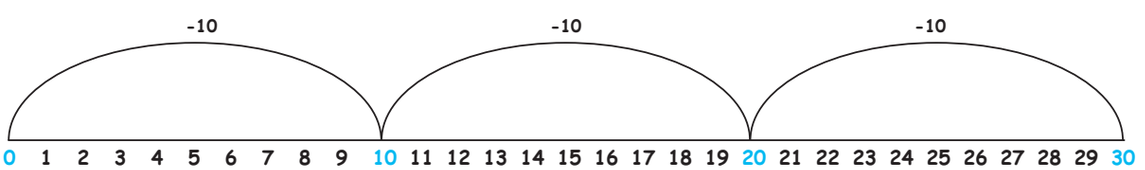
Kabilan distributed **30 mangoes** among **5 of his friends** by giving them one mango in each step.Thus each friend has got **6 mangoes**.

Imagine Kabilan has to share these 30 mangoes among 10 of his friends.

Number of steps	Number of mangoes with Kabilan	Friends										Number of mangoes remaining
		F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	
Step 1	30											20
Step 2	20											10
Step 3	10											0
Total number of mangoes each had at the end	0	3	3	3	3	3	3	3	3	3	3	0

Number of steps = 3

The number line for the above situation:



Repeated subtraction statement 30 -10 -10 - 10 = 0

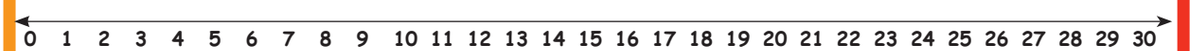
This time Kabilan has shared **30 mangoes** among **10 of his friends** in **3 steps**. Each friends has got **3 mangoes**.

Suppose Kabilan has to share the mangoes among 15 of his friends. How many mangoes would each of them get? How Many steps would he require to share the mangoes among them?

Number of steps	Number of mangoes with Kabilan	F 1	F 2	F 3	F 4	F 5	F 6	F 7	F 8	F 9	F 10	F 11	F 12	F 13	F 14	F 15	Number of mangoes remaining
Total number of mangoes each had at the end																	

Number of steps =

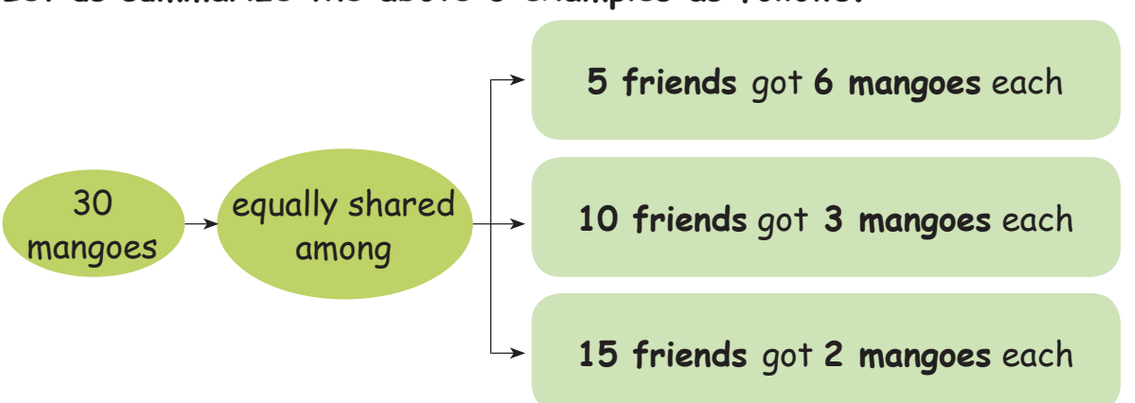
Complete the number line



Repeated subtraction statement _____

Kabilan shared 30 mangoes among 15 of his friends in _____ steps.
Each friend got _____ mangoes.

Let us summarize the above 3 examples as follows.

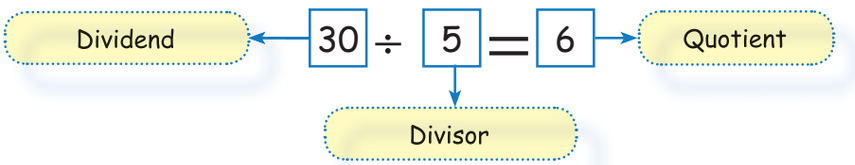


This can also be written as

30 ÷ 5=6 30 ÷ 10=3 30 ÷ 15=2

Equal sharing is mathematically called as **"division"** and division is denoted by the symbol "÷".

The Division fact is $30 \div 5 = 6$



Let us see another example

$$8 \div 4 = 2$$

Here, 8 is the **dividend** 4 is the **divisor** and 2 is the **quotient**

Complete the table.

Total number of Balloons to be shared.	Number of baskets	Equal sharing	Number of balloons in each basket	Division fact
8	4		2	8 ÷ 4 = 2
8	2			
10	5			
15	3			
30	6			

Can you share 2 mangoes among 5 of your friends?
No, This means that dividend should always be greater than the divisor.

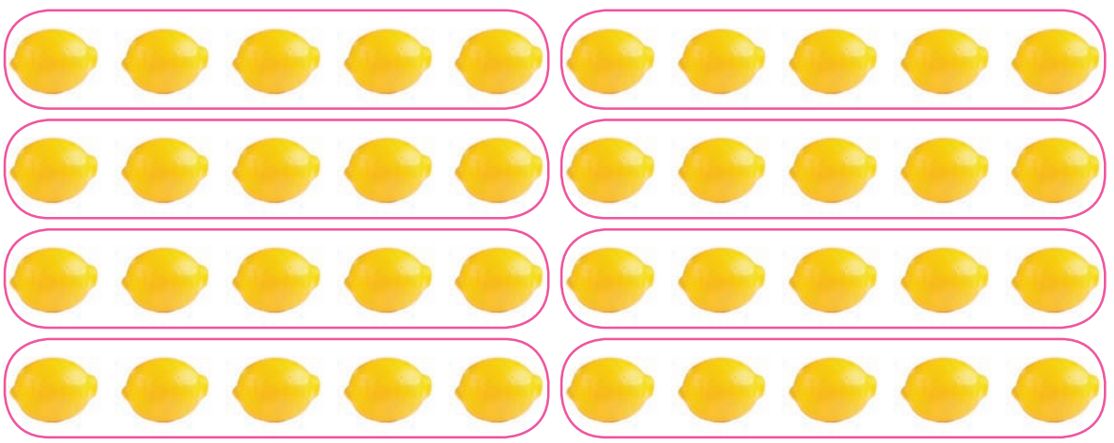
2.2 Equal Grouping

Division can also be done by **Equal grouping**.

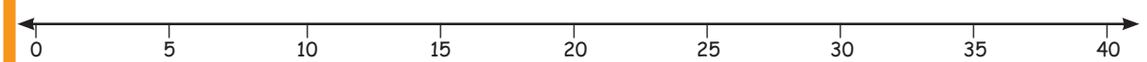
This is Rangamma's shop.

She used to arrange the vegetables into equal groups called as *kooru* to sell them.

1. **Rangamma has 40 lemons and arranged 5 lemons in each group. Shall we find the number of groups by grouping the lemons.**



Show this in the given number line.



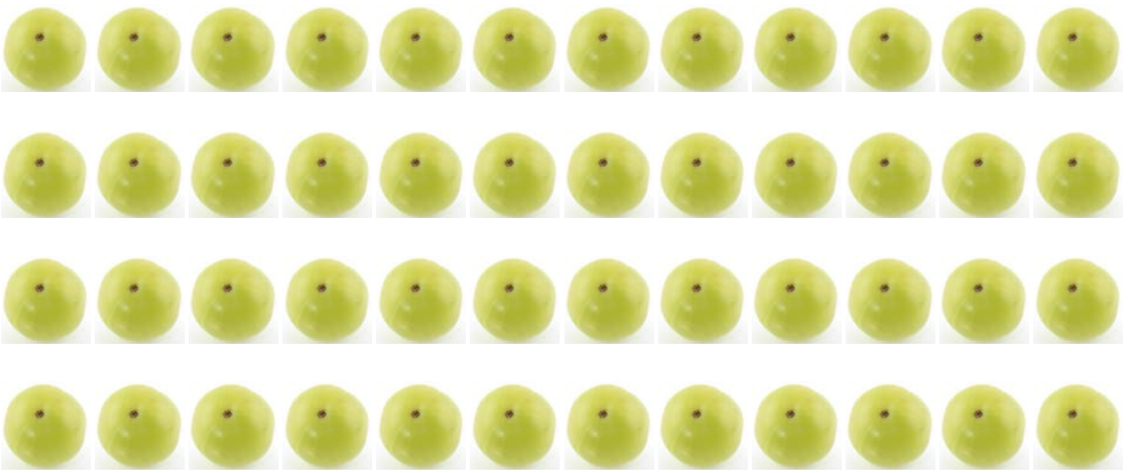
The number statement can be written as 40 ÷ 5 = 8

2. **Rangamma has 36 coconuts and arranges them into group of 4 each. Find the number of groups.**

The number line can be drawn as

The number statement is _____

3. Rangamma has got 48 gooseberries and arranges them into group of 6 each. Find the number of groups.



The number line can be drawn as

The number statement is _____.

4. Find few other ways that Rangamma can group these 48 gooseberries and write the number statements.

a. _____ ÷ _____ = _____
b. _____ ÷ _____ = _____
c. _____ ÷ _____ = _____
d. _____ ÷ _____ = _____
e. _____ ÷ _____ = _____
f. _____ ÷ _____ = _____
g. _____ ÷ _____ = _____
h. _____ ÷ _____ = _____
i. _____ ÷ _____ = _____
j. _____ ÷ _____ = _____

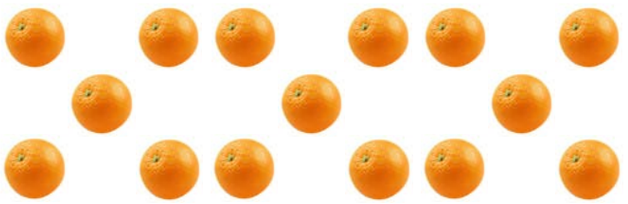
Q5H2K3

Exercise

a. Divide 8 balls into a group of 2 each.

$8 \div 2 = \square$

b. Divide 15 oranges into a group of 3 each.



$15 \div 3 = \square$

c. Divide 20 cups into groups of 5 each.

$20 \div 5 = \square$

Activity

- Give a handful of tamarind seeds to a child and keep some number chits in a box. Let him/her pick out a number chit from the box.
- Now let him/her make it to groups as per the number in the chit taken from the box.
- Once the child has finished grouping ask him/her to write the division fact on the blackboard.

2.3 Multiplication and Division

Consider the division fact

$8 \div 2 = 4$

Roja has 8 chocolates. She divides them among 2 of her friends. How many chocolates would each friend get?

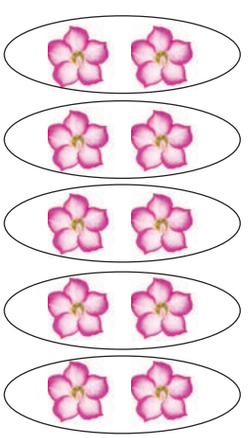
This means 2 groups of 4 make 8 which can be written as

$2 \times 4 = 8$

It means multiplication and division are reverse operations.

$2 \times 4 = 8$
$8 \div 2 = 4$

Consider the arrangement of these 10 flowers.

Multiplication fact ($2 \times 5 = 10$)	Division fact-1 ($10 \div 2 = 5$)	Division fact-2 ($10 \div 5 = 2$)
		

5 groups of 2 flowers make 10 flowers $5 \times 2 = 10$

2 groups of 5 flowers make 10 flowers $2 \times 5 = 10$

10 flowers can be put into 5 groups of 2 flowers each $10 \div 5 = 2$

10 flowers can be put into 2 groups of 5 flowers each $10 \div 2 = 5$

Finding the division fact for the given multiplication fact.

Division fact for Multiplication table two		
Multiplication fact	Division fact	
1 X 2 = 2	2 ÷ 1 = 2	2 ÷ 2 = 1
2 X 2 = 4	4 ÷ 2 = 2	4 ÷ 2 = 2
3 X 2 = 6	6 ÷ 3 = 2	6 ÷ 2 = 3
4 X 2 = 8	8 ÷ 4 = 2	8 ÷ 2 = 4
5 X 2 = 10	10 ÷ 5 = 2	10 ÷ 2 = 5
6 X 2 = 12	12 ÷ 6 = 2	12 ÷ 2 = 6
7 X 2 = 14	14 ÷ 7 = 2	14 ÷ 2 = 7
8 X 2 = 16	16 ÷ 8 = 2	16 ÷ 2 = 8
9 X 2 = 18	18 ÷ 9 = 2	18 ÷ 2 = 9
10 X 2 = 20	20 ÷ 10 = 2	20 ÷ 2 = 10

Construct the division fact for the multiplication tables 3.

Division fact for Multiplication table three		
Multiplication fact	Division fact	
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		

Construct the division fact for the multiplication tables 4.

Division fact for Multiplication table four		
Multiplication fact	Division fact	
1 X 4 = 4		
2 X 4 = 8		
3 X 4 = 12		
4 X 4 = 16		
5 X 4 = 20		
6 X 4 = 24		
7 X 4 = 28		
8 X 4 = 32		
9 X 4 = 36		
10 X 4 = 40		

Construct the division fact for the multiplication tables 5.

Division fact for Multiplication table five		
Multiplication fact	Division fact	
1 X 5 = 5		
2 X 5 = 10		
3 X 5 = 15		
4 X 5 = 20		
5 X 5 = 25		
6X 5 = 30		
7 X 5 = 35		
8 X 5 = 40		
9 X 5 = 45		
10 X 5 = 50		

Construct the division fact for the multiplication tables 10.

Division fact for Multiplication table ten		
Multiplication fact	Division fact	
1 X 10 = 10		
2 X 10 = 20		
3 X 10 = 30		
4 X 10 = 40		
5 X 10 = 50		
6X 10 = 60		
7 X 10 = 70		
8 X 10 = 80		
9 X 10 = 90		
10 X 10 = 100		

Q7K4Y9

Find the quotient of the following.

1. 12 ÷ 4 = _____

   3 times 4 is 12 i.e.,3 X 4 = 12

   Hence 12 ÷ 4 = 3

$4 \times 1 = 4$
$4 \times 2 = 8$
$\mathbf{4 \times 3 = 12}$

say multiplication table 4 till you get product 12.

2. 25 ÷ 5 = _____

   5 times 5 is 25 i.e.,5 X 5 =25

   Hence 25 ÷ 5 = 5

$5 \times 1 = 5$
$5 \times 2 = 10$
$5 \times 3 = 15$
$5 \times 4 = 20$
$\mathbf{5 \times 5 = 25}$

Say multiplication table 5 till you get product 25

Exercise

Divide and find the quotient

20 ÷ 4 = ☐	10 ÷ 2 = ☐	24 ÷ 3 = ☐
10 ÷ 10 = ☐	30 ÷ 5 = ☐	14 ÷ 2 = ☐

UNIT-3

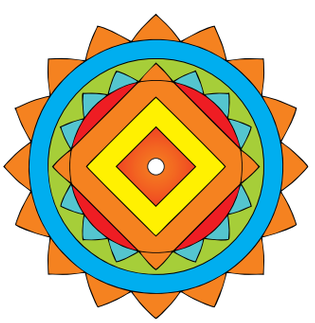
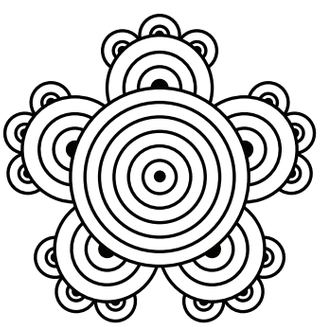
PATTERNS

X5W2B5

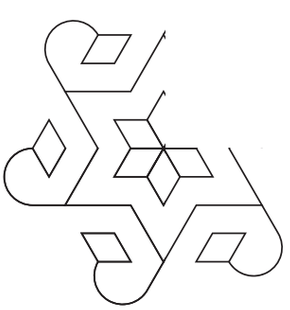
3.1 Iterative patterns and processes

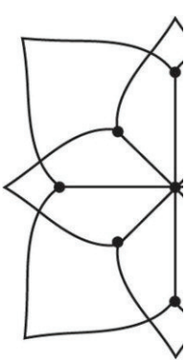
Introduction

Rangoli is created by the growing patterns of colours and shapes. These are few rangolis exhibiting such patterns.


1. Continue the pattern to complete the rangoli.





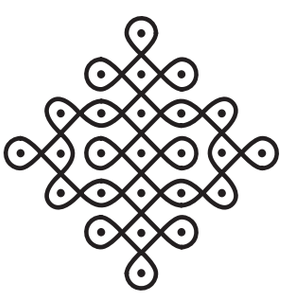
2. Make a pattern of your own on the given category and draw a rangoli.

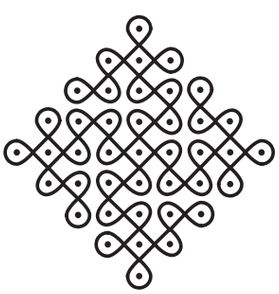
a. Triangle and circles

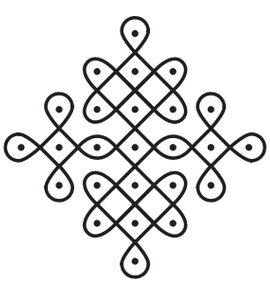
b. Square and triangle

Pulli kolams

Pulli kolams are created by drawing straight lines and curved lines along the pulli (dots)

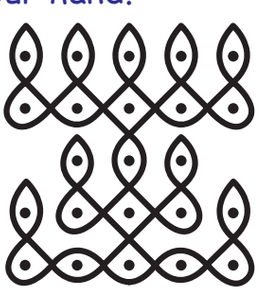


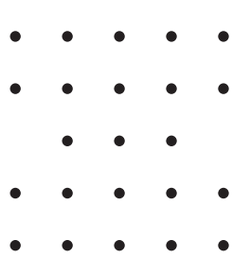




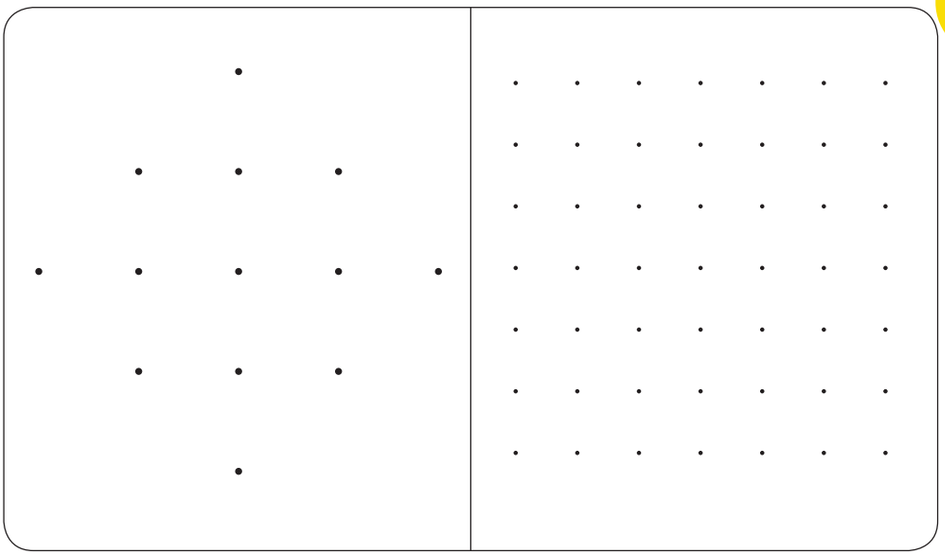
These pulli kolams can be extended to any area by repeating and continuing the patterns of straight lines and curves

3. Draw a pullikolams by looking at the reference image without lifting your hand.





4. Draw 2 pullikolams of your choice along the given dots.



3.2 Patterns obtained by adding numbers

1. Complete the addition table and observe the pattern in them

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

Observe the given table and you can find that there are many ways to get the sum ten.

Let us write the numbers which add upto 10

addition fact of 0	addition fact of 10									
0 + 0 = 0	0 + 10 = 10	1 + 9 = 10	2 + 8 = 10	3 + 7 = 10	4 + 6 = 10	5 + 5 = 10	6 + 4 = 10	7 + 3 = 10	8 + 2 = 10	9 + 1 = 10	10 + 0 = 10

Like the example given above 10, we can also find that there are more than one set of numbers which sum upto a given number.

2. Write the numbers which add upto the given addition fact.

addition fact of 1		addition fact of 11									
0 + 1 = 1	1 + 0 = 1	1 + 10 = 11	2 + 9 = 11	3 + 8 = 11	4 + 7 = 11	5 + 6 = 11	6 + 5 = 11	7 + 4 = 11	8 + 3 = 11	9 + 2 = 11	10 + 1 = 11

addition fact of 2			addition fact of 12								
+ 2 =	+ 2 =	+ 2 =	+ 12 =	+ 12 =	+ 12 =	+ 12 =	+ 12 =	+ 12 =	+ 12 =	+ 12 =	+ 12 =

addition fact of 3				addition fact of 13							
+ 3 =	+ 3 =	+ 3 =	+ 3 =	+ 13 =	+ 13 =	+ 13 =	+ 13 =	+ 13 =	+ 13 =	+ 13 =	+ 13 =

addition fact of 4					addition fact of 14						
+ 4 =	+ 4 =	+ 4 =	+ 4 =	+ 4 =	+ 14 =	+ 14 =	+ 14 =	+ 14 =	+ 14 =	+ 14 =	+ 14 =

addition fact of 5						addition fact of 15					
+ 5 =	+ 5 =	+ 5 =	+ 5 =	+ 5 =	+ 5 =	+ 15 =	+ 15 =	+ 15 =	+ 15 =	+ 15 =	+ 15 =

addition fact of 6						addition fact of 16					
+ 6	+ 6	+ 6	+ 6	+ 6	+ 6	+ 16	+ 16	+ 16	+ 16	+ 16	+ 16

addition fact of 7							addition fact of 17				
+ 7	+ 7	+ 7	+ 7	+ 7	+ 7	+ 7	+ 17	+ 17	+ 17	+ 17	+ 17

addition fact of 8								addition fact of 18			
+ 8	+ 8	+ 8	+ 8	+ 8	+ 8	+ 8	+ 8	+ 18	+ 18	+ 18	+ 18

addition fact of 9									addition fact of 19		
+ 9	+ 9	+ 9	+ 9	+ 9	+ 9	+ 9	+ 9	+ 9	+ 19	+ 19	+ 19

3. Find out the missing numbers and write them in the given blank.

23 + 3_ 60	74 + 5_ 130	45 + 1_ 61	12 + _3 105	25 + _3 118

T4M9R2

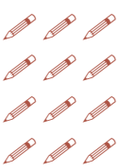
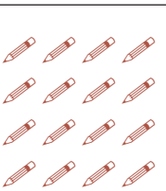
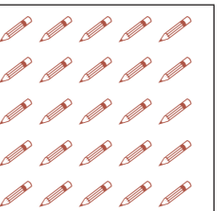
3.3 Patterns in repeated addition as multiplication

'**Multiplication**' refers to '**repeated addition**'.

Z6L2S2

Example

Pictorial representation					
Repeated addition statement	3	3 + 3	3 + 3 + 3	3 + 3 + 3 +3	3 + 3 + 3 +3 + 3
Multiplication fact	1 × 3 = 3	2 × 3 = 6	3 × 3 = 9	4 × 3 = 12	5 × 3 = 15

Pictorial representation					
Repeated addition statement	4	4 + 4	4 + 4 + 4	4 + 4 + 4 +4	4 + 4 + 4 +4 + 4
Multiplication fact	1 × 4 = 4	2 × 4 = 8	3 × 4 = 12	4 × 4 = 16	5 × 4 = 20

Exercise

Continue the patterns by using mutiplication as repeated addition.

Pictorial representation					
Repeated addition statement					
Multiplication fact					

Pictorial representation					
Repeated addition statement					
Multiplication fact					

3.4 Division as repeated subtraction

'**Division**' refers to '**repeated subtraction**'.

Example 20 ÷ 4

Step: 1		20 – 4 = 16
Step: 2		16 – 4 = 12
Step: 3		12 – 4 = 8
Step: 4		8 – 4 = 4
Step: 5		4 – 4 = 0

Exercise

Express the division facts as repeated subtraction using patterns

a) 24 ÷ 3 b) 22 ÷ 2 c) 32 ÷ 4 c) 15 ÷ 3

UNIT-4

MEASUREMENTS

A1Q8V3

Recall

How many glass of water do you drink in a day?

Summer day: _____ Glasses

Winter day: _____ Glasses

Some vessels full of water are given here. Observe them and tell which one can hold more water and which one holds less water.

4.1 Measurement by non standard tools

 can hold  3 tumblers of water.

I6H4R6

So, the capacity of  is equal to  3 tumblers.

 can hold  5 tumblers of water.

So, the capacity of  is  5 tumblers.

 can hold  10 tumblers of Water.

So, the capacity of  is  10 tumblers.

1. Tick the container that holds more water.

 ☐ ☐	 ☐ ☐	 ☐ ☐

2. Which among the given container will hold more water?

 ☐	 ☐	 ☐

Activity

3.a Measure using  and complete the data.

 ☐  Plastic pot	 ☐  Steel pot
 ☐  Water bottle	 ☐  Water drum

3.b Arrange the vessels given above by their capacity from less water to the vessels with more water by writing the names in the blanks.

1. _____ 3. _____

2. _____ 4. _____

4.2 Measurement by standard tools

Meena & her mother

Mother : Meena! Pour one tumbler of water into the flour.

Meena : Ok, ma!

Mother : The batter is so thick. Did you pour one full tumbler of water?

Meena : Yes, ma!

Mother : Which tumbler did you use?

Meena : Ma, I used the small tumbler.

Mother : You have to use a bigger one.

Meena : Okay ma.

Mother : Meena! Now bring me 2 tumblers of water to pour in this milk.

Meena : Ma, I have brought water in big tumbler

Mother : Meena, now you should have brought water in the small tumbler.

Meena : Ma, Sometimes you ask me to bring water in big tumbler and sometimes small tumbler. I don't know when to bring in big tumbler and when to bring in small tumbler.

What shall we do to find a solution for this issue?

We need a standard tool to measure capacities of containers. We also need a standard unit to express capacities of containers.

These are some Standard tools to measure capacity. You can find them in milk shops, grocery shops, etc., We measure liquids such as water, oil, milk, petrol., using these tools.

Standard units for measuring capacity of a container is litre.

- We measure liquids smaller containers using millilitres.
- We measure the liquids of more quantity /capacity of bigger containers using litres.

Activity

1. Teacher can conduct the game, fill in the bottle.

2. Teacher can conduct a mock milk shop in the class.

1. Complete the table classifying these under the given table.

Pot

Medicine bottle

Oil can

Water can

Tumbler

Water pot

Less than 1 litre vessel	More than 1 litre vessel
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____

2. Tick the appropriate unit to measure the given liquid.

S. No	Liquid to be Measured	Millilitres	Litres
1.	Cough syrup		
2.	vinegar		
3.	water in tank		
4.	Water you bring to school		
5.	Oil in kitchen		
6.	Petrol		

3. Tick the biggest unit

i.	a) 500 ml	b) 100 ml	c) 50 ml	d) 75 ml
ii.	a) 200 ml	b) 300 ml	c) 150 ml	d) 175 ml
iii.	a) 5 l	b) 2 l	c) 8 l	d) 7 l
iv.	a) 3 l	b) 300 ml	c) 30 ml	d) 30 l
v.	a) 250 ml	b) 1500 ml	c) 760 ml	d) 75 l

4. Circle the smallest unit

i.	a) 250 ml	b) 350 ml	c) 50 ml	d) 750 ml
ii.	a) 300 ml	b) 350 ml	c) 800 ml	d) 275 ml
iii.	a) 10 l	b) 3 l	c) 9 l	d) 6 l
iv.	a) 3 l	b) 350 ml	c) 5 ml	d) 40 l
v.	a) 2500 ml	b) 100 ml	c) 810 ml	d) 175 l

5. How many litres of water do you use for the following purpose in your house? Complete the table.

Activities at home	Litre
Bathing	
Drinking	
Brushing teeth	
Cooking	
Washing kitchen utensils	
Watering the garden	
Mopping the floor.	

6. How many litres are needed for filing the given containers. Complete the table by measuring the containers by one litre bottle.

Bottle	_____ 1 litre bottles
Bucket	_____ 1 litre bottles
Pot	_____ 1 litre bottles

Activity

Take a 1 litre bottle and a tumbler fill the bottle using it.
How many times did you use the tumbler for filling the bottle ?

Repeat the same activity using different containers (Cups, tumblers, bottles) and record you findings.

1. Which container was used twice?
2. Which container was used four times?

K2R4E3

UNIT-5

Money

5.1 Rupees and Paise

We have learnt about currencies and coins of various denominations in our earlier classes. we shall learn the relation between rupees and paise addition and subtraction of money. We shall also learn about collection and preparation of bills.

1 Rupee = 100 paise

Some coins are given below.

1 paise

2 paise

5 paise

10 paise

20 paise

25 paise

50 paise

These coins are outdated and currently not in use. But the value of paise is still used as digital value. Yet the value of paise in significant.

Now, let us see about conversion of rupees into paise

1 rupee = 100 p

2 rupees = 2 x100 p

= 200 paise

5 rupees = 5 x 100 p

= 500 paise

U3V4L2

1. Convert the following rupees into paise.

Rupees	paise	Rupees	paise
1		6	
2		7	
3		8	
4		9	
5		10	

Know that

=

5.2 Addition and Subtraction of Money

Adding and subtracting money is as same as adding and subtracting numbers except that we place a dot to differentiate rupees and paise.

1. Add the following.

	Rs P		Rs P		Rs P
1.	35 · 20	2.	80 · 20	3.	90 · 10
	+20 · 20		+10 · 10		+05 · 20
	_____		_____		_____
4.	270 · 80	5.	440 · 40	6.	220 · 20
	+310 · 00		+440 · 40		+220 · 20
	_____		_____		_____

2. Subtract the following.

	Rs P		Rs P		Rs P
1.	20 · 20	2.	28 · 30	3.	35 · 80
	-10 · 10		-25 · 10		-25 · 70
	_____		_____		_____
4.	820 · 80	5.	540 · 70	6.	754 · 90
	-110 · 20		-130 · 60		-123 · 50
	_____		_____		_____

Usage of addition and subtraction of money in everyday situation

Kaarkuyil bought a hairclip for ₹. 20·50 and set of bangles for ₹. 30·50 and gave a one hundred rupees note to the shopkeeper the amount to be returned by the shopkeeper to Kaarkuyil.

i) To find the total cost of the item bought add the cost of items bought.

ii) Subtract the total cost of items from the amount (₹ 100·00) paid to the shopkeeper. This gives amount to be returned to kaarkuyil

Adding Rupees	**Subtracting Rupees**
Cost hair clip = 20·50	Kaarkuyil paid = 100·00
Cost of bangle = 30·50	Total cost = 51·00
Total cost = 51·00	Shop keeper has to return = 49·00

Amount return by the shopkeeper to Kaarkuyil = ₹ 49·00

Exercise

1. Sengothai bought a school bag for ₹. 210·30 and a sports shoe for ₹. 260·20 find the amount to be returned by the shopkeeper if she has paid five hundred rupees to the shopkeeper.

2. Kumaran's father asked him to get a change for ₹. 200 from his uncle. If his uncle gave him a hundred rupee note and a fifty rupees note. How much more his uncle has to give him?

5.3 Rate Charts and Simple Bills

Rate Charts.

Rate chart is seen in shops. Rate chart gives details about the rate of each item available in a shop.

Bills

Bills are given by the shopkeepers to the customers as an acknowledgment of purchase. Bills give us complete details about the purchase.

Observe the menu card.

Priya went to a restaurant and the waiter gave her a menu Card. The menu card showed the food items and the rate of each item.

HOTEL foods			
S.No	Food items	Quantity (in Nos)	Price (in ₹)
1	Idly	2	20·00
2	Rava Dosai	1	50·00
3	Dosai	1	30·00
4	Poori	3	45·00
5	Masala vadai	4	20·00

Priya and her friend ordered the following items from the menu card.

Food items	Quantity
Idly	4
Dosai	3
Poori	6

Once she finished eating the waiter gave her the bill.

HOTEL foods			
Bill No: 32			Date: 30.10.2019
S.No	Food items	Quantity (in Nos)	Price (in ₹)
1	Idly	4	40·00
2	Dosai	3	90·00
3	Poori	6	90·00
Total Amount			220·00

The bill shows the food items order by Priya and the total amount to be paid by her.

From the above bill, we come to know the following details:

i. Name of the Restaurant Hotel foods

ii. Bill number 25

iii. Date of the bill 30.10.2019

iv. Total number of items eaten 3

v. Total amount of money to be paid 20

vi. Rate of one idly 10

vii. Rate of one dosai 30

viii. Rate of one masala vadai 5

ix. Rate of two poori sets 90

1. The following are the items eaten by Raju and his family. Fill in the blanks using the given bill.

HOTEL foods			
Bill No: 32			Date: 30.10.2019
S.No	Food items	Quantity (in Nos)	Price (in ₹)
1	Rava Dosai	4	200·00
2	Masala vadai	4	20·00
3	Poori	6	90·00
Total Amount			310·00

i. Name of the Restaurant _____

ii. Bill number _____

iii. Date of the bill _____

iv. Total number of items eaten _____

v. Total amount of money to be paid _____

2. Complete the given bill and find the total amount to be paid.

Feel good garments

Bill No: 82 **Date: 5.11.2019**

S.No	Items	Rate (in ₹)	Quantity (in Nos)	Price (in ₹)
1	Saree	350·00	2	
2	Shirts	200·00	2	
3	Jeans	700·00	1	
4	Towel	50·00	2	
5	Shawl	100·00	1	
Total Amount				

Feel good garments

Bill No: 25 **Date: 6.11.2019**

S.No	Items	Rate (in ₹)	Quantity (in Nos)	Price (in ₹)
1	Dhothi	250·00	1	
2	Skirt	300·00	2	
3	Shirt	150·00	4	
4	Saree	500·00	3	
5	Tops	220·00	3	
Total Amount				

Eat good provisions

Bill No: 1045 **Date: 6.11.2019**

S.No	Items	Rate (in ₹)	Quantity (in Nos)	Price (in ₹)
1	Turmeric Powder	25·00/Pack	2	
2	Rice	55·00/kg	2	
3	Urad dhal	80·00/kg	2	
4	Sugar	42·00/kg	4	
5	Tamarind	110·00/kg	1	
Total Amount				

3. Prepare Bills for the items purchased using the given rate chart.

Rate Chart in a stationary shop		
1.	Pen	₹. 20·00
2.	Pencil	₹. 10·00
3.	Chart	₹. 5·00
4.	Eraser	₹. 10·00
5.	Sharpener	₹. 5·00
6.	Sketch pens	₹. 50·00

U5Y6Z8

i. Ramya bought two pens three erasers and a sketch packets. Prepare a bill for her purchase.

ii. Ravi bought an eraser a sharpener and two pens. Prepare a bill for his purchase.

Activity

Collect bills from different shops and prepare an album.

UNIT-6

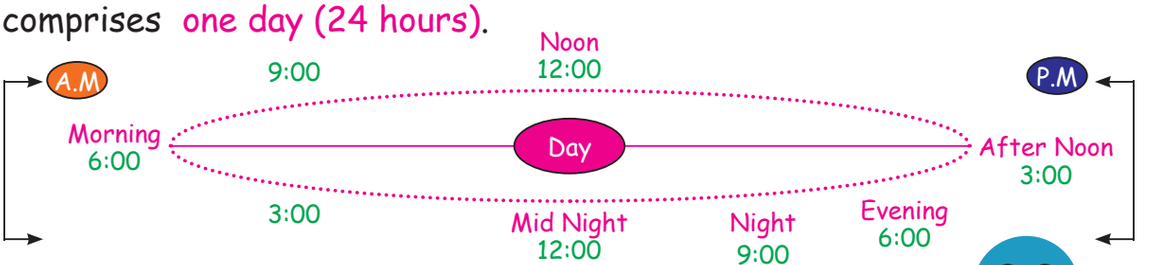
6.1 Times of a Day

Look at the sky. Is it same all the time ?

Sometimes the sun shines and sometimes the moon and the stars twinkle.

When the sun shines we call it day and when the moon and the stars twinkle we call it night.

12 hours of day time (sunlight) and 12 hours of night time (Darkness) comprises one day (24 hours).



1. Sort the events according to the time of happening

1. Sun rise
2. Sun set
3. Coming to school
4. Returning home from school
5. Breakfast
6. Dinner
7. Darkness outside
8. Say Good Morning
9. Say Good Evening

S.No.	Morning	Evening	Night
1.			
2.			
3.			

6.2 Chronological Order

Have you noticed your mother preparing idly. How does she prepare it.

- First, she soaks rice and black gram in water.
- Second she grinds then to prepare a batter.
- Third she ferments the batter overnight
- Fourth she boils the batter to make idlies.

These events occur in an order in the process of making idly.

The method of arranging events in the order of their happening is called **chronological order**.

Example of arranging things in chronological order.

- Historical event
- Education qualification
- Family tree

Q9X3E3

1. Write **'F'** for the event which comes first and **'N'** for the event which happens next.

S.No.	Event			
1	Eating		cooking	
2	Boarding into a bus or train		reaching the destination	
3	Drawing a picture		colouring	
4	Taking out a book from the bag		reading	
5	Opening the door		Entering the room	

This is Kayalvizhi's family

Chronological order of her family members is **Grandfather, Grandmother, Father, Mother, Kayalvizhi, and her younger brother.**

2. Arrange the following events in chronological order.

i. Started walking, birth, started schooling in class 1, studying in Class 3, studying in Class 2.

ii. Sowing seeds, plucking fruits, growing fruit, flowering in plant, watering plants.

3. Write the names of the your family members in the chronological order.

Ask the brith years of your family members and arrange them chronologically.

6.3 Time cyclic events in a year

Every day we wake up in the morning and go to bed at night time.

This process keeps on repeating every day.

Every day the sun rises in the morning and sets in the evening .

Events that keep on repeating in the same manner (without much difference) refers a cycle.

Day and night occurs alternatively forms a cycle.

Some events like growth of a plant, construction of a house do not repeat. These events do not form a cycle.

1. List the events that form a cycle and that do not form a cycle.

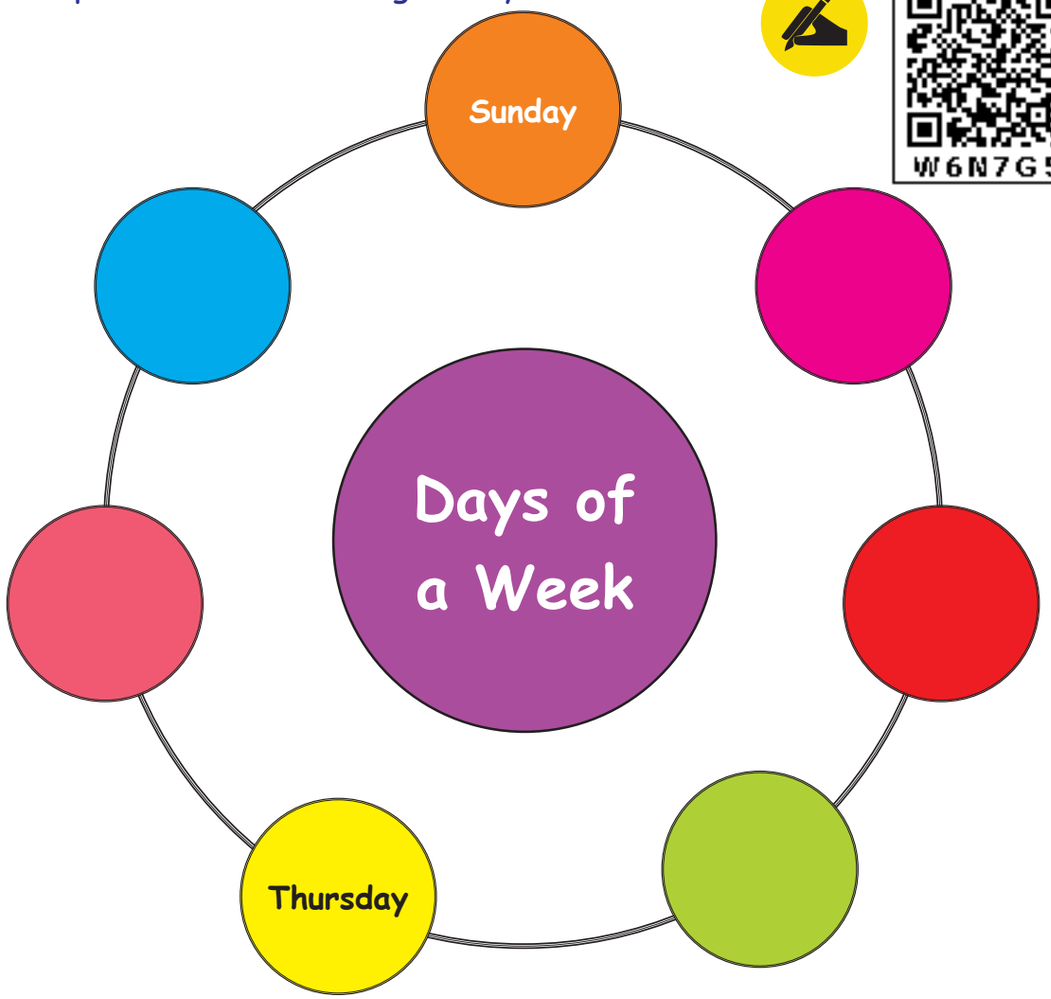
i. Coming to school
ii. Rotation of a clock
iii. Days of a week
iv. Growth of your pet
v. Building your house
vi. Making of idly

S.No.	Events that form a Cycle	Events that do not form a Cycle
1.		
2.		
3.		

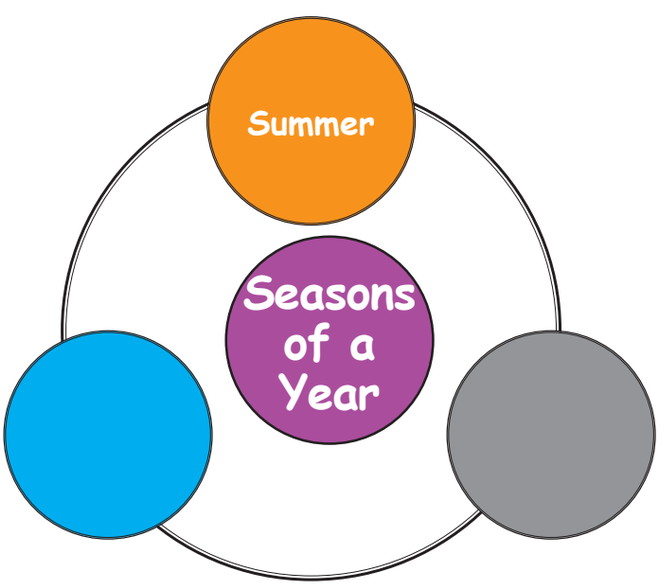
2. Complete the events of given cycle

W6N7G5

i.



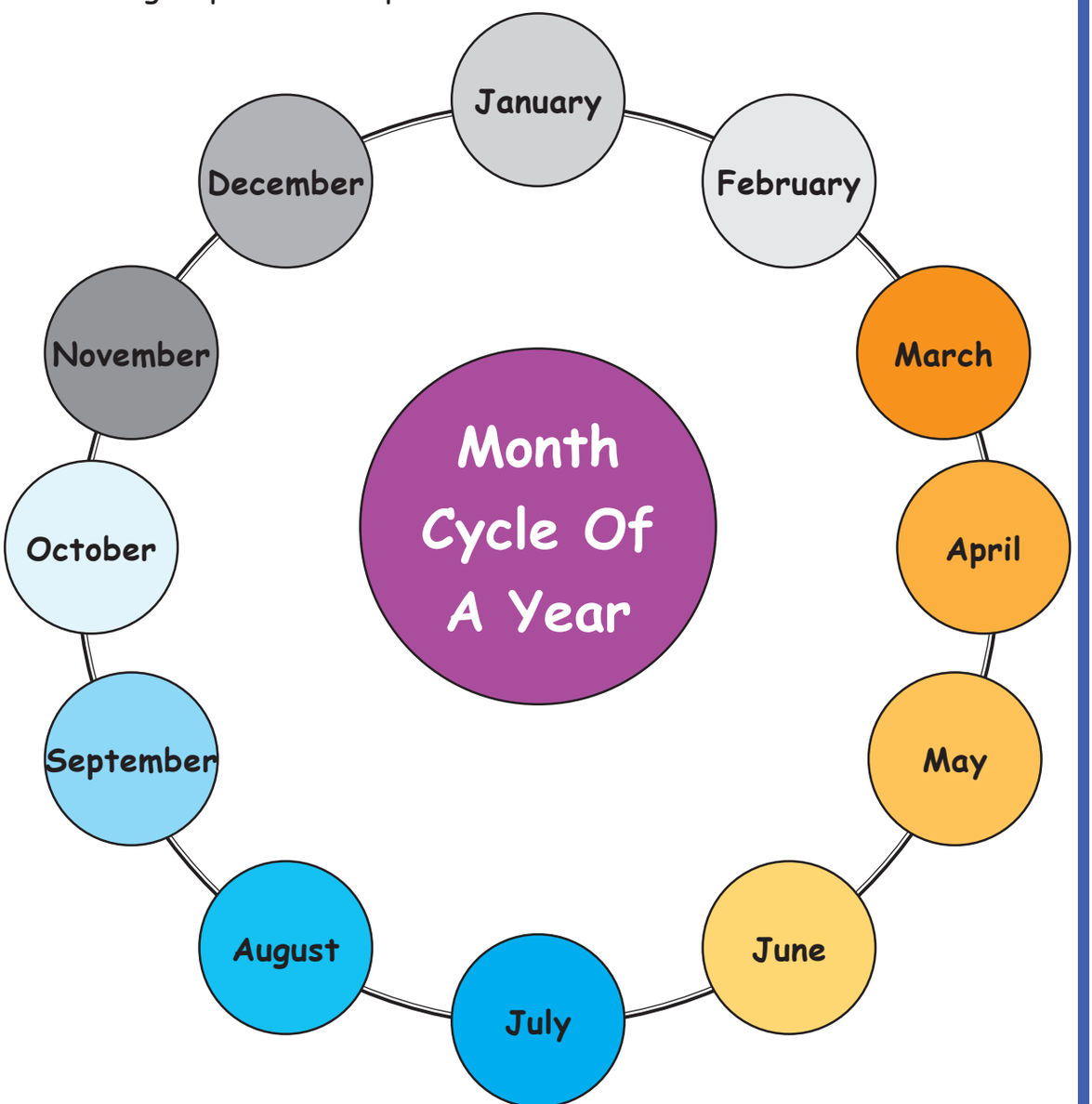
ii.



Activity

Preparing month cycle of a year.

- The Teacher can prepare cards with names of months.
- Divide the class into groups according to the strength.
- Give one set of cards to each group. Each set of cards should be shuffled.
- Ask the group to arrange the cards in the correct cycle of months. The group which completes the task first will be the winner.



UNIT-7

2 Information Processing

7.1 Quick Ways of adding

We perform addition of numbers in many situations daily. Let us learn some tricks which help us to add numbers quickly.

1. Using addition table is one of the good ways to add small numbers.

2. Let us know some facts in addition

i. Adding 0 to a number

A number remains the same when you add 0 to it.

ii. Adding 1 to a number

When 1 is added to a number it gives the at number.

iii. Adding 2 to a number

When 2 is added to a number the numbers jumps or skips over 2 next to it.

iv. Adding 10 to a number

When 10 is added to a number its ones place remains the same and digit in 10 place is increased by 1 i.e., moves to the next number.

Complete the table

+	0	1	2	10
1	1	2	3	11
3				
4				
9		10		
12				
25	25			
73				
86			88	
325				
791				
228				238
998		999		

3. Finding the pairs of 10

When a set of numbers are given to add, We shall find the pairs of numbers gives the sum 10 and add them.

Example

Find the sum of 7+4+6+3

7+4+6+3

7+3=10 and 6+4=10

Hence the sum of the numbers =10+10=20

Example

Find the sum of 5+3+2+6+4

5+3+2+6+4

6+4=10 5+3+2=10

Hence the sum = 10+10=20

Exercise

Find the sum of i) 5+1+5+9 ii) 2+5+5+7+1 iii) 3+6+1+2+8

4) Doubling

i. We shall double a number when we add the same number twice.

Example

5 + 5 = 2 X 5 = 10

7 + 7 = 2 X 7 = 14

ii. We shall also use doubling when we add nearer numbers.

Example

5 + 6 = 2 X 5 +1 = 10 + 1 = 11

4 + 5 = 2 X 5 -1 = 10 - 1 = 9

5. Adding two digit numbers

Add the ones and skip count the 10 s

Example

Find the sum of 7+ 12.

7 and 2 gives 9.

From 9 skip count in tens to get the sum 19.

7 + 2 = 9 9 + 10 = 19

Example Find the sum of 25 + 33.

Adding ones 5 + 3 = 8

Skip counting 8 + 30 + 20 =58

F2I5X3

Example Find the sum of 37 + 24.

Adding ones 7 + 4 = 11

Skip counting 11 + 30 + 20 =61

6)Adding three digit numbers

Example Find the sum of 576 + 323.

Suppose, We need add the following numbers, We shall follow these steps to add them quickly.

Step: 1 - Expand the number 500 + 70 +6

300 + 20 + 3.

Step: 2 - Add the hundreds 500 + 300 = 800

Step: 3 - Add the tens one by one 800 + 70 =870

870 + 20 = 890

Step: 4 - Add the ones one by one 890 + 6 =896

896 + 3 = 899

500	70	6
300	20	3
800	890	899

Add the given big numbers using the above method.

	H	T	O
	5	4	3
+	2	1	0

	H	T	O
	2	9	8
+	5	0	1

	H	T	O
	7	9	8
+	6	5	4

	H	T	O
	3	4	8
+	6	8	1

	H	T	O
	5	4	3
+	2	1	8

	H	T	O
	7	1	6
+	5	4	0

7.2 Quick Ways of subtracting

We shall learn some tricks in subtraction also.

1. We shall use the subtraction table to subtract small numbers

2. Some facts in subtraction

subtracting 0 from a number

A number remains the same when you subtract 0 from it

Subtracting 1 from a number

When 1 is subtracted from a number, it gives a number before that number.

Subtracting 2 from a number

When 2 is Subtracted from a number, the numbers moves backward 2 steps

Subtracting 10 from a number

When 10 is Subtracted from a number its ones place remains the same and digit in 10 place is decreased by 1 i.e., moves to the previous number.

Complete the table

-	0	1	2	10
21	21	20	19	11
23				
24				
29		28		
12				
25	25			
73				
86			84	
325				
791				
228				218
998		997		

3. Subtracting same numbers

Subtracting a number from itself will give the difference 0.

Example Find the difference of 978-978 = 0

4.Subtracting numbers ending with 0

Subtract 1 from both numbers and then do the actual subtraction

Example Find the difference of 340 - 229

H	T	O
3	4	0
2	2	9
1	1	1

-1, -1

H	T	O
3	3	9
2	2	8
1	1	1

Example Find the difference of 1000-574

T	H	T	O
1	0	0	0
	5	7	4
	4	2	6

-1

-1

H	T	O
9	9	9
5	7	3
4	2	6

F4L8B9

As we subtract 1 from both the numbers the answer of the new numbers and question are same.

Subtract the given numbers using the above facts.

	H	T	O
	5	4	3
-	2	1	0

	H	T	O
	2	9	8
-	1	0	1

	H	T	O
	7	9	8
-	6	5	4

	H	T	O
	3	4	8
-	1	1	1

	H	T	O
	5	4	3
-	2	1	8

	H	T	O
	7	1	6
-	5	4	0

	H	T	O
	4	5	0
-	3	4	9

	H	T	O
	5	6	0
-	3	2	5

	H	T	O
	9	8	0
-	5	7	5

Mental Arithmetic:

Able to add and subtract single digit numbers and two digit numbers mentally:

1. In a tree planting ceremony, 6 coconut saplings and 5 neem saplings are planted. Find the total number of saplings planted.

2. There are 5 tender coconuts in a tree. If they pick 3 tender coconuts, then find the remaining tender coconuts?

3. 46 boys and 27 girls visited a park on Sunday. Find the total number of boys and girls who visited the park?

4. 50 pens are in a box. Out of which, 34 pens are given to the students. Find the number of pens left?

5. 70 balls are given to 7 persons. How many balls are given to each person?

6. 8 books can be arranged in a row. In how many rows can 48 books be arranged?

7. 10 pens can be kept in a box. How many boxes are needed to keep 100 pens?

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