GOVERNMENT OF TAMIL NADU

STANDARD FOUR

TERM - I

VOLUME 2

MATHEMATICS
SCIENCE
SOCIAL SCIENCE

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Department Of School Education

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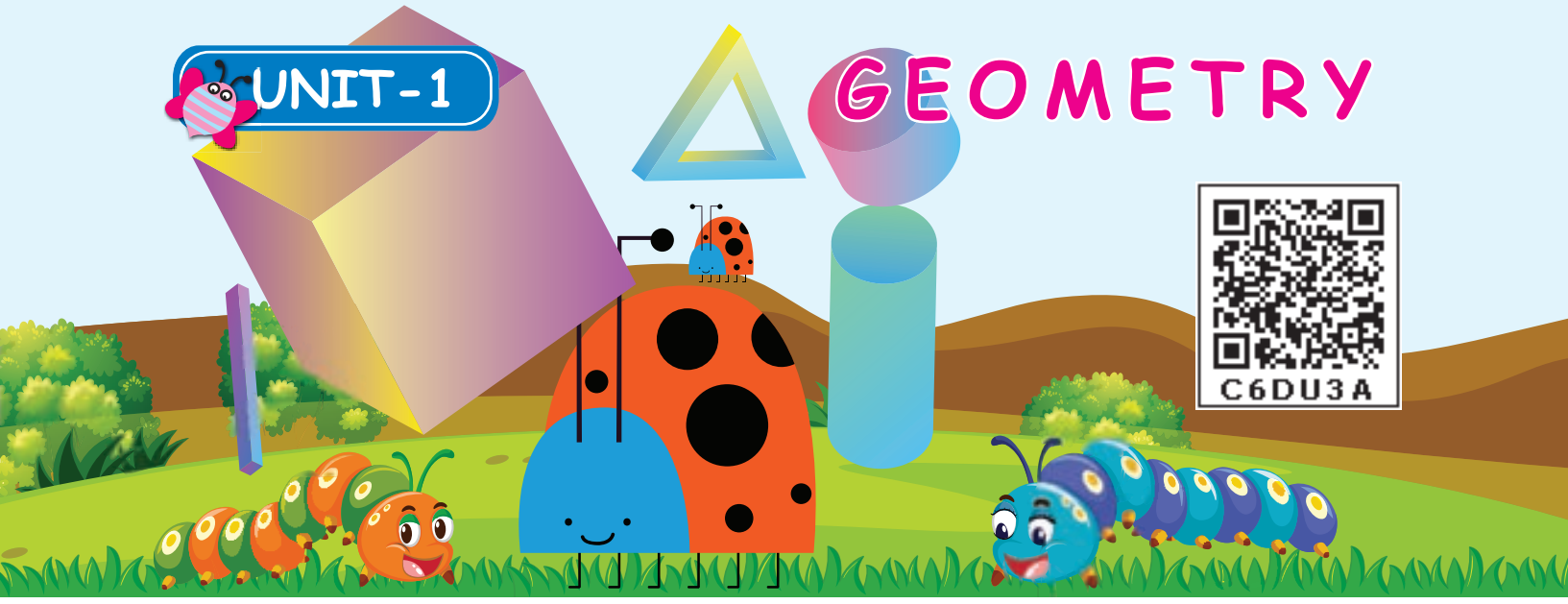


1.1 Properties of 2-D Shaped objects

Learn, names of shapes like triangle, square, rectangle, pentagon, circle etc.

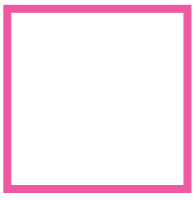
Karan and his parents went to a village festival. He saw some play articles. He can identify the shapes of some articles. He was not able to identify few things. Shall we help him to identify the shapes.

CAN YOU GUESS THE SHAPES OF THESE THINGS

Recognising these shapes in the objects around them.

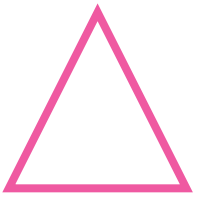
A shape that can be drawn on a plane surface is called a plane figure.

EXAMPLES

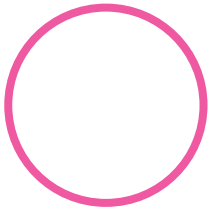


Square

Rectangle

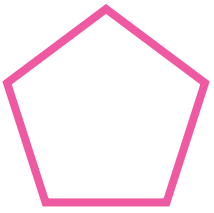


Triangle



Circle

Semi circle



Pentagon

Ask the children to go around and list down all the shapes of polygons, quadrilaterals, circle, semi circle, oval, etc... and sort out them.

Group Activity 1

Tell the children to draw different shapes on the ground. When teacher announces one shape all the students stand in the particular shape. **(Continue the game till the end)**

Group Activity 2

Make the children to stand in 3 or 4 groups. Teacher points out a particular group and asks them to form a shape.

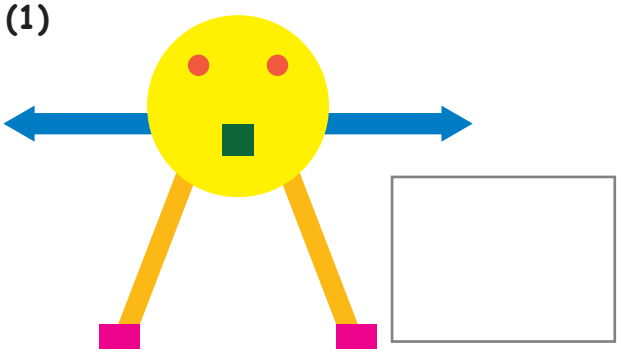
Try This

Form shapes like quadrilateral, circle, oval, and semicircle.

Exercise 1

A Write down the names of shape in the following pictures.

(1)



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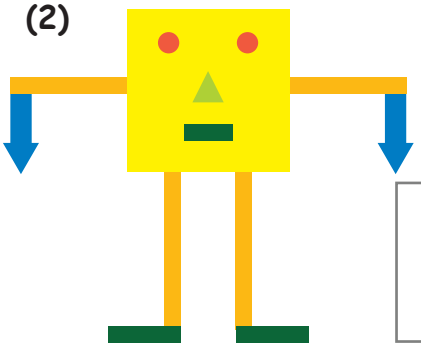
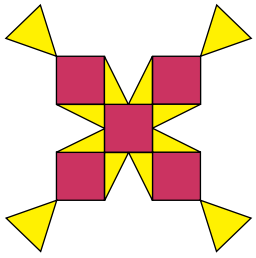


B

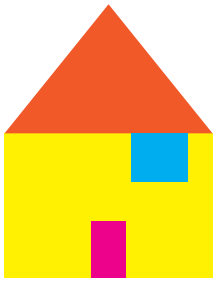
1. Write the number of squares and triangles in the given picture.



Square ( )

Triangle ( )

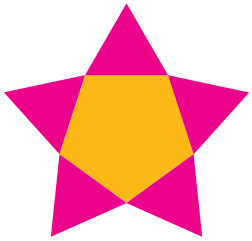
2. Write the number of rectangles and triangles in the given picture.



Rectangle ( )

Triangle ( )

3. Identify the cut shapes and write the names in the boxes given below.



( )

( )

Draw circles using objects like bangles, coins etc.

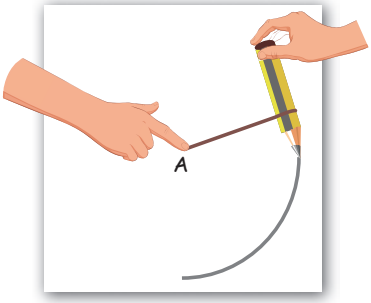




Place a bangle or coin on a paper. Trace along its boundary till your Pencil reaches the starting point. This is a circle.

Activity

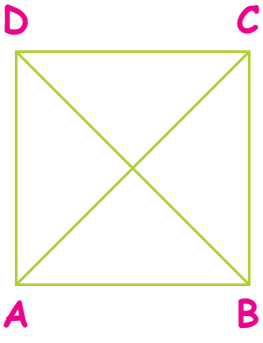
Let us draw the circle using a pencil and thread.



1. Mark a point A on a sheet.
2. Fix one end of the thread on the point and put the pencil on the other end of the thread as shown in the figure.
3. Move the pencil by keeping the thread at A. Point A is called the center of the circle.

1.1a Draw 2D shapes in free hand with geometry tools.

Quadrilateral



1. All closed four sided figures are called quadrilaterals
2. It has four sides (AB,BC,CD,DA), four vertices (A,B,C,D) and two diagonals (AC,BD)

EXAMPLES


Square

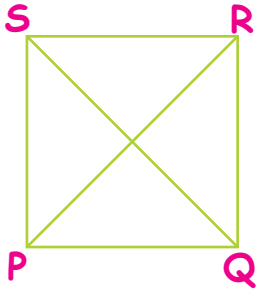

Rhombus


Rectangle


Trapezium


Parallelogram

Square



A square has four equal sides (PQ=QR=RS=SP), four vertices (P, Q, R, S) and two diagonals (PR, QS). The diagonals of a square are equal in length (PR = QS).

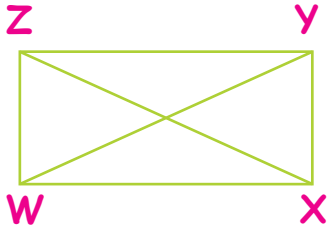
Examples

Carom board

Chess board

One face of the dice

Rectangle



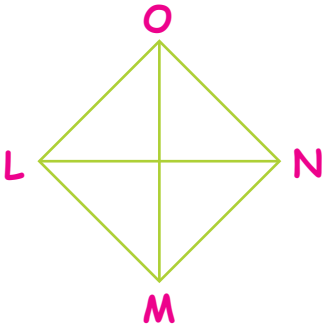
A rectangle has four sides (WX, XY, YZ, ZW) and four vertices (W, X, Y, Z). It has two equal diagonals (WY = ZX) and opposite sides are equal (WX = YZ ; XY = WZ).

Examples

Mat


Black Board

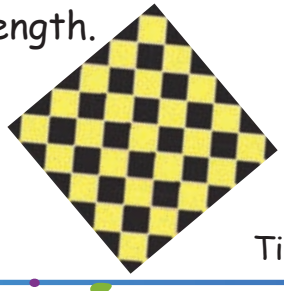
Rhombus



A rhombus has four equal sides (LM = MN = NO = OL) , four vertices (L, M, N, O) and two diagonals (LN, MO). The diagonals are not equal in length.

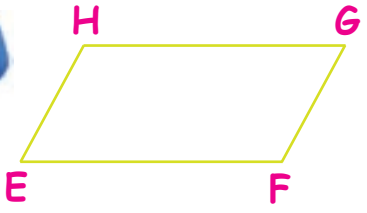
Examples


Kite


Tile

Parallelogram.

A Parallelogram has four sides (EF, FG, GH, HE) and four vertices (E,F, G, H). Opposite sides are parallel and equal in length (EF=GH; FG=HE)



Activity

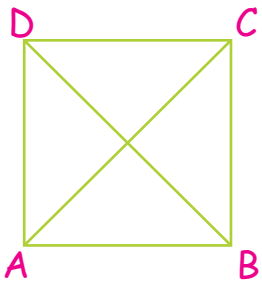
Use Geoboard and rubber band to form or deform or reform the different shapes. Discuss similarities and differences among the shapes.

Exercise 1.1a

A Fill in the blanks.

1. All closed four sided figures are called _____.
2. A _____ has four equal sides and equal diagonals.
3. The opposite sides of a _____ are equal.
4. A _____ has no sides.
5. Diagonals are equal in _____ and _____.

B Write the name of the sides and diagonals.



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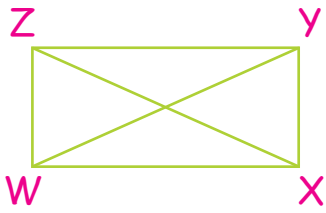

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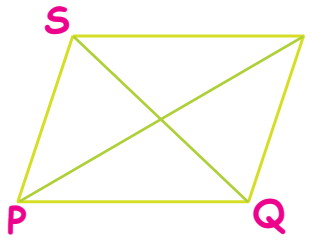

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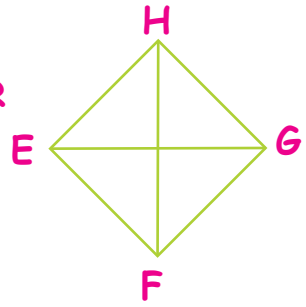


_____
_____

Activity

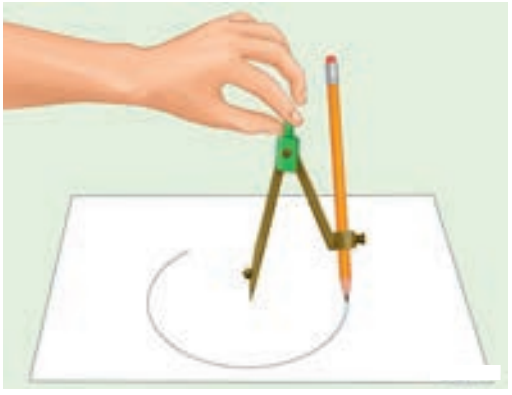
Draw different on the circles. Measure the distance between center and a point on the circle. Find whether the distances are same or different.

1.1b How to draw a circle using compass?

Look at your geometry box and identify the compass.
A compass has 2 arms.

EXAMPLE

Draw a circle of radius 5cm using a compass.



Step 1 Take a compass and fix the pencil in it.

Step 2 Measure 5cm on the compass by using a ruler.

Step 3 Fix firmly the needle of the compass on a point in the paper.

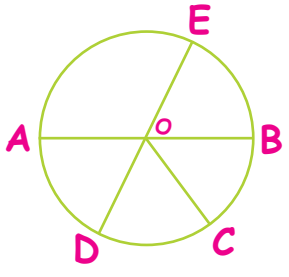
Step 4 Move the pencil around it in any direction till you return to the starting point.

Exercise 1.1b

Construct circles of the following radii using a compass.

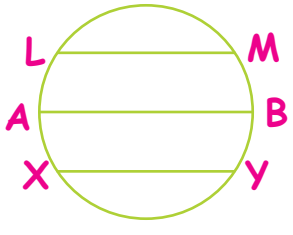
a. 6 cm b. 5.5cm c. 8cm d. 6.8cm e. 8.6cm

1.1c Identifying center, radius and diameter of a circle



Circle is perfectly round in shape. It has no **sides** and no **diagonals**. '**O**' is the center of the circle. The distance from the center to each of these points A, B, C, D,E is the **radius** of the circle. Radius is equal in length (OA=OB=OC=OD=OE).

All the radii are equal in length in a circle.



A Line segment AB passes through the center of the circle O .AB is the diameter of the circle. The line segments XY and LM are the **Chords** (XY, LM, AB). The longest chord of a circle is the **diameter** (AB). The radius is always half of the diameter.

Diameter is the longest chord.

EXAMPLE

1. Find the diameter of a circle whose radius is 5 cm.

Diameter = 2 x radius

= 2 x 5

Diameter = 10 cm

Diameter = 2 × radius

Radius = $\frac{\text{Diameter}}{2}$

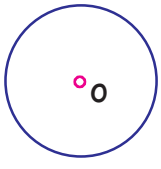
2. Find the radius of a circle whose diameter is 88cm.

Radius = $\frac{\text{diameter}}{2}$ = $\frac{88}{2}$

Radius = 44 cm.

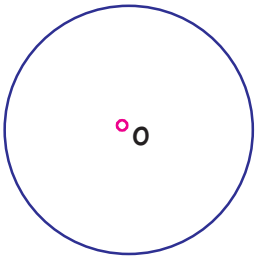
Activity

Measure the radius and diameter of the following circles.



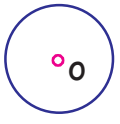
Radius = ---------

Diameter = ------



Radius = ---------

Diameter = ------



Radius = ---------

Diameter = ------

Exercise 1.1c

A Fill in the blanks.

1. All the radii of a circle are _____.
2. The _____ is the longest chord of a circle.
3. A line segment joining any point on the circle to its center is called the _____ of the circle.
4. A line segment with its end points on the circle is called a _____.
5. Twice the radius is _____.

B Find the diameter of the circle.

1. Radius = 10cm 2. Radius = 8cm 3. Radius = 6cm

C Find the radius of the circle.

1. Diameter = 24cm 2. Diameter =30cm 3. Diameter = 76cm

Understand the properties of 2D objects.

Activity

Measure the sides and identify the names of different objects and find the differences among them and fill the table given below.

(a) Chessboard
(b) Postcard
(c) Window
(d) Paper
(e) Newspaper
(f) Maths Kit box.
(g) Kite

Shapes	Sides	Vertices	Diagonals
 Square	Four equal sides	4	Two diagonals are equal
 Rectangle			
 Parallelogram			
 Rhombus			

Let us know

Circle

- A line segment joining any point on the circle to its center is called a **radius** of the circle .
- A line segment with its end points on the circle is called a **chord**.
- A chord passing through the center of the circle is called the **diameter**.
- The diameter is the longest chord.

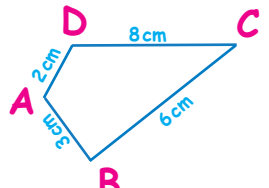
1.1d Identify the sides and find perimeter of a quadrilateral

Perimeter

The perimeter is the sum of all sides of a closed figure.

EXAMPLES

Finding the sides and perimeter of the following figures.

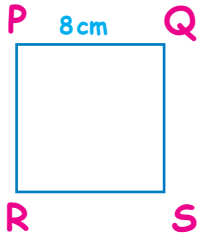


Sides = AB, BC, CD, DA

Perimeter = AB + BC + CD + DA

= 3 + 6 + 8 + 2 = 19

Perimeter= 19cm

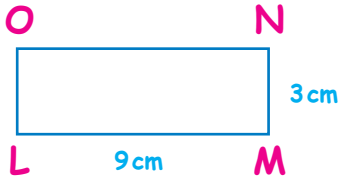


In a given square all the sides are equal.

Therefore, Perimeter of a square = PQ + QS + SR + RP

= 8 + 8 + 8 + 8 = 32

Perimeter of a square = 32cm

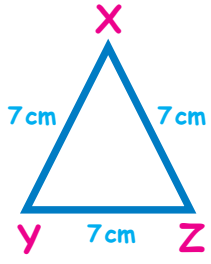


In a given rectangle opposite sides are equal.

Perimeter = LM +MN + NO + OP

= 9 + 3 + 9 + 3 = 24

Perimeter = 24cm



Perimeter = XY +YZ + ZX

= 7 + 7 + 7 = 21

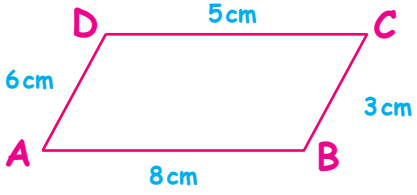
Perimeter = 21cm

Activity: Find the Perimeter of Table, Desk, Black board and Door in your class room.

Exercise 1.1d

Find the perimeter of the following figures.

1.



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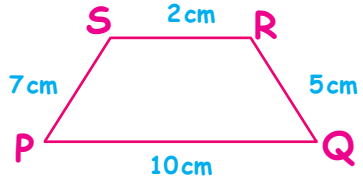

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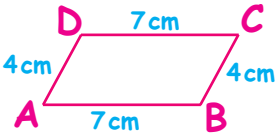

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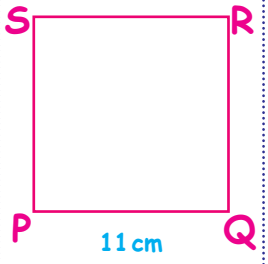

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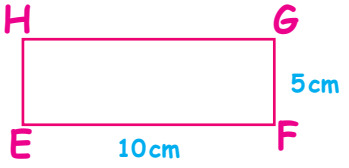


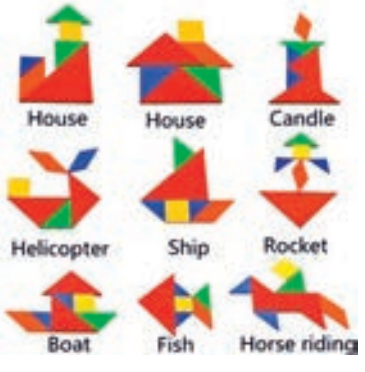
Answer the following Questions.

1. A side of a square-shaped sandbox in Gandhi Park measures 30 cm. Determine the perimeter of the sandbox.
2. Find the perimeter of a rectangle, whose sides are 12 cm and 8 cm.
3. Find the perimeter of the triangle, whose sides are 13 cm, 5 cm and 14 cm.
4. The adjacent sides of a parallelogram are 6 cm and 7 cm. What is the perimeter of the parallelogram?
5. The sides of a trapezoid measures 8 cm, 7 cm, 4 cm and 5 cm respectively. What is the perimeter of the trapezoid?

1.2 Creating objects by combining different 2-D shapes

Uses of tangram in combining different 2-D shapes.

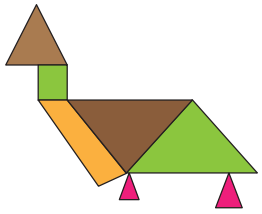
Tangram is a thousand years old Chinese puzzle consisting five or seven geometrical pieces called tans put together to form objects.

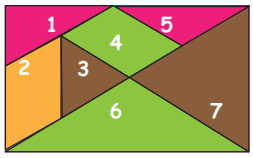


Playing with tangrams, can develop skills such as problem-solving, logical thinking, perceptual reasoning, visual spatial awareness and creativity.

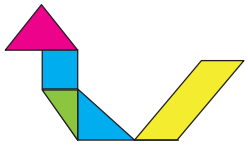
EXAMPLES

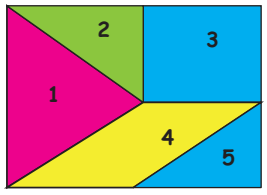
1. Join the seven pieces of tangram to form the following picture.





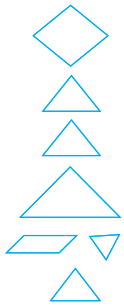
2. Join the five pieces of tangram to form the following picture.





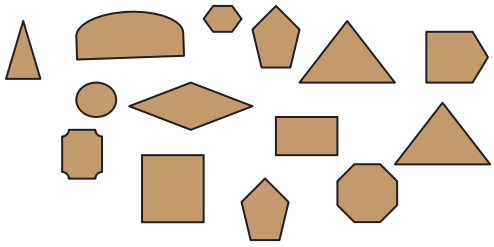
Activity

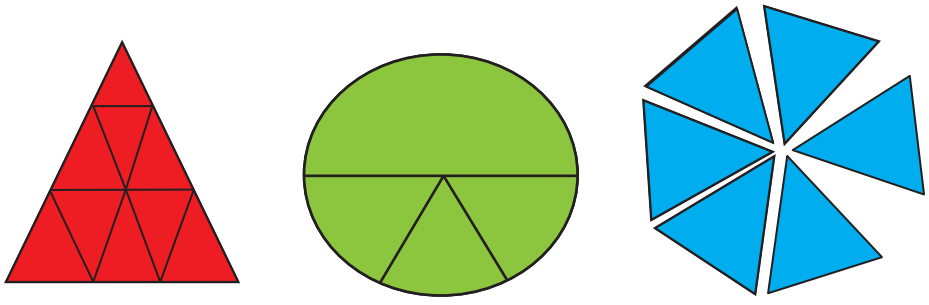
Arrange the tangram pieces (by using maths kit).

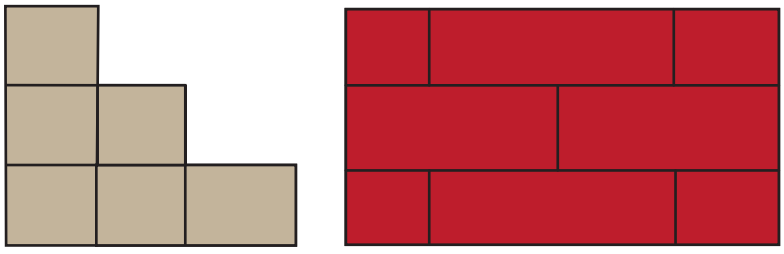
1.		
2.		

Fill the space with the given two or three geometrical shaped tiles.

Let us choose and arrange this tiles to form meaningful shapes.

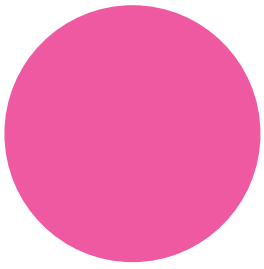






Try This

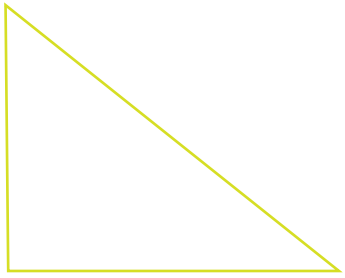
Can we fill a circle with square tiles?

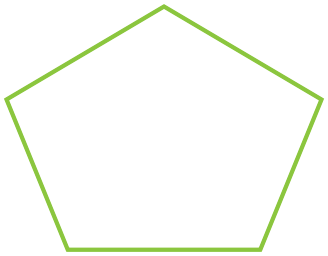


No. we can't fill a circle with square tiles because circle is curved figure.

Exercise 1.2

A Fill the appropriate tiles.





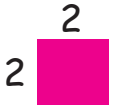
Fill the given region with appropriate tiles both intuitively and experimentally.

Activity 1

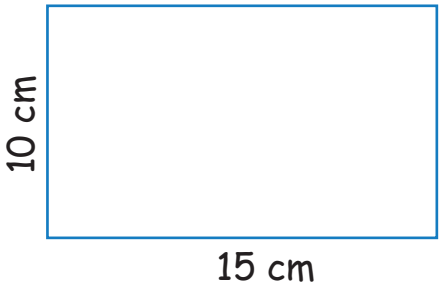
Which tile can you choose to fill the space given below and find how many tiles are needed to fill the given space.

a)

b)

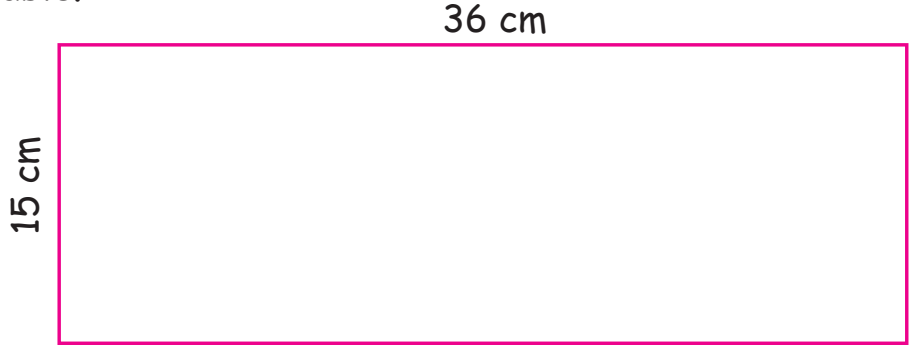


c)



Activity 2

Which shape can you choose to fill the space given below and fill the following the table.



Shape chosen	How many can be fit into it?	Will it exactly fit into the space provided or not? (yes/no)
Eg: Triangle (4cm, 5cm, 5cm)	2	no
Eg: Rectangle (3cm, 6cm)	30	yes
1. Rectangle (6cm, 5cm)		
2. Square (side 6cm)		
3. Rectangle (5cm, 12cm)		
4. Rectangle (6cm, 18cm)		
5. Rectangle (3cm, 12cm)		
5. Triangle (3cm, 4cm, 5cm)		

1.3 Properties of 3-D objects

Create 3D objects using clay and paper folding.

A plane 2-dimensional shape that can be folded to form a 3-dimensional shape is called a net. Nets are used to make floor maps of houses, layout planes of buildings, bridges and so on.

Cube

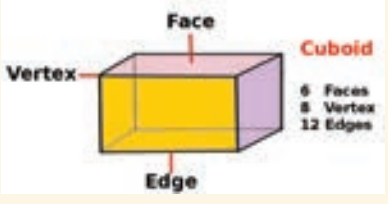
A cube has 6 plane faces, 12 edges and 8 vertices. All the six faces are equal.

Examples

Dice, ice cubes, building blocks, rubiks

Cuboid

A cuboid has 6 plane faces. 12 edges and 8 vertices. Its opposite faces are equal.

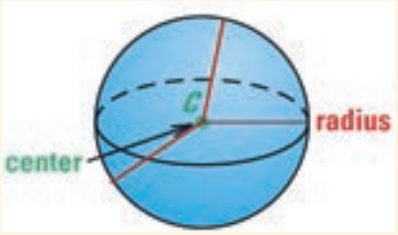


Examples

Match box, bricks, eraser, book, toothpaste box.

Sphere

A sphere has only one curved surface.
It has no vertices and edges.

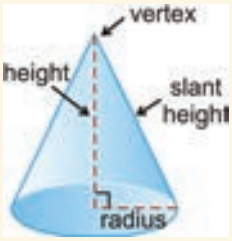


Examples

Shotput, ball, globe, laddu.

Cone

A cone has one plane face and one curved surface. It has one vertex.

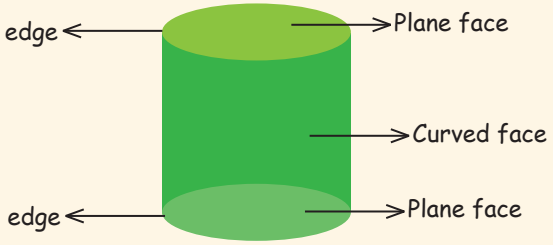


Examples

Cone ice cream, Joker's cap

Cylinder

A cylinder has 2 plane faces and 1 curved surface.
It has no edges and vertices.



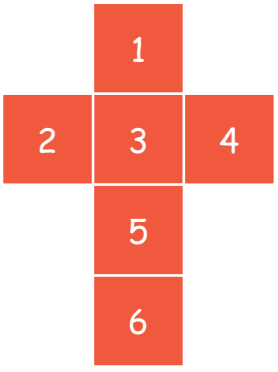
Examples

straw, gas cylinder, pipe.

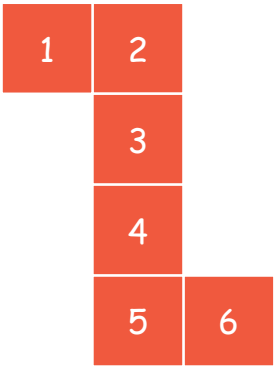
Activities

a. **Fold and form cube from the following nets**

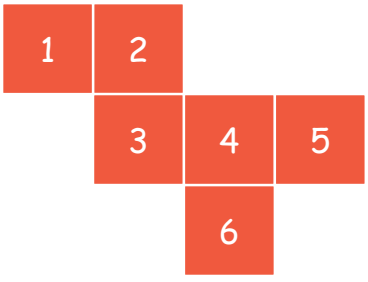
1.



2.

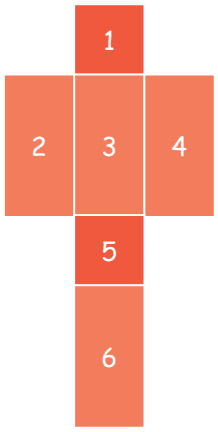


3.

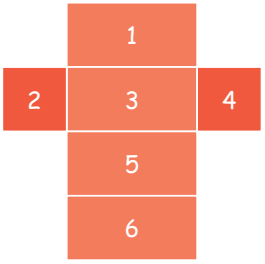


b. Use these nets to form cuboids.

1.



2.



Try it

Make 3-D shapes using clay.
(Individual Activity)

c. Make a cone with semicircle.

d. Make a cylinder using rectangle sheet.

Exercise 1.3

A Choose the correct answer.

1. A cuboid has _____ edges.
   a) 6 b) 8 c) 12
2. The shape of a dice is like a _____ .
   a) cuboid b) cube c) sphere
3. A _____ has a curved surface and two plane faces.
   a) cylinder b) cone c) sphere
4. I have one vertex and one plane face. I am a _____ .
   a) cone b) cylinder c) sphere
5. A cube has _____ vertices.
   a) 8 b) 12 c) 6

Compare and differentiate 2D and 3D objects.

Concept	2-D	3-D
Definition	Two dimension	Three dimension
Dimensions	Length and breadth	Length, height and width.
Examples	Square, rectangle, circle, triangle, rhombus, parallelograms, trapezium, quadrilateral	Cube, cuboid, cone, cylinder.

Find out 2-D and 3-D objects from the given pictures.















P2ZNS6

2.1 Number Sequence upto 10,000

The transport department on Thursday announced that 10, 000 special bus services will be operated from November 3 to 5 to accommodate the passengers during the Diwali season.
Of 9, 967 special services, 6, 367 buses will run from Chennai to other districts and 3,600 will run within the districts.

Children,

From the above paragraph, let us discuss the following questions.

What does this text talk about?

What is special about the festival?

How many of you will go to your relatives home?

How many of you would travel to other places during festivals?

What do these numbers convey us?

Can you group numbers as.

Just like everything in the world, numbers too have a number name.

Numbers have names.

In 1st grade, you have studied number names up to 20. Now we will learn names of larger numbers. You have already learnt the number-names from 1 to 20 and also number-names of 30, 40, 50, 60, 70, 80, 90 and 100.

EXAMPLE

Write 1283 in words.

Solution

First write the given number in expanded form and write the name of each number below it and then combine that name.

1283 = 1000 + 200 + 80 + 3

= One Thousand + Two hundred + Eighty + Three

So the number-name of 1283 is one thousand two hundred and eighty three.

Exercise 2.1

A **Write the following number in words.**

a. 1006 - _____

b. 6327 - _____

c. 9097 - _____

d. 10,000 - _____

e. 8906 - _____

B **Write the numeral for each of the following.**

1. Seven thousand and sixty four - _____
2. Nine thousand three hundred and forty - _____
3. Five thousand six hundred and seventy three - _____
4. Ten thousand - _____
5. Four thousand three hundred and six - _____

C **Answer the following questions.**

1. Ramu went to a bank to deposit Rs. 7500. In the deposit form, he has to fill up the amount in words. Could you please help him?
2. Find the sum of the greatest two digit and the greatest three digit numbers. Write the number names of that sum.

2.1a ODD NUMBERS and EVEN NUMBERS

ODD NUMBERS

The numbers ending with 1, 3, 5, 7 and 9 in one's place are called **odd numbers**.

EXAMPLE

1001, 1003, 1005, 1007, 1009

2371, 4863, 5605, 3787, 1239

EVEN NUMBERS

The numbers ending with 0, 2, 4, 6, and 8 in one's place are called **even numbers**.

EXAMPLE

2002, 2004, 2006, 2008, 9960

Remember:

To identify whether the given number is odd or even, it is enough to look at the digit in 'ones' place.

Activity

Circle the odd numbers box and write their names in the following boxes.

4132	8841	7483
2973	1045	
8123	5667	4646
6566	3990	3132

S.No.	Number	Number Name
1.	8123	Eight thousand one hundred and twenty three.

Exercise 2.1a

1. **Encircle the odd numbers from the following.**

   9001, 8002, 7603, 6542, 4875, 3882, 3217.

2. **Encircle the even numbers from the following.**

   6231, 5920, 4812, 2121, 1234, 9528, 3946.

3. **Choose the even numbers from the following and write the number and number names.**

a. 6501 **b.** 4706 **c.** 3999 **d.** 4001 **e.** 3848

Number	Number Name

4. **Choose the odd numbers from the following and write the numbers and number names.**

a. 4703 **b.** 3206 **c.** 2003 **d.** 4017 **e.** 2001

Number	Number Name

2.1b Write number with respect to place value expansion.

Let us recall the expanded form of a number.

The expanded form of 534 is 500 + 30 + 4

We read it as five hundred and thirty four.

Similarly,

2936 = 2000 + 900 + 30 + 6 = Two thousand nine hundred and thirty six.

The digits of a number express the values of their own when the number is given in expanded form and read in words.

In the number 5269

The place value of 5 is 5000 (five thousand)

The place value of 2 is 200 (two hundred)

The place value of 6 is 60 (sixty)

The place valued of 9 is 9 (nine)

Thus, the place value of a digit in a number is the value it holds to be at the place in the number. If 5 is at Thousandth place in a number, its value will be 5000, if it is at Hundredth place, its value will be 500, etc.

The face value of digit is the digit itself, at whatever place it may be. It is unchangeable and definite. But place value changes according to the digit's place.

Place value of a digit = Face value of the digit × value of the place

EXAMPLE

In the number, 2745.

Place value of 5 = 5 × 1 = 5 ones, face value of 5 is **5**.

Place value of 4 = 4 × 10 = 40 = 4 tens, face value of 4 is **4**.

Place value of 7 = 7 × 100 = 700 = 7 hundreds, face value of 7 is **7**.

Place value of 2 = 2 × 1000 = 2000 = 2 thousands; face value of 2 is **2**.

Exercise 2.1b

1. Find the face value and place value of the coloured digit in the given numbers.

   a) 1 3 7 9 **b)** 9 8 7 6 **c)** 5 1 3 6 **d)** 8 9 6 5

   e) 2 0 10 **f)** 4 0 3 8

2. Complete the table with the numbers in expanded or short form.

a	6785	
b		4000 + 200 + 90 + 6
c		3000 + 300 + 20 + 7
d	9999	
e		5000 + 70 + 1
f	2934	

Try This

Who am I?

i Tens place is 7

ii Thousandth place is 4 less than 10

iii Hundredth place is between 3 and 5

iv One's place is 2 more than 6

3. Circle the correct answer.

a	5 thousands + 3hundreds + 2 ones	5320, 5302
b	The place value of 5 in 3758	50, 500
c	Three thousand six hundred and sixty	3060, 3660
d	4000 + 600 + 90	4690, 4609

Activity

Take number cards from 1 to 9, plain sheets and pens for each group.

Method:

1. Divide the class in groups of 5.
2. Form a number using number cards.
3. Write its number name.
4. Write its expanded form.
5. Write the place value of each digit.

The teacher will keep checking the work done by the groups.

2.2 Comparing Numbers

2.2a Able to sequence an arbitrary array of numbers in ascending and descending order.

Ascending order

Ascending order is arranging numbers from smallest to biggest.

EXAMPLE

4278 4875 4923 4717

Since the digits at the thousandth place are same in all the numbers, we compare the digits at the hundredth place.

Thus, the numbers in **ascending order** is,

$4278 < 4717 < 4875 < 4923$.

4278, 4717, 4875, 4923.

Descending order

Descending order means arranging numbers from biggest to smallest.

EXAMPLE

5234, 6271, 4234, 5172, 4871

Thus, the number in descending order is,

$6271 > 5234 > 5172 > 4871 > 4234$

6271, 5234, 5172, 4871, 4234.

Do You Know?

The reverse of ascending order is descending order.

Exercise 2.2a

1. Write the following numbers in ascending order.

   a) 7631, 9987, 7634, 5436, 8918

   b) 4096, 3096, 3099, 2473, 3172

   c) 5201, 5627, 4325, 9999, 9801

2. Write the following numbers in descending order.

   a) 3435, 3670, 139, 3267, 6544.

   b) 2785, 3605, 2782, 236, 9801.

   c) 6998, 6987, 6898, 7801, 8979.

3. Choose the correct milestone and place it.

(a) 

(b) 

Activity

1. Write the total number of students class wise in your school. Write them in ascending and descending orders.

2.

From place	To place	Approximate Distance in km
Chennai	Pondicherry	132
Chennai	Hyderabad	511
Chennai	Kolkata	1363
Chennai	Delhi	1757
Chennai	Mumbai	1025
Chennai	Guwahati	1891

Locate it in the map and find out feasible way to travel to all the places.

a) Beginning with the shortest place, plan your route.

b) Beginning with the longest place, plan your travel route.

c) Which place do you reach in shorter time on road?

d) Which place will take longer time for you to reach on rail?

e) Can you guess, between _____ and _____ the ticket fare would be the least?

2.2b Forming the smallest and the largest numbers using the given digits.

1. To write the smallest number using the given digits only once.

a) When none of the digits is zero, we arrange the digits in ascending order and form the number.

EXAMPLE

The smallest 4 digit number using the digits 4, 2, 9 and 7 is **2479**

b) When one of the digits is zero, we arrange the digits in ascending order and put zero at second place from extreme left while forming the number.

EXAMPLE

The smallest 4 digit number using the digits 1, 7, 5, 0 is **1057**.

2. To write the greatest number using the given digits only once, we arrange the digits in descending order and form the number.

EXAMPLE

The greatest 5 digit number using the digits 5, 1, 7 and 9 is **9751**.

Exercise 2.2b

1. Form the greatest and smallest numbers using the given digits only once.

	Digits	Greatest number	Smallest number
a	1, 4, 3, 7		
b	5, 0, 9, 3		
c	6, 7, 1, 5		
d	3, 2, 0, 9		
e	7, 3, 2, 8		
f	4, 6, 0, 2		
g	9, 1, 4, 0		

2. circle ◯ the smallest number and tick (✓) the greatest number:

a) 2715, 2175, 2517, 2157, 2275

b) 6238, 2386, 3862, 8623, 9378

c) 9345, 9646, 3408, 1425, 2000

d) 5931, 1370, 4000, 2000, 3000

e) 6000, 7000, 5000, 4000, 9000

f) 2468, 4279, 5090, 7906, 6270

g) 7692, 8296, 3241, 9276, 4291

2.3 Addition and subtraction

EXAMPLE

In a school, 1232 students travel by cycle, 2430 students travel by school bus, and 1235 walk to the school. How many students are there in the school?

In a school

No. of students travel by cycle	=	1 2 3 2
No. of students travel by school bus	=	2 4 3 0 (+)
No. of students by walk	=	1 2 3 5
Total no. of students	=	4 8 9 7

Exercise 2.3

1) Fill in the boxes.

i $4634 + \square = 4634$

ii $2134 + 1 = \square$

iii $5349 + 0 = \square$

iv $1435 + 1923 = 1923 + \square$

v $3457 + \square = 3458$

2) **Add**

(i)

	Th	H	T	O
	3	2	5	4
+	1	4	2	4

(ii)

	Th	H	T	O
	2	1	3	5
+	3	3	4	2

(iii)

	Th	H	T	O
	3	7	6	2
+	3	1	3	7

(iv)

	Th	H	T	O
	1	4	3	3
+	4	5	5	2

3. **Add:** 2713 + 104 + 1172 + 6010

4. A man visited a furniture shop. He bought a bed for Rs 2100, a dining table for Rs 3500, and six chairs for Rs 4200. How much money did he pay to the shop keeper?

5. Create word problem for the addition facts given below.

(a) $3094 + 7923 = 11{,}017$ (b) $8309 = 2309 + \square$

6. Create addition stories using the pictures and numbers given below.

(a)

(b)

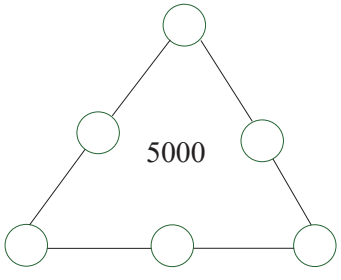
Child birth between 2017 and 2018 are given below		
District		**Children**
Trichy	Urban	1032
	Rural	2030
Ariyalur	Urban	1205
	Rural	4097
kanchipuram	Urban	2104
	Rural	4034
Chennai	Urban	1430
	Rural	1023

(a)

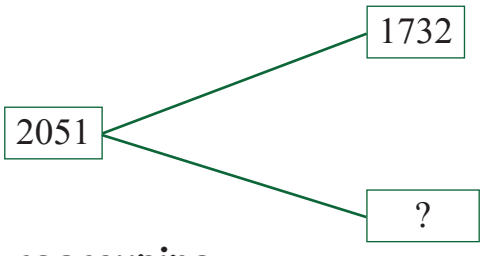
(b)

7. Fill in the circles using 1400, 1500, 1600,1700,1800 and 1900 so that the three numbers along each line add up to 5000.

WALS7F



8. Fill in the box with a number



2.3a Adding 4 digit Numbers with regrouping

(sum should not exceed 10000)

EXAMPLE

1. **Add:** Find the sum of 1957, 2376 and 4697

	Th	H	T	O
	2	2	2	
+	1	9	5	7
	2	3	7	6
	4	6	9	7
Sum =	**9**	**0**	**3**	**0**

Activity

Write the missing numbers

(i)

Th	H	T	O
2	1	7	3
△	2	3	△
1	9	△	7
8	3	7	4

(ii)

Th	H	T	O
3	9	7	△
2	△	**4**	**4**
△	7	△	1
9	2	7	6

Exercise 2.3a

1. Write the following numbers in vertical order and add.

   a) 216, 3422, 4019, 497

   b) 1002, 2347, 1976, 2005, 2007

   c) 1978, 1965, 2704, 473

2. Add the total amount of the following 4 piggy banks.


Rs 978


Rs 3796


Rs 2374


Rs 1957

3. The sum of 1215 + 2367 + 1673 + 3120 = _____

   a) 8585 **b)** 8225 **c)** 8375 **d)** 8285

4. 2076 + 276 + 2974 + 1751 =

   a) 9561 **b)** 7077 **c)** 7377 **d)** none of these

5. What is the sum of five hundreds and fifteen tens?

   a) 650 **b)** 550 **c)** 5150 **d)** 6150

6. The sum of the greatest 3 digit number and the smallest 4 digit number is

   a) 1999 **b)** 1099 **c)** 1990 **d)** 9999

7. 9999 + 1 = _____

   a) 10,000 **b)** 1000 **c)** 1001 **d)** 10001

8 In a village the number of males is 4154 and the number of females is 4221. Find the total population in the village?

9 A refrigerator costs Rs 6543 and a DVD player costs Rs 3412. What is the total cost?

2.3b Subtraction without Regrouping.

Let us Know

When 0 is subtracted from a number, the difference is the number itself.

When a number is subtracted from itself, the difference is 0.

EXAMPLES

1)

	Th	H	T	O
	9	8	6	5
−	2	3	3	4
	7	5	3	1

Subtraction without grouping
Step1: Subtract the ones
Stet 2: Subtract the tens
Step3 : Subtract the hundreds
Step4: Subtract the thousands

2) Roja's monthly income is Rs 8950. She spends Rs 6750 and saves the rest. How much does she save?

Solution:

			Th	H	T	O
Monthly income	=		8	9	5	0
She spends	=	−	6	7	5	0
She saves	=		2	2	0	0

She saves Rs 2200.

Exercise 2.3b

1)
	9	7	6	4
−	3	4	2	3

2)
	7	9	8	6
−	4	5	2	4

3)
	4	7	8	5
−	2	4	6	2

2.3c Subtraction with Regrouping.

EXAMPLES

1. Subtract 3285 from 5657

Step: 1

Arrange the numbers in columns as shown below.

	TH	H	T	O
	5	6	5	7
–	3	2	8	5

Step: 2

Subtract column wise.

	TH	H	T	O
		5	15	
	5	~~6~~	~~5~~	7
–	3	2	8	5
	2	3	7	2

Step 1: It is not possible to subtract 8 tens from 5 tens. So, borrow 1 hundred from the hundreds column.

Step 2: 6 hundreds = 5 hundreds + 1 hundred. Transfer 1 hundred to the tens place. 1 hundred = 10 tens. So, 10 tens + 5 tens = 15 tens.

Step 3: Now subtract 2 hundreds from 5 hundreds.

Step 4: Then 3 thousand from 5 thousand.

5657 – 3285 = 2372

2. The sum of two numbers is 4204,one number is 1207. Find the other number.

Solution:

Sum of two number = 4204

One number = 1207

Other number = 2997

	Th	H	T	O
	3	11	^{9}~~10~~	14
	~~4~~	^{1}~~2~~	~~0~~	4
–	1	2	0	7
	2	9	9	7

Exercise 2.3c

978LWB

A. Subtract

1.

	TH	H	T	O
	3	4	4	5
–	1	3	4	8

2.

	TH	H	T	O
	4	9	6	5
–	2	4	4	6

3.

	TH	H	T	O
	6	5	7	0
–	3	3	9	7

4.

	TH	H	T	O
	8	9	5	3
–	5	9	6	4

B. Find the difference between given numbers.

a) 4352 and 5020

b) 1438 and 3370

c) 2526 and 8431

d) 3361 and 9000

C. Answer the following questions.

1. The sum of two numbers is 7036, one number is 3168. Find the other number.
2. A man had Rs 9200 in the bank. He withdrew Rs 2756. How much money does he have in the bank now?

D. Create the subtraction story problems for the details given below.

a) 1997 – 1968

b)

c)

(a)

(b)

(c)

Activity **Number puzzle**

Solve the subtraction problems. Now write the differences. One has been done for you.

	TH	H	T	O
	8	11	6	16
	~~9~~	~~1~~	~~7~~	~~6~~
(–)	3	5	5	8
	5	6	1	8

	TH	H	T	O
	2	3	5	3
–	1	9	0	1

	TH	H	T	O
	1	2	2	8
–		2	8	6

	TH	H	T	O
	9	6	3	0
–	1	5	9	0

	TH	H	T	O
	4	8	0	0
–	3	1	6	2
	1	6	3	8

	TH	H	T	O
	6	5	8	9
–	5	8	0	6

	TH	H	T	O
	9	8	5	4
–	3	6	4	4

	TH	H	T	O
	1	8	6	9
–	1	3	7	9

	TH	H	T	O
	5	4	5	6
–	1	3	2	5

	TH	H	T	O
	9	2	2	3
–	3	8	9	9

UNIT-3

PATTERNS

L3UGL7

3.1 Patterns in shapes

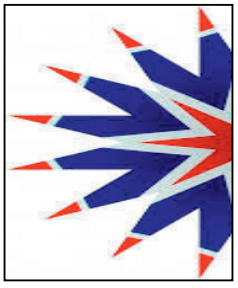
Observing shapes sequence from Kaleidoscope.

Kaleidoscope

A kaleidoscope consists of a tube containing mirrors and pieces of coloured glass or paper, whose reflections produce changing patterns when the tube is rotated.

"Kaleidoscope" is derived from the Ancient Greek word (kalos) "beautiful, beauty", (eidos) "that which is seen: form, shape"and (skopeō), "to look to, to examine", hence "observation of beautiful forms.

Activity

Colour the given picture	Complete the picture
	

Identifying the patterns in a sequence of shapes.

EXAMPLES

1. 

2. 

3. 

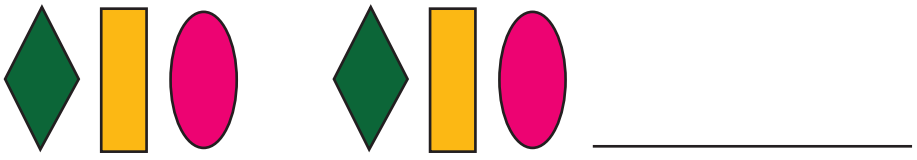
Exercise 3.1

Fill in the shapes.

1. 

2. 

3. 

4.  _____

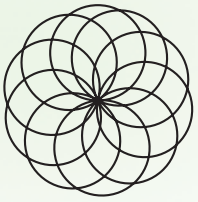
5.  ____ ____ ____ ____

Let us Know

Spirograph is a mathematical toy which can be used for drawing pattern

Do your self

1. Draw a spirograph by using bottle caps
2. Draw a spirograph by using scale



3.2 Patterns in numbers

Identify the patterns in multiplication and division (multiples of 9).

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

The multiples of 6 is coloured in orange for you.

Similarly, Colour the multiples of 5 in blue, Multiples of 9 in Red, Multiples of 10 in Green, Multiples of 11 in Pink.

Let us Know

Multiply any number by 9, the sum of all the digits of the product is 9.

Example:1	Example:2	Example:3
84 x 9 = 756 7 +5 + 6 = 18 = 1 + 8 = 9	43 x 9 = 387 3 +8 + 7 = 18 = 1 + 8 = 9	123 x 9 = 1107 1 +1 + 0 + 7 = 9

Activity

Make patterns based on the multiples of 9.

multiple of 9	Product	Sum of all the digits of product
9 x 9	81	8 + 1 = 9
81 x 9	729	7 + 2 + 9 = 18 = 1 + 8 = 9
__ x 9		
__ x 9		
__ x 9		
__ x 9		

Remember:

If the sum of all digits of a number is 9 or divisible by 9, then the number is called multiple of 9.

Do you know

1 2 3 4 5 6 7 9 x 9 = 1 1 1 1 1 1 1 1 1

1 2 3 4 5 6 7 9 x 18 = 2 2 2 2 2 2 2 2 2

1 2 3 4 5 6 7 9 x 27 = 3 3 3 3 3 3 3 3 3

1 2 3 4 5 6 7 9 x 36 = 4 4 4 4 4 4 4 4 4

1 2 3 4 5 6 7 9 x 45 = 5 5 5 5 5 5 5 5 5

3.2.a Cast out nines from a given number to check if it is a multiple of nine.

EXAMPLE

Is 46908 multiple of 9?

$46\cancel{9}08 = 4+6+0+8$

$= 18$

$= 1 + 8$

$= 9$

Let us Know

Any number or combination of digits in that number which add to 9 can be cast out from the given number. Then the sum of remaining digits of the number is divisible by 9 or multiple of 9.

In addition problem, we can check the sum by casting out nines.

EXAMPLE 1

Check the following numbers whether it is a multiple of 9 or not

$24689 = 2 + 4 + 6 + 8 = 20$ (It's not a multiple of 9.)

$\cancel{9}\cancel{1}08 = 0$ (It's a multiple of 9.)

$\cancel{3}165 = 1 + 5 = 6$ (It's not a multiple of 9.)

EXAMPLE 2

Check the addition fact

$3356 + 4729 = 8085$

$3\cancel{3}5\cancel{6} + 4\cancel{7}\cancel{2}\cancel{9} = 8085$

$8 + 4 = 21$

$12 = 21$

$1 + 2 = 2 + 1$

$3 = 3$

In subtraction problem, we can check the difference by casting out nines method.
(Remember that subtraction is nothing more than addition in reverse).

EXAMPLE

$4897 - 2186 = 2711$

$4897 - 2186 = 2711$

$19 - 8 = 2$

$10 - 8 = 2$

$2 = 2$

Let us Know

Think of a two digit number say 52, then subtract the reverse of its digits, 25 from 52.

Difference $= 52 - 25 = 27$

27 is a multiple of 9.

Activity

Number	Reverse Number	Difference	Sum of the digits
92	29	$92 - 29 = 63$	$6 + 3 = 9$
14		$- \quad = 27$	
–	38		
17			$5 + 4 = 9$

Exercise 3.2

1. Circle the multiples of 9 (by using casting out nine).

a) 9443 b) 1008 c) 24689 d) 23769 e) 13476

2. Circle the correct addition fact (by using casting out nine).

a) $4355 + 5369 = 9724$

b) $7632 + 2213 = 9845$

c) $6023 + 3203 = 9220$

d) $2436 + 5315 = 7701$

3. Circle the correct subtraction fact (by using casting out nine).

a) $7420 - 3625 = 3795$

b) $2362 - 632 = 1720$

c) $6732 - 4361 = 2371$

d) $3264 - 1063 = 2200$

3.2.b To check any multiplication problem using the casting out of nines method.

EXAMPLE

Multiplicand		Multiplier		Product
3 ~~2~~ ~~7~~	X	4 2	=	1 3 7 3 4
3		$4 + 2$	=	$1 + 3 + 7 + 3 + 4$
~~3~~	X	~~6~~	=	18
		~~18~~	=	18
		$1 + 8$	=	$1 + 8$
		9	=	9

Note:
Cross out the 9 and components of 9.

In division problem, we can check the quotient by costing out nines method.

(Remember that division is nothing more than the reverse of multiplication).

Dividend = Divisor × Quotient + Remainder

EXAMPLE

525	÷	15	=	35
↓↓		↓↓		↓↓
$5 + 2 + 5$		$1 + 5$	=	$3 + 5$
12	÷	6	=	8
		12	=	8×6
		12	=	48
		12	=	12
		$1 + 2$	=	$1 + 2$
		3	=	3

Note:
If the problem has remainder, we will subtract it from the Dividend.

Exercise 3.2b

1. **Circle the correct multipliction fact (by using casting out nine method).**

   a) $312 \times 36 = 11232$

   b) $723 \times 24 = 17508$

   c) $132 \times 43 = 5676$

2. **Circle the correct division fact (by using casting out nine method).**

   a) $728 \div 4 = 182$

   b) $1580 \div 20 = 78$

   c) $7785 \div 9 = 865$

Able to identify patterns in multiplication and division by 10s and 100s.

EXAMPLES

$57 \times 10 = 570$

$57 \times 100 = 5700$

$9 \times 400 = 3600$

$80 \times 700 = 56000$

$10 \div 2 = 5$

$100 \div 2 = 50$

$1000 \div 2 = 500$

$10000 \div 2 = 5000$

Activity 1

x 200	
3 →	
2 →	
4 →	
5 →	

x 3	
60 →	
200 →	
30 →	
500 →	

x 10	
7 →	
60 →	
6 →	
100 →	

x 9	
20 →	
400 →	
30 →	
500 →	

Activity 2

Complete the following.

a. $54 \div 9 = 6$ **b.** $540 \div 9 = 60$

c. $5400 \div 9 =$ _____ **d.** _____ $\div 9 = 6000$

Exercise 3.3

A **Fill in the blanks.**

i. 90, 180, 270, _____, _____, _____.

ii. Z90, A81, Y72, B63, _____, _____, _____.

B **Circle the multiples of 9**

25, 27, 35, 36, 45, 46, 54, 55

C **Complete the following sequence.**

1. 125, 150, 175, _____, _____, _____.

2. 100, 400, 700, _____, _____, _____.

3.

A100	C300	E50				

4.

200	400	600			

D **Complete the following sequence.**

1. $9 \times 6 = 54$

$9 \times 66 = 594$

$9 \times 666 = 5994$

$9 \times 6666 = 5$ _____ 4

$9 \times 666666 =$ _____

2. $9 \times 111 = 999$ $\quad 9 \times 222 = 1998$

$9 \times 333 = 2997$ $\quad 9 \times 444 =$ _____

$9 \times 555 =$ _____ $\quad 9 \times 666 =$ _____

E Answer the following questions.

1. The school bell rings once in an hour, to indicate that the session ends/next session begins. And for break, it will be 20 minutes. Shall we try to fill this up.

Here is the time table.

Period 1	Period 2	Break	Period 3	Period 4	Break	Period 5	Period 6
9:00	10:00	11:00					2:40

2. Imagine you are a traffic inspector. You are asked to design the traffic signal timings.Can you design it?

Red	Yellow/orange	Green	Red	Green
7:30 am				

3. A city is planned in such a way that every 5km has a circle and has 4 signals around.

So, can you guess where the signals and circle are there?
How many signals are needed for a 20 km distance?

XZGBB3

F

Create a magic square by using multiples of 10, 20, 30, 40, 50, 60, 70, 80 and 90.

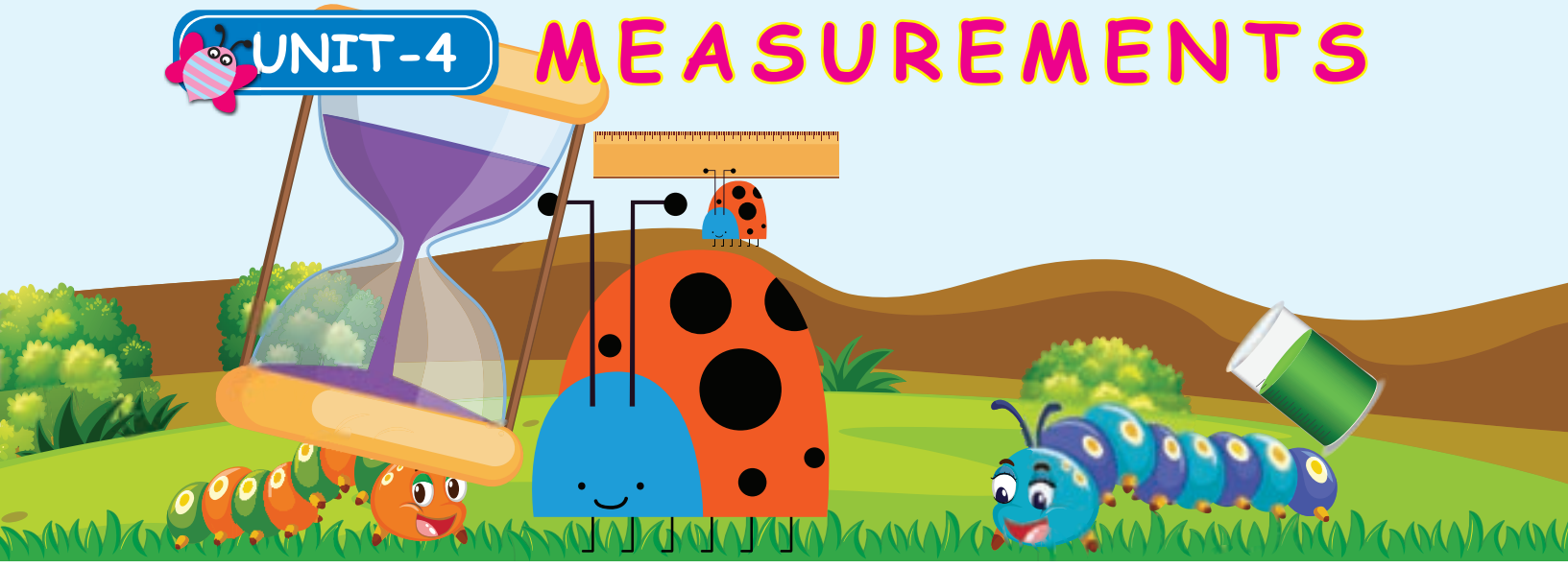
20	90	40	
70	50	30	150
60	10	80	
150			

Try This

Create magic squares by using,

1. Multiples of nine
2. Multiples of hundred

UNIT-4 MEASUREMENTS

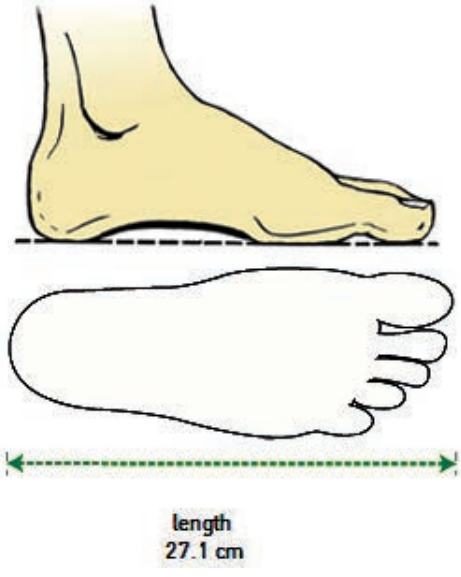


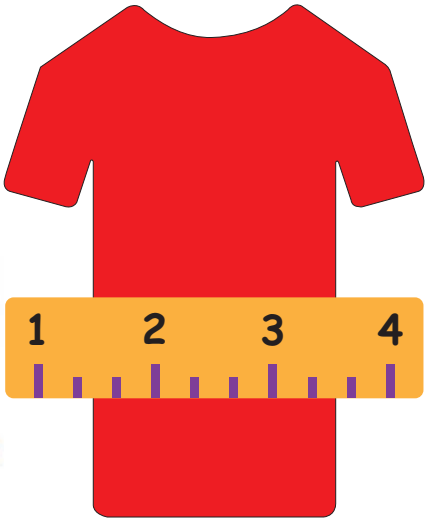
4.1 Understand relationship between metre and centimetre.

GEUQBK

Introduction

Children can measure their foot size and find out the slipper size. Or sleeve size of their shirt, then children go around find out whose sleeve is the shortest and whose is the longest. Or leg size and find out whose pant/trouser is the longest. Or shoulder measurement of their friends.





Kavitha accompanied her friends to the festival shop. They all got a lot of stuff. They came back home and then talked about them.

Kavitha : I bought a ribbon. Mala what did you buy?

Mala : I bought a cricket bat. Mary, please show your toy.

Mary : I bought a toy train.

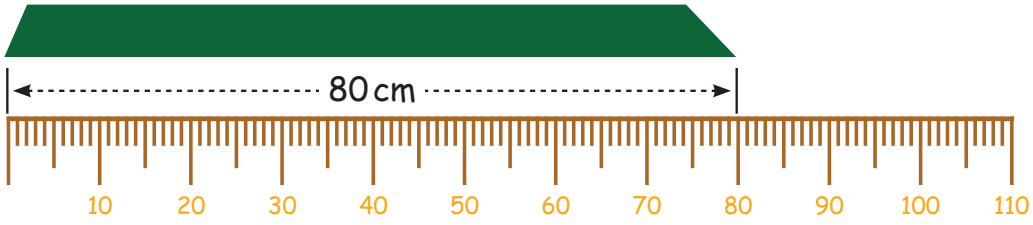
Sharmila : See friends. I have a beautiful toy car

Banu : My favouite toy lorry was very attractive

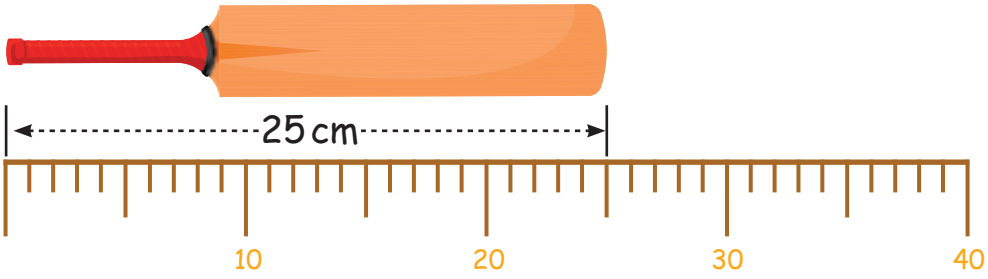
Kavitha : All the toys are very nice. Let us measure our toys. Which is the longest among them?

Let's measure the length of toys and ribbon.

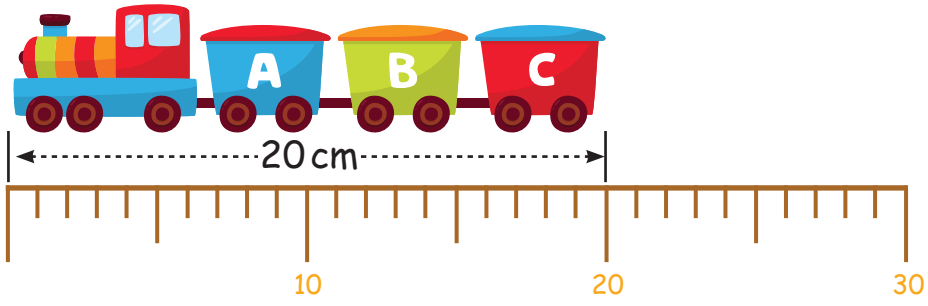
Kavitha measures her Ribbon.



Mala measures her Toy bat.

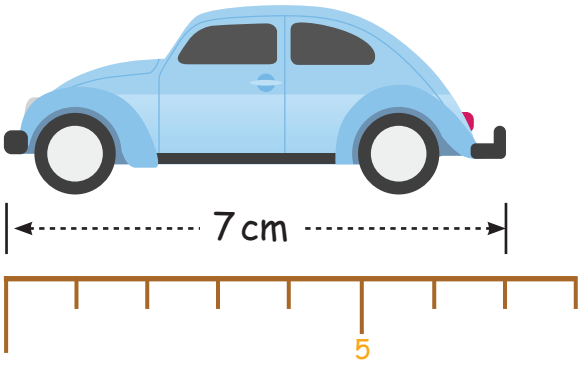


Mary measures her Toy train.



Teacher can help the children to use the ruler. Whether it should begin from zero or 1? Also tell why do we measure from zero.

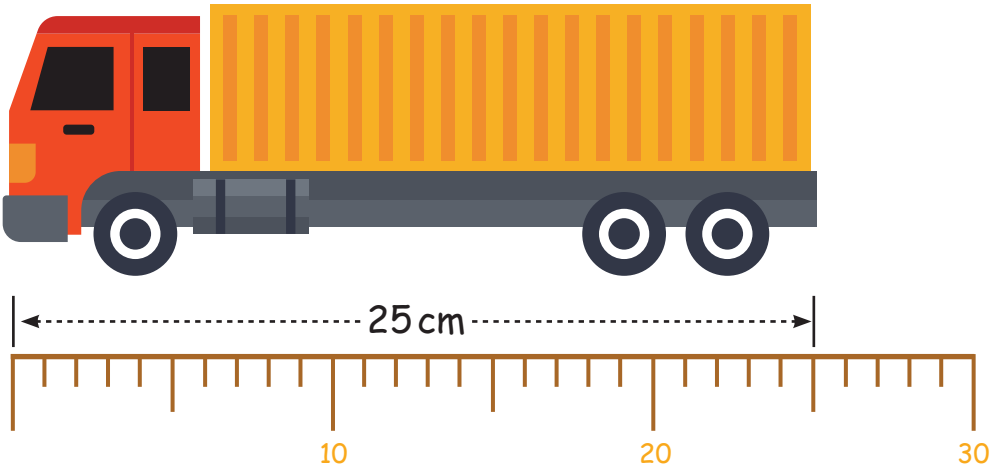
Sharmila measures her Toy car.



Centimetre can be written as "cm"

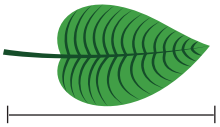
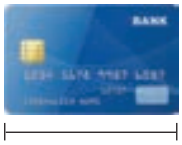
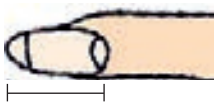
We use scale to measure small length. Play ground, Classroom height are measured by tape.

Banu measures her Toy lorry.



Activity

Ask the children to measure the following things and complete the table given below.

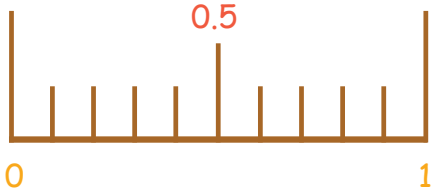
S. NO	Things	Approximate length	Correct length
1			
2			
3			

4			
5			
6			

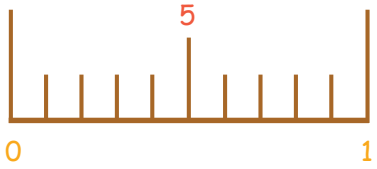
Children can you measure the tip of the following things by using the ruler?



Yes, the measurement between 0 and 1 is 0.5.



= 1 cm



= 10 millimetre

10 millimetre	=	1 centimetre
100 centimetre	=	1 metre
1000 m	=	1 Kilometre
1000 metre	=	1 kilometre
1 mile	=	1.6 kilometre

Think it..

How can you measure the distance between villupuram and cuddalore?

Group Activity

Ask the children to measure the length of the following things.

a. Black board **b.** Cupboard **c.** Table **d.** Wallclock **e.** Classroom

4.2 Conversion of Metre into Centimetre.

EXAMPLES

1. Convert 5 m into cm

5 m = 5 x 100 cm
5 m = 500 cm

2. Convert 13 m into cm

13 m = 13 x 100 cm
13 m = 1300 cm.

3. Convert 4 m 35 cm into cm

1m = 100 cm

Note:
To convert metre into centimetres multiply the given number by 100

Step: 1	Step: 2	Another Method
4 m = 4 x 100 cm	400 cm	4 m 35 m = 4 x 100 + 35 cm
	+ 35 cm	= 400 + 35
	435 cm	4 m 35 cm = 435 cm

4 m 35 cm = 435 cm

4.3 Conversion of Centimetre into Metre.

EXAMPLES

100cm = 1m

1. Convert 700 cm into metre

700 ÷ 100 = 7 m
700 cm = 7 m

2. Convert 536 cm into metre

536 cm = 500 cm + 36 cm
= (500 ÷ 100) + 36 cm
= 5 m + 36 cm
536 cm = 5 m 36 cm

Activity

1.

Metre	1	2	3	4	5	6	7	8	9
Centimetre	100	200	300						

2. Using the metre scale, find the length of the classroom door and change the metre into centimetre.

Exercise 4.1

Convert into centimetre

1. 3 m = _____ cm
2. 37 m = _____ cm
3. 5 m 9 cm = _____ cm
4. 7 m 35 cm = _____ cm

Convert into metre

1. 600 cm = _____ m
2. 3600 cm = _____ m
3. 647 cm = _____ m
4. 304 cm = _____ m

Addition and subtraction of measures

Addition without Regrouping

EXAMPLE

Add 21 m 45 cm and 68 m 23 cm.

m	cm
21	45
+ 68	23
89	**68**

step.1 Start from **cm** :(45+23) cm = 68 cm

write 68 under the **Centimetre** column.

Step.2 Then add **m** : 21 m + 68 m = 89 m

Write 89 under the **metre** column.

21 m 45 cm + 68 m 23 cm = 89 m 68 cm

Addition with Regrouping

EXAMPLE

Add 34 m 91 cm + 25 m 42 cm

	m	cm
	(1)(1)	
	34	91
+	25	42
	60	**33**

Step: 1 Start from cm
91 cm + 42 cm = 133 cm
In 133 cm, write 33 under cm column and then add this 1 cm to the metre column.

Step: 2 Add 1 m + 34 m + 25 m = 60 m

34 m 91 cm + 25 m 42 cm = 60 m 33 cm

Exercise 4.2

Add the following.

1.

	m	cm
	41	29
+	26	75

2.

	m	cm
	70	23
+	31	45

3.

	m	cm
	35	08
+	29	26

4.

	m	cm
	53	45
+	34	68

5.

	m	cm
	51	30
+	21	12

6.

	m	cm
	60	45
+	24	75

Subtraction without Regrouping

EXAMPLE

Subtract 18 m 24 cm from 48 m 36 cm

	m	cm
	48	36
-	18	24
	30	**12**

step: 1 Subtract centimetre column
(36-24) = 12 cm

step: 2 Subtract metre column
48-18 = 30 m

Subtraction with Regrouping

EXAMPLE

Subtract 73 m 44 cm – 54 m 75 cm

	m	cm
	72	144
	~~73~~	44
-	54	75
	18	**69**

75 cm cannot be subtracted from 44 cm. So take 1m from 73 m and then add with 44 we get 100 + 44 = 144 cm.

step: 1 144 cm -75 cm = 69 cm

step: 2 72 cm -54 cm = 18 cm

Exercise 4.3

Subtract the following

1.

	m	cm
	93	25
-	20	12

2.

	m	cm
	38	90
-	26	60

3.

	m	cm
	75	22
-	56	35

4.

	m	cm
	27	81
-	16	94

5.

	m	cm
	38	90
-	26	60

6.

	m	cm
	75	22
-	56	35

EXAMPLE

Mala bought 18 m 73 cm of Green ribbon and 27 m 65 cm of red ribbon for decorating the hall. What is the total length of the ribbon?

Answer:

Length of the Green ribbon =

Length of the red ribbon =

Total length of the ribbon =

	m	cm
	① ①	
	18	73
+	27	65
	46	**38**

Total length of the ribbon is **46 m 38 cm.**

EXAMPLE

Latha purchased 42 m 52 cm rope and she used 17 m 15 cm rope to tie a ponny. What is the remaining length of the rope she had?

Answer:

		m	cm
		3 12	4 12
Rope purchased	=	~~4~~2	~~5~~2
Rope given to ponny	=	- 17	15
Remaining rope	=	**25**	**37**

Remaining length of the rope is **25 m 37 cm.**

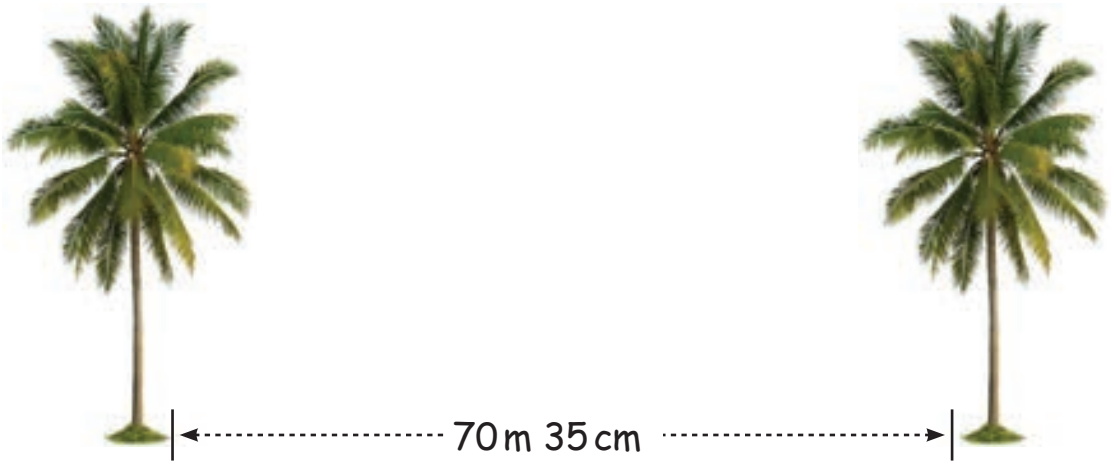
Life Oriented Problems

Exercise 4.4

1. Deenu bought 15 m 43 cm of shirt material and 23 m 94 cm of trouser material. Find the total material bought by him.
2. A fisherman bought 2 nets. The length of first and second nets are 23 m 43 cm and 25 m 63 cm. What is the total length of nets?
3. Agathiya bought 70 m 42 cm of wire to fence his garden. He used only 43 m 51 cm of wire. Find the length of the remaining wire.
4. A shopkeeper sold 37 m 69 cm cloth out of 93 m 75 cm in stock. How much stock is left with him?
5. At the fabric shop, I bought 125 metres of orange fabric and 50 metres of yellow fabric. I have used 13 metres of the orange fabric and 12 metres of yellow fabric. How many metres of fabric I have left in total?
6. Velu is 1 m 15 cm tall. Her friend Babu is 1 m 30 cm tall. Who is taller and by how much?

4.4 Solving problem involving length and distances.

EXAMPLE



The distance between two coconut trees is 70 m 35 cm.
Suthan walked from first tree to second tree.
Then he returned to first tree. How much distance did he cover?

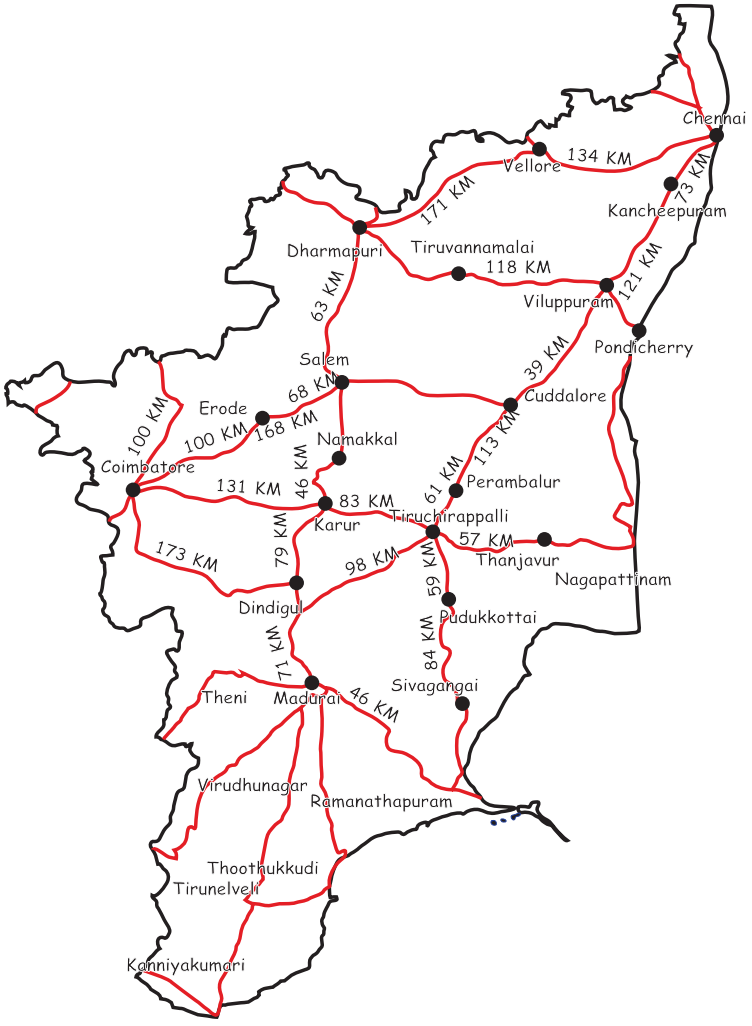
		m	cm
			①
Suthan went to 2nd tree	=	70	35
Suthan returned to 1st tree	=	+ 70	35
Total distance = 140 m 70 cm		**140**	**70**

Activity

Measure the height of any ten of your classmates and write in centimetre.

Group Activity

To go from cuddalore to Chennai, which is the longest route? Find out the distance of the same. Which is the shortest route? Find out the shortest distance.



Similarly find the shortest distance between Madurai to Chennai, Trichy to Coimbatore and Chennai to Coimbatore.

4.5 Estimation

Introduction

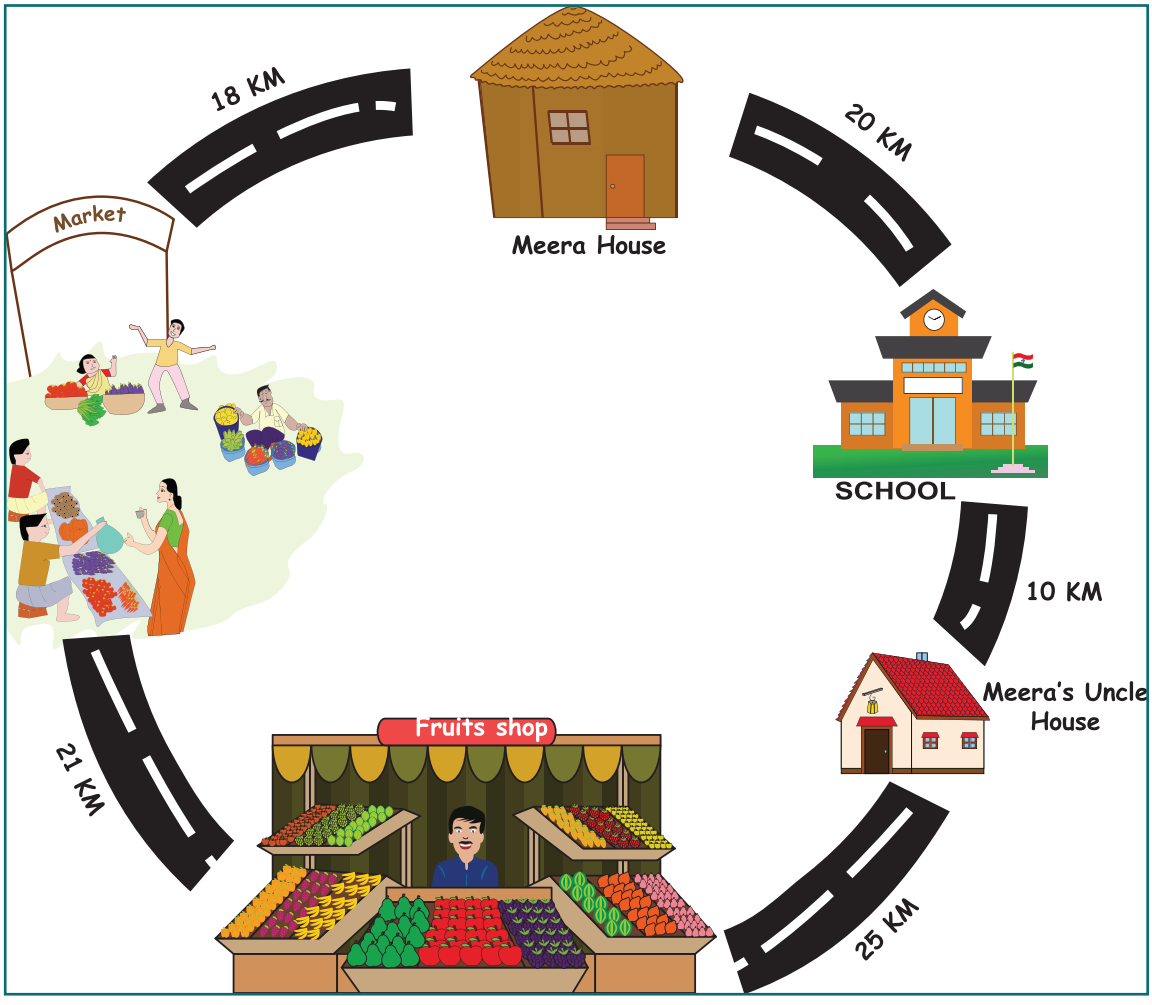
Estimating and measuring length and distance

We can estimate some lengths and distances using approximate values for measurements. For example, one metre is approximately the length from your shoulder to your toes, if you stand with your arm outstretched.

Now let us try the following.

1. Distance between your place and black board.
2. Distance between table and cupboard.
3. Distance between HM room and play ground.

1. **Look at the map and complete the following.**



1. Distance between Meera's house and the fruit shop _____.
2. Distance between Meera's house and Meera's uncle house _____.
3. Distance between Meera's uncle house and market _____.
4. Distance between school and fruit shop _____.
5. Which place is the longest from Meera's house _____.
6. Which place is the shortest from Meera's house _____.
7. Distance between Meera's house and the School _____.

TBGK1G

Exercise 4.5

1. Convert into cm

a) 5 m b) 7 m c) 9 m d) 16 m

2. Convert into m

a) 6000 cm b) 4000 cm c) 13000 cm d) 17000 cm

3. Add

a.

m	cm
4	75
+ 3	18

b.

m	cm
25	53
+ 18	24

c.

m	cm
48	72
+ 14	34

4. Subtract

a.

m	cm
9	28
- 3	14

b.

m	cm
63	47
- 36	24

c.

m	cm
96	32
- 20	48

5. Raju used 13 m 25 cm ribbon for making his project. If he had bought 20 m of ribbon, How much ribbon is left with him?

6. The distance between bus stand and school is 81 m 40 cm and the distance between school and temple is 20 m 10 cm. What is the total distance from bus stand to temple ?

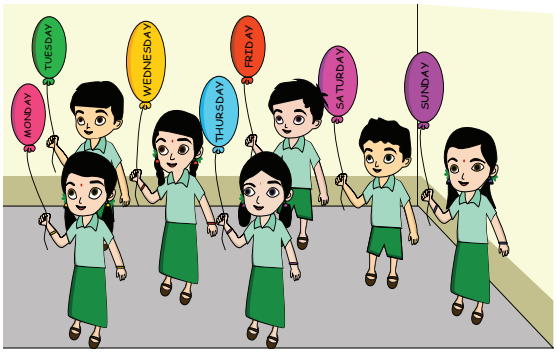
7. Arul has a 4 metre long piece of wood. He wants to cut it into 2 equal lengths. How long should each piece be in millimetres?

8. Amudha knows tailoring. She bought 10 metre long cloth. She needs 4 curtains to be stitched. Each curtain's height is 160cm. Would she be able to stitch all curtains? If some cloth is left behind, how much would it be and could you please suggest her to stitch something else?

5.1 Understand days and weeks

Recall

Teacher writes the days of a week in the Balloons and ask students to hold the Balloons. Also ask the students to stand in order and join their hands. Now let us sing the following song.



"Sun sun Sunday, let's have fun
Ma ma Monday, morning is so cool,
Tue tue Tuesday, tickle your friend,
Wae wae Wednesday, jump up high
Tha tha Thursday, reach the sky

Fa fa Friday, eat healthy to be strong.
Sa sa Saturday, all sit down.
Let's get up, it's a new day
The earth goes round
Round and round
Around the sun
That is why all new days"!

Exercise 5.1

A **Answer the following questions.**

1. Which is the first day of the week ?
2. How many days do you come to school in a week? what are they?
3. How many days are holidays in a week? what are they?
4. Which is the third day of the week?

B **Unscramble the days given below and write the days of the week in order.**

1. TRUSDAHAY
2. DYARFI
3. DSANUY
4. NODMYA
5. SDEUYAT
6. NDWADSEYE
7. YDASTAUR

Activity

1. Scatter cards with all month names. Ask the children to arrange it in order and to write number of days in each month.
2. Students should run in a circle. When the teacher says 'FRIDAY', every student must go and stand in the space provided for Friday.

Let us do

Find the days

5.2 "Marking the dates"

2019						APRIL
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Using the Calendar, Answer the following questions.

1. Today's date is _____
2. What will be day after tomorrow? _____
3. What was day before yesterday? _____
4. What will be the date of next Friday? _____
5. How many days are there in this month? _____
6. Month of March ends in _____ day.
7. what will be the day?
   i). 4 days after 11th April - _____
   ii). 7 days before 19th April - _____

Activity

Birthday Calender

Write down the birthday of all your family members and answer it.

Name	Ordinal Day	Ordinal Month	Year

a. Who is the oldest member of your family?

b. Who is the youngest?

c. What is the age difference between them?

d. When will you celebrate your 12th birthday?

5.3 Compute the number of weeks in a year.

2019

January						
Su	M	Tu	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

February						
Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

March						
Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

April						
Su	M	Tu	W	Th	F	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

May						
Su	M	Tu	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

June						
Su	M	Tu	W	Th	F	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

July						
Su	M	Tu	W	Th	F	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

August						
Su	M	Tu	W	Th	F	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

September						
Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

October						
Su	M	Tu	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

November						
Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

December						
Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

https://www.vertex42.com/calendars/printable-calendars.html

Printable Yearly Calendar © 2018 by Vertex42.com. Free to Print.

The calendar shows days of a week and month of a year. We can find the date of a particular day and a particular month from it.

Activity 1

Look at the current year calendar and fill the table			
Festival	Month	Date	Day
Pongal			
Teacher's day			
Children's day			

1. Which festival comes sooner from today?
2. How many days/weeks are there yet from today?
3. Which festival comes last?
4. How many months are there in between first and last festival of the year?

Activity 2

Now let us find how many weeks are there in a year.

Fill the Boxes using the Calender 2019.

Sl No	Name of the month	Numbers of days in the month	Numbers of weeks and days
1	January	31	4 weeks 3 days
2	February	28	4 weeks 0 days
3	March	31	4 weeks 3 days
4	April	30	☐ weeks ☐ days
5	May	31	☐ weeks ☐ days
6	June	30	☐ weeks ☐ days
7	July	31	☐ weeks ☐ days
8	August	31	☐ weeks ☐ days
9	September	30	☐ weeks ☐ days
10	October	31	☐ weeks ☐ days
11	November	30	☐ weeks ☐ days
12	December	31	☐ weeks ☐ days
	Total	**365**	**48 weeks 29 days**

EXAMPLE

$$
\begin{array}{r|l}
 & 52 \\
\hline
7 & 365 \\
 & -35 \\
\hline
 & 15 \\
 & -14 \\
\hline
 & 1
\end{array}
$$

1 week = 7 days
1 year = 365 days
1 year = 12 months
1 year = 52 weeks

Answer: 52 weeks in a year.

Let us Know

Leap year occurs once in 4 years.

There are **366 days** in a Leap year.

There are **52 weeks and two days** in a Leap year.

Activity

Mention the three term holidays in school.

Occasion	Dates		Number of days
	From	to	

5.4 Correlate the number of days in a year with the number of days in each month.

Activity

Complete the table.

Months having 31 days	Months having 30 days

Try This

Find the months which have 30 days.

Exercise 5.2

A. State True / False

1) January is the first month of the year.
2) March is in between September and November.
3) The last month of the year is July.
4) February has 30 days.
5) April is the successive month of may.

B. Write the missing month

1) June, _____, August, September.
2) March, April, _____, _____.
3) _____, October, November.

5.5. Read clock time to the nearest hours and minutes.

Introduction

Barathidasan was born on 2nd May 2018. Can you tell the following questions children?

Teacher: How old is Barathidasan?

Student: _____

Teacher: How many months old is he?

Student: _____

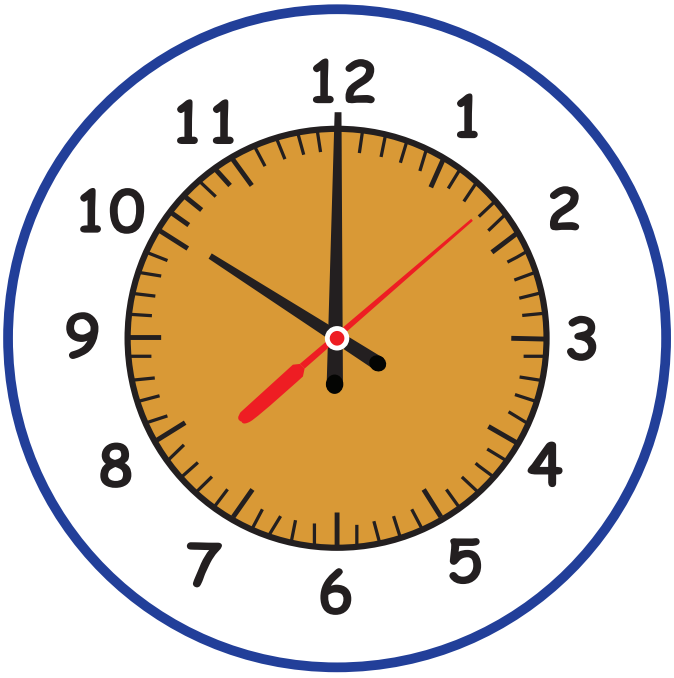
Teacher: How many weeks old is he?

Student: _____

Teacher: How many hours old is he?

Student: _____

Time



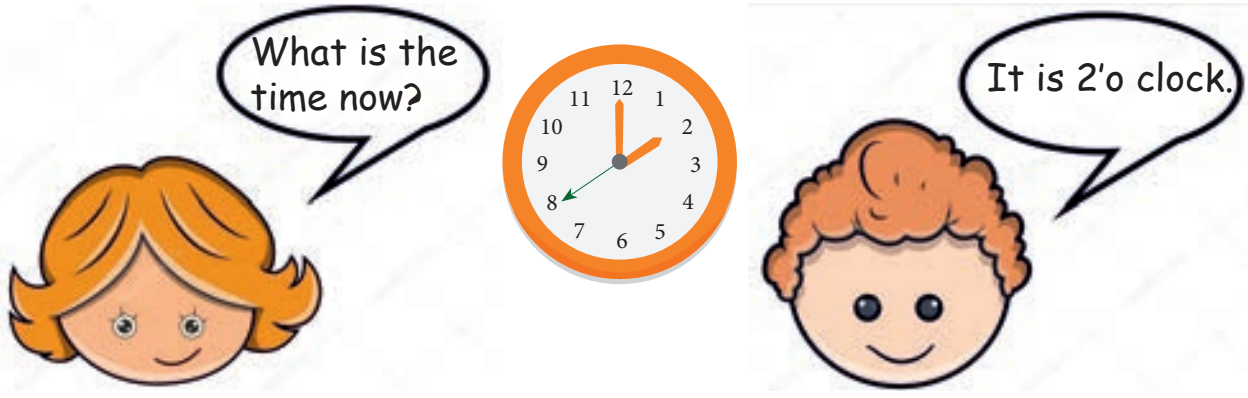
Look at the clock. It has the numbers from 1 to 12 on its face it has three hands.

The shorter hands is **Hour hand.**
The longer hand is **Minute's hand.**
Red color hand is **Second's hand.**

Activity

Students are given a blank clock and recording sheet. They draw hands on their clock (hour and minute) and leave it on their desk. Music begins and the students dance around, moving from desk to desk. When the music stops, students record whose desk they stopped at and the time on their clock.

(**Teacher's note:** The teachers should make clock sheets without hands as per the numberof students in the class).



Activity

How many minutes can you take to do this activities in your home.

1. Boiling 1 litre water
2. Filling a Tub
3. Cleaning your bed room

Let us Know

Quarter past 12

12:15

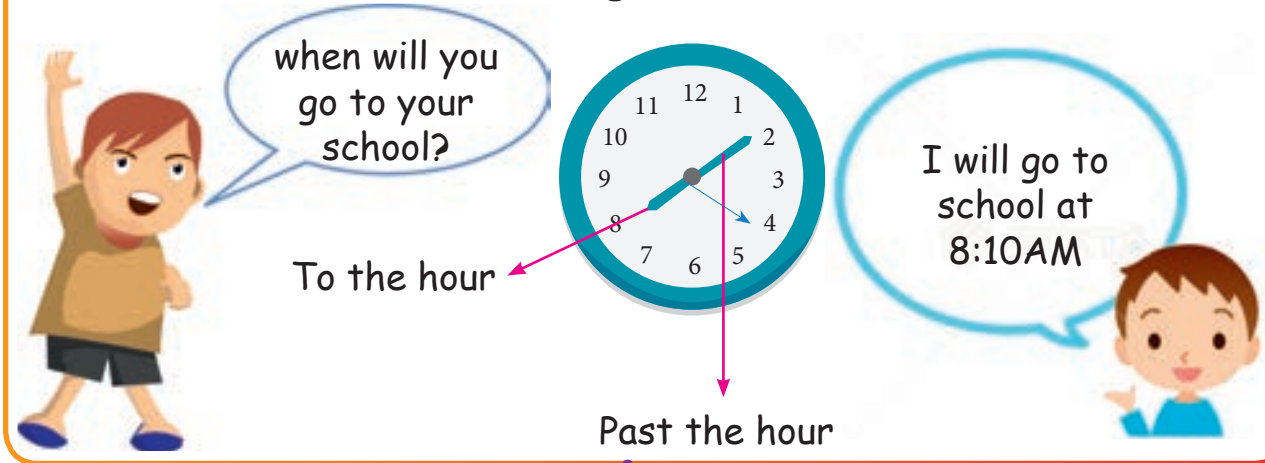
Half past 12

12:30

Quarter to 1

12:45

Reading the minutes



Exercise 5.3

A **Answer the following.**

1. When would you leave for school, from home?
2. When would you reach your school?
3. How much does it take for you to reach the school?
4. If you delay by 10 minutes, when would you reach the school?
5. If you leave ahead by 5 minutes, when would you reach the school.
6. If Ravi reaches school by 8:30 am and if Prabu reaches school after 30 minutes, when did Prabu reach the school?

B **How long will it take the hour hand to move from.**

From  **To** 

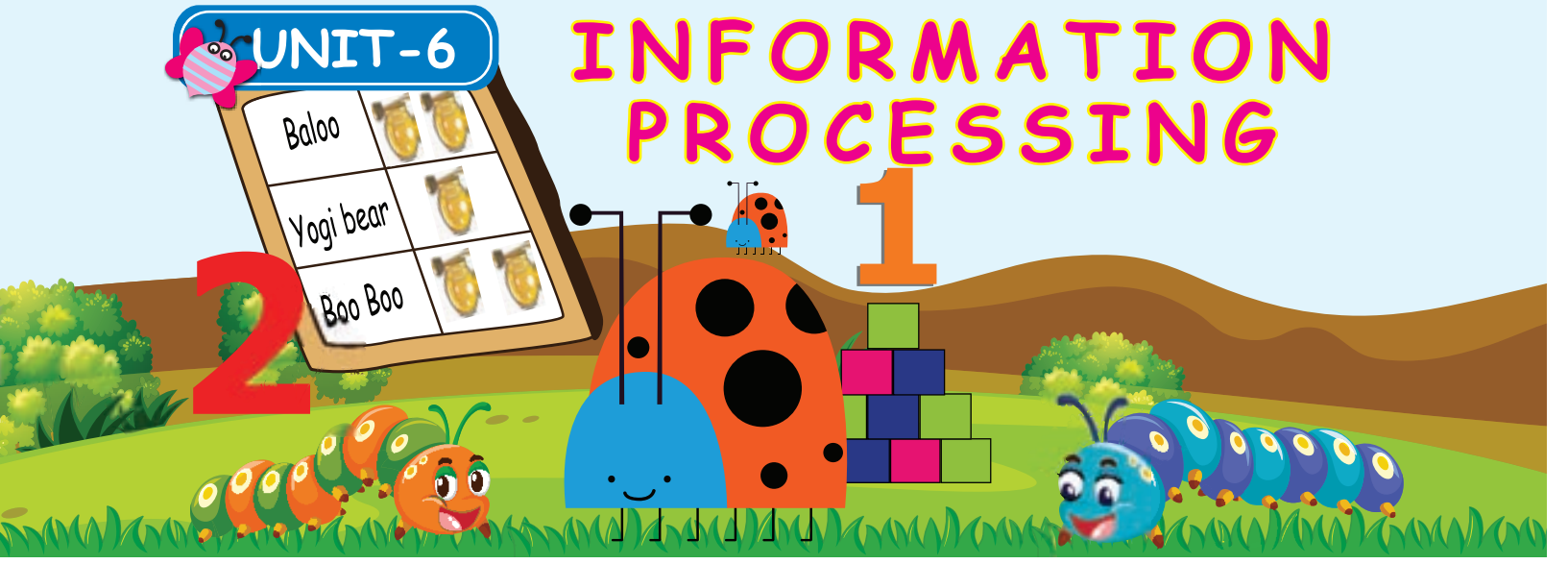
From  **To** 

From  **To** 

I4P9F8

Try This

Draw a clock which shows your birth time.



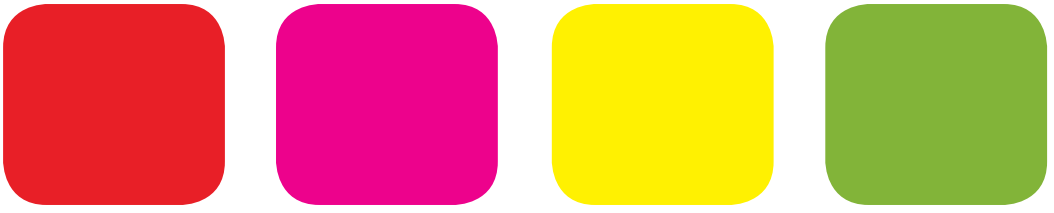
6.1 Systematic Listing

List down all possible things for a given category with multiple conditions.

V1B454

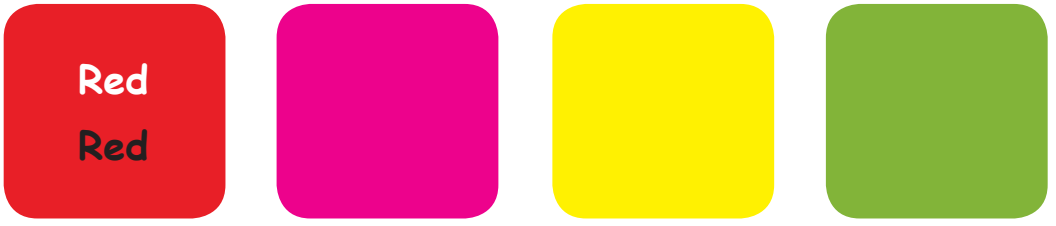
EXAMPLE

There are four cards



You have two colour pencils namely Black and White. Use these colour pencils to write the name of each colour.

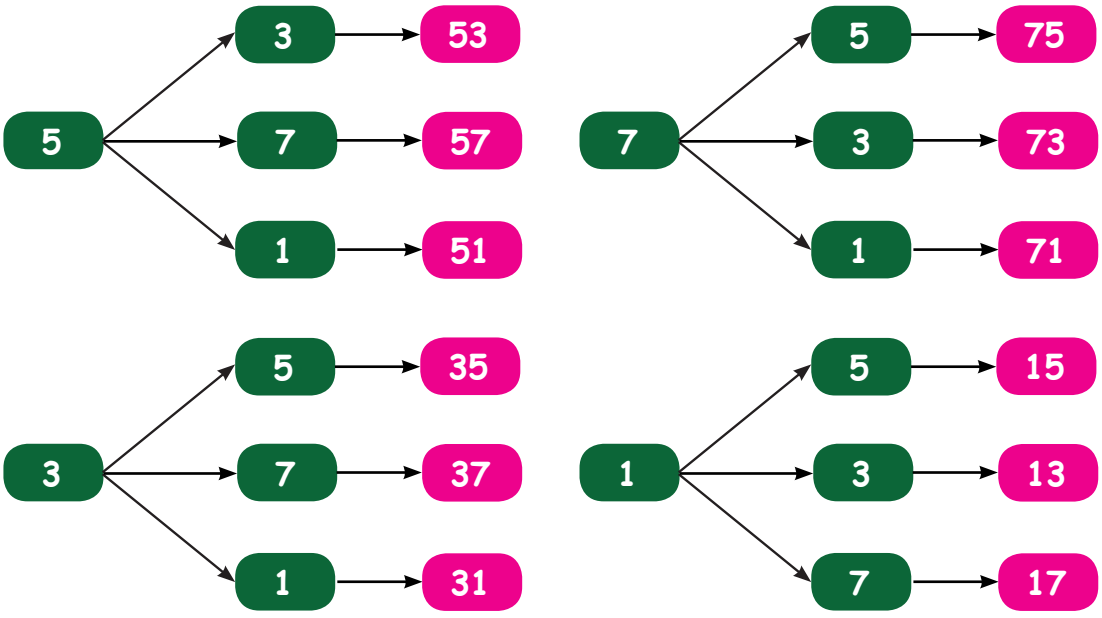
Show us all the possibilities of writing the names of the colour such that each colour box should have names in each colour pencil only once. One is done for you.



EXAMPLE

5	3	7	1

How many two digit numbers can be created?
[without repeating numbers]



We Created 12 two digit numbers.

Activity

Finding out all the possible ways of dressing, using 2 pants, 4 shirts.


Red colour shirt


Pink colour shirt


Green colour shirt


Blue colour shirt


Grey colour pant


Blue colour pant

Do yourself

1. **TEACHER** Create 3 letter words using the given word without "t" at the end.

Tea	Car			

2. Create 5 letter words using the given letters only once.

A	D	E	G	L	M	N	R	T

ANGER	MEDAL			

Try This

Frame a three letter word ending with 't'.

Exercise 6.1

1. **9 7 2** How many possible ways to write three digit number without repeating these numbers?

2. In a hotel, you have to choose a tiffin and a drink. Here is the list.

Tiffin	Drink
Idly	Tea
Poori	Coffee
Dosai	Milk
Pongal	

List the possible combinations systematically.

3. Kavin has four cards 9 7 4 6

a. List down all 3-digit numbers possible with these cards (without repetition).

b. What is the largest 4-digit odd number that can be made without repeating the numbers?

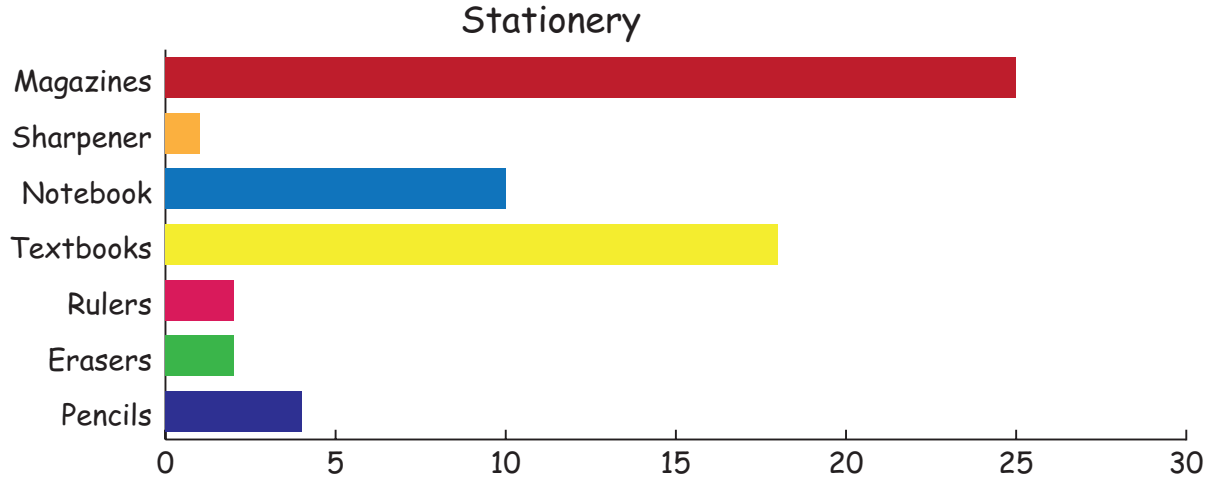
4. There are 6 sprinters(an athlete who runs fast in short race). In how many different ways 3 medals(Gold, silver and bronze) be allocated?

6.2 Collect and represent data in the form of bar graphs.

Bar Graphs

Amirtha was given a task of maintaining record for stationery items in her home. She started counting one by one but after a while she lost her counting and worried. Then her friend Vani came to help her. First she grouped the items. Say, pencils, erasers, rulers, text books, notebooks, magazines, sharpener. Then Amirtha counted and wrote as follows.

Stationery Items	Numbers	Stationery Items	Numbers
Pencils	4	Notebooks	10
Erasers	2	Sharpener	1
Rulers	2	Magazines	25
Text books	18		



EXAMPLE

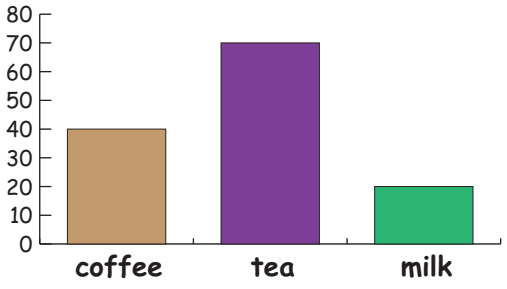
Kalavathi collected information about the favourite drinks of her schoolmates and represent the data given below.

(i) The number of coffee drinkers _____

(ii) Which has to be least drink _____

(iii) Which drink they like most?

(a) Coffee (b) Tea (c) Milk

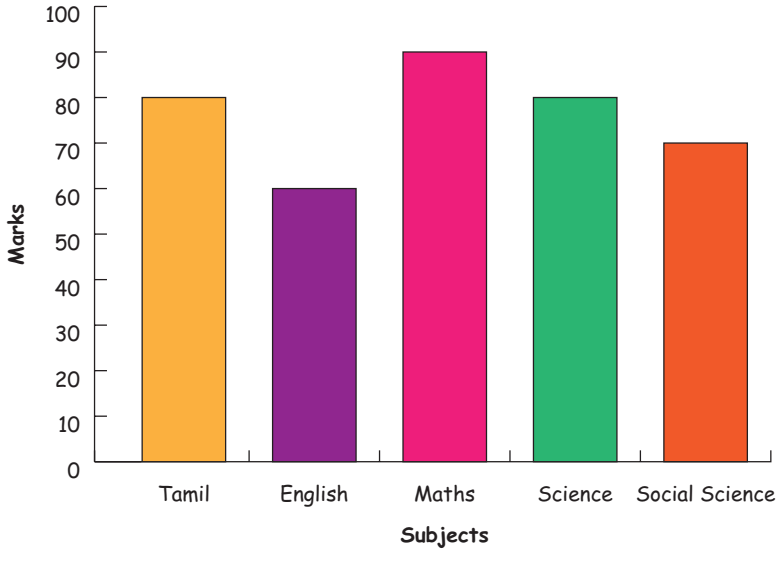


Try This

Draw a bar diagram for students using gas, Kerosene and fire wood in their houses.

Exercise 6.2

1. Bar diagram of a students first term scores are given.



a. Which subject is the highest score ?

b. Which subject is the lowest score ?

c. Which subject is the same score ?

2. The score card of the players in a cricket match is given.

Player Name	Score
Kannan	60
Rohit	40
Babu	50
Ramu	10

Draw a Bar diagram.

6.3 Representation of data in Pie-Chart

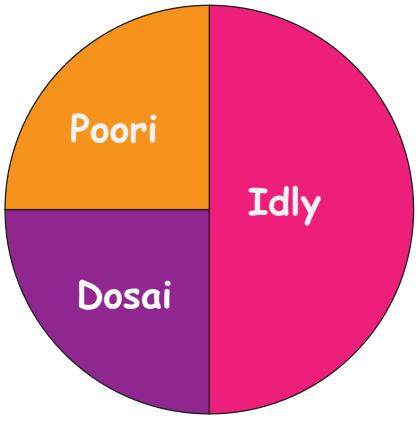
A Special chart that uses "Pie Slices" to show relative sizes of data is called Pie-Chart.

EXAMPLE

Draw a pie – chart for the given data.

There are 60 students in a class. Students take breakfast in the restaurant. The half of the students eat idly. The remaining half of the students eat poori and half of the students eat Dosai.

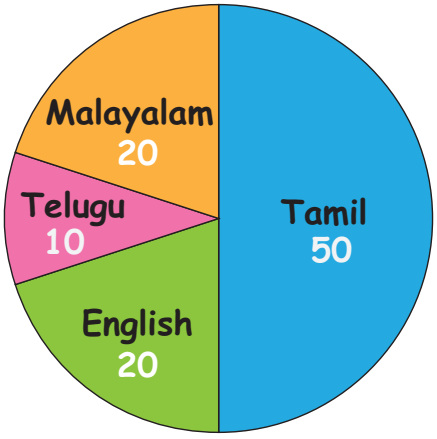
Answer



Try This

Answer the following questions by using given data.

1. Number of people who speak Tamil _____.
2. Number of people who speak English _____.
3. Number of people who speak Malayalam _____.
4. Number of people who speak Telugu _____.

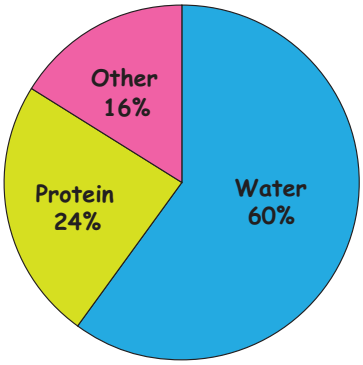


Activities

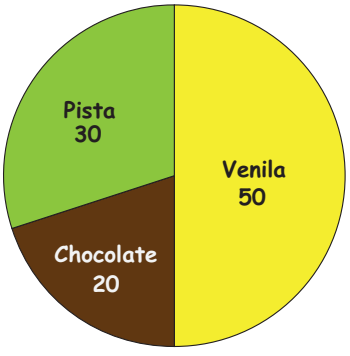
1. Draw a pie – chart for family Budget of food, bus fare and other expenses.
2. Draw a pie - chart for favourite fruits of your friends.

Exercise 6.3

1. Write down the percentage of Content in human body from the given pie – chart.



2. The number of varieties of ice creams in an ice creame parlour is given below as a pie - chart. Answer the following questions.



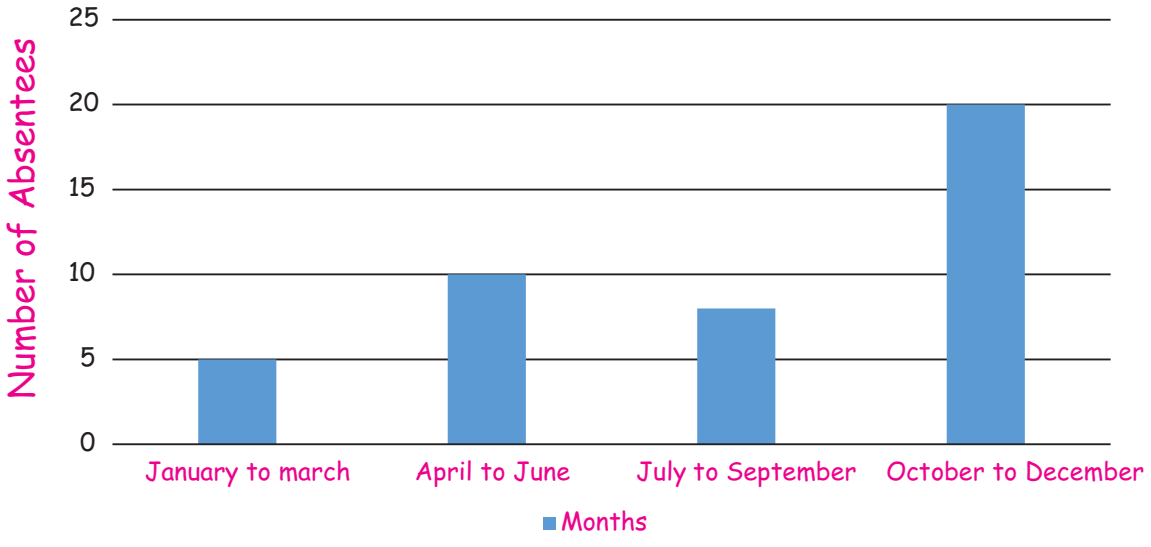
1. How many varieties of Ice creams are there? _____.

2. Find the number of Venila Ice creams _____.

3. Find the total number of Chocolate and Pista Ice cream_____.

4. Find the total number of Ice creams _____.

3. In a class of 30 children, absentees record was presented in a graph.



1. In which month there are more absentees? Can you guess the reasons?

2. In which month there are less absentees? Discuss the reasons.

4. Draw a pie-chart for the favourite sweets of your family members.

5. Collect information about the favourite pets of your classmates. Draw bar-graph and pie-chart for the same data.

DFPI5L