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STANDARD FOUR

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SOCIAL SCIENCE

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MATHEMATICS

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E-Book



Assessment



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UNIT-1



GEOMETRY



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.

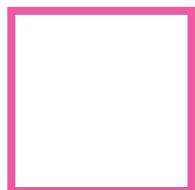
CAN YOU GUESS THE SHAPES OF THESE THINGS



Recognising these shapes in the objects around them.

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

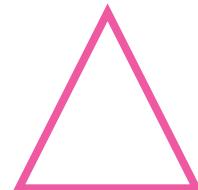
EXAMPLES



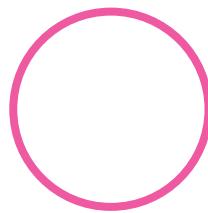
Square



Rectangle



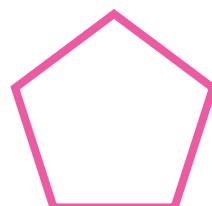
Triangle



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

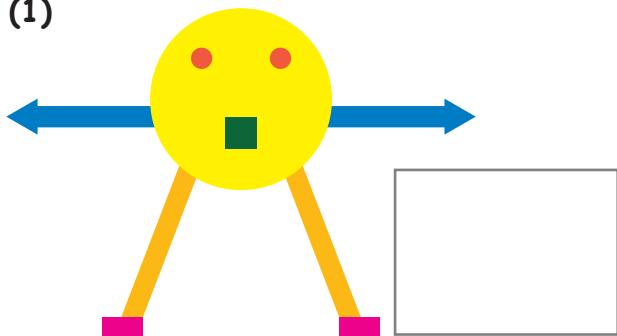
Form shapes like quadrilateral, circle, oval, and semicircle.

Exercise 1

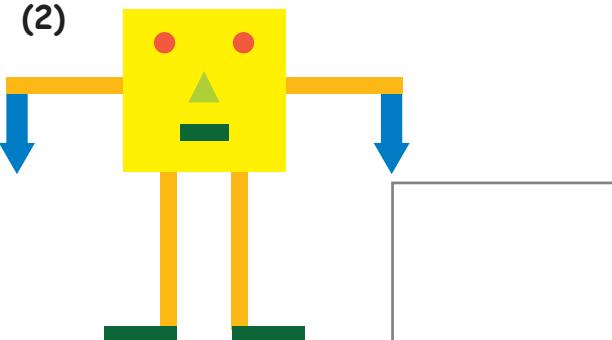
A

Write down the names of shape in the following pictures.

(1)

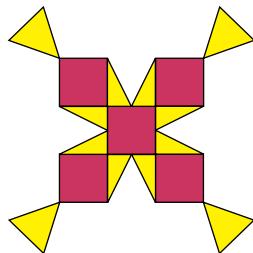


(2)



B

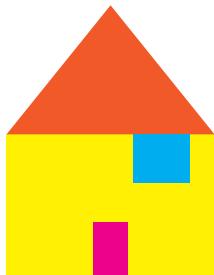
1. Write the number of squares and triangles in the given picture.



Square

Triangle

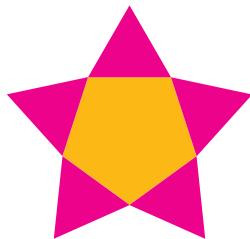
2. Write the number of rectangles and triangles in the given picture.



Rectangle

Triangle

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



Draw circles using objects like bangles, coins etc.



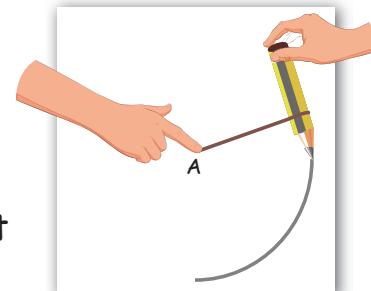
Place a bangle or coin on a paper. Trace along its boundary till your Pencil reaches the starting point. This is a circle.



Activity

Let us draw the circle using a pencil and thread.

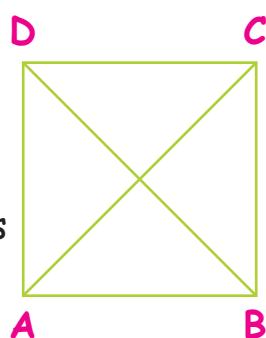
1. Mark a point A on a sheet.
2. Fix one end of the thread on the point and put the pencil on the other end of the thread as shown in the figure.
3. Move the pencil by keeping the thread at A. Point A is called the center of the circle.



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



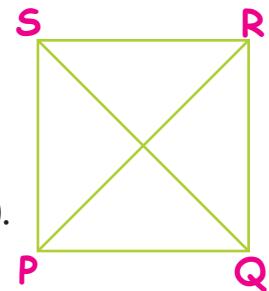
Trapezium



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 ($PR = QS$).

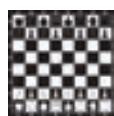


Examples

Carom board



Chess board

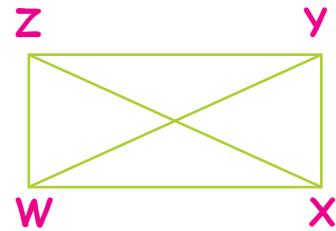


One face of the dice



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

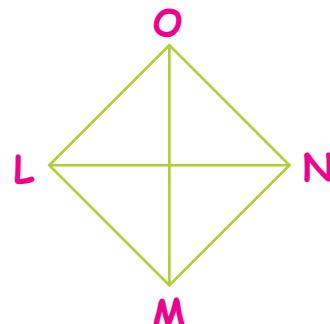


Rhombus



Black Board

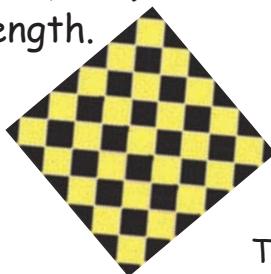
A rhombus has four equal sides ($LM = MN = NO = OL$), four vertices (L, M, N, O) and two diagonals (LN, MO). The diagonals are not equal in length.



Examples



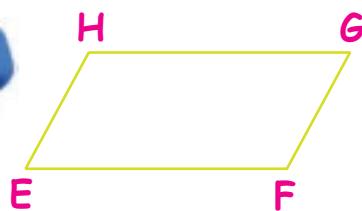
Kite



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

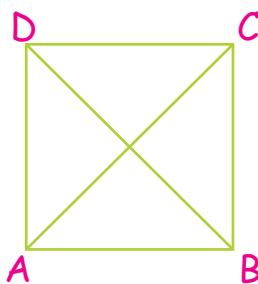


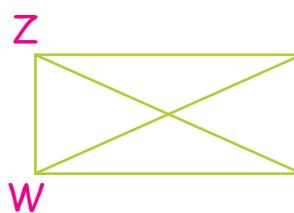
Fill in the blanks.

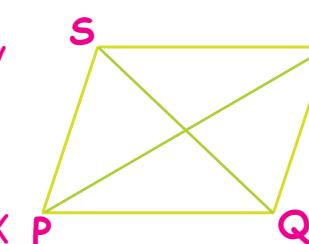
1. All closed four sided figures are called _____.
2. A _____ has four equal sides and equal diagonals.
3. The opposite sides of a _____ are equal.
4. A _____ has no sides.
5. Diagonals are equal in _____ and _____.

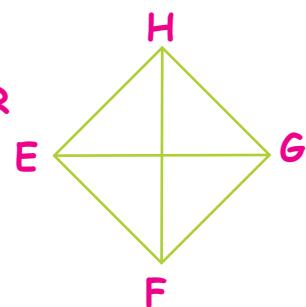


Write the name of the sides and diagonals.











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

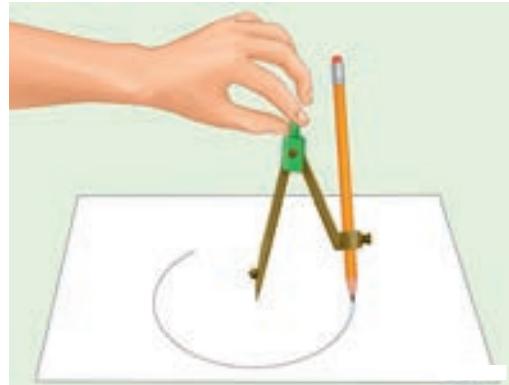
Draw a circle of radius 5cm using a compass.

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

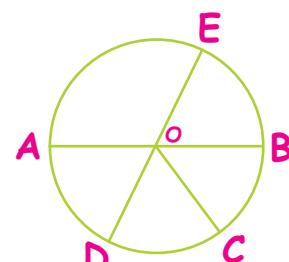
Circle is perfectly round in shape. It has no **sides** and no **diagonals**. 'O' is the center of the circle.

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.

$$\begin{aligned}\text{Diameter} &= 2 \times \text{radius} \\ &= 2 \times 5 \\ \text{Diameter} &= 10 \text{ cm}\end{aligned}$$

$$\begin{aligned}\text{Diameter} &= 2 \times \text{radius} \\ \text{Radius} &= \frac{\text{Diameter}}{2}\end{aligned}$$

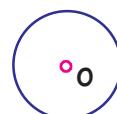
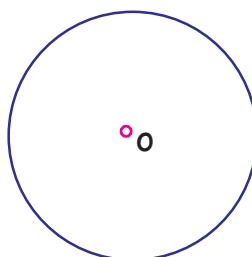
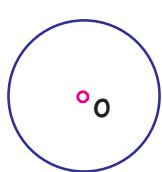
2. Find the radius of a circle whose diameter is 88 cm.

$$\begin{aligned}\text{Radius} &= \frac{\text{diameter}}{2} = \frac{88}{2} \\ \text{Radius} &= 44 \text{ cm.}\end{aligned}$$



Activity

Measure the radius and diameter of the following circles.



Radius = _____

Radius = _____

Radius = _____

Diameter = _____

Diameter = _____

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

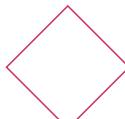
Understand the properties of 2D objects.



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

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.

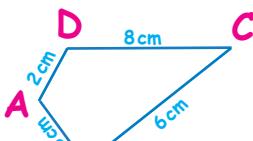
1.1d Identify the sides and find perimeter of a quadrilateral

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

$$\text{Perimeter} = AB + BC + CD + DA \\ = 3 + 6 + 8 + 2 = 19$$

Perimeter = 19cm



Perimeter of a square = 32cm

In a given square all the sides are equal.

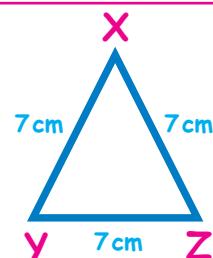
$$\text{Therefore, Perimeter of a square} = PQ + QS + SR + RP \\ = 8 + 8 + 8 + 8 = 32$$



In a given rectangle opposite sides are equal.

$$\text{Perimeter} = LM + MN + NO + OP \\ = 9 + 3 + 9 + 3 = 24$$

Perimeter = 24cm



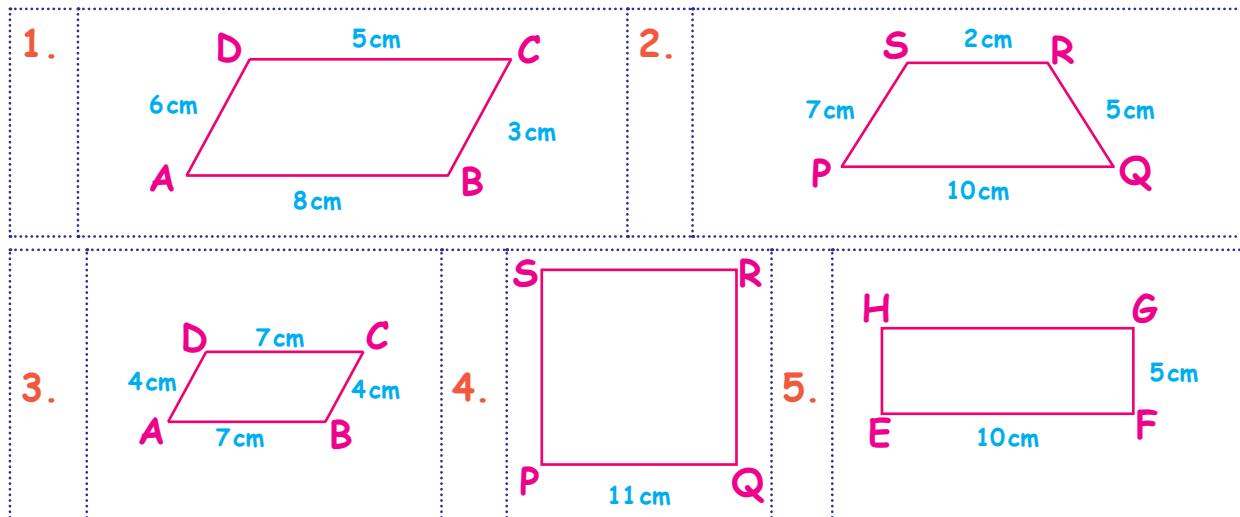
$$\text{Perimeter} = XY + YZ + ZX \\ = 7 + 7 + 7 = 21$$

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.



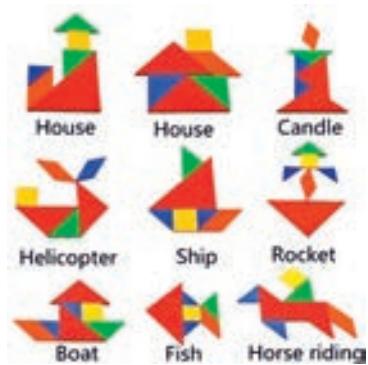
Answer the following Questions.

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.

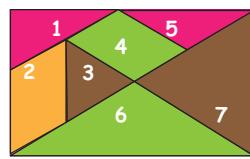
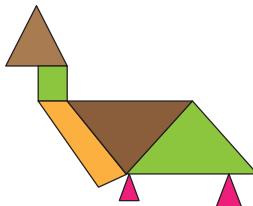
Tangram is a thousand years old Chinese puzzle consisting five or seven geometrical pieces called tans put together to form objects.



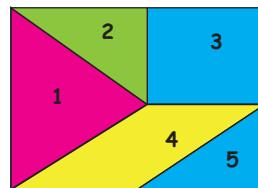
Playing with tangrams, can develop skills such as problem-solving, logical thinking, perceptual reasoning, visual spatial awareness and creativity.

EXAMPLES

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



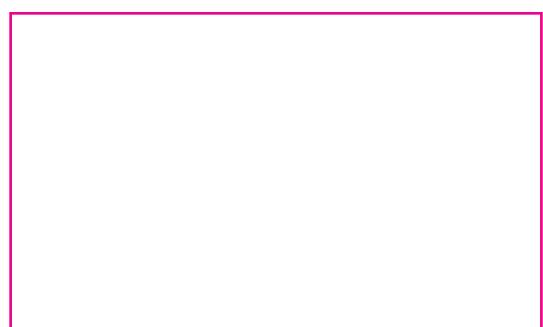
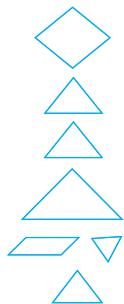
2. Join the five pieces of tangram to form the following picture.



Activity

Arrange the tangram pieces (by using maths kit).

1.

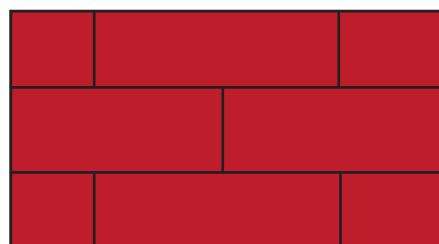
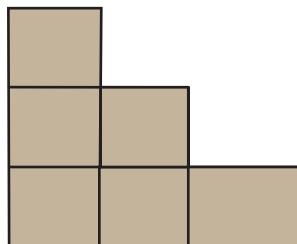
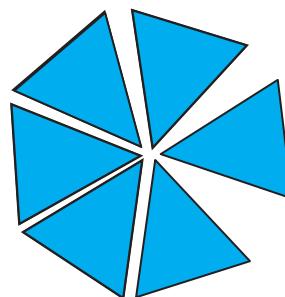
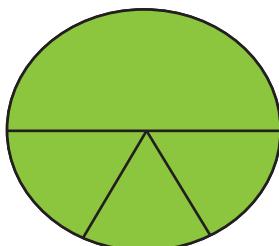
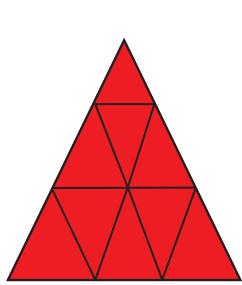
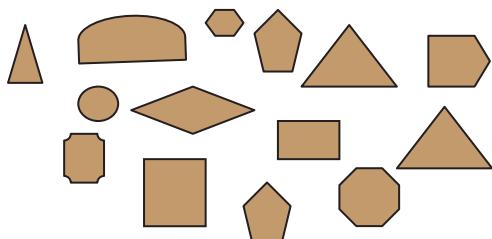


2.



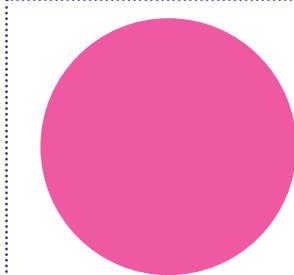
Fill the space with the given two or three geometrical shaped tiles.

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



Try This

Can we fill a circle with square tiles?

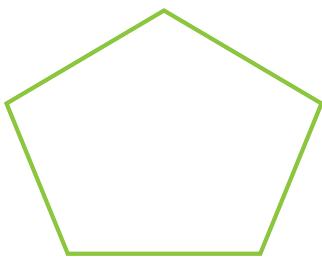
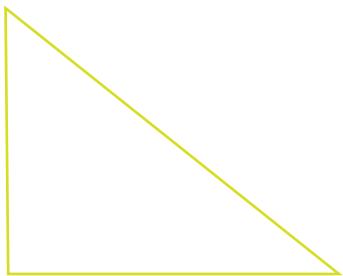


No. we can't fill a circle with square tiles because circle is curved figure.

Exercise 1.2



Fill the appropriate tiles.

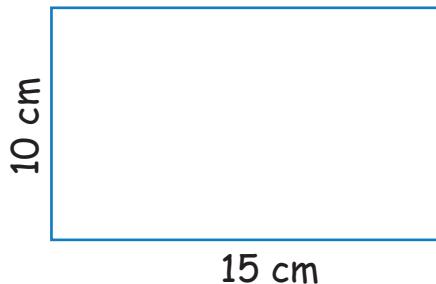
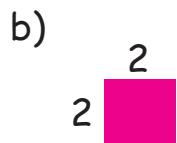
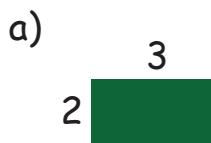


Fill the given region with appropriate tiles both intuitively and experimentally.



Activity 1

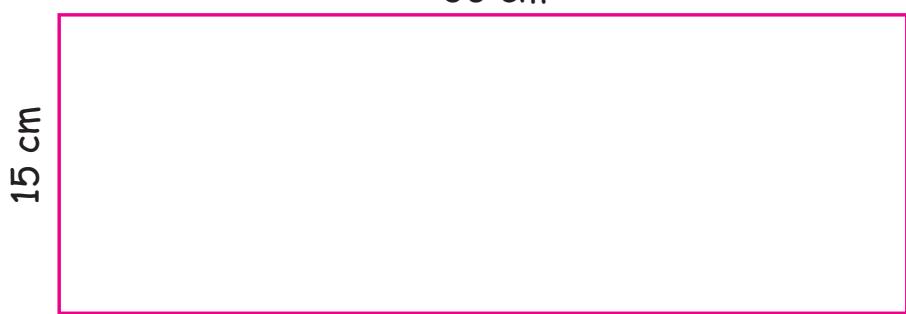
Which tile can you choose to fill the space given below and find how many tiles are needed to fill the given space.



Activity 2

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

36 cm



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.

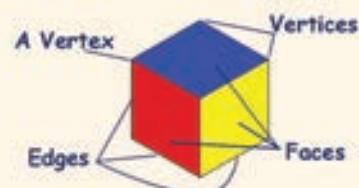
A plane 2-dimensional shape that can be folded to form a 3-dimensional shape is called a net. Nets are used to make floor maps of houses, layout planes of buildings, bridges and so on.

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

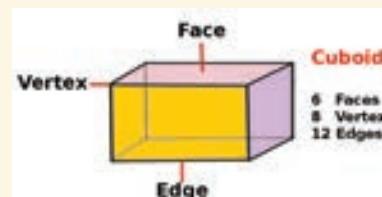


Cuboid

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

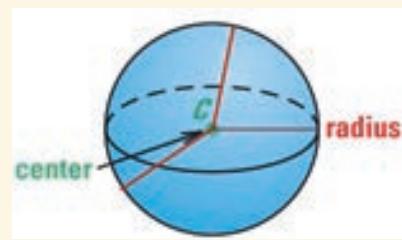
Examples

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



Sphere

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

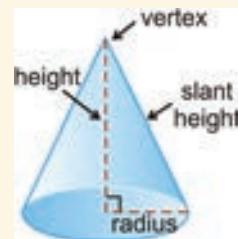


Examples

Shotput, ball, globe, laddu.

Cone

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



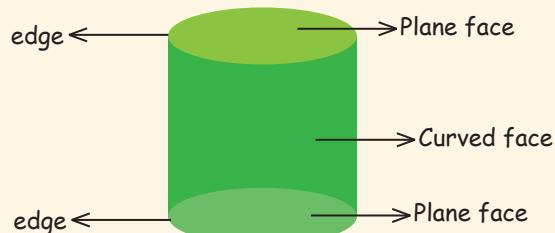
Examples

Cone ice cream, Joker's cap

Cylinder

A cylinder has 2 plane faces and 1 curved surface.

It has no edges and vertices.



Examples

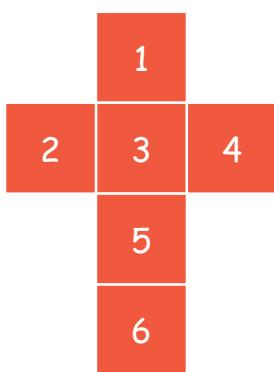
straw, gas cylinder, pipe.



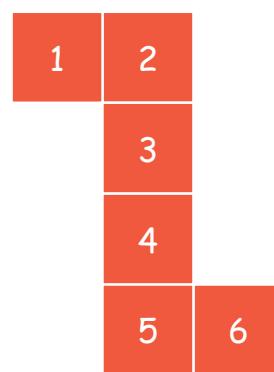
Activities

a. Fold and form cube from the following nets

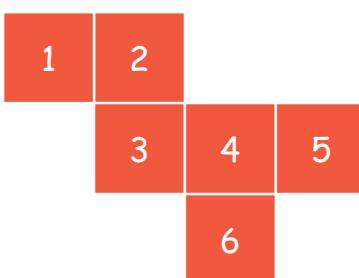
1.



2.

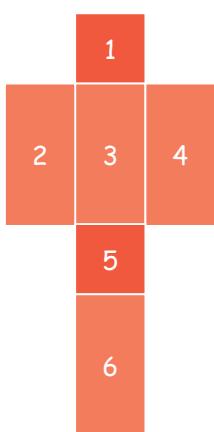


3.

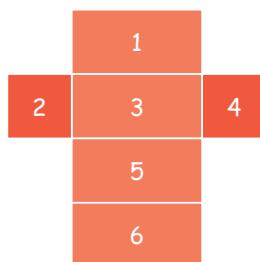


b. Use these nets to form cuboids.

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

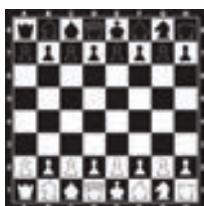
Choose the correct answer.

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



NUMBERS



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.

Odd

Even

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 - _____



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 - _____



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

100**1**, 100**3**, 100**5**, 100**7**, 100**9**

237**1**, 486**3**, 560**5**, 378**7**, 123**9**

EVEN NUMBERS

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

EXAMPLE

200**2**, 200**4**, 200**6**, 200**8**, 996**0**

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,

$$2936 = 2000 + 900 + 30 + 6 = \text{Two thousand nine hundred and thirty six.}$$

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 value 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 \times value of the place

EXAMPLE

In the number, 2745.

Place value of 5 = $5 \times 1 = 5$ ones, face value of 5 is 5.

Place value of 4 = $4 \times 10 = 40 = 4$ tens, face value of 4 is 4.

Place value of 7 = $7 \times 100 = 700 = 7$ hundreds, face value of 7 is 7.

Place value of 2 = $2 \times 1000 = 2000 = 2$ thousands; face value of 2 is 2.

Exercise 2.1b

- 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 1 0 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 + 3 hundreds + 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

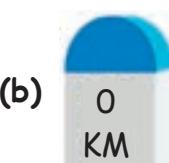
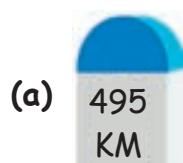
2. Write the following numbers in descending order.

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.



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 $4634 + \boxed{} = 4634$

ii $2134 + 1 = \boxed{}$

iii $5349 + 0 = \boxed{}$

iv $1435 + 1923 = 1923 + \boxed{}$

v $3457 + \boxed{} = 3458$

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) $8309 = 2309 + \boxed{}$

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

(a)



(b)

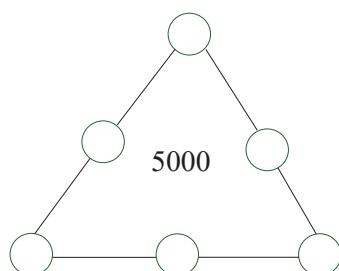
Child birth between 2017 and 2018 are given below

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.



8. Fill in the box with a number

2051

1732

?

2.3a Adding 4 digit Numbers with regrouping

(sum should not exceed 10000)

EXAMPLE

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

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 2 \quad \quad 2 \quad \quad 2 \\ + \quad 1 \quad 9 \quad 5 \quad 7 \\ \quad 2 \quad 3 \quad 7 \quad 6 \\ \quad 4 \quad 6 \quad 9 \quad 7 \\ \hline \text{Sum} = \quad 9 \quad 0 \quad 3 \quad 0 \end{array}$$



Activity

Write the missing numbers

(i) Th H T O

$$\begin{array}{r} 2 \quad \quad 1 \quad \quad 7 \quad \quad 3 \\ \hline \text{Triangle} \quad 2 \quad \quad 3 \quad \quad \text{Triangle} \\ \quad 1 \quad \quad 9 \quad \quad \text{Triangle} \quad 7 \\ \hline \quad 8 \quad \quad 3 \quad \quad 7 \quad \quad 4 \end{array}$$

(ii) Th H T O

$$\begin{array}{r} 3 \quad \quad 9 \quad \quad 7 \quad \quad \text{Triangle} \\ \hline \quad 2 \quad \quad \text{Triangle} \quad 4 \quad \quad 4 \\ \quad \text{Triangle} \quad 7 \quad \quad \text{Triangle} \quad 1 \\ \hline \quad 9 \quad \quad 2 \quad \quad 7 \quad \quad 6 \end{array}$$

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 $1215 + 2367 + 1673 + 3120 = \underline{\hspace{2cm}}$

- 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. $9999 + 1 = \underline{\hspace{2cm}}$

- 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

$$\begin{array}{r}
 1) \quad \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\
 \begin{array}{r} 9 & 8 & 6 & 5 \\ - 2 & 3 & 3 & 4 \\ \hline 7 & 5 & 3 & 1 \end{array}
 \end{array}$$

Subtraction without grouping
Step1: Subtract the ones
Step 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
She saves =	<hr/>	2	2	0

She saves Rs 2200.

Exercise 2.3b

$$\begin{array}{r}
 1) \quad 9 \quad 7 \quad 6 \quad 4 \\
 - 3 \quad 4 \quad 2 \quad 3 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 2) \quad 7 \quad 9 \quad 8 \quad 6 \\
 - 4 \quad 5 \quad 2 \quad 4 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 3) \quad 4 \quad 7 \quad 8 \quad 5 \\
 - 2 \quad 4 \quad 6 \quad 2 \\
 \hline
 \end{array}$$

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

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:

$$\text{Sum of two numbers} = 4204$$

$$\text{One number} = 1207$$

$$\text{Other number} = 2997$$

Th	H	T	O
3	11	⁹ 10	14
4	¹ 2	0	4
-	1	2	7

Exercise 2.3c

A. Subtract

1.

TH	H	T	O
3	4	4	5
-	1	3	8

2.

TH	H	T	O
4	9	6	5
-	2	4	4



3.

TH	H	T	O
6	5	7	0
-	3	3	9

4.

TH	H	T	O
8	9	5	3
-	5	9	6

B. Find the difference between given numbers.

- a) 4352 and 5020
- c) 2526 and 8431
- b) 1438 and 3370
- d) 3361 and 9000

C. Answer the following questions.

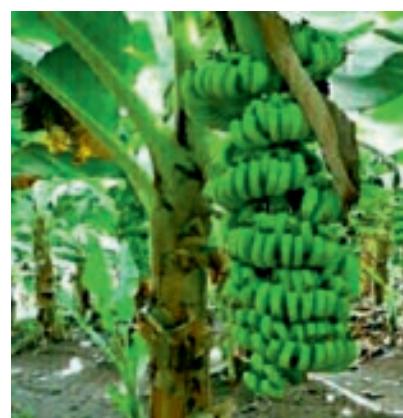
1. The sum of two numbers is 7036, one number is 3168.
Find the other number.
2. A man had Rs 9200 in the bank. He withdrew Rs 2756. How much money does he have in the bank now?

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

a) $1997 - 1968$



c)



b)

(a)

(b)

(c)



Activity

Number puzzle

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

$$\begin{array}{r} \text{TH} \quad \text{H} \quad \text{T} \quad \text{O} \\ \boxed{8} \quad 11 \quad 6 \quad 16 \\ \cancel{9} \quad \cancel{1} \quad \cancel{7} \quad \cancel{6} \\ (-) \quad \underline{3} \quad \underline{5} \quad \underline{5} \quad \underline{8} \\ 5 \quad 6 \quad 1 \quad 8 \end{array}$$

$$\begin{array}{r} \text{TH} \quad \text{H} \quad \text{T} \quad \text{O} \\ 2 \quad 3 \quad 5 \quad 3 \\ - \quad \underline{1} \quad \underline{9} \quad 0 \quad 1 \\ \hline \end{array}$$

$$\begin{array}{r} \text{TH} \quad \text{H} \quad \text{T} \quad \text{O} \\ 1 \quad 2 \quad 2 \quad 8 \\ - \quad \underline{2} \quad \underline{8} \quad 6 \quad \underline{6} \\ \hline \end{array}$$

$$\begin{array}{r} \text{TH} \quad \text{H} \quad \text{T} \quad \text{O} \\ 9 \quad 6 \quad 3 \quad 0 \\ - \quad \underline{1} \quad \underline{5} \quad 9 \quad 0 \\ \hline \end{array}$$

$$\begin{array}{r} \text{TH} \quad \text{H} \quad \text{T} \quad \text{O} \\ 4 \quad 8 \quad 0 \quad 0 \\ - \quad \underline{3} \quad \underline{1} \quad 6 \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \text{TH} \quad \text{H} \quad \text{T} \quad \text{O} \\ 6 \quad 5 \quad 8 \quad 9 \\ - \quad \underline{5} \quad \underline{8} \quad 0 \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} \text{TH} \quad \text{H} \quad \text{T} \quad \text{O} \\ 9 \quad 8 \quad 5 \quad 4 \\ - \quad \underline{3} \quad \underline{6} \quad 4 \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} \text{TH} \quad \text{H} \quad \text{T} \quad \text{O} \\ 1 \quad 8 \quad 6 \quad 9 \\ - \quad \underline{1} \quad \underline{3} \quad 7 \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} \text{TH} \quad \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 4 \quad 5 \quad 6 \\ - \quad \underline{1} \quad \underline{3} \quad 2 \quad 5 \\ \hline \end{array}$$

$$\begin{array}{r} \text{TH} \quad \text{H} \quad \text{T} \quad \text{O} \\ 9 \quad 2 \quad 2 \quad 3 \\ - \quad \underline{3} \quad \underline{8} \quad 9 \quad 9 \\ \hline \end{array}$$



UNIT-3

PATTERNS



3.1 Patterns in shapes

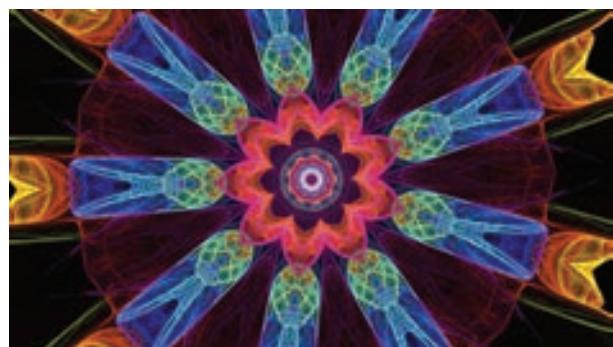
Observing shapes sequence from Kaleidoscope.

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.

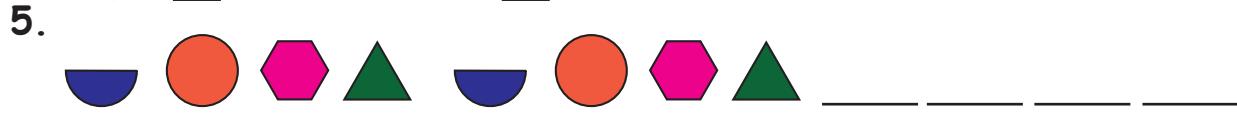
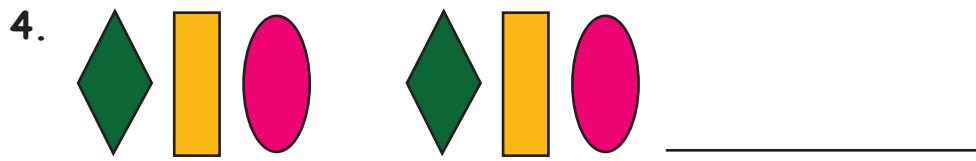
Exercise 3.1

Fill in the shapes.

1.

2.

3.

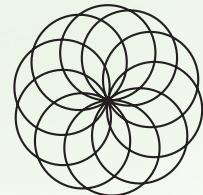


Let us Know

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

$$\begin{aligned}84 \times 9 &= 756 \\7 + 5 + 6 &= 18 \\&= 1 + 8 \\&= 9\end{aligned}$$

Example:2

$$\begin{aligned}43 \times 9 &= 387 \\3 + 8 + 7 &= 18 \\&= 1 + 8 \\&= 9\end{aligned}$$

Example:3

$$\begin{aligned}123 \times 9 &= 1107 \\1 + 1 + 0 + 7 &= 9\end{aligned}$$



Activity

Make patterns based on the multiples of 9.

multiple of 9	Product	Sum of all the digits of product
9×9	81	$8 + 1 = 9$
81×9	729	$7 + 2 + 9 = 18 = 1 + 8 = 9$
$_ \times 9$		

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

$$12345679 \times 9 = 111111111$$

$$12345679 \times 18 = 222222222$$

$$12345679 \times 27 = 333333333$$

$$12345679 \times 36 = 444444444$$

$$12345679 \times 45 = 555555555$$

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?

$$\begin{aligned}46\cancel{9}08 &= 4+6+0+8 \\&= 18 \\&= 1 + 8 \\&= 9\end{aligned}$$

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

$$2468\cancel{9} = 2 + 4 + 6 + 8 = 20 \text{ (It's not a multiple of 9.)}$$

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

$$\cancel{3}\cancel{1}65 = 1 + 5 = 6 \text{ (It's not a multiple of 9.)}$$

EXAMPLE 2

Check the addition fact

$$3356 + 4729 = 8085$$

$$\cancel{3}\cancel{8}56 + \cancel{4}\cancel{7}29 = 8085$$

$$\begin{array}{r} 8 \\ + \end{array} \quad \begin{array}{r} 4 \\ + \end{array} = 21$$

$$\begin{array}{r} 12 \\ = \end{array} 21$$

$$\begin{array}{r} 1 \\ + \end{array} \quad \begin{array}{r} 2 \\ + \end{array} = 2 + 1$$

$$\begin{array}{r} 3 \\ = \end{array} 3$$

In subtraction problem, we can check the difference by casting out nines method.

(Remember that subtraction is nothing more than addition in reverse).

EXAMPLE

$$4897 - 2186 = 2711$$

$$\cancel{4}8\cancel{9}7 - \cancel{2}1\cancel{8}6 = \cancel{2}711$$

$$19 - 8 = 2$$

$$10 - 8 = 2$$

$$2 = 2$$

Let us Know

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

$$\text{Difference} = 52 - 25 = 27$$

27 is a multiple of 9.



Activity

Number	Reverse Number	Difference	Sum of the digits
92	29	$92 - 29 = 63$	$6 + 3 = 9$
14		$- = 27$	
-	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) $7420 - 3625 = 3795$

c) $6732 - 4361 = 2371$

b) $2362 - 632 = 1720$

d) $3264 - 1063 = 2200$

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

EXAMPLE

Multiplicand

~~3 2 7~~

X

Multiplier

4 2

= Product

1 3 7 3 4

3

4 + 2

=

$1 + 3 + 7 + 3 + 4$

3

X

6

=

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).

EXAMPLE

$$\text{Dividend} = \text{Divisor} \times \text{Quotient} + \text{Remainder}$$

$$525 \quad \div \quad 15 \quad = \quad 35$$

$$\downarrow\downarrow \qquad \downarrow\downarrow \qquad \downarrow\downarrow$$

$$5 + 2 + 5 \quad 1 + 5 \quad = \quad 3 + 5$$

$$12 \quad \div \quad 6 \quad = \quad 8$$

$$12 \quad = \quad 8 \times 6$$

$$12 \quad = \quad 48$$

$$12 \quad = \quad 12$$

$$1 + 2 \quad = \quad 1 + 2$$

$$3 \quad = \quad 3$$

Note:

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

Exercise 3.2b

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

a) $312 \times 36 = 11232$

c) $132 \times 43 = 5676$

b) $723 \times 24 = 17508$

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

a) $728 \div 4 = 182$

c) $7785 \div 9 = 865$

b) $1580 \div 20 = 78$

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

$\times 200$
$3 \rightarrow$ <input type="text"/>
$2 \rightarrow$ <input type="text"/>
$4 \rightarrow$ <input type="text"/>
$5 \rightarrow$ <input type="text"/>

$\times 3$
$60 \rightarrow$ <input type="text"/>
$200 \rightarrow$ <input type="text"/>
$30 \rightarrow$ <input type="text"/>
$500 \rightarrow$ <input type="text"/>

$\times 10$
$7 \rightarrow$ <input type="text"/>
$60 \rightarrow$ <input type="text"/>
$6 \rightarrow$ <input type="text"/>
$100 \rightarrow$ <input type="text"/>

$\times 9$
$20 \rightarrow$ <input type="text"/>
$400 \rightarrow$ <input type="text"/>
$30 \rightarrow$ <input type="text"/>
$500 \rightarrow$ <input type="text"/>



Activity 2

Complete the following.

a. $54 \div 9 = 6$

b. $540 \div 9 = 60$

c. $5400 \div 9 = \underline{\hspace{2cm}}$

d. $\underline{\hspace{2cm}} \div 9 = 6000$

Exercise 3.3



Fill in the blanks.

i. $90, 180, 270, \underline{\hspace{2cm}}, \underline{\hspace{2cm}}, \underline{\hspace{2cm}}$.

ii. Z90, A81, Y72, B63, $\underline{\hspace{2cm}}, \underline{\hspace{2cm}}, \underline{\hspace{2cm}}$.



Circle the multiples of 9

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



Complete the following sequence.

1. $125, 150, 175, \underline{\hspace{2cm}}, \underline{\hspace{2cm}}, \underline{\hspace{2cm}}$.

2. $100, 400, 700, \underline{\hspace{2cm}}, \underline{\hspace{2cm}}, \underline{\hspace{2cm}}$.

3.

A100	C300	E50				
------	------	-----	--	--	--	--

4.

200	400	600			
-----	-----	-----	--	--	--



Complete the following sequence.

1. $9 \times 6 = 54$

$9 \times 66 = 594$

$9 \times 666 = 5994$

$9 \times 6666 = 5 \underline{\hspace{2cm}} 4$

$9 \times 666666 = \underline{\hspace{4cm}}$

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

$$9 \times 333 = 2997 \quad 9 \times 444 = \underline{\hspace{2cm}}$$

$$9 \times 555 = \underline{\hspace{2cm}} \quad 9 \times 666 = \underline{\hspace{2cm}}$$

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?



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
60	10	80

150 150



Try This

Create magic squares by using,

1. Multiples of nine
2. Multiples of hundred

UNIT-4

MEASUREMENTS

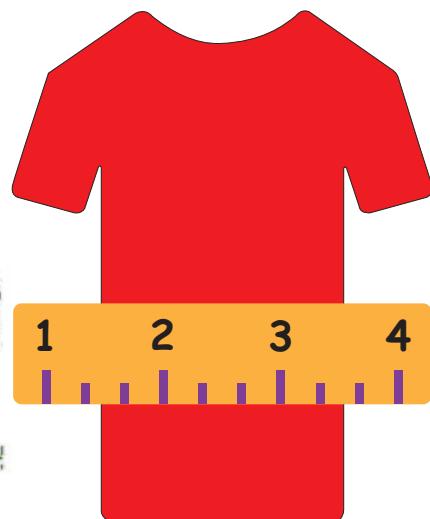
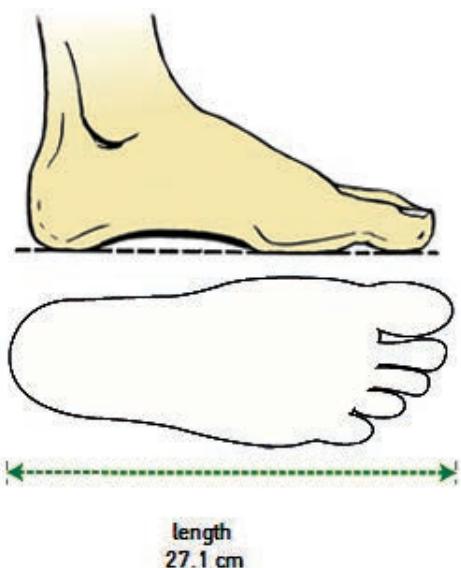


4.1 Understand relationship between metre and centimetre.



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.



length
27.1 cm

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.

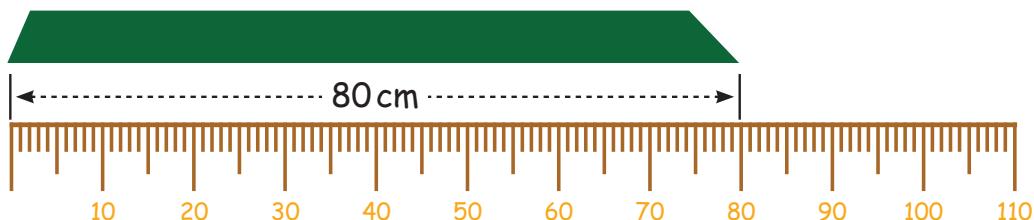
Sharmila : See friends. I have a beautiful toy car

Banu : My favourite toy lorry was very attractive

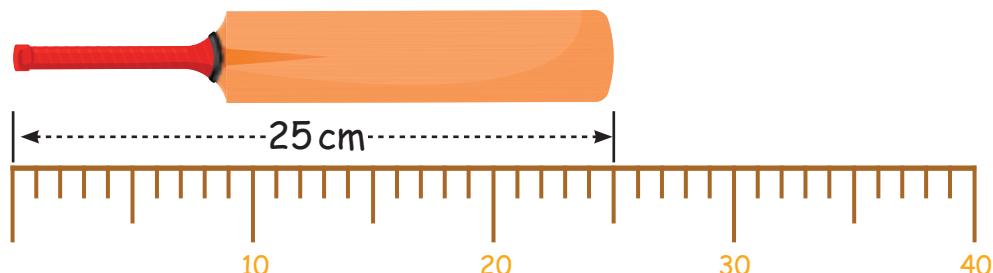
Kavitha : All the toys are very nice. Let us measure our toys. Which is the longest among them?

Let's measure the length of toys and ribbon.

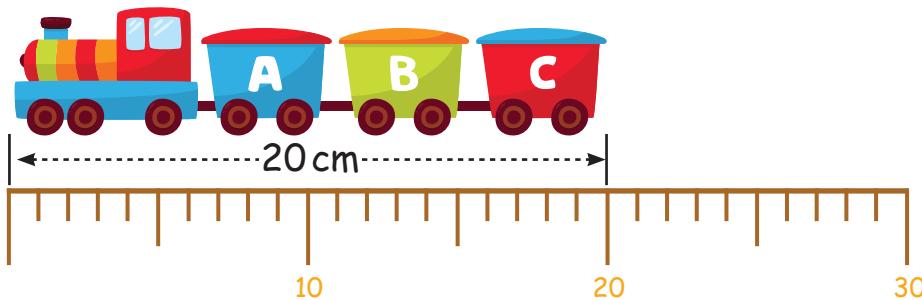
Kavitha measures her Ribbon.



Mala measures her Toy bat.

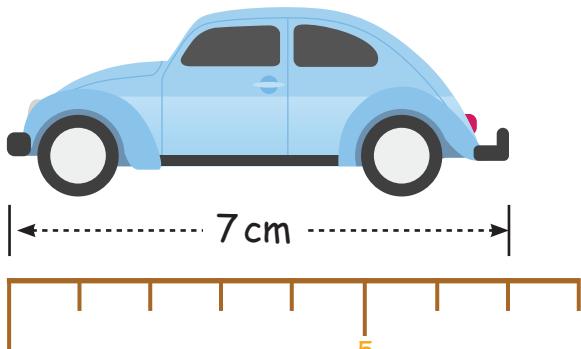


Mary measures her Toy train.



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.

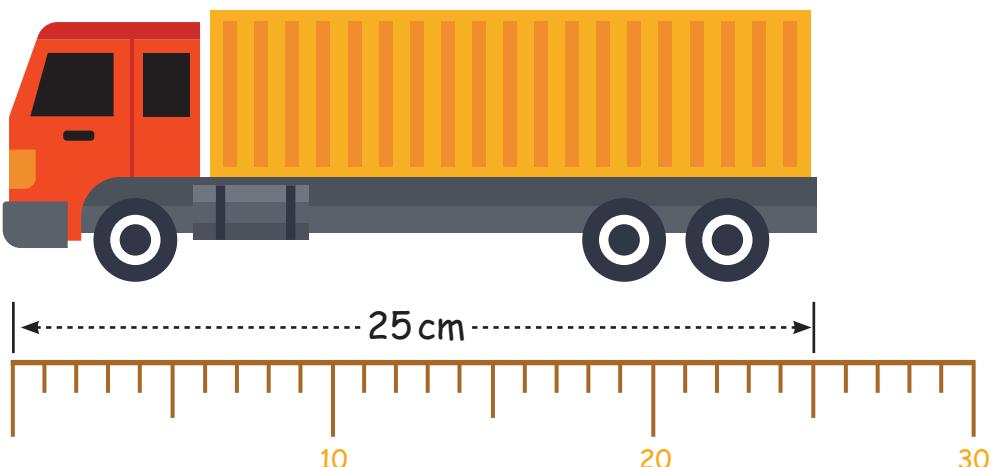
Sharmila measures her Toy car.



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.



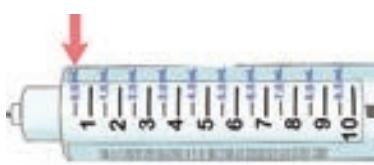
Activity

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

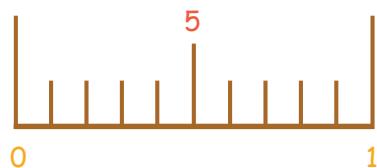
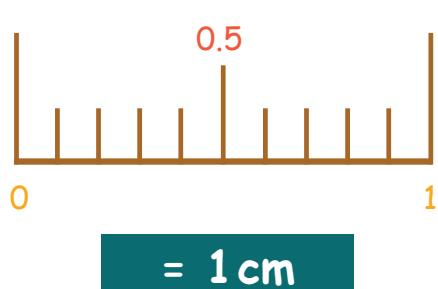
S. NO	Things	Approximate length	Correct length
1	A green leaf with prominent veins is shown. A horizontal dashed line with arrows at both ends is positioned below it, indicating its length.		
2	A blue bank card with a gold chip and some text is shown. A horizontal dashed line with arrows at both ends is positioned below it, indicating its length.		
3	A small toy car is shown from a side-on perspective. A horizontal dashed line with arrows at both ends is positioned below it, indicating its length.		

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.



10 millimetre = 1 centimetre

100 centimetre = 1 metre

1000m = 1 Kilometre

1000 metre = 1 kilometre

1 mile = 1.6 kilometre



Group Activity

Think it..

How can you measure the distance between Villupuram and Cuddalore?



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 5m into cm

$$5\text{m} = 5 \times 100\text{cm}$$

$$5\text{m} = 500\text{cm}$$

2. Convert 13m into cm

$$13\text{m} = 13 \times 100\text{cm}$$

$$13\text{m} = 1300\text{cm.}$$

3. Convert 4m 35cm into cm

$$1\text{m} = 100\text{ cm}$$

Note:

To convert metre into centimetres multiply the given number by 100

Step: 1	Step: 2	Another Method
$4\text{m} = 4 \times 100\text{cm}$	400cm + 35cm <hr/> 435cm	$4\text{m } 35\text{cm} = 4 \times 100 + 35\text{cm}$
		$= 400 + 35$
		$4\text{m } 35\text{cm} = 435\text{cm}$

$$4\text{m } 35\text{cm} = 435\text{cm}$$

4.3 Conversion of Centimetre into Metre.

EXAMPLES

1. Convert 700cm into metre

$$700 \div 100 = 7\text{m}$$

$$700\text{cm} = 7\text{m}$$

2. Convert 536 cm into metre

$$536\text{cm} = 500\text{cm} + 36\text{cm}$$

$$= (500 \div 100) + 36\text{cm}$$

$$= 5\text{ m} + 36\text{cm}$$

$$536\text{cm} = 5\text{m } 36\text{cm}$$

$$100\text{cm} = 1\text{m}$$



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. $3\text{m} = \underline{\hspace{2cm}}\text{cm}$
2. $37\text{m} = \underline{\hspace{2cm}}\text{cm}$
3. $5\text{m } 9\text{cm} = \underline{\hspace{2cm}}\text{cm}$
4. $7\text{m } 35\text{cm} = \underline{\hspace{2cm}}\text{cm}$

Convert into metre

1. $600\text{cm} = \underline{\hspace{2cm}}\text{m}$
2. $3600\text{cm} = \underline{\hspace{2cm}}\text{m}$
3. $647\text{cm} = \underline{\hspace{2cm}}\text{m}$
4. $304\text{cm} = \underline{\hspace{2cm}}\text{m}$

Addition and subtraction of measures

Addition without Regrouping

EXAMPLE

Add $21\text{m } 45\text{cm}$ and $68\text{m } 23\text{cm}$.

m	cm	step.1	Start from cm : $(45+23)\text{cm} = 68\text{cm}$
21	45		write 68 under the Centimetre column.
+ 68	23	Step.2	Then add m : $21\text{m} + 68\text{m} = 89\text{m}$
89	68		Write 89 under the metre column.

$$21\text{m } 45\text{cm} + 68\text{m } 23\text{cm} = 89\text{m } 68\text{cm}$$

Addition with Regrouping

EXAMPLE

Add $34\text{ m }91\text{ cm} + 25\text{ m }42\text{ cm}$

m	cm
① ① 34	91
+ 25	42
60	33

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

Step: 2 Add $1\text{ m} + 34\text{ m} + 25\text{ m} = 60\text{ m}$

$$34\text{ m }91\text{ cm} + 25\text{ m }42\text{ cm} = 60\text{ m }33\text{ cm}$$

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

m	cm
48	36
- 18	24
30	12

Subtract 18 m 24 cm from 48 m 36 cm

Step: 1 Subtract centimetre column
 $(36-24) = 12\text{ cm}$

Step: 2 Subtract metre column
 $48-18 = 30\text{ m}$

Subtraction with Regrouping

EXAMPLE

m	cm
72	144
73	44
- 54	75
18	69

Subtract $73\text{m } 44\text{cm} - 54\text{m } 75\text{cm}$

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 $144\text{cm} - 75\text{cm} = 69\text{cm}$

step: 2 $72\text{cm} - 54\text{cm} = 18\text{cm}$

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

Answer:

	m	cm
Length of the Green ribbon =	18	73
Length of the red ribbon =	+ 27	65
Total length of the ribbon =	46	38

Total length of the ribbon is 46m 38cm.

EXAMPLE

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

Answer:

Rope purchased

	m	cm
3	12	4 12
42	52	
=		

Rope given to pony

= - 17 15

Remaining rope

= 25 37

Remaining length of the rope is 25m 37cm.

Life Oriented Problems

Exercise 4.4

1. Deenu bought 15m 43cm of shirt material and 23m 94cm of trouser material. Find the total material bought by him.
2. A fisherman bought 2 nets. The length of first and second nets are 23m 43cm and 25m 63cm. What is the total length of nets?
3. Agathiya bought 70m 42cm of wire to fence his garden. He used only 43m 51cm of wire. Find the length of the remaining wire.
4. A shopkeeper sold 37m 69cm cloth out of 93m 75cm 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



70m 35cm

The distance between two coconut trees is 70m 35cm.

Suthan walked from first tree to second tree.

Then he returned to first tree. How much distance did he cover?

Suthan went to 2nd tree

m	cm
1	35
= + 70	35
140	70

Suthan returned to 1st tree

Total distance = 140m 70cm



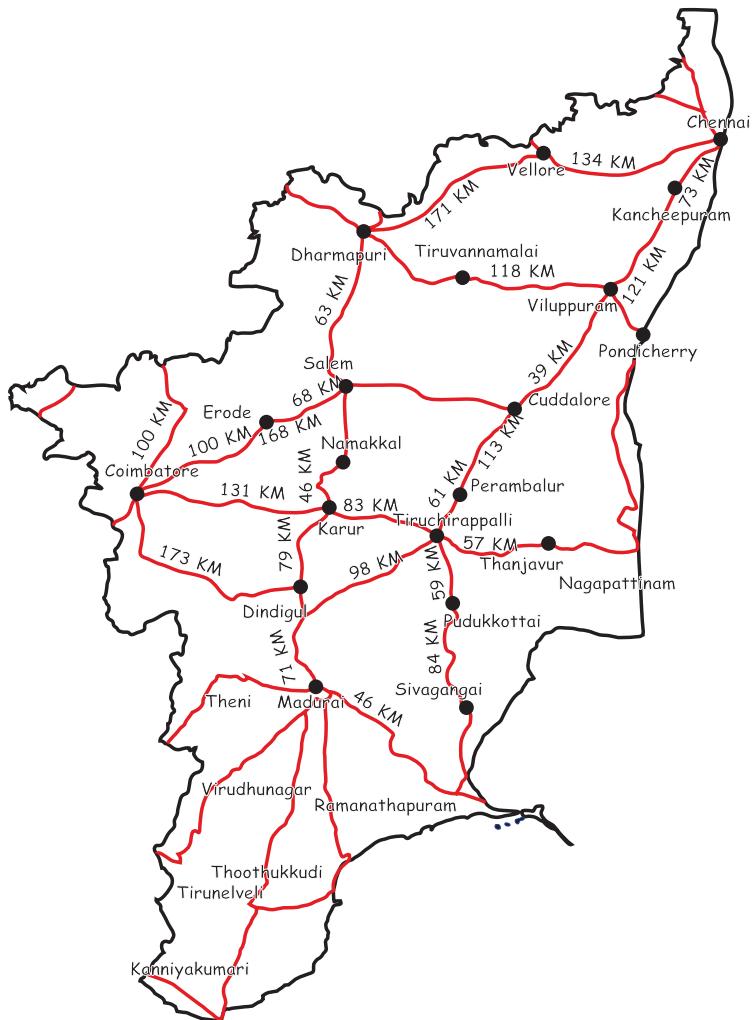
Activity

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

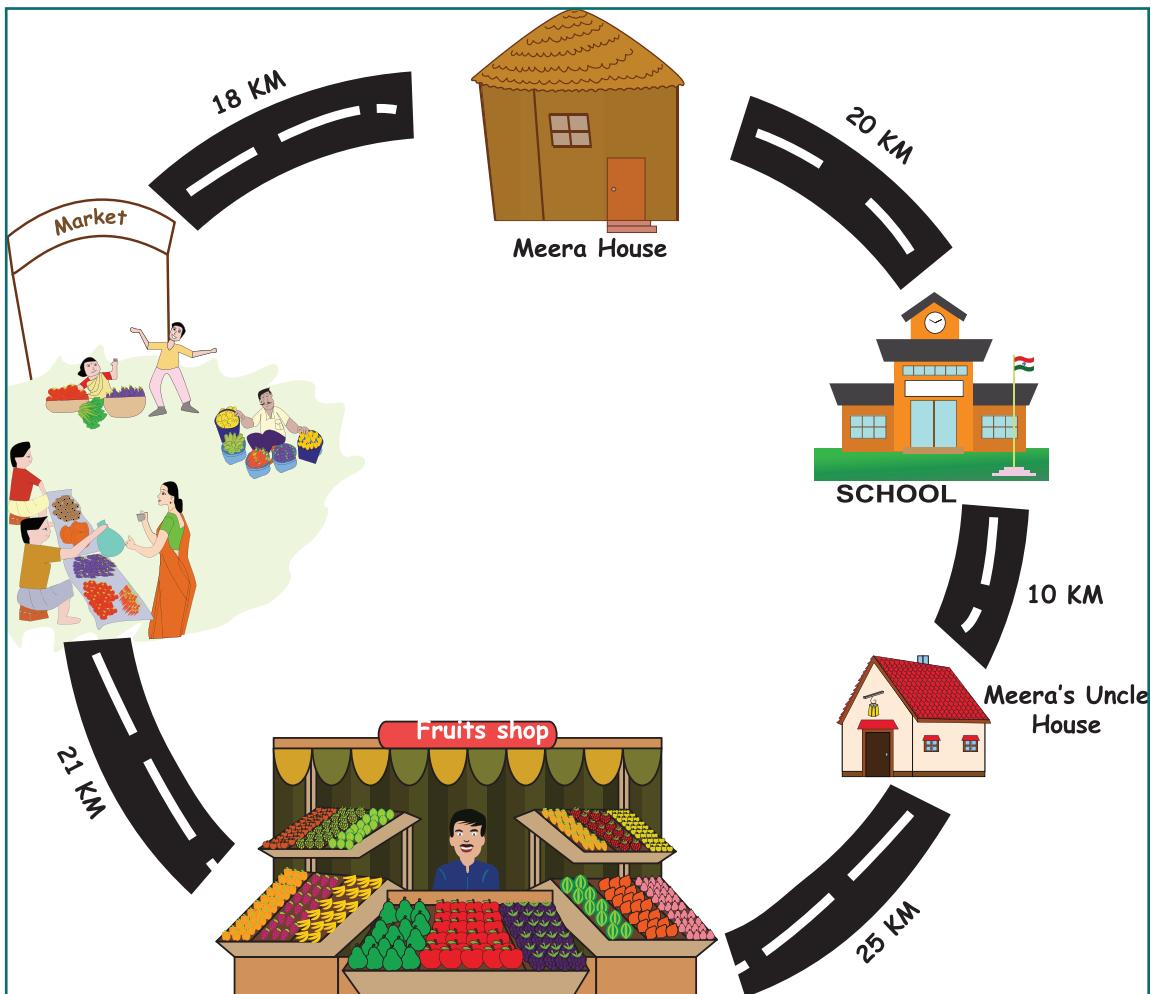
Estimating and measuring length and distance

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 _____.



Exercise 4.5

1. Convert into cm

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

2. Convert into m

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

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

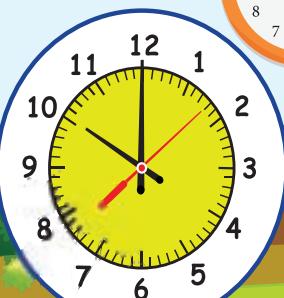
b.	m	cm
	63	47
	- 36	24

c.	m	cm
	96	32
	- 20	48

5. Raju used 13m 25cm ribbon for making his project. If he had bought 20m of ribbon, How much ribbon is left with him?
6. The distance between bus stand and school is 81m 40cm and the distance between school and temple is 20m 10cm. 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?



UNIT-5



3 1
2

TIME

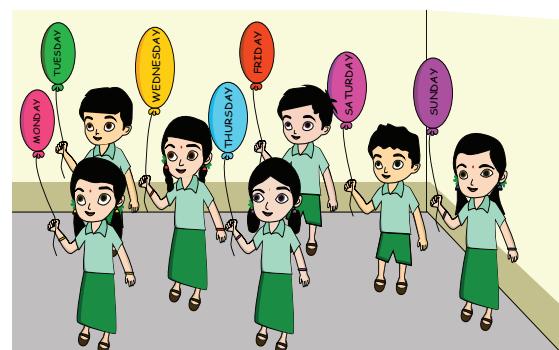


5.1 Understand days and weeks

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



5.2 "Marking the dates"

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

- Who is the oldest member of your family?
- Who is the youngest?
- What is the age difference between them?
- When will you celebrate your 12th birthday?

5.3 Compute the number of weeks in a year.

2019																					
January					February					March		April									
Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	
1	2	3	4	5			1	2					1	2	3	4	5	6			
6	7	8	9	10	11	12	3	4	5	6	7	8	9	3	4	5	6	7	8	9	
13	14	15	16	17	18	19	10	11	12	13	14	15	16	10	11	12	13	14	15	16	
20	21	22	23	24	25	26	17	18	19	20	21	22	23	17	18	19	20	21	22	23	
27	28	29	30	31			24	25	26	27	28			24	25	26	27	28	29	30	
May												June					July				
Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	
5	6	7	8	9	10	11	2	3	4	5	6	7	8	5	6	7	8	9	10	11	
12	13	14	15	16	17	18	9	10	11	12	13	14	15	12	13	14	15	16	17	18	
19	20	21	22	23	24	25	16	17	18	19	20	21	22	19	20	21	22	23	24	25	
26	27	28	29	30	31		23	24	25	26	27	28	29	30	21	22	23	24	25	26	27
September												October					November				
Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	
1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	
8	9	10	11	12	13	14	6	7	8	9	10	11	12	8	9	10	11	12	13	14	
15	16	17	18	19	20	21	13	14	15	16	17	18	19	15	16	17	18	19	20	21	
22	23	24	25	26	27	28	20	21	22	23	24	25	26	22	23	24	25	26	27	28	
29	30						27	28	29	30	31			24	25	26	27	28	29	30	
December												January					February				
Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	
1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	
8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14	
15	16	17	18	19	20	21	13	14	15	16	17	18	19	15	16	17	18	19	20	21	
22	23	24	25	26	27	28	20	21	22	23	24	25	26	22	23	24	25	26	27	28	
29	30	31					27	28	29	30	31			24	25	26	27	28	29	30	

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

Printable Yearly Calendar © 2016 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			

- Which festival comes sooner from today?
- How many days/weeks are there yet from today?
- Which festival comes last?
- 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	4 weeks 2 days
5	May	31	4 weeks 3 days
6	June	30	4 weeks 2 days
7	July	31	4 weeks 3 days
8	August	31	4 weeks 3 days
9	September	30	4 weeks 2 days
10	October	31	4 weeks 3 days
11	November	30	4 weeks 2 days
12	December	31	4 weeks 3 days
	Total	365	48 weeks 29 days

EXAMPLE

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



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 From	to	Number of days

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



Activity

In a leap year
February has 29
days Why?

00°



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: _____

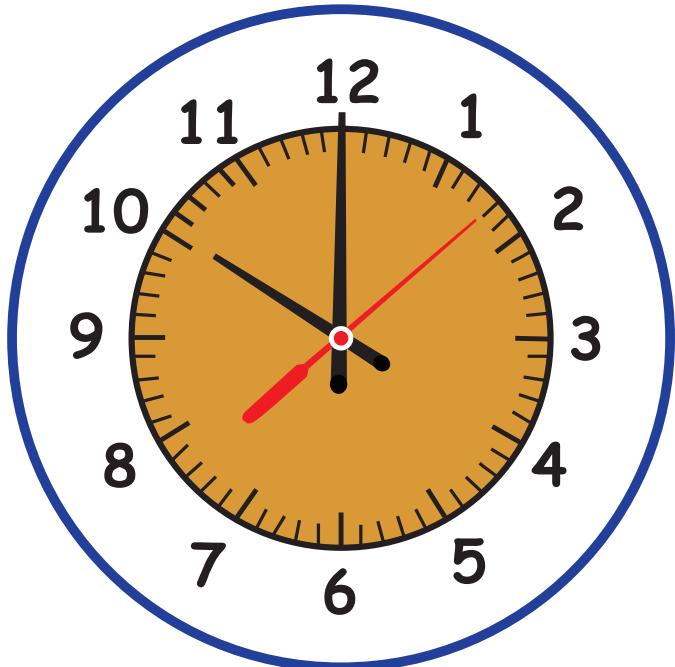
Teacher: How many weeks old is he?

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**.

Which hand moves faster?



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 number of 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

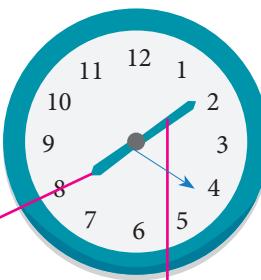
12:45

Reading the minutes



when will you
go to your
school?

To the hour



Past the hour

I will go to
school at
8:10AM



Exercise 5.3

A

Answer the following.

- When would you leave for school, from home?
- When would you reach your school?
- How much does it take for you to reach the school?
- If you delay by 10 minutes, when would you reach the school?
- If you leave ahead by 5 minutes, when would you reach the school.
- 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.

UNIT-6

INFORMATION PROCESSING

1

2

Baloo	
Yogi bear	
Boo Boo	

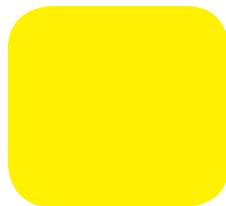
6.1 Systematic Listing

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



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.

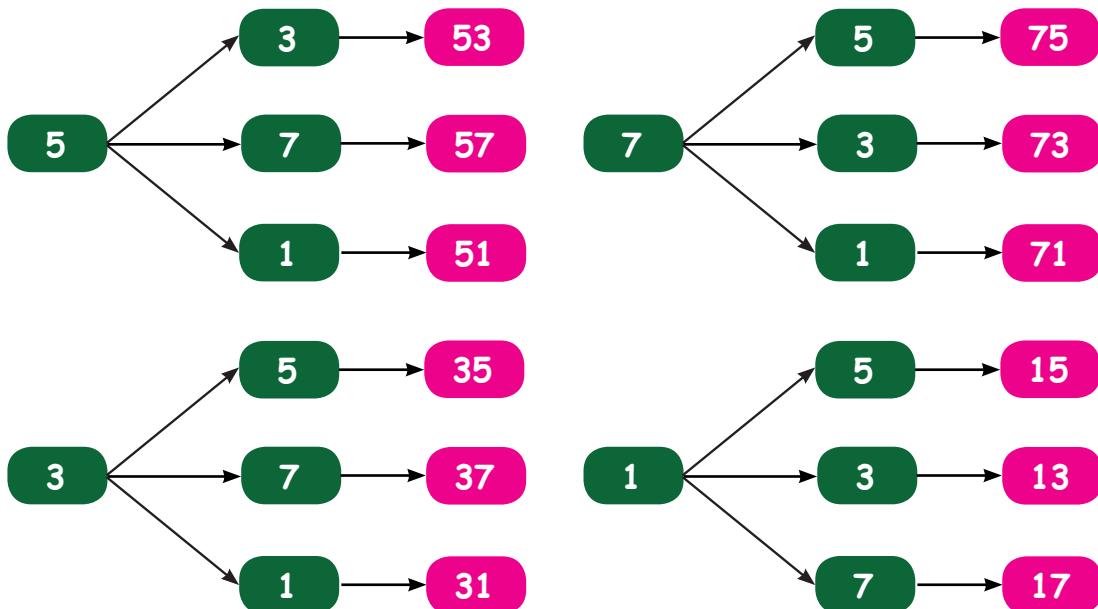
Show us all the possibilities of writing the names of the colour such that each colour box should have names in each colour pencil only once. One is done for you.

Red
Red

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.

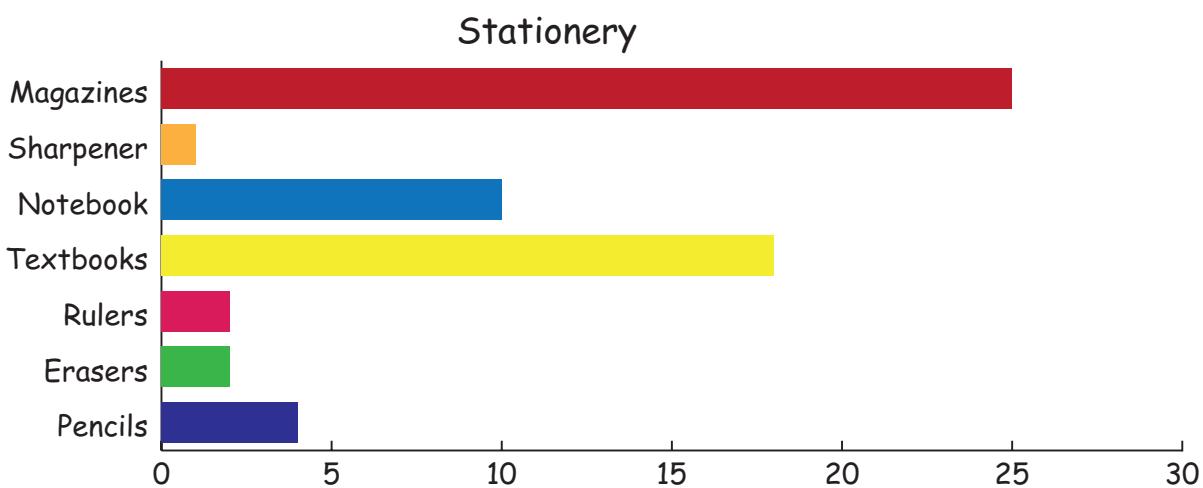
- 3.** Kavin has four cards **9** **7** **4** **6**
- List down all 3-digit numbers possible with these cards (without repetition).
 - What is the largest 4-digit odd number that can be made without repeating the numbers?
- 4.** There are 6 sprinters(an athlete who runs fast in short race). In how many 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.

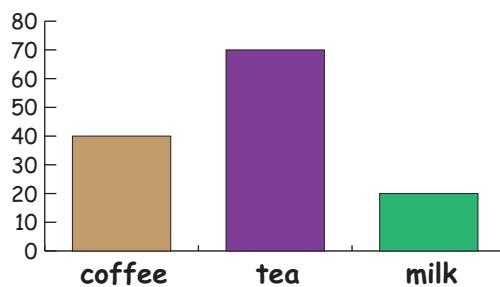
Stationery Items	Numbers	Stationery Items	Numbers
Pencils	4	Notebooks	10
Erasers	2	Sharpener	1
Rulers	2	Magazines	25
Text books	18		



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

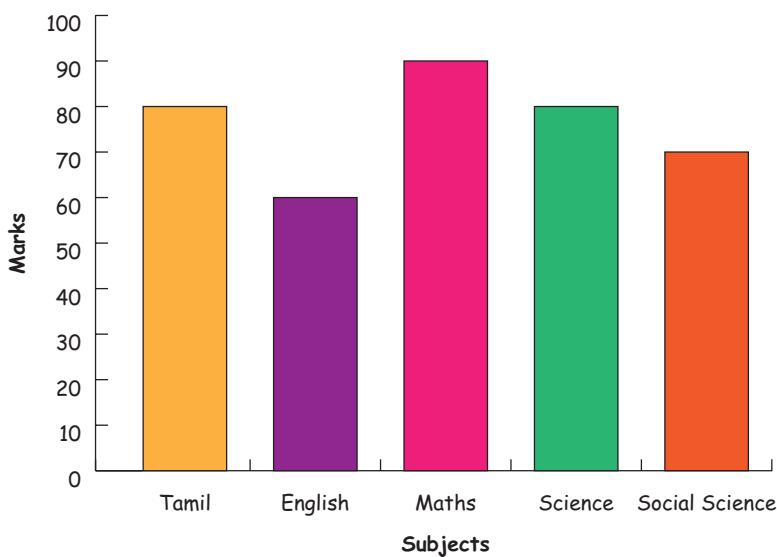


Try This

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

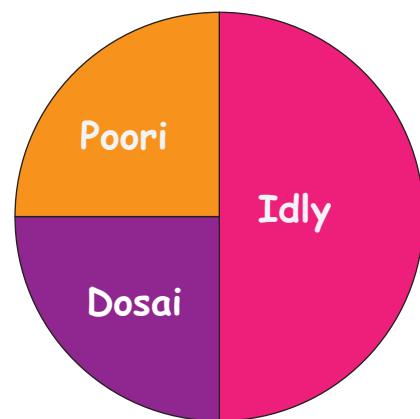
A Special chart that uses "Pie Slices" to show relative sizes of data is called Pie-Chart.

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.

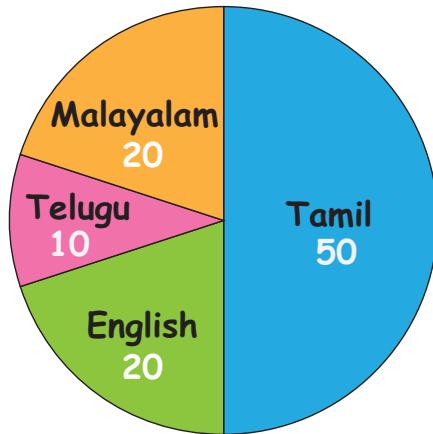
Answer



Try This

Answer the following questions by using given data.

- Number of people who speak Tamil _____.
- Number of people who speak English _____.
- Number of people who speak Malayalam _____.
- Number of people who speak Telugu _____.

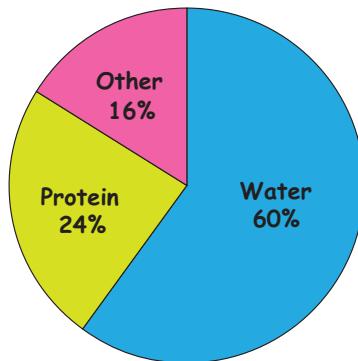


Activities

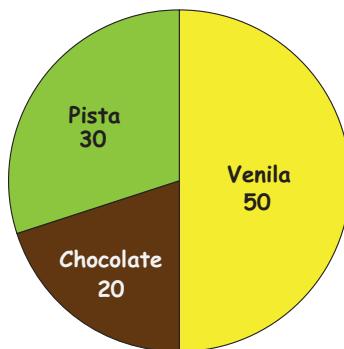
1. Draw a pie - chart for family Budget of food, bus fare and other expenses.
2. Draw a pie - chart for favourite fruits of your friends.

Exercise 6.3

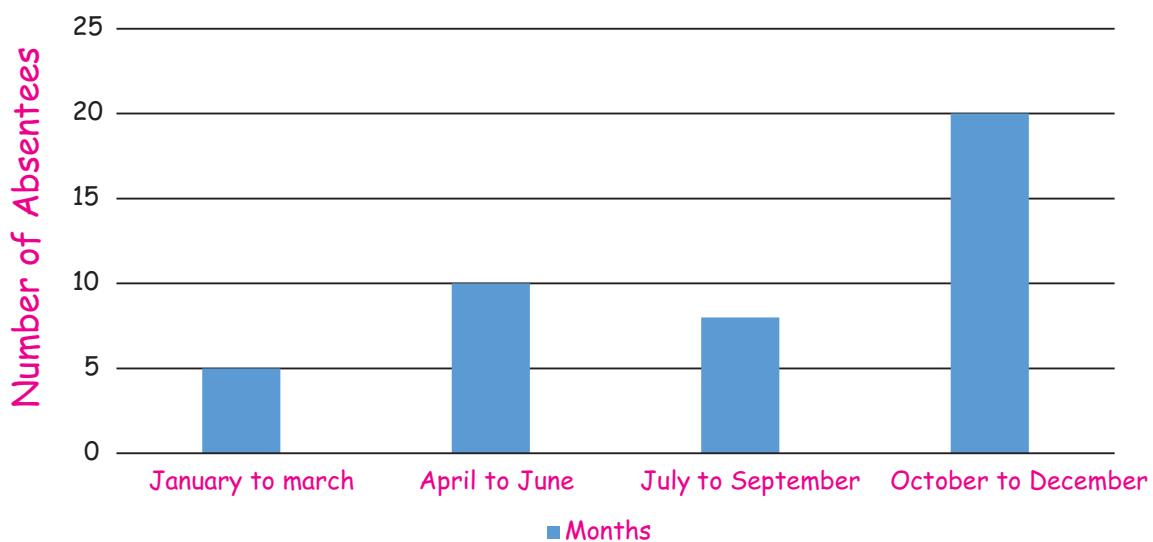
1. Write down the percentage of Content in human body from the given pie - chart.



2. The number of varieties of ice creams in an ice cream 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.



4

SCIENCE

FIRST TERM



Index

Unit

Topic

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E-Book



Evaluation



Digi Link

My Body

Unit
1



Learning Objectives

After learning this lesson, the students will be able to

- ❖ identify and describe the internal organs of humans
- ❖ list the main functions of the internal organs
- ❖ differentiate the types of teeth
- ❖ appreciate the importance of oral health
- ❖ become aware of good touch and bad touch



EQSUCV

Let us Recall

There are some body parts hidden in the table below. Can you spot them?

Y	A	M	Y	E	R	D
H	C	L	Q	A	I	L
A	P	K	S	R	P	E
N	O	S	E	S	H	G
D	O	H	E	A	D	H

I. Internal organs

There are some body parts we can see such as eyes, nose, ears, hands and legs that we can see. Such parts that we can see are called **external organs**.

There are some body parts such as stomach, lungs and heart that are inside our body. We are unable to see them. These body parts are called **internal organs**.

Let us learn more about these parts now.

1. Brain

Brain is an important organ of our body and it is protected by the **skull**. It has three main parts namely:

1. Fore Brain
2. Mid brain
3. Hind Brain



Brain is the commanding centre of our body and it helps us to think and perform various actions. Every action that we do like moving our hands, sitting or walking is possible only because of our brain.



The human brain weighs about 1.3 kg.

Try to Answer

1. _____ (Nose / Brain) is an internal organ.
2. We can see the internal body parts (True / False).



Let us Play

Memory Chain - A Brain Game (Teacher led activity)

How to play?

1. Make students to sit in a circle.
2. Place a tray with picture cards of different body parts and an empty tray.
3. Now ask a student to pick a card and name the body part and put the card in the other tray.

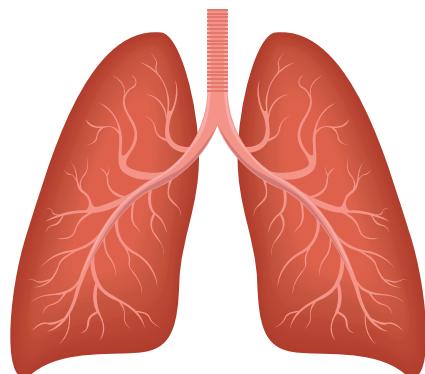


4. Call the next student. Ask him to pick another card and name the first and the second card.
5. Next student picks a card and tells the name of the first two cards and the new card.
6. In the same way, all the students take the cards one by one and tell the names in the previous cards and the name of the new card also.

2. Lungs

Lungs are a pair of spongy, sac-like organs located in the chest. They help us to breath.

- When we **breath in**, we **take in oxygen** from air through the nose and pass it to the lungs. The lungs expands (becomes big) in the position.
- When we **breath out**, we **give out carbon dioxide** from the lungs through the nose into the air. The lungs contract (becomes small) in the position.



Let us Play

Bigger and smaller

(Teacher gives balloons to all the children)

Teacher : Blow the balloon... What do you see?

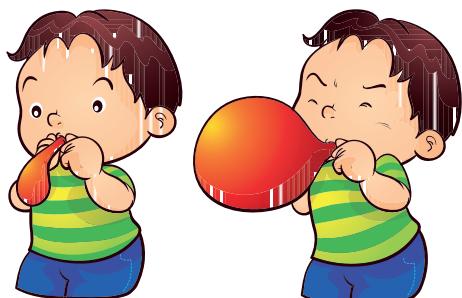
Students : It becomes bigger.

Teacher : Like this, when we breath in, the lungs become bigger. If you let the air out from the balloon, what will happen?

Students : The balloon becomes small.

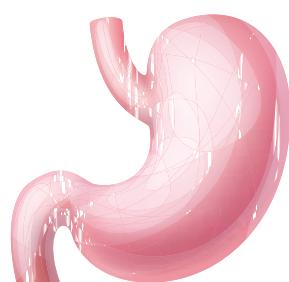
Teacher : Yes, like this, when we breath out air, the lungs become smaller.

The lungs act like two balloons inside our chest. As we draw air into the breathing system, the lungs get bigger as they are filled with air. When you breath out, air is pushed out of the lungs and they get smaller.



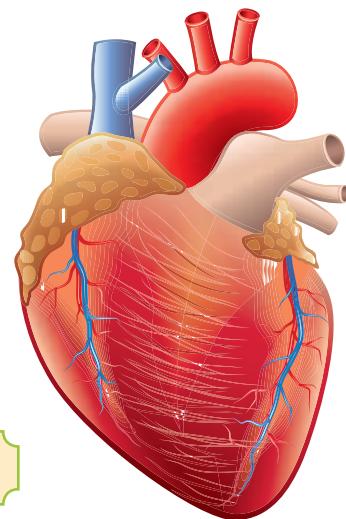
3. Stomach

Stomach is a 'J' shaped bag found below the lungs. It breaks down food items and gives us energy. It contains special juice to breakdown food into energy.



4. Heart

Our heart is the pumping organ. It pumps blood to all parts of the body. It lies in between the lungs almost in the centre of the chest. It is made up of muscles.



More to know

The heart beats about 72 times in a minute.



Let us Make

Stethoscope

Things we need: Flexible tube, Small funnel, Duct tape, Medium-size balloon and Scissor

Steps to construct:

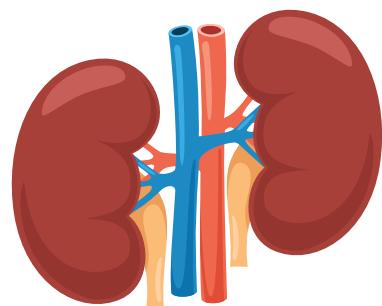
1. Put the small end of the funnel at both ends of the flexible tube tightly.
2. Tape the funnel and the tube using duct tape.
3. Inflate the balloon to stretch it out.
4. Let the air out and then cut the neck of the balloon.
5. Stretch the remaining part of the balloon tightly over the open end of the funnel, tape it in place.
6. Place the funnel end of the stethoscope on the heart and the other funnel near your ear.
7. Can you listen to the sound of the heart?



5. Kidneys

We have **two kidneys**. They are **bean shaped** organs.

The kidneys **purify blood** by filtering excess water and **toxins**.



Try to Answer

Match the following.

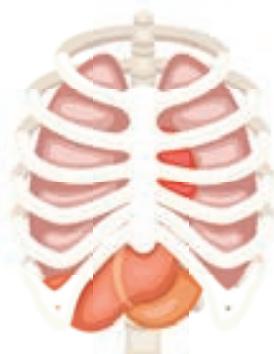
- | | |
|-------------------------|-----------|
| 1. Pair of spongy sac | - Stomach |
| 2. 'J' shaped bag | - Kidney |
| 3. Filters excess water | - Brain |
| 4. Command centre | - Heart |
| 5. Pumps blood | - Lungs |



More to know

Exactly half of a single kidney is capable of doing the job that is performed by two kidneys together.

6. Bones and Muscles



Our body is made up of bones and muscles. Press your upper arms. The portion that feel hard to touch is the bone. The portion that feels soft to touch is the muscle.

The bones give us shape. They are the frame for our body and allow us to jump, run or just lie down. Bones also protect the internal parts of the body.

Muscles are the soft parts that cover our bones. They help us to move different parts of our body by tightening or loosing, like a rubber band.

In order to maintain healthy bones we need to have healthy food, such as milk, cheese and eggs. For strong muscles, we need to exercise and stay active.





Babies are born with 300 bones but by adulthood the number is reduced to 206.



Amazing Fact

17 muscles are functioning while smiling and 43 while frowning.

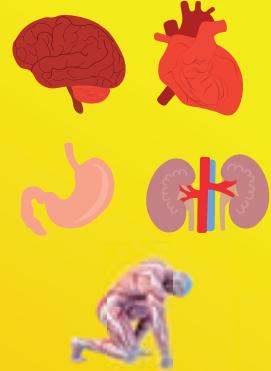
So **smile and save energy!**



Let us Take care

If you care for your,

- | | |
|------------------|----------------------------|
| Brain | - Sleep for eight hours |
| Heart | - Avoid fatty food |
| Stomach | - Eat healthy food on time |
| Kidney | - Drink more water |
| Bone and Muscles | - Exercise regularly |



The human body has more than 600 muscles.

The longest bone is thigh bone.

The smallest bone is stapes in ear.

The longest muscle is in the thigh.



Let us Do

Muscle Activity: How our muscles send information to our brain?

Things we need: 2 large plastic cups, Large bag of rice or beans.

Activity

- Blindfold your partner
- Have your partner hold one cup in each hand.
- Take the cups back and add a small amount of beans or rice to one cup.
- Return the cups to your partner's hands. Ask him whether they weigh more.
- If your partner says one is heavier, ask him which one?
- Here we understand that weight difference felt by the muscles was sent to the brain as message.



II. External organs

1. Teeth and its Types

The teeth are the hardest parts in our body. They are helpful for cutting and chewing the food. The teeth are found inside our mouth.

We develop two sets of teeth in our lifetime.

1. Milk teeth: The first set of teeth starts to develop from the age of six months. They are called milk teeth and they are 20 in number. At the age of 6 or 7 the second set of teeth grow after milk teeth fall.



2. Permanent Teeth: Second set of teeth are called permanent teeth. There are four types of teeth: **Incisors, Canines, Premolars and Molars.** If permanent teeth fall, we cannot grow one more set of teeth. So, it is important to take care of our teeth. There are 32 permanent teeth.



2. Importance of Oral Health

As we learnt, it is important to take care of our teeth and also our mouth. If you do not care of your mouth and teeth, you will have problems with eating and speaking.

3. Healthy Mouth

It is important to take care of our teeth and mouth. Brushing teeth, eating healthy food and regular dental checkup keep us healthy. **We should brush our teeth twice a day.**

4. Foods for Healthy Mouth and Teeth



- Take plenty of fruits, vegetables and dairy products.
- Drink water or milk instead of sugary juices.
- Eat candy, cake and ice cream as less as possible.



5. Taking Care of Mouth and Teeth

- Change toothbrush once in every three months.
- Avoid sticky food.
- Brush twice a day. (After getting up and before going to bed)
- Rinse your mouth with water every time after you eat.

6. Neem Toothbrush

Researchers believe that use of neem toothbrushes is the reason behind the **bright smiles** and **healthy teeth** of Indian villagers. Indians traditionally chew neem twigs to keep their gums and teeth healthy.



Try to Answer

Tick (✓) the foods that are good for your teeth and cross (✗) the food that are bad for your teeth.



III. Good Touch, Bad Touch and Don't Touch

Try to Answer

Is it Good touch or Bad touch? Why?



A



B

"Good touch" and "Bad touch" are the words most commonly used to explain what touch is okay and what is not okay. This helps us to understand when to tell a safe person about bad touch and ask for help. "Good touch" is a touch that cares for us or makes us feel safe. "Bad touch" is any touch that we don't want or makes us feel scared. Let us learn how to keep ourselves safe.



Activities related to Good Touch:

- Parents' hug and kisses.
- Father pats you on the head.
- Friendly hugs by family members.
- Shaking hands.

Activities related to bad touch:

- Touching the buttocks and other private parts.
- Hitting, slapping, spitting, pushing or punching, kissing.
- Activities that make you feel scared or nervous or ashamed.
- Dirty talk and dirty pictures.



MY BODY IS MY OWN. I never allow others to misuse it.

Never be afraid to shout and say "Don't touch me".

It is never your fault.



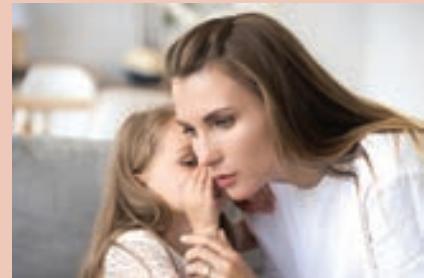
If you receive a bad touch, you must



Say "Don't touch"
in a loud voice.



Leave the spot
quickly.



Tell elders (like parents or
teacher) till you get help.

Students must be taught that offenders might resort to the following "Dirty Tricks"

- Your mother is admitted in the hospital. So, I have come to take you there.
- Could you please accompany me and guide me to reach this address?
- Tempting you with gifts or money.
- Distracting you with the promise of sweets or food.
- Offering to play 'doctor game' and 'hide and seek' game trying to touch you under that pretext.
- Pretending to show great concern for you.

Safety tips every child should know:



- Tell everything to your parents especially to mother.
- Don't share address and phone numbers with strangers.
- Don't answer the phone or open the door without an adult's presence.
- Never eat anything you get from strangers.
- Have emergency telephone number.

For teacher / parents:

How to prevent sexual abuse and what are the signs of sexual abuse?

- Behaviour of the child to be watched.
- Depressed and withdrawn from their peer group.
- Moving away from a particular individual, excessive dependence, decline in learning and dominant behaviour.
- Self-destructive behaviour.
- Internet can cause adverse impact.



Try to Answer

Look at the pictures and write 'Good Touch' or 'Bad Touch'.



Evaluation

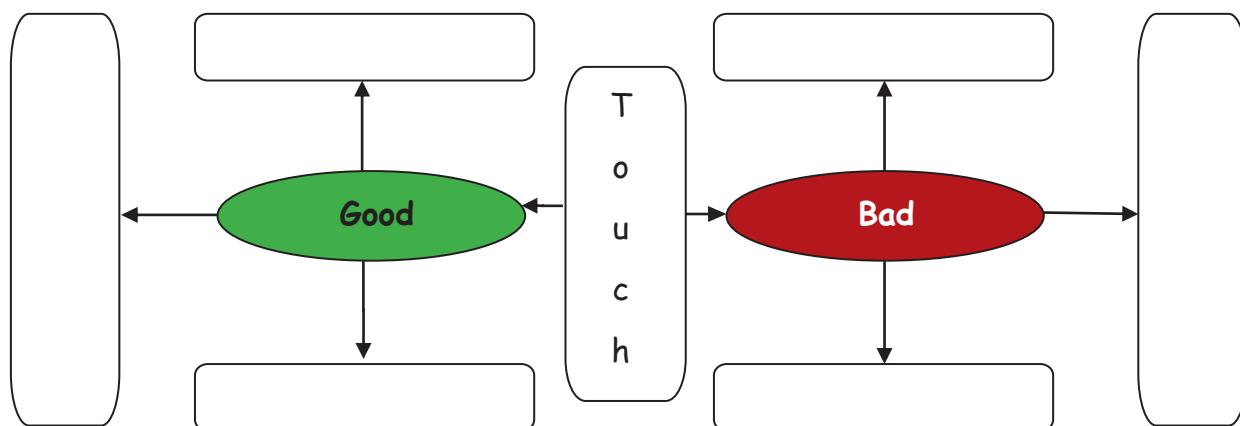
I Pick out the odd one.

1. heart, legs, brain, kidney
2. eyes, ears, fingers, lungs
3. fore brain, mid brain, hind brain, nerves



II Complete the figure with words given in the bracket.

(Kissing on the mouth, Grand parents' love, Hitting the buttocks,
Pat of dad on head, Parent's hug and kisses, Showing awkward pictures)



III Find the answers from the following clues and circle the words.

(First one is done for you)

- i. An internal organ.
- ii. Organ that helps us to breath.
- iii. An organ removing wastes from our body.
- iv. Unfair and unhealthy touch.
- v. Everyday we should drink more _____.

H	B	O	U	V	L	S	W
C	E	R	B	R	U	M	A
A	Y	A	W	Q	N	O	T
P	D	C	R	A	G	U	E
O	X	Y	U	T	S	T	R
K	I	D	N	E	Y	H	Z
B	A	D	T	O	U	C	H

IV Say true or false.

1. Head, hand and legs are internal organs.
2. Heart is made up of muscles.
3. Muscles are the soft parts that cover our bones.
4. Brush your teeth once a day.
5. Father patting you on your head is a good touch.

V Choose the correct answer.

1. _____ is the commanding centre of our body.
a) Heart b) Lungs c) Kidney d) Brain
2. Food is converted to energy in the _____.
a) neck b) heart c) stomach d) nose
3. Every day we should brush our teeth _____ times.
a) one b) two c) three d) four
4. Good touch is a fair and _____ touch.
a) unhealthy b) bad c) unsafe d) healthy
5. Drink a lot of _____ every day.
a) oil b) water c) packed juice d) salt water

VI Answer the following questions in one or two sentences.

1. Name the internal organs.
2. What are the functions of brain?
3. List out the food items for healthy mouth and teeth.
4. How will you take care of your heart and kidney?
5. What do you do when some one touches you and you feel uncomfortable?

VII Think and answer.

1. When an unknown person disturbs you, how do you behave? Write in your own words.
2. Which organ controls thinking, speaking and learning. Write its three important parts.

VIII Project

1. Make a model of lungs with the help of locally available materials.
2. Make an album with the pictures of internal organs.

Matter and Materials

Unit
2



Learning Objectives

After learning this lesson, the students will be able to

- ❖ classify the materials based on their properties
- ❖ conduct simple investigations related to materials
- ❖ realize the importance of matter and materials in daily life
- ❖ differentiate Transparent, Translucent and Opaque objects

I. Materials

Everything in the universe is made up of matter. We need to explore many different materials to make sense of our world.



The matter from which a thing is made of is called Material.
For example: Chair is made of wood, Eraser is made of rubber, Candle is made of wax.

Try to Answer

Look at the pictures and identify the materials by which they are made of:
(paper, clay, glass, wood, plastic, metal, rubber, wax)



Try to Answer

Match the objects that are made of same material.



II. Properties of Materials

We can measure, see or feel the materials. Different types of material have different properties that make them useful for various purposes. Most materials have more than one property. They can be hard or soft, shiny or dull, smooth or rough and flexible or rigid.

1. Hard and Soft Materials

Materials which cannot be easily compressed, cut, bent or scratched are called **hard materials**.

Example: Brick, bone and steel.



Materials which can be easily compressed, cut, bent or scratched are called **soft materials**.

Example: Foam, clay and skin.



Try to Answer

Write whether the given materials are hard or soft.

Wood

Eraser

Cotton

2. Shiny and Dull Materials



Materials which reflect the light well are called **shiny materials**. Example: Stainless steel, gold and diamond.



Materials which do not reflect the light well are called **dull materials**. Example : Candle, paper and jute bag.

Try to Answer

Collect some objects from your house and classify them as shiny or dull materials.

3. Rough and Smooth Materials



Materials which have ups and downs on their surface are called **rough materials**. Example: Brick, rock and tyre.



Materials which do not have ups and downs on their surface are called **smooth materials**. Example: Mirror, Silk cloth and tiles.

Try to Answer

Sort the given objects as rough or smooth.

Wet soap

Coir

Feather

Stone

Glass ball

Paperboard

Sand paper

Plastic spoon

4. Flexible and Rigid Materials



Materials which can be bent or stretched easily are known as **flexible materials**. Example: Rubber band, electric wire and cycle tube.



Materials which cannot be bent or stretched easily are known as **rigid materials**. Example: A stick, wooden scale and stone.

Activity

Test the flexibility.

Give one plastic scale and wooden scale to the students. Ask them to bend. Tabulate their observation (bends, does not bend).

Plastic Scale

Wooden Scale

5. Waterproof Materials

Materials that do not allow water to pass through them are called **Waterproof Materials**.

Example : Raincoat and aluminium foil of tablet strip.



Think and answer

Do you have a raincoat? What is its use?

Activity

Take a glass bowl. Fill three fourth of it with water. Put an orange fruit with peel and an orange fruit without peel. Observe which orange floats? Why?

III. Transparent, Translucent and Opaque objects

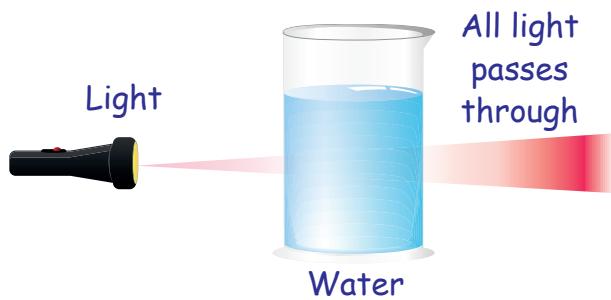
Have you ever seen
through the
bus window?



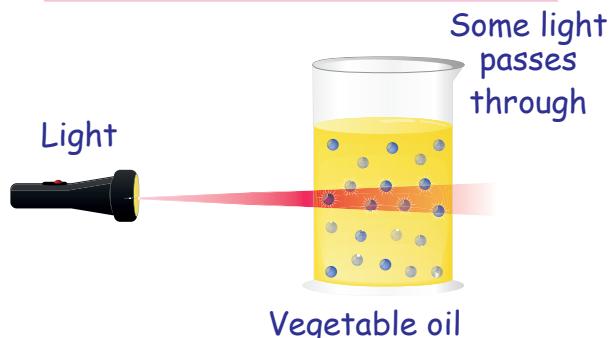
Some objects allow light to pass through them. This helps us to see through them as the window of a bus. Let us see how different objects behave with light.

1. Transparent Objects

Transparent objects allow the light to pass through them. So, we can see other objects clearly through **Transparent Objects**. **Examples:** Air, glass and pure water.



2. Translucent Objects



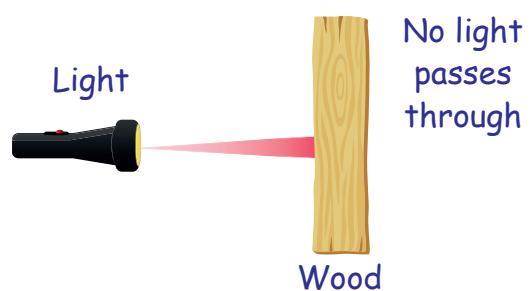
Translucent objects allow some light to pass through them. So, we cannot see objects clearly, but we see them as blurred images through them.

Examples: Paper soaked in oil, snow and vegetable oil.

3. Opaque objects

Opaque objects do not allow light to pass through them. So, we cannot see through these objects.

Examples : Wood, stone and metals.



Think and answer

Why should we build the walls of the house with bricks (opaque material) instead of glass (transparent material)?

Activity

Complete the Worksheet

Name :

Class :

Date :

Unit : 2. Matter and Materials

Complete the sentence in your own words.

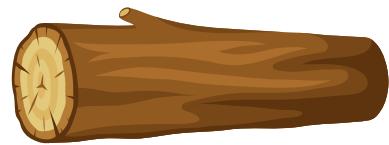
1. Transparent objects allow _____

2. Translucent objects allow _____

3. Opaque objects allow _____

Try to Answer

Write whether the objects are transparent, translucent or opaque.



IV. Reflection of Light



We see the world around us with the help of **light**. Where do we get light from? Light may come either from the Sun or from other sources like an electric lamp or a bulb. The objects that give off light are called **light sources**.

When light falls on a transparent material it passes through it. However when light falls on a polished surface of an opaque material, it does not pass through it. It bounces back. The bouncing of light by any smooth or polished surface is called **reflection**.



When you look into the mirror, you can see your own face on the mirror. What you see is a reflection of your face in the mirror. We also see reflections of other objects that are in front of the mirror. These reflections are formed by light and they are called **images**.

Try to Answer

Try to see your face on some materials like mirror, exam pad, new stainless steel plate, table top and water in a plate. What are the materials that show your face clearly? Do you know why?

Activity

Reflection of Light

Material Required/Needed

A plane mirror and a torch light

How to do?

1. Make your room dark by closing the door and windows.
2. Ask your friend to hold a mirror in his/her hand at one corner of the room.
3. Stand at another corner with a torch in your hand.
4. Switch it on.
5. Direct the light from the torch onto the mirror.
6. **Answer the following from your observation:**



- a) When you change the angle of the mirror, what happens to the light?
- b) Are you able to direct the reflected light using the mirror?



More to know

Mirrors can reflect sound waves too. So they were used in the **Second World War** to detect sounds coming from enemy aircraft.

Evaluation

I Find the odd one.

1. brick, coir, silk cloth, pine apple
2. stone, rubber band, cycle tube, electric wire
3. sun, candle, torch, pen
4. umbrella, sponge, rain coat, jerkin
5. glass bottle, exam pad, paper plate, wooden board



II Fill in the blanks.

1. Materials which can be compressed or cut easily are called _____.
2. Gold and diamond are the examples of _____ materials.
3. Materials which can be bent or stretched easily are called _____.
4. _____ objects allow all the light to pass through them.
5. _____ is the natural source that stimulates sight and makes things visible.

III Match the following.

- | | | |
|-----------------|---|---------------|
| 1. Light source | - | Glass |
| 2. Waterproof | - | Vegetable oil |
| 3. Transparent | - | Sun |
| 4. Translucent | - | Metal |
| 5. Opaque | - | Rain coat |

IV Say True or False.

1. We cannot compress, cut or bend the rough materials easily.
2. Dull materials reflect light.
3. Sand paper is a good example for smooth materials.

4. Opaque objects do not allow light to pass through them.
5. Mirrors change the direction of light that fall on them.

V Answer the following.

1. When can you say a material is waterproof material?
2. What is a light source?
3. What is the difference between transparent and opaque materials?
4. Define reflection.
5. Classify the objects given below as transparent, translucent or opaque materials.

(Air, Rock, Water, Aluminium foil, Mirror, Snow, Wooden board, Polythene bag, CD, Oil soaked paper, Glass tumbler and Coloured glass)

Transparent Materials	Translucent Materials	Opaque Materials

VI Projects

Collect some rough and smooth materials from your surrounding.

Work and Energy



Unit
3



Learning Objectives

After learning this lesson students will be able to

- ❖ define work
- ❖ understand work and energy
- ❖ know simple machines
- ❖ classify types of machine
- ❖ know about three types of lever



Let us Recall

Teacher : Students, you have studied about force in your lower class. What is force ?

Students : A force is a push or pull that moves an object at rest or stops an object in motion.

Teacher : There are different kinds of force. What are they?

Students : Frictional force, Gravitational force, Muscular force and Magnetic force

A force can cause an object to change its shape, speed or direction.

I. Work

An action in which one exerts a force to move an object is known as **work**. What do you understand from the below pictures?



From these pictures, we understand that a force is applied to do some work.



Think and say

Teacher: Yesterday I was walking back from school. I found some people working to lay the road. I found some items in that place. Can you say something about that place and the machines that were used there?

When can we say that work is done or not?

Two main conditions are needed for work to be done.

- A force should act on an object.
- Object should move from one place to another.

When the force acting on the object makes it move it is said to be done a **work**.

Try to Answer

Observe the picture and put a tick (✓) if work is done and put a cross (✗) if work is not done.



Try to Answer

Answer whether work is done or not in the following activity.

S. No	Activity	Work done or not done
1.	Pushing the door	
2.	Holding a doll	
3.	Sitting in a bus	
4.	Pushing a wall	
5.	Digging soil	

II. Energy

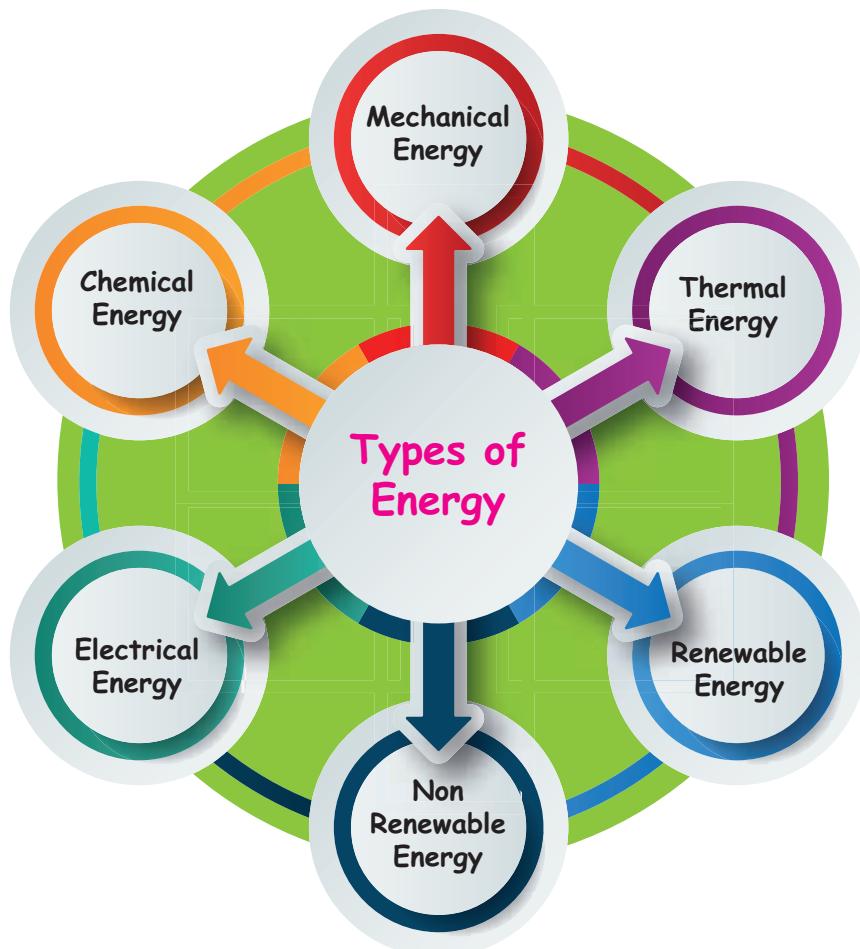


In the above picture

- ★ A man pulls a luggage. To do so he needs some energy. What is the source?
Food gives energy to humans.
- ★ The car moves by the obtained from the burning of fuel.
- ★ The escalator moves by using electricity as energy.

Energy is defined as capacity for doing work.

Energy must be **transferred** to an **object** in order to do **work**.



1. Renewable Resources

Renewable sources of energy are replaced naturally over a period of time. We can keep using these sources for a long period of time. Since the beginning of human life, we have been using these resources. We use these resources for light, transport, cooking, heating. Eg: Sun, Wind and Water.



2. Non-renewable Resources

The resources which are not easily replaced once used are called the non-renewable resources. Eg: Petrol, Coal and Natural gas



More to know

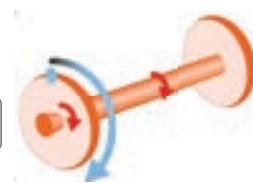
The law of conservation of energy states that energy cannot be created nor destroyed. It can be converted from one form to another.



The SI unit of energy is **joule**.

It is named after James Joule who explained about energy.

III. Simple machine



Observe the above pictures.
What are they used for?

In our daily life our effort is saved with the help of some simple machines.

We draw water from the well with the help of a wheel and a rope.

Simple machines are tools which are used to make our work easier. **Some examples for simple machines** are pulley, wedge, inclined plane, screw, lever, wheel and axle.

1. Pulley



Observe the picture. Which is easier? Lifting the load with the help of a pulley or without a pulley?



A pulley is a machine made up of a wheel with a cut around it. A rope or chain passes around the pulley. It rotates in the direction with more force.
Eg: crane



2. Inclined Plane



Observe the picture and discuss. Is lifting a box easier than rolling it on a ramp?



An inclined plane is a flat sloping surface with one end higher than another.

Eg: ramp, slide and slope for wheel chair.



3. Wedge

A **wedge** is a tool with a sharp edge which can be used to split materials. It is used to break wooden logs into two pieces.

Eg: knife, scissors and axe.



4. Screw

The **screw** is used to raise weights and to hold objects together.
Eg: pencil sharpener, screw-jack, bottle cap and windmill.



The screw in the bottle cap holds the cap and the bottle together.
The blade and sharpner are held together by screw.

5. Wheel and Axle

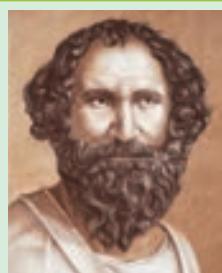
Wheel and axle consist of a wheel attached to a small rod so that these two parts rotate together.

Eg: bicycle wheel, door knob, grinder, axle wheel.



More to know

Simple machines usually exchange a smaller force to move a heavy object. The work required is the same, but the force required is less. The idea of a simple machine originated with the Greek philosopher Archimedes around the 3rd century BC.



6. Lever

A lever is used to multiply the force we give on an object.
Eg: see saw, nut cracker and plier.



Try to Answer

Identify and mention the types of simple machines.



Try to Answer

Complete the table.

S. No	Types of Simple Machine	Example
1.	Pulley	
2.	Wheel and axle	
3.	Wedge	
4.	Inclined plan	
5.	Lever	
6.	Screw	

IV. Types of Lever

To understand the lever, we must know the following terms.

Load is the object on which the force is applied.

Effort is the force we apply on the lever.

Fulcrum is the point on which the lever rotates.

Lever is classified into three types according to where the load and effort are located with respect to fulcrum.

The three types of lever

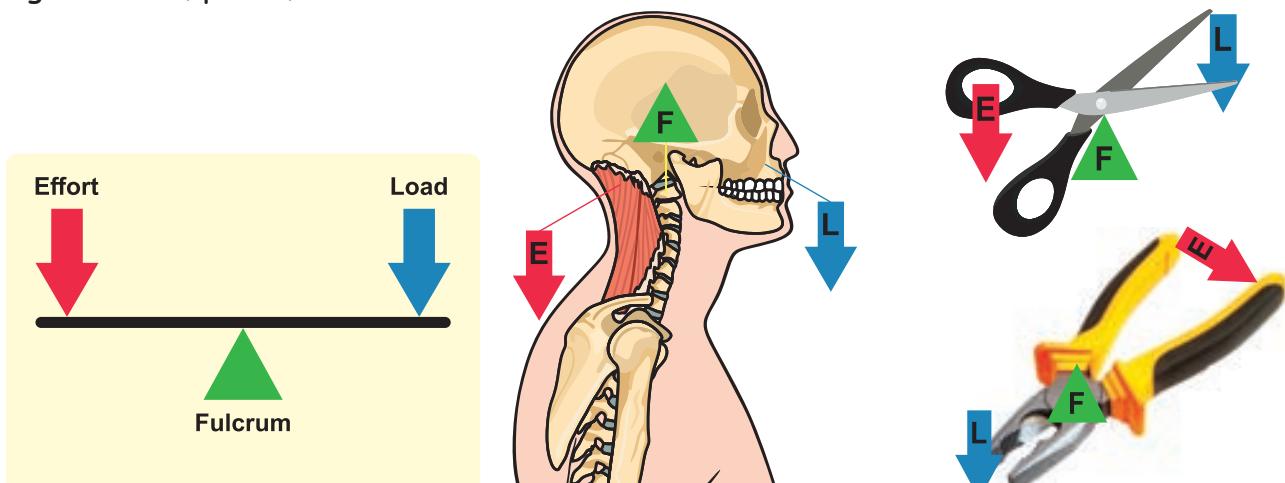
Class I lever

Class II lever

Class III lever

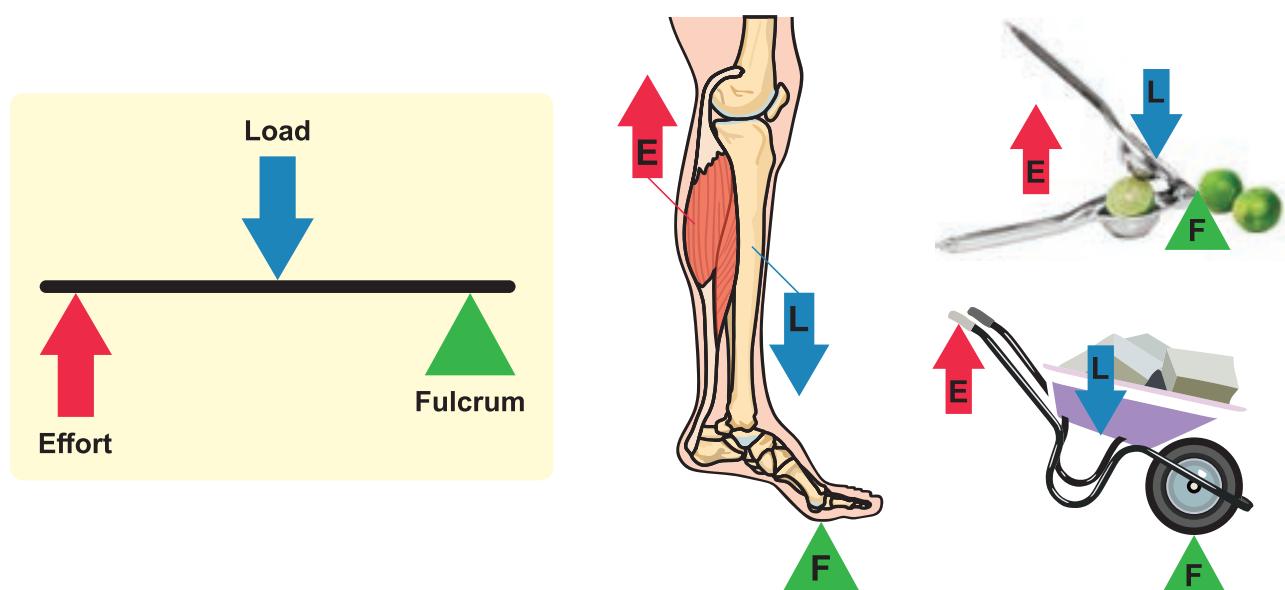
1. Class I Lever

When the fulcrum is between the effort and the load, it is known as Class I lever.
Eg: scissors, pliers, seesaw.



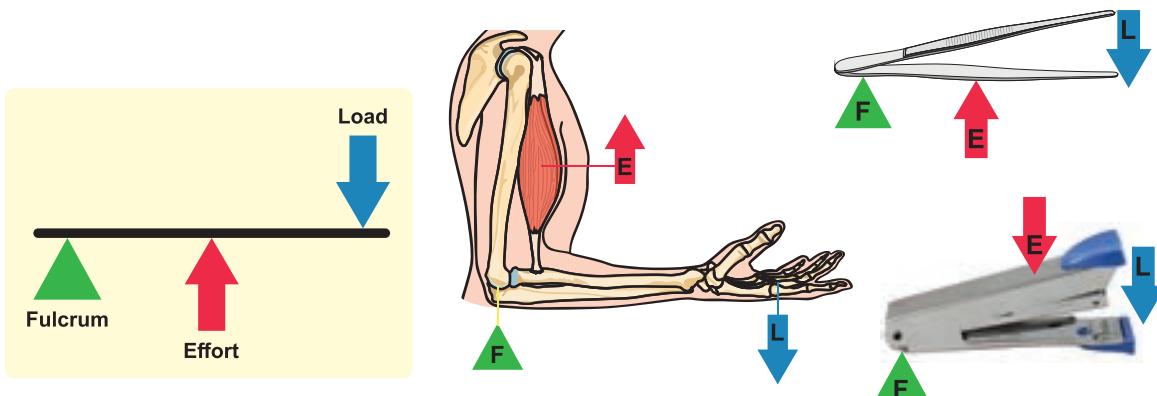
2. Class II Lever

When the load is between the effort and the fulcrum, it is known as Class II lever.
Eg: wheel barrow, lemon squeezer, nut cracker.



3. Class III Lever

In this lever, the effort is between the load and the fulcrum.
Eg: stapler, tongs, broom stick, hockey stick.



Try to Answer

Name the load, effort and fulcrum.

1. _____
2. _____
3. _____

1. _____
2. _____
3. _____

1. _____
2. _____
3. _____

Evaluation

I. Use the correct word to fill the blanks.

(Ramp, Simple machines, Work, Energy, Pulley)

1. _____ is said to be done when a force is acting on it.
2. The ability to do work is _____ .
3. _____ is a machine made up of wheel and rope.
4. _____ help us to make work easier.
5. An example for inclined plane is _____ .



II. Rearrange the letters and find out the names of the tools.



EDGEW

--	--	--	--	--



RLEVE

--	--	--	--	--



EWCRS

--	--	--	--	--

III. Match.

- | | |
|-----------------------|-----------------|
| 1. Class II lever | - Drawing water |
| 2. Pulley | - Bicycle |
| 3. Class I lever | - Nut cracker |
| 4. Wheel and axle | - Wind |
| 5. Renewable resource | - Seesaw |

IV. Classify the things below.

Sl. No	Examples	Class of Lever
1.	Spade	
2.	Seesaw	
3.	Wheel barrow	
4.	Plier	
5.	Nail cutter	

V. Answer the following.

1. What is the unit of energy?
2. Name some simple machines.
3. What is a first order lever?
4. Lemon juicer belongs to which type of lever? Why?
5. Define work.
6. Write any three types of energy.

Science in Everyday Life

Unit
4



Learning Objectives

After learning this lesson, students will be able to

- ❖ know the nutritional value of milk
- ❖ explore the benefits of cooking
- ❖ learn about baking of bread, biscuit and cake
- ❖ know about gadgets used in daily life



NN9GVS

Let us Recall

Teacher : What do you have as soon as you get up?

Students : Tea, coffee and milk .

Teacher : Good. What do they contain?

Ram : Milk, tea dust, coffee powder and sugar.

Teacher : Very good. Do you know why we drink milk in the morning?

Ram : Yes. It is good for our health.

Teacher : Correct, let us learn more about milk in this lesson.



I. Milk

Milk is produced by some animals for nourishing their young ones. Milk from many animals is used by humans. Cow's milk is used commonly.



1. Sources of Milk

Milk is primarily obtained from mammals. They are obtained from other sources too. Examples: Soya milk, nut and seed based milk.

Based on the amount of fat present in the milk, it can be classified as Whole milk, Low fat milk and Fat free milk.



People all over the world get their milk from mammals like sheep, goat, camel, donkey, horse, yak, water buffalo, reindeer and even moose.

2. Nutritional value of Milk

Milk contains water, sugar, protein, fat, vitamins and minerals.



Sugar : Milk has sweet taste because it has a special sugar called lactose.

Protein : It helps to build muscles.

Fat : Fat present in the milk is called butter. Butter is more delicious than any other fat.

Vitamins : Vitamin-D in milk helps to maintain the bones.

Minerals : Calcium is a mineral. It helps to build healthy bones and teeth.



Primary food for babies.

Gives curd, butter, butter milk and ghee.

Health drink for adults and sick people.

Used for making cheese, paneer and milk sweets.

Used in Ice cream and Chocolates.

Used during festivals and ceremonies.

3. Health Benefits of milk

1. It strengthens bones and teeth.
2. It maintains blood pressure.
3. It reduces the risk of heart disease.
4. It is a source of energy.

Try to Answer

1. Milk is a rich source of _____ . (Calcium / Iron)
2. Milk contains _____ , _____ and _____ .

II. Food materials

What is food? Food is one of the basic needs of our life. Food provides energy. It is usually made by cooking plants or animals. It contains essential nutrients to keep our body healthy.



Food can be classified into two types:

- 1. Raw Food** - Raw food is the food that does not have to be cooked to eat.
Examples: Fruits, carrot, ground nut seeds.



- 2. Cooked food** - Cooked food is the food that has been cooked to eat.
Examples: Rice, vegetable curry, bread.



Let us Do

Simple tasks such as pouring liquid into the bowl, sprinkling pepper on the omelet or dosa, peeling off onions, powdering coriander seeds can be done by you. Always help the elders in the kitchen.



1. Cooking

Do you know how many food items are there that you will not be able to eat without cooking? Cooking is important. It makes food suitable for consumption.



Methods of Cooking



Boiling



Steaming



Frying



Deep frying



Roasting



Grilling

Benefits of Cooking

Cooking causes many useful changes in food.

1. It makes nutrients ready for **digestion**.
2. It helps to make food in the desired texture, flavour and taste.
- 3 It destroys harmful microbes.

Try to Answer

1. _____, _____ are examples of raw food.
2. _____, _____ are examples of cooked food.

Let us discuss

Look at the things shown in the picture and discuss their uses with your friends.



III. Baking of Bread, Biscuit and Cake

Baking is a method of cooking. We use dry heat to bake. Bread, biscuit and cake are some examples of baked food items.

1. Bread

Bread is a common food product prepared from dough by baking. It is an important source of energy for **sick people**. It is also one of the **ancient foods made by humans**. Bread is a **low fat food**.



Bread has the nutrients required for normal development and good health.

To make bread we need wheat flour, yeast, water, sugar and salt.



Bread spoils six times faster when kept in fridge than at room temperature.

2 Biscuit

Biscuit is a small, flour - based baked food. They are generally made of wheat flour or oats and sweetened with sugar.

The main ingredients of biscuit are flour, sugar, butter, water, milk, baking powder and flavours.

Biscuits are salty or sweet. Some biscuits have cream in between.



Biscuits are made with baking powder to make it airy.

3 Cake

Cake is a baked dessert. It is like a sweet bread. There are many varieties of cake with specific ingredients. We

use cake during celebrations. The common ingredients of the cake are flour, sugar, eggs, oil, baking powder and flavouring agent.



Try to Answer

1. Bread is _____ (low / high) fat food.
2. Biscuits are made from _____ (wheat flour / rice flour).
3. _____ is associated with birthday celebrations (cake / biscuit).

Activity

Visit a bakery near you and learn about baking of bread, biscuit and cakes.

IV. Gadgets



Think of the electronic devices we use everyday.

The phone that we use, the camera that goes with us on every vacation, the TV that we watch for fun all these devices that we use are called gadgets.

A gadget is a small electronic machine or device which does something useful. Number of gadgets have changed our lives. They make our life enjoyable.

Examples: Laptop

Phone

Camera

Pen drive

Speaker

Smart Phones



Apart from communication, smart phones have the ability to access the internet and store files, take photos, track location and much more.



Portable Music Player

It stores and plays thousands of songs.
We can listen to songs anywhere, anytime.



Tablets

People use tablets to read books, play games and watch videos.





Pen Drive

It is a small gadget used for storing and transferring any type of file in / from a computer.



Electric Torch

Portable hand-held electric light. Torch is used to provide light in the dark places when it is switched on.

Try to Answer

Write the names of the given gadgets.
(Web cam, Remote, Speaker, Camera, Headphone)



Evaluation

I Choose the correct answer.

1. Primary source of energy for the young ones of some animals is
a) water b) fruits c) milk
2. Vitamin present in milk that helps us to maintain our bones is
a) Vitamin-E b) Vitamin-C c) Vitamin-D
3. One of the ancient food items made by human is
a) noodles b) cake c) bread
4. _____ is a raw food.
a) Cucumber b) Chappatti c) Bread
5. A gadget that plays songs is called
a) pen drive b) camera c) music player



II Fill in the blanks.

1. Cheese and paneer are made from _____ .
2. Nutrients are made ready for digestion by _____ .

III Match the following.

- | | | |
|-------------------|---|-----------------------------|
| 1. Music player | - | Communicates with the world |
| 2. Smart phone | - | Stores data |
| 3. Electric torch | - | Plays games |
| 4. Pen drive | - | Provides light |
| 5. Tablet | - | Plays music |

IV Answer in a sentence or two.

1. Name the food products derived from milk.
2. Write the names of any three baked foods.
3. In what ways a smart phone will help you?
4. What is food?

V Answer in detail.

1. Cooking removes harmful microbes. Write down other benefits of cooking.
2. Why should we drink milk?

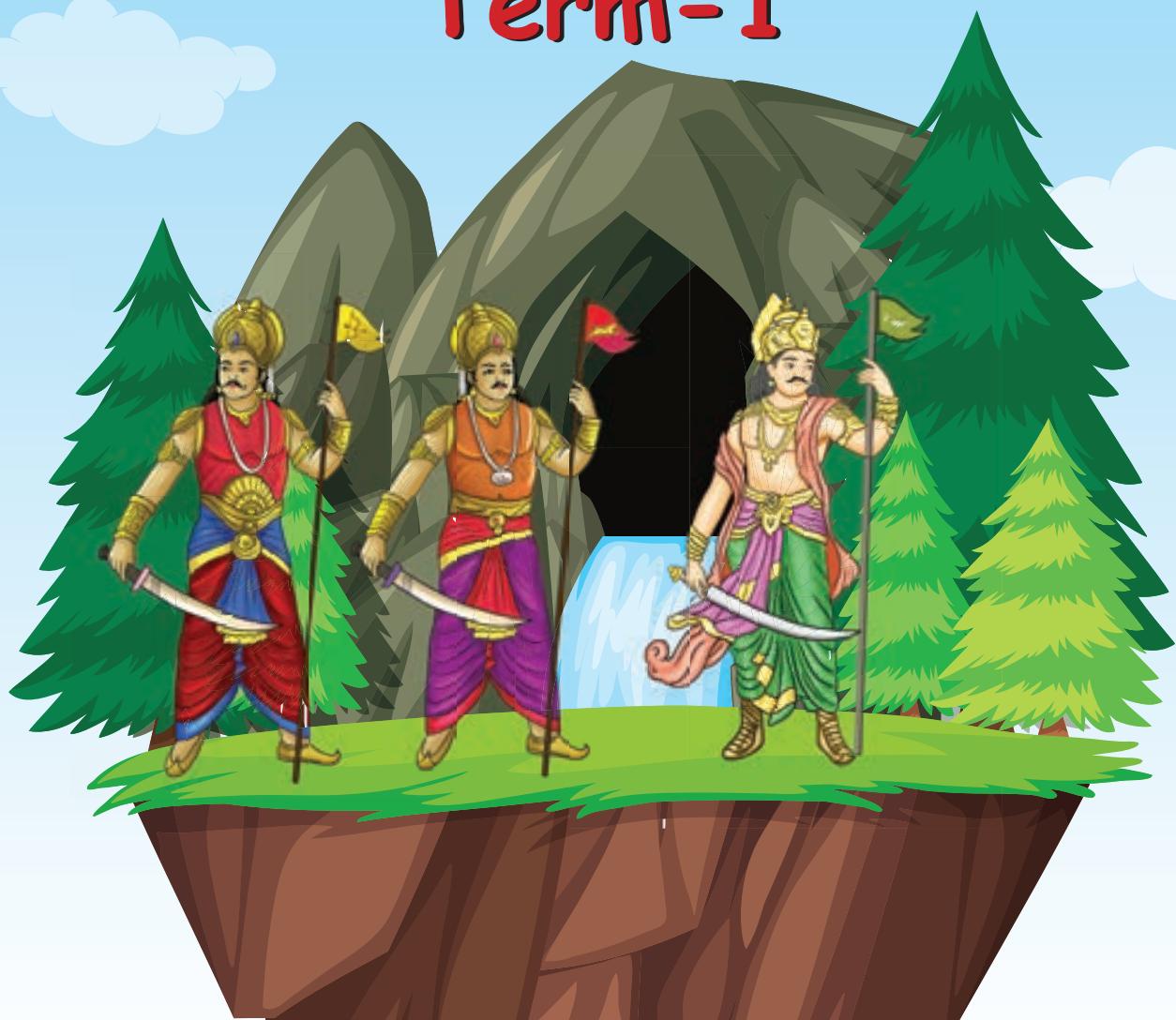
VI Projects.

1. List the gadgets you have used.
2. Tabulate different kinds of milk products.

4

Social Science

Term-1



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E-Book



Evaluation



Digi Link



Unit

1 Kingdoms of Rivers

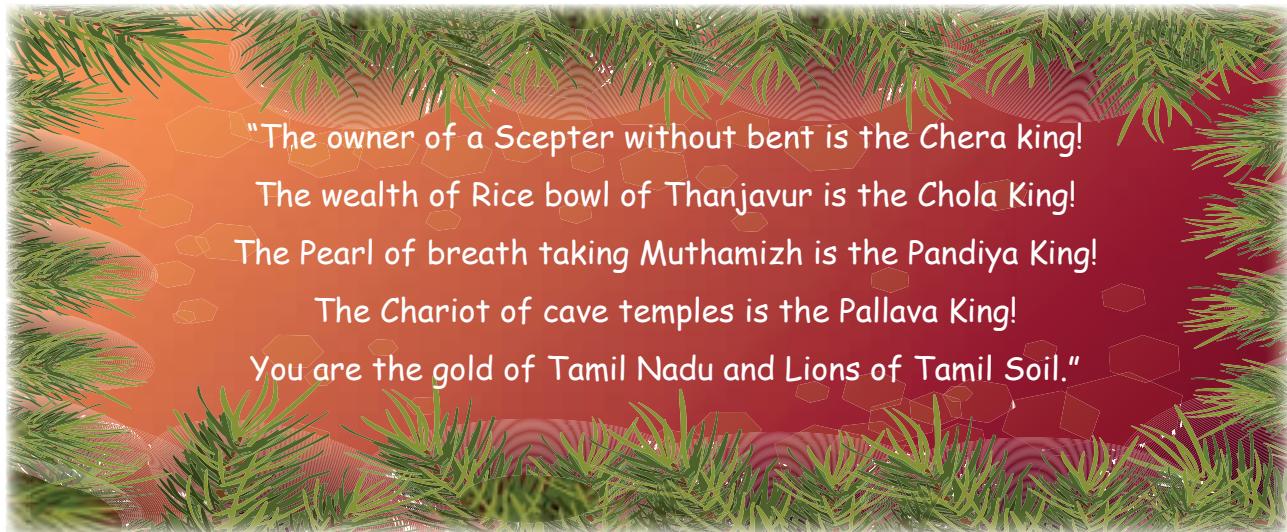


Learning Objectives



- ❖ To know about Tamil Kingdoms of Sangam age.
- ❖ To know about Cheras, Cholas and Pandyas.
- ❖ To understand the administrative, economic and social conditions during Sangam period.
- ❖ To know about Kuru Nila Mannargal.





Introduction

In the ancient period, people settled and started living along the river banks.

They produced agricultural crops. They reared cattle in the pasture lands. In this way the kingdoms of early Chera, Chola, Pandya and other kingdoms emerged along the rivers.

Kingdoms	River Banks
Cheras	- Poigai
Cholas	- Cauvery
Pandyas	- Vaigai
Pallavas	- Palar



Cheras

Cheras were the forerunners of the '**Moovendargal**' who ruled on the banks of river Poigai and their capital city was **Vanji**.

The Chera country comprised of the present western districts of **Erode**, **Tirupur**, **Coimbatore** and **Nilgiris**. **Kerala** was also a part of it. The Chera country was called **Cheranadu**.

The major part of the Cheranadu was surrounded by high mountains. The greatest rulers among the kings of Cheranadu were **Imayavaramban Neduncheralathan** and his son **Senguttuvan**.

The Chera King, Neduncheralathan conquered upto the Himalayas and hoisted the flag with the symbol of **Bow** and **Arrow**. Therefore he was hailed with the title "**Imayavaramban Neduncheralathan**".



Himalayas



Cheran Senguttuvan

The able ruler **Cheran Senguttuvan**, the son of **Neduncheralathan** erected the statue of **Kannagi**. This temple of Kannagi was built by the stones brought from the Himalayas after defeating king **Kanaka Vijaya**. It is also said that these stones were brought to Cheranadu on the heads of the captive soldiers.

This can be understood from the epic *Silappathikaram* written by Senguttuvan's brother Ilangovadigal. "**Pathitru paththu**" helps to know about the Chera kings during Sangam period.

Cheras :

1. River	-	Poigai	2. Capital	-	Vanji
3. Port	-	Thondi, Musiri	4. flag	-	Bow and Arrow



Try to answer

- ❖ Who were the greatest kings of early Cheras?
- ❖ Name the epic wrote by Ilangovadigal

Cholas

The early Cholas kept **Uraiyyur** as their capital along the river **Cauvery** and ruled it. **Uruthirangkannar** of **Kadiyalur** in his **Pattinappalai** describes that Cholanadu is famous for rice (**Cholanadu Sorudaithu**).

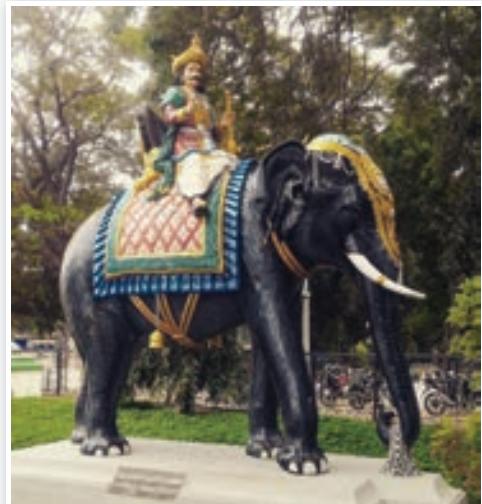
The Chola kingdom comprised the districts of **Trichirapalli**, **Tanjavur**, **Pudukkottai**, **Nagapattinam**, **Tiruvarur**, **Perambalur**, **Ariyalur** and **Cuddalore**.

The land of Cholas was fertile due to the river Cauvery. The kings ruled by providing justice to their subjects. The greatest ruler among the Cholas was **Karikala Cholan** who was also called '**Karikal Peruvathalan**'.

Karikala Cholan took the responsibility of a king at a very early age and ruled efficiently. When he was very young, he was captured by his enemies and imprisoned. The room in which he was arrested was set on fire. In this fire accident, his feet burnt. Due to his charred leg, he was called as '**Karikalan**'.

At a very young age he disguised as an old man and tactfully justified a case.

The Cheras and Pandyas together attacked Karikalan at **Venni, Vahaipparanthalai**. Finally Karikala Cholan defeated the two rulers there and was victorious. He invaded **Srilanka** and brought the captives from there, to build the dam Kallanai across the river **Cauvery**. The dam still stands erected even after 2000 years of its construction.



Karikala Cholan



Kallanai (Grand Anicut)

Cholas :

- | | | |
|------------|---|----------------------|
| 1. River | - | Cauvery |
| 2. Capital | - | Uraiayur |
| 3. Port | - | Cauvery poompattinam |
| 4. Flag | - | Tiger |



Let us Know

- ❖ Kallanai was constructed by the Chola king Karikalan in the 2nd century B.C.(B.C.E.). This is said to be the world's oldest dam still in use. Stones and Lime mortar were used to construct it.



Try to answer

- ❖ Who was the greatest Chola king of the ancient period?
- ❖ Name the capital and port of the Cholas.

Pandyas

Pandyas established their rule on the bank of **Vaigai** with **Madurai** as their capital. The ancient Pandya country comprised of **Madurai**, **Theni**, **Dindigul**, **Virudunagar**, **Tirunelveli**, **Tuticorin**, **Sivagangai** and **Ramanathapuram** districts.

Madurai remained as the most popular city of Sangam period. Pandiya country famous for pearls. **Muthamizh sangams** were held in madurai under the patronage of pandyas. The third Tamil Sangam was held in Madurai. Muthamizh flourished during the reign of Pandyas. The most famous kings were **Thalaiyalanganathu Seruvendra Pandiya Nedunchezhan** and **Pandiya Nedunchezhan** of **Silappathikaram**.

When Pandiya Nedunchezhan was a young boy, he fought a battle at **Thalaiyalanganam** against Cheras, Cholas and feudal lords (**Kuru Nila Mannargal**). He defeated the combined force. Therefore he got the title "**Thalaiyalanganathu Seruvendra Pandiya Nedunchezhan**".

Silappathikaram:

During the rule of Pandiya Nedunchezhan, he happened to prosecute **Kovalan** for theft and gave death sentence. Kovalan's wife **Kannagi** advocated to prove her husband's innocence.

When the king realized the truth, he said "**Yano Arasan, Yanae Kalvan**"... "**Kedugaven ayul**" and died by falling down from his throne. Immediately his wife **Kopperumdevi** also sacrificed her life out of shock. The administrative system of the Pandyas was depicted by **Mangudi Maruthanar** of '**Madurai Kanchi**'.

Pandyas:

- | | |
|-------------------|----------------------|
| 1. River - Vaigai | 2. Capital - Madurai |
| 3. Port - Korkai | 4. Flag - Fish |



Madurai Meenakshi Amman Temple



Try to answer

- ❖ Which Pandya mannan was mentioned in Silappathikaram?
- ❖ Who wrote 'Madurai Kanchi'?
- ❖ What is inscribed on the flag of Pandyas?



Let us Know

In ancient Madurai, there existed day time shops called Naalangadi and night time shops called Allangadi.



Ancient Tamil kingdoms (Moovendargal)

Fill in the blanks.

Kingdoms	Capital	Port	symbol	famous Kings
Cheras	Vanji	_____	bow and Arrow	_____
Cholas	_____	Kaveri Poompattinam	_____	Karikalacholan
Pandyas	Madurai	_____	fish	_____



List out the territories of the Moovendargal in the present districts of Tamil Nadu.

- Cheras : _____
 Cholas : _____
 Pandya : _____

Pallavas

The early Pallavas ruled on the banks of river Palar with Kancheepuram as their capital. The regions ruled by them was called Thondai mandalam. It is located in the North Eastern part of Tamil Nadu.

Mahabalipuram



Varaha cave temple



Tiger cave

The kingdom of early Pallavas was founded by Sivas kantha varma Pallavan. He integrated Thondai mandalam and ruled over there. The greatest kings among the early Pallavas were Sivas kantha varman and Vishnugopan.

The later Pallava period was started from the reign of Simhavishnu. The greatest kings of this period were Mahendravarman and Narasimhavarman. The greatest achievements of the Pallavas were Cave temples and Mondithic rathas.

Pallavas:

- | | |
|-------------------------|---------------------------|
| 1. River - Palar | 2. Capital - Kancheepuram |
| 3. Port - Mahabalipuram | 4. Flag - Nandi |



Try to answer

- ❖ Which was the capital of Pallavas?
- ❖ Where is Thondai mandalam in Tamil Nadu?

Feudal Lords (Kuru Nila Mannargal)

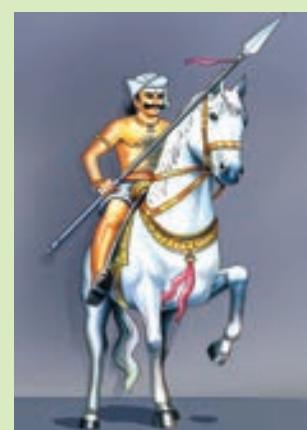
Apart from the Mooventhargal several Feudal lords or Kuru nila mannargal also ruled over smaller lands. The most important among them were Pehan, Pari, Nedumudi kari, Aai, Athiyaman, Nalli, Valvil Ori.



Pehan



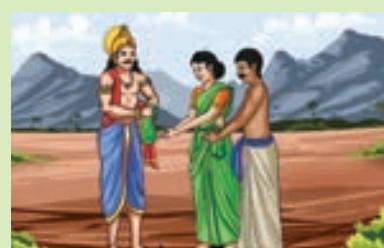
Pari



Nedumudi kari



Athiyaman



Valvil Ori



These kings were known for their generosity. Therefore they were popularly called as "Kadai ezu vallalgal".



Try to answer

- ❖ Who offered gooseberry to the poetess Avvai?
- ❖ Who put his shawl around the peacock?

Administrative Conditions

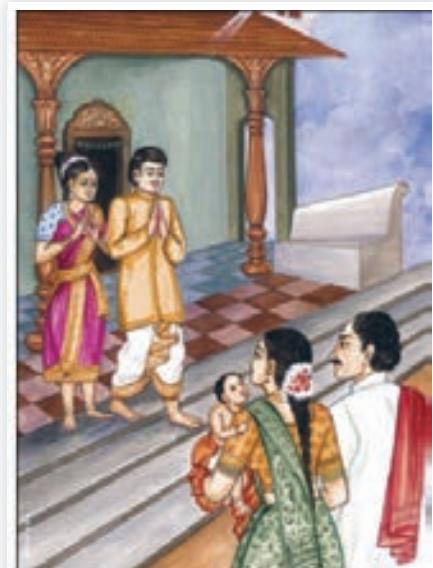
Arasan was specially called as **Ko, Kon, Venthan, Kotravan, Irai** by his people. Each dynasty had their own flag, symbol, scepter, sword, drum and **venkotrakudai**.

The kings were not only efficient warriors but they were scholars too. Kingship became hereditary. The first son became the ruler. The kings greatly cared for the people of their country.

Hospitality (Virunthombal)

Hospitality occupied a significant place in Sangam period. Even though it is Amritam (Nectar) it was considered to be a sin, if the guest is kept outside home.

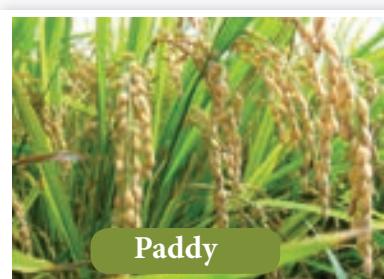
Kakkai Padiniyar, a poet got his name for praising a crow for informing the arrival of a guest. **Pura Nanooru** describes hospitality as one of the important duties of the Tamils.



Economic Conditions



Various arts and crafts flourished during the Sangam age. People lived happily due to the development in economy.



Paddy



Varagu



Thinai



Samai



Sugarcane

Paddy and Sugarcane were the most important crops cultivated. Besides these Varagu (Millets), Thinai (Millets) and Samai were also cultivated.

"Varappu uyara neer uyarum, "வரப்புயர நீர் உயரும்,
Neer uyara nel uyarum, நீர் உயர நெல் உயரும்,
Nel uyara kudi uyarum, நெல் உயர குடி உயரும்,
kudi uyara kol uyarum, குடி உயர கோல் உயரும்,
kol uyara kon uyarvan" கோல் உயர கோன் உயர்வான்"

- Avvaiyar

- ஓளவையார்

From the above, poetess Avvai tries to convey that the prosperity of the king lies in the development of agriculture.



Let us Know

Poetess Avvaiyar always blessed by saying "Varappuyara"....
This signifies the importance of agriculture in the Sangam Period.

Conditions of Women

Women were respected in the society. Monogamy was prevalent. Women were equal to men in bravery. It is said in 'Pura Nanooru' that in the first day of battle a woman lost her father, the second day she lost her husband, despite of these heavy loses she prepared and sent her son to the battle-field with great zeal.

It is also said, a woman in the Sangam age drove away a ferocious tiger with Muram (Winnow) in her hand.

Festivals

People of Sangam Age celebrated various festivals. Karthikai, Thiruvaadhirai and Harvest festivals were the most celebrated ones.

Uruthirankannanar of 'Pattinappalai' said that the most popular festival of Indira Vizha was celebrated in Puhar.



Harvest festival



Try to answer

List out the festivals of Tamil people at present.



Evaluation

I. Choose the correct answer:

1. Cheras, Cholas and Pandyas were called _____.
a. Nayanmars b. Moovendargal c. Kuru nila mannargal
2. The efficient king among the Cheras was _____.
a. Karikalan b. Valvil Ori c. Cheran Senguttuvan
3. Port of Cholas was _____.
a. Kaveri poompattinam b. Chennai c. Thondi
4. The flag of Pandyas was _____.
a. Peacock b. Fish c. Tiger
5. The Vallal (Feudal lord) who gave his chariot to Mullai was _____.
a. Pari b. Pehan c. Adhiyaman

II. Match the following:

1. Cheras - Vaigai
2. Cholas - Palar
3. Pandyas - Poigai
4. Pallavas - Cauvery

III. Answer in short:

1. Who were the greatest kings among the Cheras?
2. Who were Kadai ezhu vallalgal?
3. Tell about the achievements of Karikalan.
4. Which was the capital and coastal town of Pallavas?

IV. Who Said?

1. 'Yano Arasan, Yanae kalvan'.



Unit 2 Five Landforms



Learning Objectives

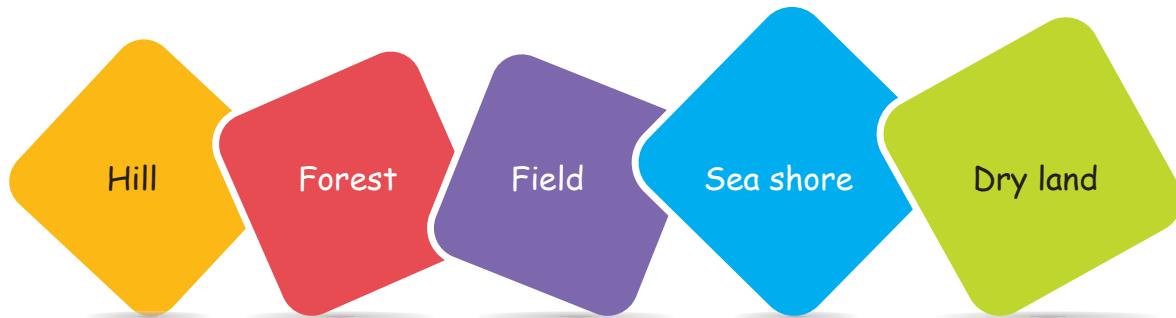


- 
- ❖ To know about different types of landforms in ancient Tamil Nadu.
 - ❖ To know about the themes of classification.
 - ❖ To understand the life style of people in different landforms of Tamil Nadu.

Introduction

- ❖ What is the name of your native place?
- ❖ In which district is your native place situated?
- ❖ What do you see around your house?

We see fields, houses, trees, stones and dry lands around our house. We see more things like this in our Earth.



1. Where would you see more hills on the Earth? Mountains
2. Where would you see wild animals with more trees? Forest
3. Where does the paddy grow? Agricultural land
4. Where would you see the Sea shore? Sea, Beach
5. What is the name of useless lands? Fallow land

The places we see on the surface of the Earth is called **landforms**.

Now let us see how the land was divided into **different types** in ancient Tamil Nadu according to its fertility and people's activities.

Physical Features & Landforms Of Tamil Nadu

In the Solar family, Earth is the third planet. It has oxygen and temperature to live. Therefore we call the Earth as Biosphere.

The Earth or the life sphere is surrounded by five elements of nature called land, water, air, fire and sky.

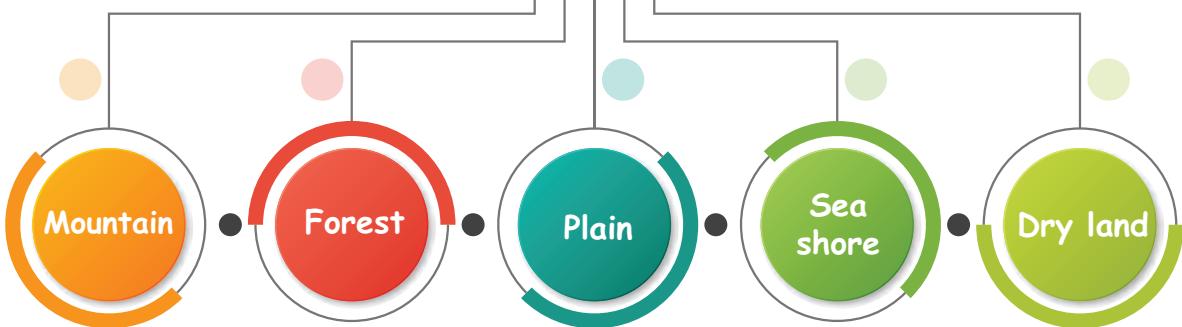


Earth



Land

Physical Features of the Land



Landforms Of Tamil Nadu

- ❖ The five types of landforms in Sangam age were divided on the basis of the work done by the people.
- ❖ Out of the five thinais, only four types were permanent. They were Kurinji, Mullai, Marutham and Neithal. The fifth land Palai was formed when Kurinji and Mullai dried up.

I. Mountains (Kurinji Land)

A mountain is a large geographical area that rises above the surrounding land with peaks.

The mountain and its surroundings are known as Kurinji land.



1. The Theme

The Theme (Karupporul) deals with the god, people, occupation, plant, flower, animal, bird and musical instrument.

God	Murugan
People	Kuravar, Kurathiyan
Occupation	Hunting, Gathering Roots and Honey
Plant /Flower	Bamboo, Vengai/ Kurinji flower
Animal/Bird	Monkey, Deer/ Peacock, Parrot
Musical Instrument	Kurinji yazh

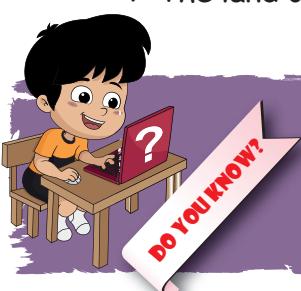


2. The People and their Occupations

- ❖ Poruppan - Soldier
- ❖ Verpan - Leader of the tribe, Weaponists
- ❖ Silamban - Master of martial arts (The arts of fighting) .
- ❖ Kuravar - Hunter and the Gatherer.
- ❖ Kanavar - People of the mountainous forest.

3. The Soil of Kurinji Land

- ❖ The land of Kurinji was composed of red and black soils with stones and pebbles.



Some important hills of Tamil Nadu

Kolli hills, Shervarayan hills, Kalrayan hills, Nilgiris hills,
Javad hills, Yelagiri hills

Miraculous Flower-Kurinji

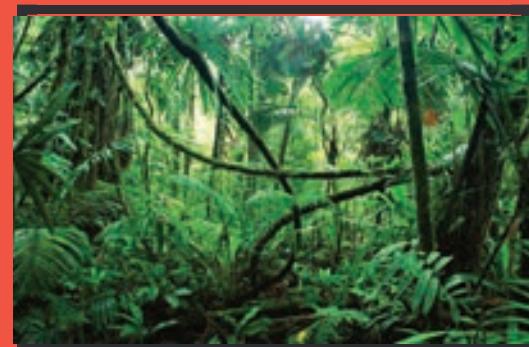
The miraculous Kurinji flower grows once in twelve years. The flower grows well in the Western Ghats. It flowers in the month of July to September. This flower has medicinal value.



II. Forest (Mullai Land)

A large area covered by trees is called forest.

The forest region is referred as Mullai land. This region is also called 'Sembulam' due to the presence of red soil.



1. The Theme

God	Thirumal
People	Idaiyar, Idaichiyar, Aayar, Aaichiyar
Occupation	Cattle rearing, Gathering fruits, Sowing Millets
Plant / Flower	Guava/ Mullai flower
Animal/Bird	Bear, Rabbit/ Parrot
Musical Instrument	Mullai yazh



2. The People and their Occupations

- ❖ Idaiyar - Milk seller.
- ❖ Aayar - Cattle rearer.

3. The Soil of Mullai land

- ❖ The land of Mullai has red soil with stones and pebbles.

Forests in Tamil Nadu

- | | |
|---------------------|-------------------------------------|
| 1. Mangrove forests | - Pichavaram in Cuddalore district |
| 2. Malai forests | - Nilgiris district |
| 3. Reserve forests | - Kanyakumari district |
| 4. Shola forests | - Coimbatore and Nilgiris districts |



Let us Know

Manufactured Products	Trees used to Produce
Paper	Bamboo, Thaila, Kudaivel
Safety match	Ayilai, Mul Ilavu
Fragrance oil	Sandle tree
Balm, Soap	Illupai, Neem, Pungam,

Pichavaram Forest

Pichavaram is a village near Chidambaram in Cuddalore district of Tamil Nadu, which is the second biggest mangrove forest in India. It comprises of small vegetation, aquatic animals etc. with moist temperature.



III. Field (Marutham Land)

The vast flat land on the Earth is called plain. The crop fields and their surroundings were known as Marutham. (The agricultural land and the area around it).



1. The Theme

God	Indiran (Vendhan)
People	Uzhavar, Uzaththiyar
Occupation	Farming
Plant/Flower	Kanchi, Marutham/ Lotus, Kuvalai
Animal/Bird	Buffalo/ Crane
Music	Marutha yazh



2. The People and their Occupations

- ❖ Uran - Small Landlord
- ❖ Uzhavan - Farm worker
- ❖ Kadaiyar - Merchant

3. The Soil of Marutham land

- ❖ The land of Marutham is formed of **alluvial soil** and **red soil**.

Amazing fact.

Kallanai is an ancient dam, which is built across the Cauvery river in Thanjavur district in Tamil Nadu. Its length is 1,080 ft, width 66 ft and height 18 ft. It is the fourth oldest water diversion system for irrigation in the world.



IV. Sea / Sea shore (Neithal Land)



The salty water body that covers a large part of the surface of the Earth is called sea.

The Sea and the area around the sea is called 'Neithal'.



1. The Theme

God	Varunan (Rain god)
People	Parathavar (Fisher man)
Occupation	Fishing
Plant / Flower	Punnai/ Kandhal
Animal/Bird	Fish/ Sea crow
Music	Vilari yazh



Varunan



Fishing



Kandhal



Punnai



Fish



Sea crow

2. The People and their Occupations

- ❖ Serppan - Seafood vendor and trader.
- ❖ Pulamban - Who thrive on coconut.
- ❖ Parathavar - Sea warrior, Merchant.
- ❖ Nulaiyar - People who thrived on fish culture.
- ❖ Alavar - Salt cultivator.

3. The Soil of Neithal land

- ❖ The land of Neithal is made of saline soil.

Known Place, Unknown Fact

Marina beach is a natural urban beach in Chennai, Tamil Nadu . It is the second longest beach in the world. The beach is situated in the eastern side of India along Bay of Bengal. The beach runs from Fort St. George in the north to Foreshore Estate in the south, The total distance of beach is 13 km. (The first longest beach is Miyami beach, which is situated at Florida, America.)



V. Dry Land (Palai Land)

A dry region with less or without rainfall is called a dry land.
The sandy land, which undergoes drought is called Palai.
When Kurinji and Mullai dries up, it is called Palai.



1. The Theme

God	Kottravai (Mother Goddess)
People	Eyinar, Eyiatriar
Occupation	Cattle lifting
Plant / Flower	Uzhinghai, Palai/ Cactus, Iluppai
Animal/Bird	Tiger, Elephant/Eagle
Music	Palai yazh



2. The People and their Occupations

- ❖ Maravar - Noble warrior, Hunter.
- ❖ Eyinar - Warrior.

3. The Soil of Palai land

- ❖ The land of Palai is **sandy** and **saline**.

1. With help of your teacher visit a nearby mountainous region and collect the herbs and know their uses.
2. "Trees are our friends". Do you accept? Discuss with group.



Evaluation

I. List out.

1. Write the names of the mountains and the places, where they are located in your district.

S. No	Mountains	Places
1.		
2.		

2. Write the names of trees around your school.

S. No	Name of the trees
1.	
2.	

II. Find in the blanks.

1. The vast flat land on the Earth is called _____.
2. _____ is the fourth oldest water diversion system for irrigation in the world.
3. _____ forest is located in Kanyakumari district.
4. The agricultural land and the area around is called _____.
5. _____ is the biggest mangrove forest in India.
6. Marina beach is located in _____.

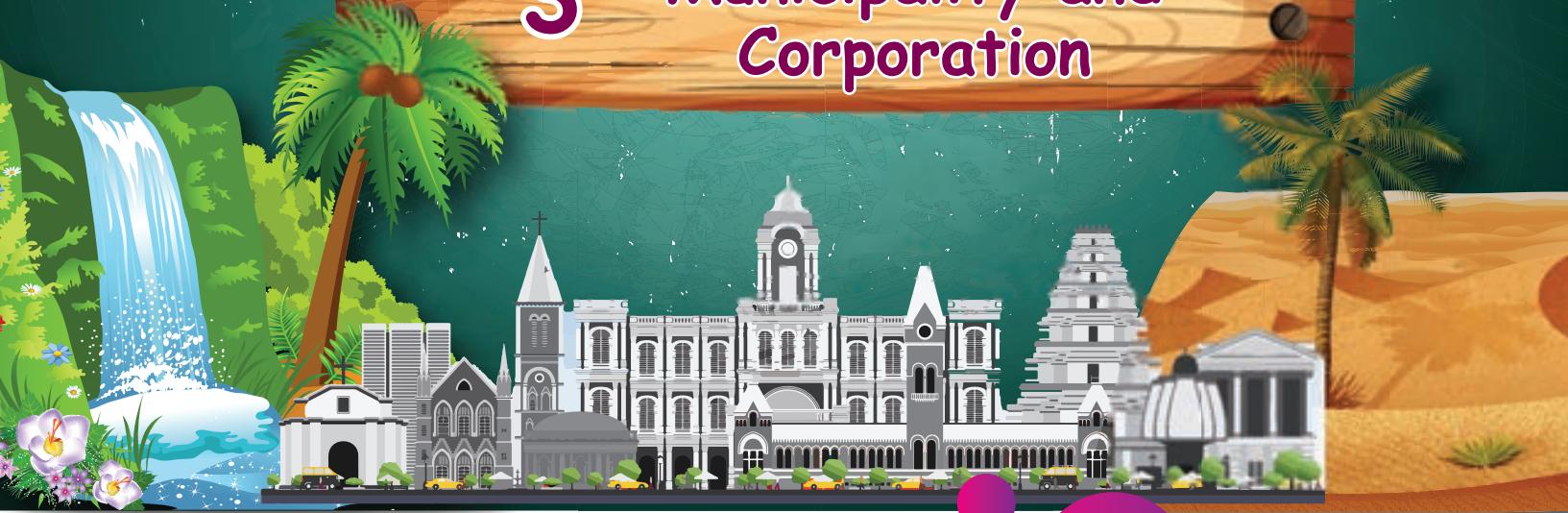
III. Match the following.

- a) 1. Murugan - Mullai
2. Thirumal - Palai
3. Indiran - Kurinji
4. Varunan - Marutham
5. Kottravai - Neithal
- b) 1. God - Root gathering
2. Flower - Kuravar, Kurathiyan
3. People - Kurinji flower
4. Occupation - Murugan

IV. Answer in short.

1. Name the people of five thinais.
2. List four themes of Mullai land.
3. What do you know about Sembulam?
4. How the Polai (dry land) region is formed?
5. What are the themes of Palai?

Unit 3 Municipality and Corporation



Learning Objectives



- ❖ To know about Municipalities and their duties.
- ❖ To understand the structure of local bodies.
- ❖ To know about the functions of Corporation and Town panchayat.
- ❖ To know about the sources of income for Municipality and Corporation.





Mugilan went to his uncle's house during summer vacation. One day he was playing in a park. At that time he heard the Municipality employees announcing that the people to pay taxes for house and others. Mugilan ran to his uncle.

Uncle

Why are you running? What happened?



Mugilan

Uncle! What is Municipality? Why should we pay taxes?

Uncle

Mugila! Municipality is a form of local government in a small town where 50,000 to 1,00,000 people live. This is divided into several wards. Our house is in the tenth ward. In our locality there are totally 30 wards. In Tamil Nadu there are 152 Municipalities.



Employees of Municipalities.



Municipal Office



Mugilan

Who is the head of the Municipality?

The head of the municipality is called the President.

The President and the members of the Municipalities are elected by the people directly. The tenure of the members is five years. One of the members of the municipality is selected as Vice-president.

Uncle



Mugilan

Uncle! What are the duties of Municipality?



- Providing street lamps.
- Constructing library and its maintenance.
- Maintaining local market (Santhal).
- Providing drinking water facilities.
- Constructing roads.
- Removing garbage dumps.

Uncle



Mugilan

What is the source of income for the work done by Municipality?

Uncle

Central government and State government provide the money. People also pay in the form of house tax, professional tax, drinking water tax, shop tax, road tax and drainage tax. It also forms the income of Municipality.



Let us Know

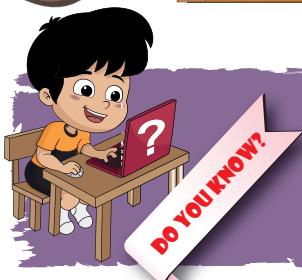
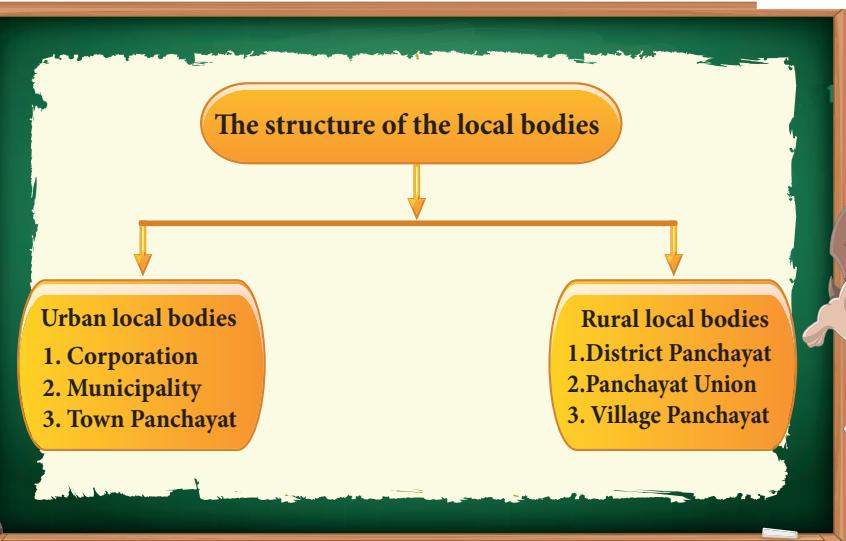


The father of local bodies - Lord Rippon

The following also comes under Municipalities.

- ❖ Town ships - eg. Neyveli
- ❖ Cantonment Boards - eg. parangimalai, Cunnur.
- ❖ Notified area committee.

Uncle



Tamil Nadu consists of 33 Districts, 386 Panchayat unions and 12620-Grama Panchayats.



Let us Know

- ❖ The 'Balwant Rai Mehta Committee' recommended a three tier Panchayat Raj system in 1957.
- ❖ The 'Ashok Mehta Committee' recommended a two tier Panchayat Raj system in 1978.

Uncle

For example, we call Chennai, Trichy, Kovai, Madurai and Salem as Corporations.



Mugilan

What is Corporation?

Uncle

Certain Municipalities will be declared by the Government of Tamil Nadu as Corporation based on high population and high revenue.



Mugilan

Uncle! How many Corporations are there in Tamil Nadu?

Uncle

In Tamil Nadu 14 Corporations have been established. The oldest Corporation is Chennai.





Nature of work in Corporation



Corporation Office



Mugilan

Uncle! How the head and the members are elected?

Uncle

The head and the members of Corporation was elected by the people directly. The chairperson of the corporation was called 'Mayor'. He is also called as 'the father of the Corporation'. The Tenure of the members of the Corporation is 5 years. The Indian administrative service officers and similar rank holders are appointed by the government to the Corporation. Most of the Urban areas have Corporation.



Municipal Corporations

- | | |
|-------------------|---------------|
| 1. Chennai | 8. Tuticorin |
| 2. Madurai | 9. Tiruppur |
| 3. Coimbatore | 10. Erode |
| 4. Trichirappalli | 11. Tanjore |
| 5. Salem | 12. Dindigul |
| 6. Tirunelveli | 13. Hosur |
| 7. Vellore | 14. Nagercoil |



At present Tamil Nadu government has declared Nagercoil as the 14th Corporation.



Mugilan

What are the duties of Corporation?



Uncle

- Constructing and maintaining the city roads.
- Providing drinking water facilities.
- Disposing garbage.
- Constructing libraries and maintaining them.
- Creating parks and maintaining them.
- Maintaining of birth and death records.



Mugilan

What is the source of income to the Corporation?

The amount collected from Professional tax, Wealth tax, Entertainment tax, Custom duties and Road tax are the sources of income to the Corporation.

Uncle



Mugilan

What else are there besides Municipality and Corporation?

Uncle

Apart from the Corporation and the Municipality Town Panchayat also exist. The head and the ward members are elected by the people directly. The tenure of the President and other members is 5 years. Panchayat is governed by the executive officer.

Town panchayat functions in places where the population exceeds 5000 people.



Mugilan

Uncle, I came to know the administration of Municipality and Corporation very well.

Thank you very much.



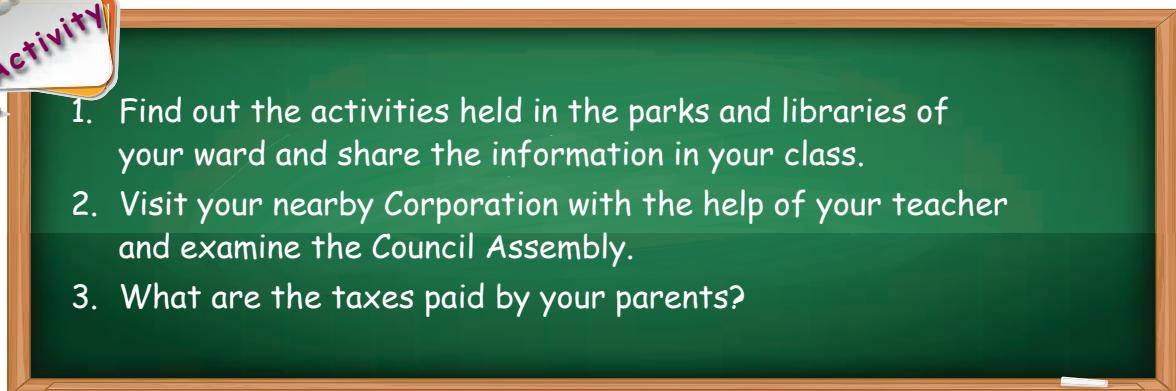
Uncle

Good !

Come let us wash our hands and have lunch.



1. Find out the activities held in the parks and libraries of your ward and share the information in your class.
2. Visit your nearby Corporation with the help of your teacher and examine the Council Assembly.
3. What are the taxes paid by your parents?





Evaluation

I. Fill in the blanks.

1. The oldest Corporation of Tamil Nadu is _____
2. The father of local self government is _____
3. The 'Balwant Rai Mehta Committee' recommended a three tier Panchayat Raj system in _____
4. The Tenure of Municipality is _____ years.

II. Match the following.

- | | |
|---------------------|-------------------|
| 1. Rural local body | - Kudavolai |
| 2. Rippon building | - Township |
| 3. Neyveli | - Grama panchayat |
| 4. Cholas | - Corporation |
| 5. Mayor | - Lord Rippon |

III. Fill in the box.

S. No.		Municipality	Corporation
1	President	Father of Municipality	
2	Number		14
3	Tenure		
4	Officer	Commissioner	
5	Revenue		Professional tax

IV. Answer in brief.

1. What are the duties of Corporation?
2. How is the President of Municipality elected?
3. What is the total number of Corporations in Tamil Nadu?
4. What are the sources of income of Municipality?

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