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STANDARD FOUR

TERM - III
VOLUME - 2

MATHEMATICS
SCIENCE
SOCIAL SCIENCE

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Department of School Education

Untouchability is Inhuman and a Crime

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MATHEMATICS

TERM - III

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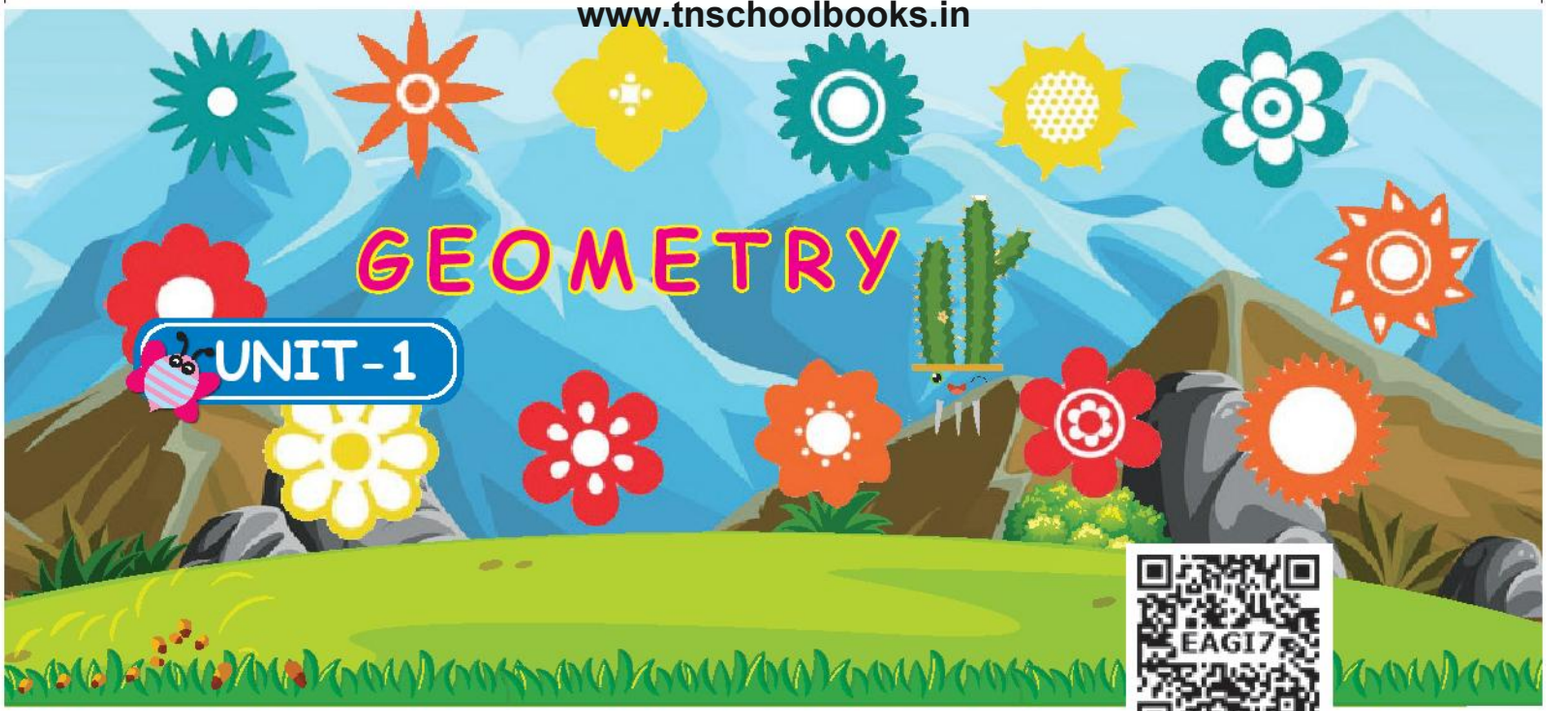
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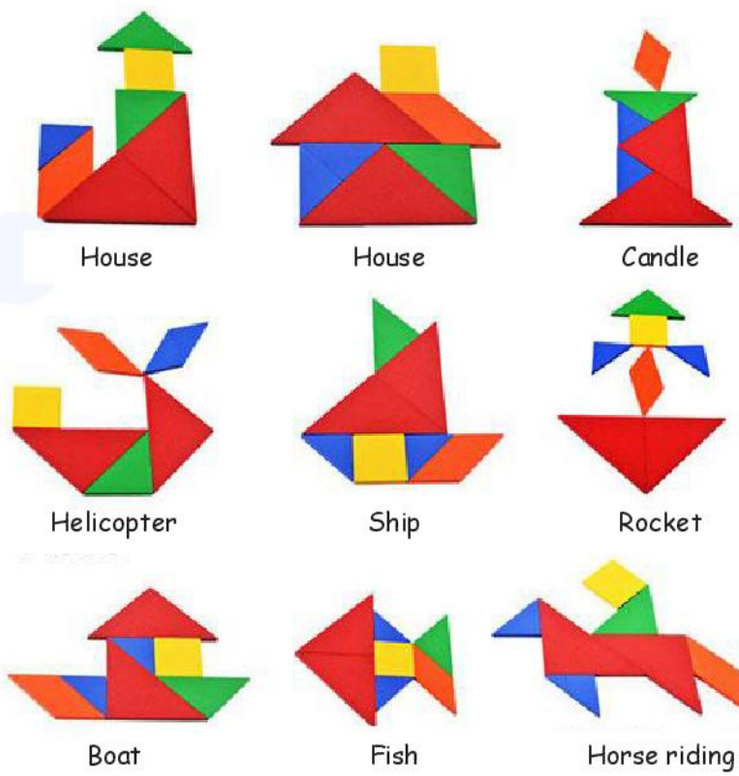


1.1 Creating different 2D shapes

1.1.1 Uses of tangram in combining different 2D shapes.

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

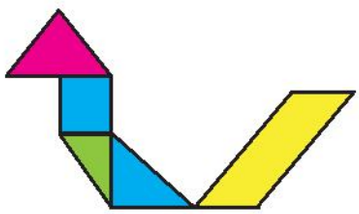
Playing with tangrams develop skills such as problem-solving, logical thinking, perceptual reasoning, visual spatial awareness and creativity.

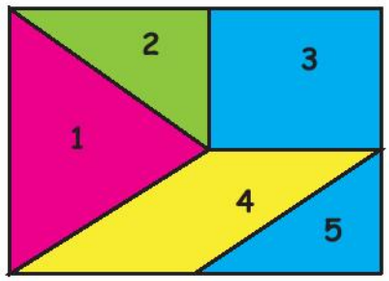


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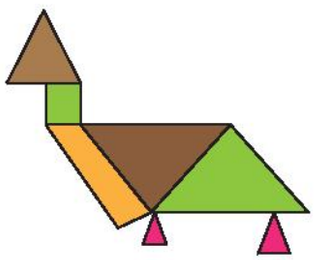
Examples

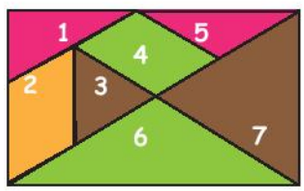
1. Join the five pieces of tangram to form the following picture.





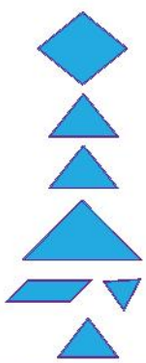
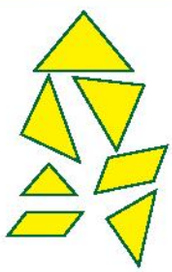
2. Join the seven pieces of tangram to form the following picture.





Activity

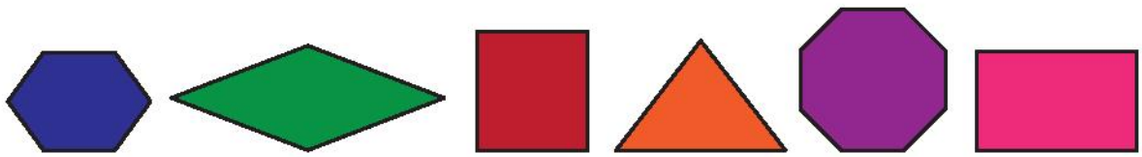
Use the tangram pieces to form pictures of your choice.

1.		
2.		

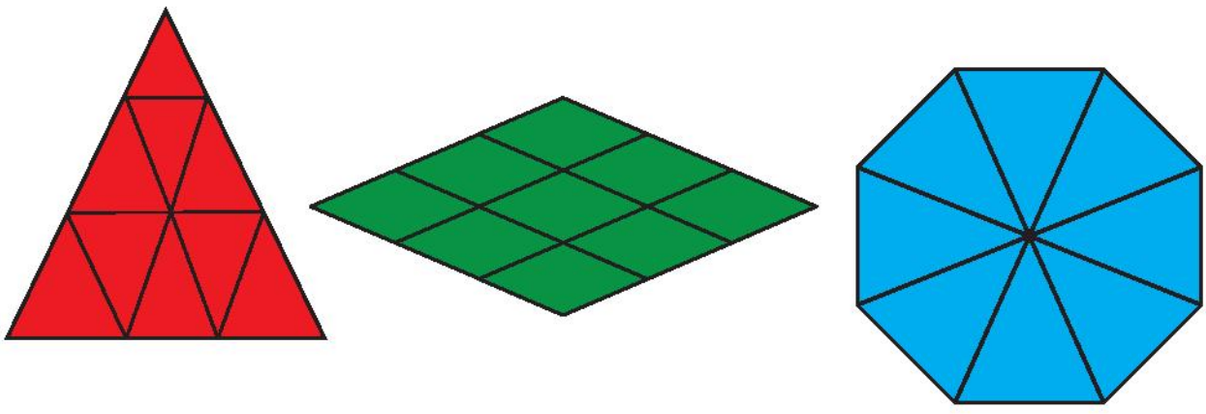
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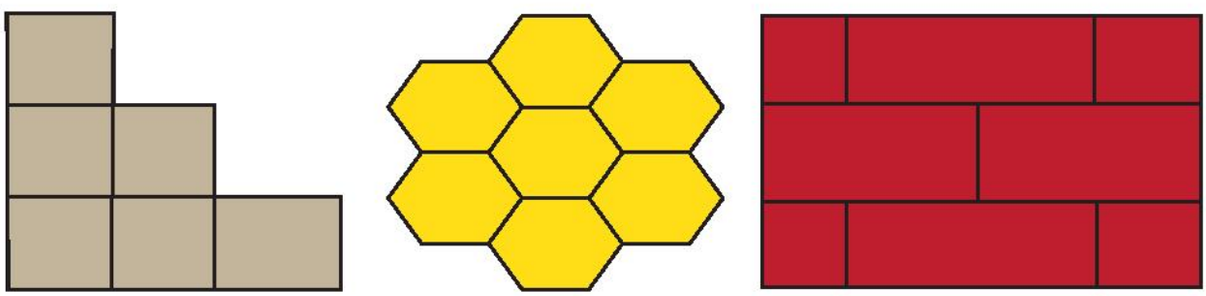
1.2.2 Tessellations.

We fill the space with tiles of different shapes and sizes.



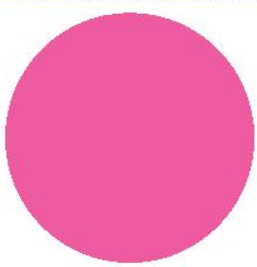
Examples





Try This

Can we fill a circle with square tiles?

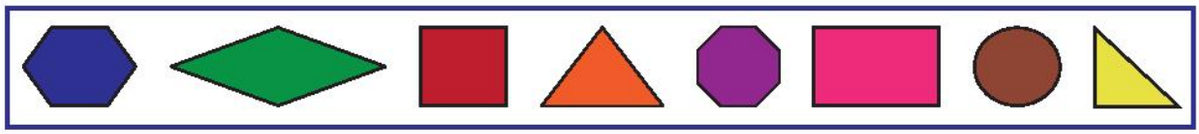


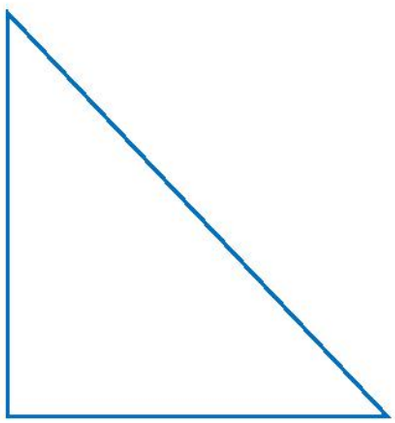
No. we can't fill a circle with square tiles because circle is a curved figure and square is a shape with straight lines.

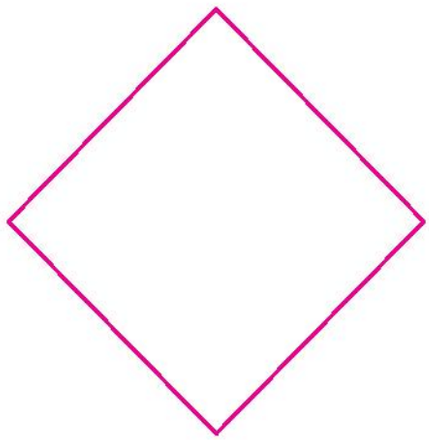
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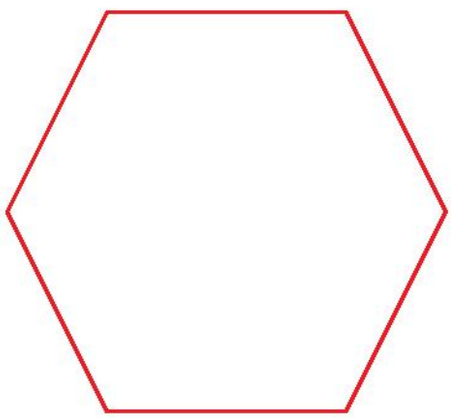
Exercise 1.1

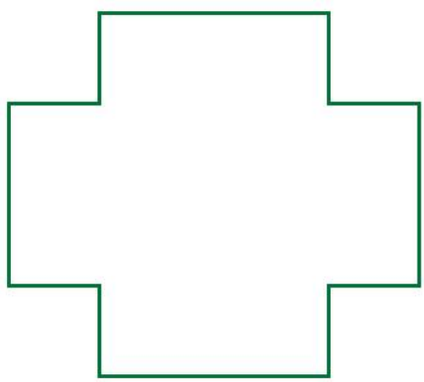
1. Fill the following shapes with appropriate tiles.



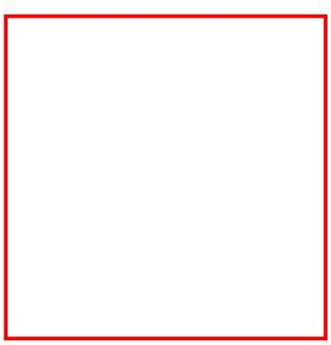








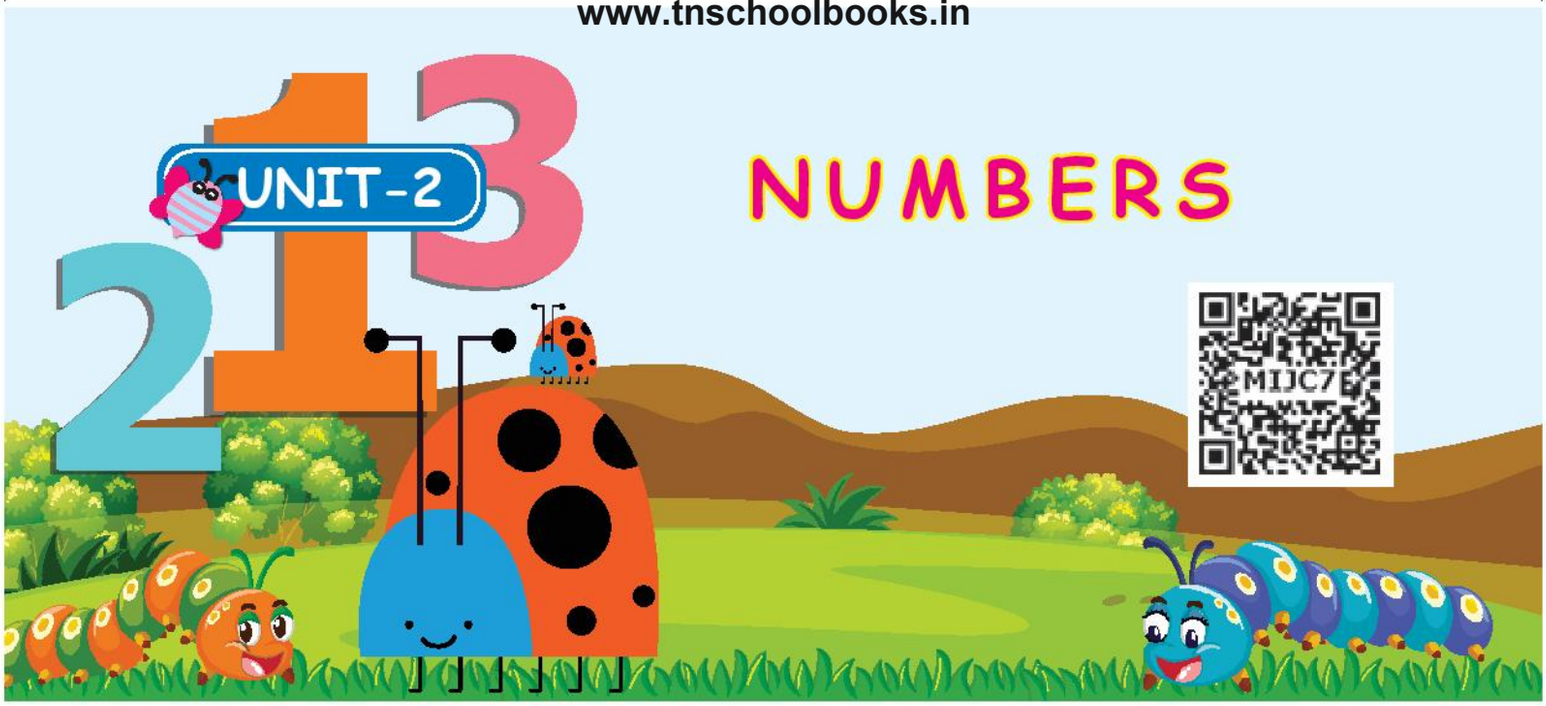
2. Fill the given shapes with the tiles of your choice.





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2.1 Division of 4 digit number by single digit number

2.1.1 To divide a given number by another number in various ways.

There are many ways to divide a given number by another number. They are

(i) Equal sharing
(ii) Equal grouping
(iii) Repeated subtraction
(iv) Long division
(v) Short division

You have learnt already the type of divisions in previous class. Now we are going to see Equal sharing and short division.

Equal sharing

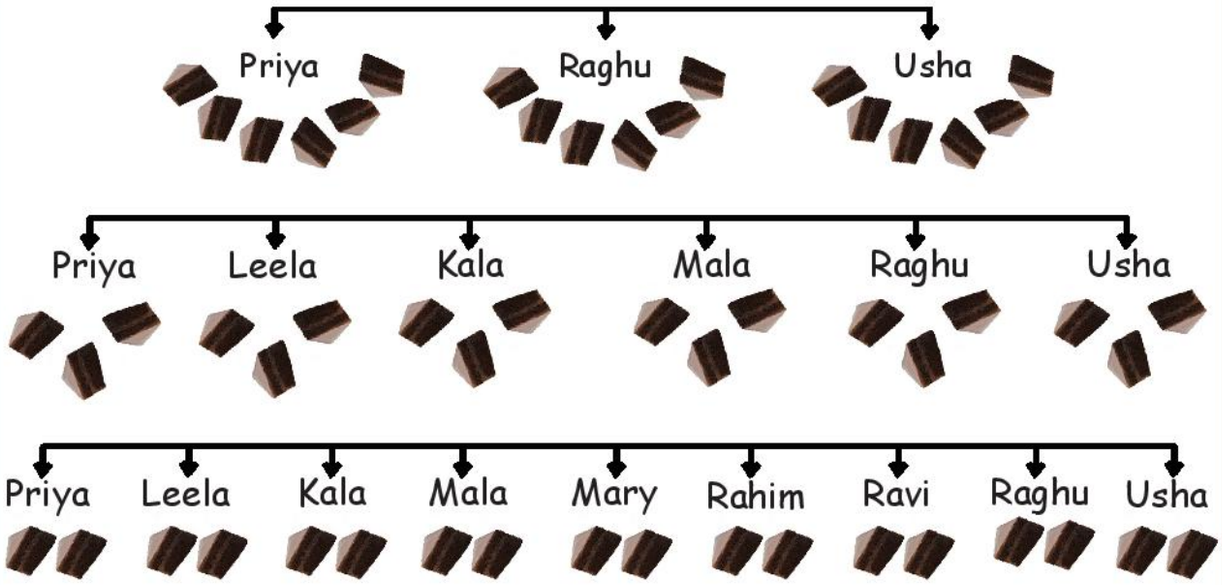
Priya wants to celebrate her birthday along with her Parents Raghu and Usha. Her father bought a cake for her. She makes the cake into 18 pieces and wants to divide it equally along with her parents, each of them got 6 pieces. At that time her friends Leela, Kala and Mala has come with their gifts. So, she wants to share the cake with her friends also, each of them got 3 pieces. After a few minutes three of her father and mother's friends Mary, Rahim and Ravi has come for

Note

In division, equal sharing leaves remainder also.

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the party. Now she has decided to share the cake with them also. How much share would all get in total ?



Each gets 2 pieces of cake. Thus 18 pieces of cake is shared equally among 9 members with 2 pieces each.

Short division

Divide 670 ÷ 5

Here 670 is the dividend,
5 is the divisor

Note

Superscript means placing the number in the right side top of the given number as small. e.g. 3^2,6^3

Here, 5(the divisor) divides 6(the first digit of the dividend) in 1 time, with the reminder of 1, place the quotient 1, above the long division bar. Place as small superscript 1 beside 6.

$$5\overline{)6^{1}70}\quad 1$$

Combine it with the next dividend digit to the right. Now find out how many times the divisor divides the new two digit number 17. The divisor divides 17, 3 times, with the remainder of 2, place the quotient 3 above the division line, 2 as the superscript beside 7.

$$5\overline{)6^{1}7^{2}0}\quad 13$$

Now consider the last digit of the dividend combine the remainder with next dividend to the right. We get a new 2 digit number 20. The divisor 5 divides 20, 4 times. Here, the remainder is 0 and 134 becomes the quotient.

$$5\overline{)6^{1}7^{2}0}\quad 134$$

670 ÷ 5 = 134

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Division of three digit number by one digit number:

Division without remainder

EXAMPLE 1

Divide 450 by 6.

```
      075   Quotient
   ------
6 | 450
    42
   ---
     30
     30
   ---
      0   Remainder
```

Step 1: Take 4 in the dividend, Which is not divisible by 6. Hence consider the next digit on the right of the dividend. We have to put zero above the division line.

Step 2: Divide 45 by 6.

6 divides 45, 7 times, (ie) 6 x 7 = 42

place 42 below 45,

Step:3: Take 30, Divide 30 by 6,

Quotient = 5, Remainder = 0.

EXAMPLE 2

A fruit seller buys 531 apples. He arranges them equally in 9 boxes. How many apples does he put in each box?

Total number of apples = 531

Number of boxes = 9

Number of apples in each box = 531 ÷ 9

```
      59   Quotient
   ------
9 | 531
    45
   ---
     81
     81
   ---
      0   Remainder
```



Number of apples in each box = 59

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Division with remainder:

EXAMPLE 3

Divide 369 by 7.

$$\begin{array}{r|l} & 52 \\ \hline 7 & 369 \\ & 35 \\ \hline & 19 \\ & 14 \\ \hline & 5 \end{array}$$

Step 1: Take 3 in the dividend, 3cannot be divided by 7. Hence consider the next digit on the right of the dividend (369). We have to put zero above the division line. So take 36.
Divide 36 by 7.

7 divides 36, 5 times (ie) $7 \times 5 = 35$

Step:2

Take 19 ones. Divide 19 by7.

7 divides 19, 2 times (ie) $7 \times 2 = 14$

Quotient = 2, Remainder = 5.

Quotient = 52 **Remainder = 5**

Exercise 2.1

Simplify the following

1) $896 \div 5$ **2)** $696 \div 6$

3) $686 \div 7$ **4)** $813 \div 8$

5) $891 \div 8$ **6)** $703 \div 2$

7) Rahul has 192 toy cars. He put them equally in 6 boxes. How many toy cars will he put in each box? How many toy cars are left over?

8) Akila has 495 photographs to put in an album. She can put 9 photographs on each page. How many pages can she fill?

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Divide 4 digit numbers by one digit number:

Divide without remainder:

You have already learnt the division steps in the three digit number

EXAMPLE 1

Divide 396 by 7.

```
      1236
   ---------
6 | 7416
    6
   ---
    14
    12
   ---
     21
     18
   ---
      36
      36
   ---
       0
```

Quotient = 1236

Remainder = 0

EXAMPLE 2

A Company called 8 workers to do the Painting work on one day. At the end of the day workers received an total amount of Rs 9689 as an daily wage. How much money did each one get?

```
      1211
   ---------
8 | 9689
    8
   ---
    16
    16
   ---
     08
      8
   ---
     09
      8
   ---
      1
```

Quotient = 1211

Remainder = 1

Exercise 2.2

Divide the following

1) 5632÷6 **2)** 7460÷7 **3)** 4964÷8 **4)** 8616÷6 **5)** 8645÷7 **6)** 5742÷9

7) In my school, there are 1112 students from class 1 to 8. If the number of students are the same in all the classes, how many students are there in each class?

8) The height of a mountain is 7821 m. Raj took 9 days to reach the top. How many metres did he cover daily if he travelled equal distances every day?

9) A total of 1785 kg wheat has to be packed equally in 7 bags. What will be the weight of each bag?

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2.1.2 To frame word problems (using four operations)

EXAMPLE 1

Observe the following pictures and let us see how questions has been framed.



i. What is the price of ooty apple? Why do you prefer this?

ii. Find the cost of 3kg of green banana?

iii. What is the total cost if we buy 1kg each of simla apple, Poovan banana and Peyan banana?

iv. Find out the difference between the cost of ooty apple and simla apple?

v. Mala had ₹ 70, how many kg of Peyan banana would she buy?

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Exercise 2.3

Frame word problems using the table given below.

S.No.	Name of the Item	Price Per Kg (in ₹)
1	Raw Rice	56
2	Boiled Rice	54
3	Wheat	40
4	Tamarind	180
5	Red chilly	100

_____

_____

_____

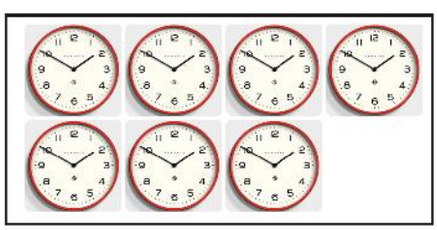
_____

1) Frame word problems, using the picture given:



Cost of 1 Piece of Cake ₹ 25

2) Frame word problems, using the picture given:



Total Cost of the clocks ₹ 490

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2.1.3 Estimating sums and differences:

To estimate a number means to round of each number to its nearest tens, hundreds and then add or subtract.

Steps for estimation:

Nearest to tens: check the unit digit of the given number that is to be estimated.

i) if it is equal to (or) greater than 5, add 1 to previous digit, make the unit digit as zero. (e.g.) 85 is rounded to 90

ii) if it is less than 5, make the unit digit as zero. (e.g.) 63 is rounded to 60

Note

We can also estimate a number to its nearest 1000, 10000,etc.,

EXAMPLE 1

1) Estimate the sum.

	58	is rounded to tens →	60
(+)	73	is rounded to tens →	(+) 70
Total	131	Rounded sum →	130

2) Estimate the differnce

	33	is rounded to tens →	30
(-)	19	is rounded to tens →	(-) 20
	14	rounded difference	10

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Exercise 2.4

Estimate the following numbers to nearest tens and then add or subtract.

1) 45
(+) 93

2) 42
(+) 38

3) 78
(-) 32

4) 91
(-) 75

Estimation in multiplication:

A tourism company collected ₹ 95 per head for a field trip. Estimate the amount collected from 28 persons?

		Actual	Estimated amount
Amount per head	=	₹ 95	₹ 100
Amount for 28 persons	=	₹ 2660	₹ 3000

Difference between, Estimated amount and actual amount } = 3000 - 2660 = ₹ 340

TO TO	HTO TO
95 x 28	100 x 30
760	000
190	300
2660	3000

Exercise 2.5

Estimate and calculate:

S.No.	Multiplication fact	Actual value	Estimated value	Difference
1.	35 x 12	420	40 x 10 = 400	20
2.	82 x 28			
3.	16 x 12			
4.	23 x 27			

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2.2 Mental Arithmetic

2.2.1 Able to add and subtract multiples of 10 and 100 mentally.

Multiples of 10 and 100 are useful in counting large number of items and objects (including money).

Multiples of 10

10, 20, 30, 40, 50. . . .

67SHM

Adding with multiples of 10

(i)

	H	T	O
	2	2	3
		1	0
	2	3	3

(ii)

	H	T	O
	3	4	5
		1	0
	3	5	5

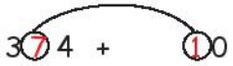
Here, one's place didn't change, when they are added to zero and hundreds Place also didn't change, only the tens place got changed.

i) 2 + 1 = 3 ii) 4 + 1 = 5

Now we add the following

EXAMPLE 1

Add 374 + 10



4 + 0 = 4

7 + 1 = 8

Therefore 374 + 10 = 384

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EXAMPLE 2

Add 286 + 30



8 + 3 = 11

Here, 11 has two digits, in this keep 1 in the tens place, take the other 1 and add with the hundreds place digit.

Therefore 286 + 30 = 316

Adding with multiples of 100

(i)

	H	T	O
	5	8	4
+	1	0	0
	6	8	4

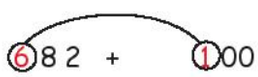
(ii)

	H	T	O
	2	7	5
+	1	0	0
	3	7	5

Here, one's place and ten's place didn't change, when they are added to zero but in the hundreds place it is changed.

EXAMPLE 3

Add 682 + 100



2 + 0 = 2

8 + 0 = 8

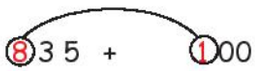
6 + 1 = 7

∴ 682 + 100 = 782

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EXAMPLE 4

Add 835 with 100



8 + 1 = 9

∴ 835 + 100 = 935

Subtracting by multiples of 10

Follow the same procedure of addition for subtraction also, instead of adding the numbers, subtract the numbers in the circle.

EXAMPLE 5

Subtract 10 from 625



5 - 0 = 5

2 - 1 = 1

∴ 625 - 10 = 615

EXAMPLE 6

Subtract 50 from 981



8 - 5 = 3

∴ 981 - 50 = 931

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Subtracting by multiples of 100

EXAMPLE 7

Subtract 400 from 546

5 4 6 - 4 0 0

5 - 4 = 1

∴ 546 - 400 = 146

Exercise 2.6

Add and subtract the following problems using multiples of 10, 100 (Mentally)

1. 745 + 40 = _____
2. 328 + 30 = _____
3. 566 + 20 = _____
4. 475 + 100 = _____
5. 686 + 300 = _____
6. 345 + 600 = _____
7. 6348 - 10 = _____
8. 541 - 40 = _____
9. 495 - 300 = _____
10. 657 - 500 = _____
11. 895 - 500 = _____
12. 365 - 300 = _____

2.2.2 Complete multiplication facts by adding partial products.

Now we break the following numbers, for example, 53 = 50 + 3, 98 = 90 + 8.

In 53, why should numbers to be parted into 50+3, because nearest multiples of 10 to 53 is 50 and add the remaining number 3 with it.

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EXAMPLE 1

Complete the following multiplication facts by adding partial products.

$6 \times 45 = 6 \times (40+5)$

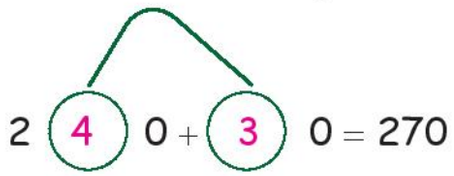
$= (6 \times 40) + (6 \times 5)$

Then multiply those two parts separately as:

$6 \times 40 = 240$

$6 \times 5 = 30$

Then add these two partial results.



$6 \times 45 = 270$

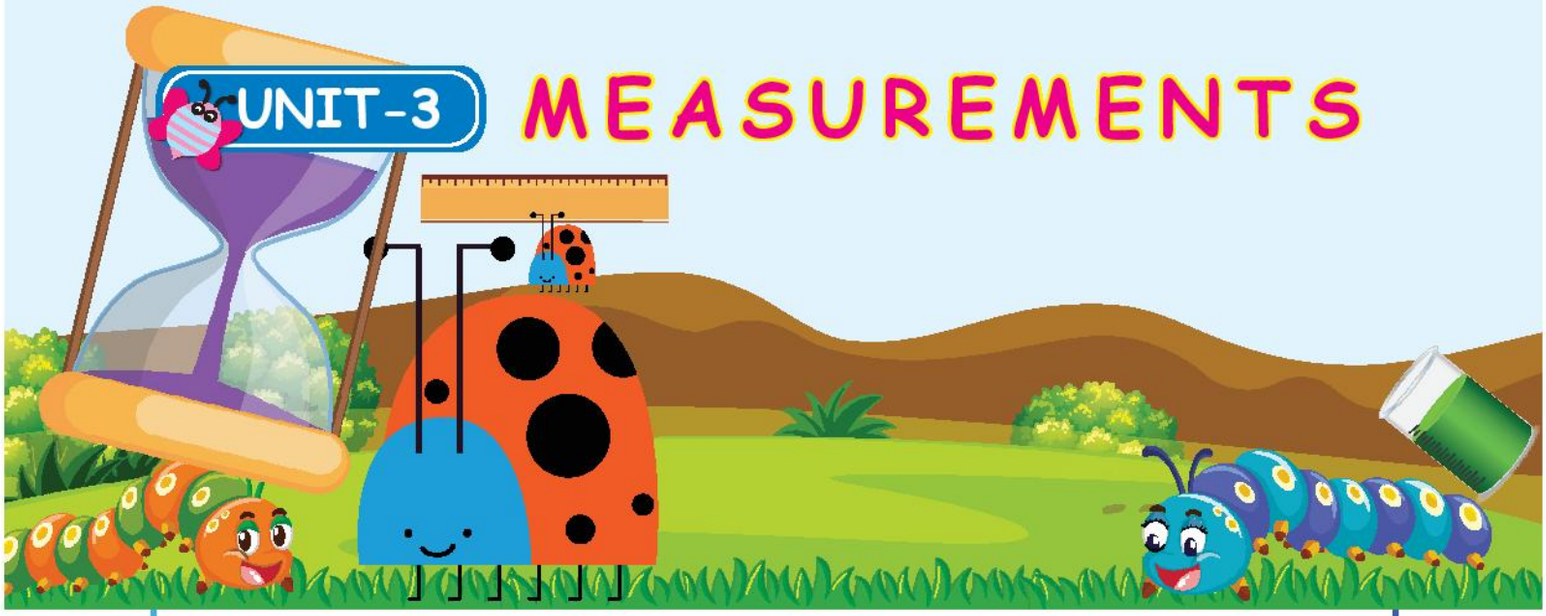
Exercise 2.7

Simplify the following multiplication facts by adding partial products.

1. 9×42 **2.** 3×78 **3.** 36×12

4. 18×19 **5.** 68×31 **6.** 42×21

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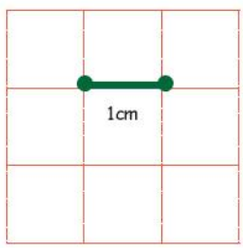




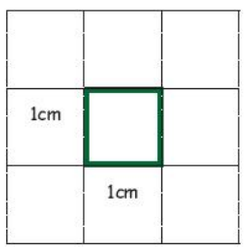
9ISFV

Recall:

A one dimension quantity - length



Two dimension quantity - length and breadth.



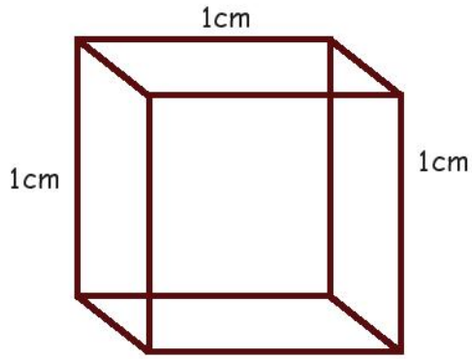
The space ocupied here: 1cm x 1cm = 1sq.cm (1 cm^2).

The space ocupied by any two dimensional shape is called as **Area**.

4th_Unit_03_Measurement_Term 3 EM.indd 19 27-09-2023 14:56:41

Definition of volume

When we expand 1 cm from the surface of 2D, it forms 3D.



The space occupied here: 1cm x 1cm x 1cm = 1cu.cm (1 cm^3).

So, **volume** is the space occupied by any 3D object (cone, cube, cuboid and cylinder).

3.1 Measuring volume of given liquid using containers marked with standard units.

Do you know?

We can write millilitre as "*ml*" and litre as "*l*"



$\frac{1}{4}$ *l* (250 *ml*)	$\frac{1}{2}$ *l* (500 *ml*)	$\frac{3}{4}$ *l* (750 *ml*)	1 *l* (1000 *ml*)

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Activity

List out the measures used at your home for the following items.

Items	quantity (in millilitre/litre)
Water	
Milk	
Oil	
Petrol	
Diesel	

Note:
Measures cannot be accurate if we use non-standard measures. To measure the liquids we use standard units millilitre and litre.

Activity

Let us find out how many litres and millilitres of water can be filled in this bucket. by using bottle. ($\frac{1}{2}$ litre, 1 litre)



1. 1 litre _____ times
2. $\frac{1}{2}$ l _____ times

Exercise 3.1

1. Rani had 1 litre coconut oil. She shared it equally among her 5 friends. How much does each person have ?
2. A teapot contains 2 litres, it is poured in cups with a capacity of 500 ml. How many cups can be filled ?
3. Ram has 1 litre of juice bottle if he gives his friend 100 ml of juice. How much is left with him?

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4. Change litre into millilitre.

1. 1 *l* = 1000 *ml*
2. 7 *l* = _____ *ml*
3. 5 *l* = _____ *ml*
4. 9 *l* = _____ *ml*
5. 4 *l* = _____ *ml*

5. Change millilitre into litre

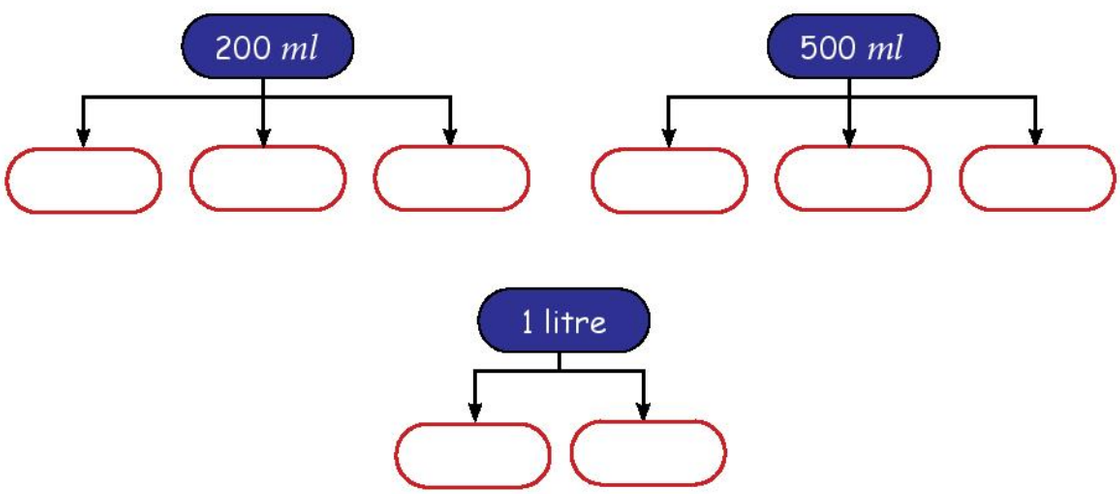
1. 6000 *ml* = 6 *l*
2. 2000 *ml* = _____ *l*
3. 8000 *ml* = _____ *l*
4. 9000 *ml* = _____ *l*

Note:
1000 *ml* = 1 litre



Activity

Fill in the red boxes below using 500 *ml*, 200 *ml*, 100 *ml* and 50 *ml*, to get the total in the blue boxes given above the red boxes.



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Addition using standard units (litre and *ml*)

To add litre and *ml*, first convert the litre into *ml*.

EXAMPLE 1

Add: 1 *l* + 345 *ml*

1 l + 345 ml = (1 x 1000 *ml*) + 345 *ml*

= 1000 *ml* + 345 *ml*

= 1345 *ml*

Note:
1000 *ml* = 1 litre

EXAMPLE 2

Add: 7 *l* + 9 *ml*

7 *l* + 9 *ml* = (7 x 1000 *ml*) + 9 *ml*

= 7000 *ml* + 9 *ml*

= 7009 *ml*.

EXAMPLE 3

Add: 63 *l* 380 *ml* and 14 *l* 175 *ml*

l	*ml*
63	380
(+) 14	175
77	**555**

Step 1:
Start from millilitres.
380 *ml* + 175 *ml* = 555 *ml*

Step 2:
Then add litres. 63 *l* + 14 *l* = 77 *l*

Exercise 3.2

1. Complete the following. First one is done for you.

i) 5 *l* + 376 *ml* = 5000 *ml* + 376 *ml* = 5376 *ml*

ii) 3 *l* + 735 *ml* = _____ *ml* + _____ *ml* = _____ *ml*

iii) 4 *l* + 43 *ml* = _____ *ml* + _____ *ml* = _____ *ml*

iv) 8 *l* + 6 *ml* = _____ *ml* + _____ *ml* = _____ *ml*

v) 6 *l* + 800 *ml* = _____ *ml* + _____ *ml* = _____ *ml*

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2. Match the following measurements given in the containers with the measurements in the boxes given below the containers.



3609 *ml* | 3400 *ml* | 1010 *ml* | 2573 *ml*

Subtraction using standard units (litre and ml)

EXAMPLE 1

Subract 8 *l* 450 *ml* from 28 *l* 750 *ml*.

	l	*ml*	
	28	750	Step 1: Subtract 450 *ml* from 750 *ml*
(-)	8	450	Step 2: Subtract 8 *l* from 28 *l*
	20	**300**	Therefore 28 *l* 750 *ml* - 8 *l* 450 *ml* = 20 *l* 300 *ml*

Life related problems

EXAMPLE 2



Sharma's family have 2 buckets in their house. The capacity of one bucket is 4 *l* 450 *ml* and the other one is 5 *l* 180 *ml*. What is the total capacity of two buckets?

Answer:

		l	*ml*
Capacity of first bucket	=	4	450
Capacity of second bucket	=	(+) 5	180
Total capacity of two buckets	=	**9**	**630**

Total capacity is 9 *l* 630 *ml*.

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EXAMPLE 3

A motor car consumed 188 *l* of petrol and 145 *l* 375 *ml* in the Month of January and February. What is the difference in the petrol consumption?



Answer:

		l	*ml*
		(7)	(9)(9)(10)
Petrol consumed in the month of January	=	188	000
Petrol consumed in the month of February	=	(-) 145	375
Difference	=	**42**	**625**

Petrol consumed more in the month of January is 42 *l* 625 *ml*.

Exercise 3.3

I Add the following:

1.

l	*ml*
25	830
(+) 42	126

2.

l	*ml*
13	645
(+) 54	143

3.

l	*ml*
13	250
(+) 32	140

II Subtract the following:

1.

l	*ml*
15	400
(-) 7	300

2.

l	*ml*
29	910
(-) 21	500

3.

l	*ml*
63	560
(-) 34	230

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III Solve the following.

1. Ramu filled the petrol in his two cars. The first one hold the capacity of 23 *l* 500 *ml* and the second one hold the capacity 15 *l* 750 *ml*. Find the total quantity of petrol .

2. Kannan has some cows. They give milk in the first week 48 *l* 480 *ml* and in the second week 57 *l* 530 *ml*. Find the total quantity of milk.

3. The fruit juice used in a function are given below.

S. No	Cool drinks	capacity
1.	Apple juice	16 *l* 500 *ml*
2.	Mango juice	23 *l* 160 *ml*
3.	Grapes juice	19 *l* 650 *ml*
4.	Lemon juice	20 *l* 350 *ml*

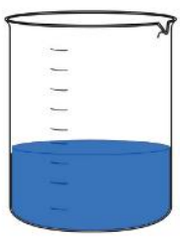
Find the total quantity of juice used in the above table.

1. Apple juice + Lemon juice = ---------- *l* ----------*ml*
2. Mango juice + Grapes juice = ---------- *l* ----------*ml*
3. Lemon juice + Mango juice = ---------- *l* ----------*ml*

4. The shop keeper had 43 *l* 750 *ml* of groundnut oil. He sold 24 *l* 350 *ml*. How much oil was left with him?

5. A bucket contains 15 *l* 500 *ml* of water. Gopi poured out 5 *l* 200 *ml* to water the plants. How much water is left in the bucket?

6. I purchased 73 *l* of milk. My sister has taken 34 *l* 500 *ml* of milk. So how much milk is left for me?

7. 

30 *l* 500 *ml*



22 *l* 300 *ml*

Find the difference between the quantity of the liquid given in these two containers.

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3.2 Estimation of the volume of a liquid contained in a vessel and verification by measuring.

Situation

Sheela's mother prepared an orange juice for her daughter's friends. Sheela wants to share the juice with her four friends equally. But before that they want to know how much juice does the bottle contain. They have given an estimated measurement of 950 ml. They want to mesure the juice in a 200 ml glass and verify. They found that the bottle juice fills five 200 ml glasses completely. From this they have come to know that the bottle holds 1000 ml of juice.





Activity

Measure your daily consumption of water for drinking, washing and bathing. If you don't have measuring container, you can use bottles to do rough calculation. For which you are using more water and give reason to reduce water.

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Exercise 3.4

1) Estimate how much liquid each object can hold.
(Hint: 500 ml, 200 ml, 100 ml, 50 ml, 20 l)

i)  Can hold (l/ml) _____ of Milk.

ii)  Can hold (l/ml) _____ of Water.

iii) 

Can hold (l/ml) _____ of Syrup.

iv)  Can hold (l/ml) _____ of Ink.

v)  Can hold (l/ml) _____ of Water.

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4.1 Estimate the duration of Familiar Events

Observe the table below which shows the time duration of the following activities at your home.

S.No.	Work	Starting Time	Finishing Time	Duration
1	Brushing teeth	6.30 am	6.35 am	5 Minutes
2	Bathing	6.35 am	6.45 am	10 Minutes
3	Cooking	6.45 am	7.30 am	45 Minutes
4	Washing Clothes	7.30 am	7.50 am	20 Minutes
5	Cleaning Vessels	7.50 am	8.20 am	30 Minutes



Activity

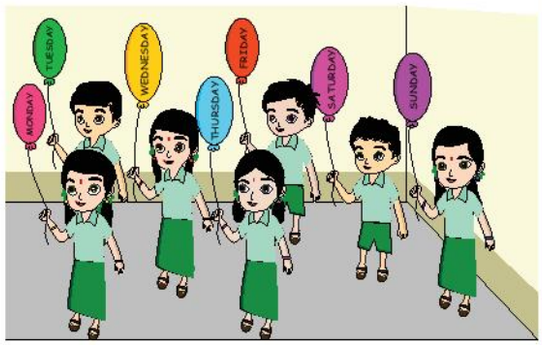
Prepare a table for time duration to chop vegetables, Cleaning the room at your home.

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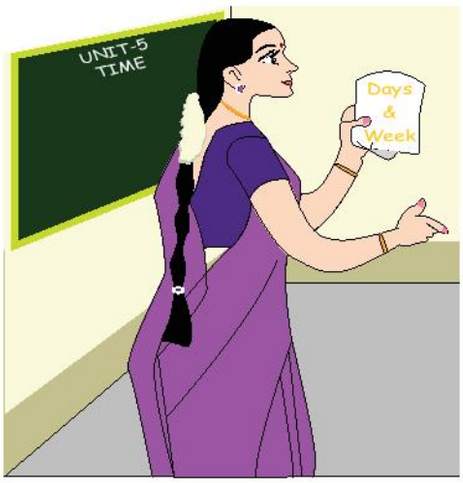
4.2 Understand days and weeks

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.



"Sunday Sunday, let's have fun
Monday Monday, morning is so cool,
Tuesday Tuesday, tickle your friend,
Wednesday Wednesday, jump up high
Thursday Thursday, reach the sky



Friday Friday, eat healthy to be strong.
Saturday 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 4.1

1. Answer the following questions.

i Which is the first day of the week ?

ii How many days do you come to school in a week? Name them?

iii How many days are holidays in a week? Name them?

iv Which is the third day of the week?

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2. Unscramble the letters given below and write the days of the week in order.

Days (Jumbled)	Days
TRUSDAHY	
DYARFI	
DSANUY	
NODMYA	
SDEUYAT	
NDWADSEYE	
YDASTAUR	

Order of the days



Activity

1. Mark the ground with the names of days of a week. Students should run in a circle. When the teacher says 'FRIDAY', every student must go and stand in the space provided for Friday.
2. Divide the students into two groups. Shuffle the cards with the names of months and ask the children to arrange them in order.

4.3 Marking the dates

2023 AUGUST

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	31		

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Answer the following questions using the calendar given above.

1. What is the date of the third Wednesday of the month?
2. What is the date of the day after the second Sunday?
3. What is the date of the day before the fourth Tuesday?
4. What is the date of the day after the third Friday?
5. How many days are there in the month of August?
6. What is the last day in the month of July?
7. what will be the day?
   i) 4 days after 11th August –
   ii) 7 days before 19th August –



Activity

Birthday Calendar

Write the birthday of all your family members in the given table.

Members	Day	Month	Year
Father	10	1	1986

1. Who is the eldest member of your family?
2. Who is the youngest?
3. What is the difference in their age?
4. When will you celebrate your 12th birthday?

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4.4 Months of a year and days of a week

2024 Calendar

January

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

February

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

March

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

April

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

May

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

June

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

July

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

August

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

September

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

October

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

November

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

December

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

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 calendar of the present year and fill the table.		
Festival	Month	Day
Pongal		
Teacher's day		
Children's day		
Independence day		
Republic day		

1. What is today's date?
2. Which festival comes sooner from today?
3. How many days are more from today to celebrate that festival?
4. Which festival comes last?
5. How many months are there in between first and last festival of the year?

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Activity 2 Let us find how many weeks are there in a year.

Fill the boxes using the Calender 2023.

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

Do you Know?

i. 1 year = 12 months

ii. 1 year = 52 weeks

iii. 1 year = 365 days

iv. 1 leap year = 366 days

v. 1 week = 7 days

Let us Know

Leap year occurs once in 4 years.

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

There are **52 weeks and 2 days** in a Leap year.

February has **29 days** in a Leap year.

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4.5 Relation between the number of days in a year and the number of days in each month.



Activity

Complete the table.

Months with 31 days	Months with 30 days



Try This

2024 is a leap year. Find the next two leap years.

Exercise 4.2

1. State True / False
   - i. January is the first month of the year.
   - ii. March is in between September and November.
   - iii. The last month of the year is July.
   - iv. February has 30 days.
   - v. May is the successive month of April.
2. Write the missing month
   - i. June, _____, August, September.
   - ii. March, April, _____, _____.
   - iii. _____, October, November.

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4.6 Can you Compute the number of days between two given dates.

In one week there are 7days.

In a week, 1st day is sunday, 2nd day is Monday, 3rd day is Tuesday, 4th day is Wednesday, 5th day is Thursday, 6th day is Friday, 7th day is Saturday = 7

If today is 6th day of a week then, What day was yesterday and day before yesterday? Also find what day will be tomorrow and day after tomorrow?

Finding the day in previous or upcoming week.

E.g. Day 14 denotes Saturday. Can you guess what is 21st day?

You have already learnt in the previous class, that how many weeks are there in a month and year.

Note:
Two weeks make a fortnight, that is, 14 days make a fortnight.

Computing the number of days between two given dates:

To compute days between two given dates, count the number of days in between the given dates.

If month falls in between two dates, calculate the number of days in month.

Note:
Note: Generally, 1 month = 4 weeks.

EXAMPLE

Calculate the number of days between Independence day and Gandhi Jayanthi day?

Solution:

Independence day= 15th August

Gandhi Jayanthi = 2nd October

Note:
In the August month we have 31 days, Independence day falls on 15th August, so, we have to subtract 15 from 31.

S. No	Name of familiar events	Month	Days
1	Independence Day	August	16 (31 - 15 = 16)
		September	30
2	Gandhi Jayanthi	October	1
		Total	47

Hence, the number of the days between Independence Day and Gandhi Jayanthi is 47.

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Activity

Calculate the total number of term holidays.

Occasion	Dates		Number of days
	From	to	
Holidays in term 1			
Holidays in term 2			
Holidays in term 3			

Try These

1. Calculate the number of days between Christmas and Republic day?
2. Calculate the number of days between Pongal and May day?
3. Calculate the number of days between Teacher's day and Children's day?

4.7 Use calendar (interlinking with patterns)

60 seconds = 1 minute

60 minutes = 1 hour

1 hour = 60 × 60 = 3600 Seconds

24 hours = 1 day

Normally 12 hours is used . But in Railways, airlines, armed forces and TV channels 24 hours are used.

Now, learn the patterns in the Calendar.

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JANUARY 2020						
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	31	

Consider 2 X 2 square in the calendar given above.

Add the numbers in the following way so that you will get the same total as 18



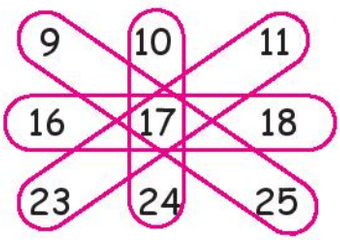
5 + 13 = 18

12 + 6 = 18

EON4H

See the patterns in 3 X 3 square in the calendar given above.

Add the numbers in the following way so that you will get the same total as 51



9 + 17 + 25 = 51

23 + 17 +11 = 51, 16 + 17 + 18 = 51, 10 + 17 + 24 = 51

Note:

Calendar can teach us many things

1. In a row, number increases by 1
2. In a column, number increases by 7



Activity

1. Select any month and try to find 3 X 3 square and 2 X 2 square.
2. Let us see some more patterns in the following month.

JANUARY 2020						
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	31	

Consider the line: 5 6 7 8 9 10 11

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Middle number is 8

JANUARY 2020						
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	31	

Sum of 5 and 11 is double the middle number (2x8) = 16

Sum of 6 and 10 is double the middle number (2x8) = 16

Sum of 7 and 9 is double the middle number (2x8) = 16

Try This

1. Select any month in a year. Find out the sum of any row and column. You wonder that the sum doubles the middle number.

Exercise 4.3

1. **Find out the days between manufacturing and expiry date of a medicine given below.**



2. **Select a month in the calendar and find out any creative pattern of your own in the numbers.**

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5.1 Convert rupees to paise:

Our government of India indicates money using the symbol of ₹.

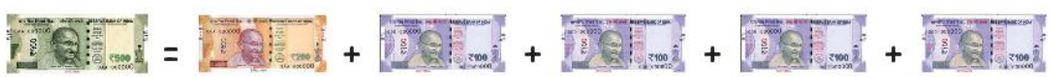
Sankar is preparing to go for an Excursion. He asks his father ₹ 150 as his pocket money. Father sees that ₹ 500 notes only in the purse. Soon father goes to shop to get change for ₹ 500.

Father : Sir, (I need change for ₹ 500) give me change for ₹ 500.

Merchant : I have following varieties of combination which are as follows:









Which one do you prefer?

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Father : Ok sir. I select the third variety of combination. That is



Merchant : Ok sir. I will give you the same.

Father : Thank you sir.

Father : Sankar, here is your ₹ 400, get it.

Sankar : Father, shall I get the change for a ₹ 100 note as one ₹ 50 note, one ₹ 20 note, two ₹ 10 notes, one ₹ 5 note and five ₹ 1 coins.

Father : Ok.

Do you know?

Our fore father had used various kinds of coins. Among them 1 paise, 2 paise, 5 paise, 10 paise, 20 paise, 25 paise, 50 paise. But they are not in use now.

Denomination

₹ 2865 =	₹ 2000	₹ 500	₹ 200	₹ 100	₹ 50	₹ 10	₹ 5

₹ 2865

₹ 2000 × 1 = 2000

₹ 500 × 1 = 500

₹ 200 × 1 = 200

₹ 100 × 1 = 100

₹ 50 × 1 = 50

₹ 10 × 1 = 10

₹ 5 × 1 = 5

Total = ₹ 2865

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₹ 565 = ☐ ☐ ☐ ☐ ☐ ◯

₹ 200 x _____ =

₹ 100 x _____ =

₹ 50 x _____ =

₹ 10 x _____ =

₹ 5 x _____ =

Total = _____

Try This



2 × 

☐ × 

☐ × 

☐ × 

Activity

Fill in the box with model notes.



₹ 20 + ₹ 20 + ₹ 10

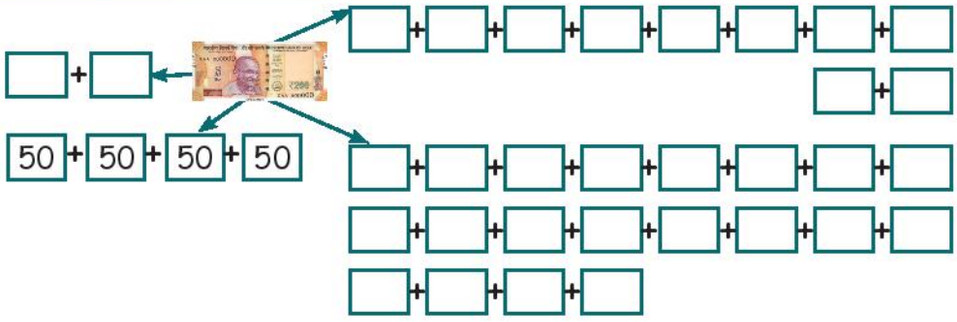
☐ + ☐ + ☐ + ☐

☐ + ☐ + ☐ + ☐ + ☐

Activity

Take a sheet of paper and cut out the model notes (₹ 10, ₹ 20, and ₹ 100). Affix it below the boxes provided to get the total of ₹ 200. One is done for you.

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Have you ever gone to petrol bunk?

The price of 1 litre petrol is ₹103.63. Have you ever notice?

Although paise is not in circulation in the form of currency, but the cost of goods in paise are in use.

₹1 = 100 paise

Conversion of rupees into paise.

This conversion is useful while you are bargaining in the vegetable shop and so on.

To convert rupees into paise, multiply the rupees by 100.

EXAMPLE 1

Convert ₹ 2 into paise

₹ 1 = 100 paise

So ₹ 2 = 2 x 100 = 200 paise

EXAMPLE 2

Convert ₹ 8.50 into paise

₹ 1 = 100 paise

8 is in rupees and 50 is in paise.

So we multiply by ₹ 8 with 100 and add 50 paise.

$\therefore$ ₹ 8.50 = 8 × 100 + 50

= 800 paise + 50 paise

= 850 paise

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EXAMPLE 3

Ravi's father went to the shop and bought 1 kg of dhal for ₹ 38.70. Convert the cost of dhal into paise.

Cost of 1 kg dhal = ₹ 38.70

₹ 38.70 = 38 × 100 paise + 70 paise

= 3800 paise + 70 paise

Cost of dhal = 3870 paise.

Conversion of paise into rupees,

To convert paise into rupees, divide the paise by 100.

EXAMPLE 1

Convert 900 paise into rupees

To change the paise into rupees, divide the paise by 100.

900 paise = 900 ÷ 100

900 paise = ₹ 9

EXAMPLE 2

Convert 1950 paise into rupees

To change the paise into rupee, divide the paise by 100.

1950 paise = 1950 ÷ 100

= 19.50

= ₹ 19.50

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Exercise 5.1

1. In ₹ 1000
   How many ₹ 500 notes are there? ☐
   How many ₹ 200 notes are there? ☐
   How many ₹ 100 notes are there? ☐
   How many ₹ 50 notes are there? ☐

2. Kamala had a change of ₹ 100, ₹ 50, ₹ 20 and ₹ 10 notes. How many rupees did she have in each to get the total of rupees 500?

3. Convert the following rupees into paise

   i. ₹ 7.50 ii. ₹ 18.75 iii. ₹54.68 iv. ₹ 102.50

   v. ₹ 129.45 vi. ₹ 308.61

4. (i) Write the denomination for the following amount.

   ₹ 466 = ₹ 200 ₹ 100 ₹ 100 ₹ 50 ₹ 10 ₹5 ₹1

   ₹ 200 x _____ =

   ₹ 100 x _____ =

   ₹ 50 x _____ =

   ₹ 10 x _____ =

   ₹ 5 x _____ =

   ₹ 1 x _____ = _____

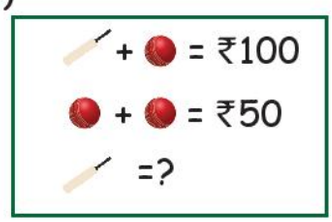
   Total = ₹ _____

(ii) Use and fill in the boxes with the amounts given below, to get the given amount (₹ 845)

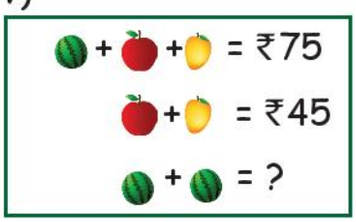
₹ 845 = ☐ ☐ ☐ ☐ ☐ ☐



(iii)



(iv)



5. Convert the following paise into rupees.

   i. 800 paise ii. 500 paise iii. 2075 paise iv. 6860 paise

   v. 200 paise vi. 150 paise vii. 1000 paise viii. 2000 paise

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5.2 Addition and Substraction on Money

To add and subtract simple amounts of money in denominations of rupees and paise which are multiples of ten using column addition and subtraction with regrouping

Addition without conversion

Sankar purchased 1kg rice for ₹ 45.50 and 1kg of dhal for ₹ 78.60

Correct method

Cost of 1 kg of rice = ₹ 45.50

Cost of 1 kg of dhal = ₹ 78.60

Total cost = ₹ 124.10

Addition with conversion

A groundnut burfi seller uses many ingredients to prepare it. So, he sells the burfi along with the ingredients. Original price of burfi is Rs.20 and he includes ingredients cost as 0.75 paise. Find the cost of burfi.

Correct method

Original cost of burfi = ₹ 20.00

Cost of ingredients = ₹ 0.75

Cost of burfi = ₹ 20.75

EXAMPLE

Irusan went to electronic shop and bought 100 watts, 120 watts, 150 watts bulbs for amount ₹12.50, ₹14.70 and ₹18.50. What is the total amount he spent in all?

Cost of 100 watts bulb = ₹12.50

Cost of 120 watts bulb = ₹14.70

Cost of 150 watts bulb = ₹18.50

The total amount he spent in all = ₹45.70

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Let us try

(i) ₹ 24.60
+ ₹ 23.30

(ii) ₹ 44.50
+ ₹ 22.20

(iii) ₹ 39.80
+ ₹ 64.70

(iv) ₹ 48.35
+ ₹ 54.67

Exercise 5.2

I. Add the following Rupees (without conversion)

1. ₹38.40
+ ₹41.25

2. ₹19.27
+ ₹10.31

3. ₹28.50
₹20.14
+ ₹41.32

4. ₹34.20
₹13.18
+ ₹12.11

II. Add the following rupees (with conversion)

1. ₹19.56
+ ₹23.64

2. ₹64.75
+ ₹36.25

3. ₹28.37
₹18.43
+ ₹17.65

4. ₹64.15
₹38.27
+ ₹41.18

III. 1. Elangovan bought a bat for ₹105.15 and a ball for ₹24. How much money did he spend in all?

2. Sadham went to vegetable shop and bought 1 kg of brinjal for ₹28.50, 1 kg of ladies finger for ₹10.50, 1 kg of pumpkin for ₹11.50. Find the total amount he spent in all.

3. Kanmani bought pad and pen for her daughter at the cost of ₹65.50 and ₹48.75. How much money did she pay for the things?

4. Ramya bought Vegetable rice, Idly and Dosai for ₹74.50, ₹28.50 and ₹60.50. Find the total amount he spent in all.

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Subtraction

EXAMPLE

Ramu bought chocolate in his trip at the cost of ₹60.75 and has given ₹70 to the shopkeeper. How much money did he get back?

Amount given to the shopkeeper = ₹70.00 –
Cost of chocolate = ₹60.75
Balance amount he got back = ₹9.25

∴ The balance amount get by Mr. Ramu in ₹ 9.25.



Let us try

Subtract the following

(i) ₹ 85.45 − ₹ 65.75

(ii) ₹ 94.27 − ₹ 36.18

(iii) ₹ 58.45 − ₹ 49.15

(iv) ₹ 74.50 − ₹ 55.50

Exercise 5.3

1. Subtract the following:

i. ₹83.50 − ₹24.00

ii. ₹63.50 − ₹27.50

iii. ₹74.00 − ₹43.50

iv. ₹98.67 − ₹58.49

v. ₹78.50 − ₹69.50

2. Cost of a pen from shop A is ₹7.50 and from shop B is ₹5.50. What is the difference between the cost from two shops.

3. Mala went to textile shop and had bought chudithar for ₹58.70 and gave ₹100 to the shopkeeper. How much money did the shopkeeper return to Mala.

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Introduction

To learn to use Operations to find totals, change, multiple costs and unit cost.

Panneerselvam and his three friends went to seashore. They played and took rest. By that time they bought 4 packets of cereals from the seller for ₹20. Panneer does not know the cost of one packet then he asked his friend.

His friend explained him to find out the cost.

4 packets of cereals = ₹20

∴ 1 packet of cereals = ₹20 ÷ 4

So, 1 packet of cereals = ₹5.

Panneer and his friends have eaten cereals and went to a tea shop. The price of a cup of tea was 5 rupees. Panneer and his friends drank tea and gave ₹20 to the seller.

Panneer does not know the total cost of tea. He asked his friend to explain him,

Cost of one cup of tea = ₹5

Cost of four cups of tea = ₹5 × 4

= ₹20

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Let us try

Find the cost per item, if the total cost is given. One is done for you.

Items	Number of Items	Total cost of the item	Cost per item
Book	5	₹250	₹250 ÷ 5 = ₹50
Bulb	9	₹1350	
Clock	6	₹1500	

Fill in the following:

S.No.	Items	Cost per item	Number of items	Total cost of the item
1.	Top	₹8	25	₹8 × 25 = ₹200
2.	Marble	_	30	_ × 30 = ₹210
3.	Ball	₹9	23	—
4.	Ring Ball	₹20	_	₹20 × _ = ₹200
5.	Doll	₹6	18	_

Panneer and his friends spent the amount for cereals ₹20 and for tea ₹20. Also they spent ₹40 for horse-riding. They went home happily. After he went home he calculated the amount left in ₹100.

Let us help Panneer,

Cost of cereals	=	₹20
Cost of tea	=	+ ₹20
The amount spent for horse - riding	=	+ ₹40
Total expenditure		₹80

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Total amount with Panneer	=	₹100
Amount Spent by Panneer and his friends	=	- ₹ 80
Balance amount	=	₹ 20



Activity

1. Make the students to form a model market to display the price list of the things to learn addition and subtraction.
2. Write the value of currency in the paper, make a student to act like a shopkeeper and the other students are like customer, calculate the cost of things to learn addition and subtraction.

EXAMPLE 1

Nandhakumar spent the amount of ₹750 for 10 l petrol. What is the cost of 1 l petrol.

Nandhakumar spent the amount for petrol = ₹750

$\therefore$ Cost for 1 l petrol = ₹750 ÷ 10

= ₹75

EXAMPLE 2

Madhumitha bought 8 sweet packets. If one packet costs ₹65, find the cost of 8 packets.

Cost of one packet = ₹65

$\therefore$ Cost of eight packets = ₹65 × 8

$\therefore$ Cost of eight packets = ₹520

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EXAMPLE 3

Selvam went to vegetable market and bought onion for ₹10.50 and cucumber for ₹8.75. If he has given ₹20 to the shopkeeper then find the balance amount received by selvam.

Cost of onion	=	₹10.50
∴ Cost of cucumber	= +	₹ 8.75
The amount spent for vegetables	=	₹19.25
The amount given to the shopkeeper	=	₹20.00
The amount spent for vegetables	= -	₹19.25
Balance amount	=	₹ 0.75

Exercise 5.4

1. Priya bought 20 balloons. If the cost of one balloon is ₹6, then find the cost of 20 balloons.
2. Chinthamani bought 28 chocolate for her birthday. If the cost of a chocolate is ₹7 then find the total cost of 28 chocolates?
3. Ashok purchased 9 decorative papers at the cost of ₹450 for his town festival. Find the cost of a decorative paper?
4. Geethanjali bought 10 pencils at the cost of ₹70 from the supermarket. Find the cost of a pencil?
5. Kuppan had ₹50. He bought pencil and pen for ₹24.50 and ₹6.50. Find the total cost of things that he bought. Also find the balance amount?

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6. A teacher went to the science exhibition with their students.The entry fee is ₹250 and the teacher bought some materials for the school for ₹320, she had the balance amount of ₹330, find the amount that she had?

Finding the estimation of the total cost

Tharun went to footwear shop with his father. A pair of footwear cost ₹99.50 in the price tag.

> **Note:**
> If the paise is more than 50 or equal to 50 add 1 to the rupees leaving paise, if it is less than 50 keep the rupees as it is.

Tharun : Appa, what is the cost of the footwear?

Appa : ₹100

Tharun : Appa, the price tag shows ₹99.50 but you said ₹100.

5ICMP

Appa : Yes tharun. The amount ₹99.50 is difficult to tell. So I rounded off to ₹100.

Tharun : Appa, why don't you say ₹99 instead of ₹100?

Appa : Yes, here the amount is ₹99.50. If the amount is more than or equal to 50 paise, round rupees to the nearest value.

Tharun : Appa, Suppose if the amount is less than 50 paise, then keep the value as it is leaving the paise.

Appa : Yes Tharun, you are correct. (They bought, footwear and went happily)

To measure the money accurately, we can use the approximation

Rate	Estimated value	Reason
₹27.60	₹28	60 paise is greater than 50 paise.
₹12.30	₹12	30 paise is smaller than 50 paise.

The approximate value of ₹1 is the whole number itself.

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Let us try

Rate	Estimated value	Reason
₹ 8.50 ₹ 7.30 ₹ 4.60 ₹45.70 ₹34.50	₹9	The estimated value of 50 paise or above 50 paise rounded off to the next nearest rupees.

Estimate the following rupees (before or after) using the multiples of ₹10.

Actual Price	Estimated Price
₹53 ₹67 ₹48 ₹24 ₹97	₹50

EXAMPLE 4

Deepak bought groundnut cookies for ₹24.40, Dhal mixture for ₹34.60 and murukku for ₹28.75. He prepared to estimate the value to the nearest rupees.

Things	Actual price	Estimated price	Difference in paise
Groundnut	₹24.40	₹24	40 paise
Dhal mixture	₹34.60	₹35	40 paise
murukku	₹28.75	₹29	25 paise
Total	₹87.75	₹88	25 paise

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Exercise 5.5

1. Meera went to vegetable shop. He bought brinjal for ₹29.75, drumstick for ₹14.60, raddish for ₹34.50 and carrot for ₹42.80. Find the total amount and estimate to the nearest one rupee?

2. Vasu bought car toy for ₹37, Bear toy for ₹24, monkey toy for ₹86. Find the estimated cost and find the difference in estimation close to nearest 10 rupees.

3. In the book fair Manibalan bought Bharathiyar book for ₹26.40, Gandhi book for ₹18.60, Abdul kalam book for ₹43.70 and Kumaran book for ₹51.90. Find the estimated cost and difference in estimation closes to nearest one rupee.

4. Geetha bought Jasmine for ₹37, Rose for ₹58, Mullai for ₹26 and Marigold for ₹82. Find the estimated cost and difference in estimation, close to the nearest ten rupees.

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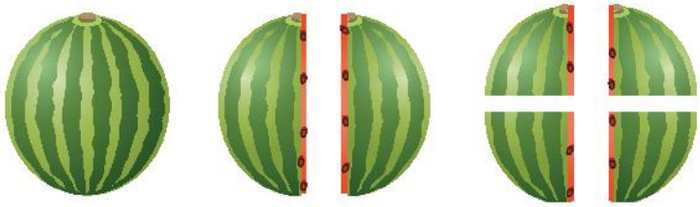


6.1 Symbolic Representation of Simple Fraction:

6.1.4 Understanding the equivalences of $\frac{2}{4}$ and $\frac{1}{2}$ and of $\frac{2}{2}$, $\frac{3}{3}$, $\frac{4}{4}$ and 1

Four friends were walking in a sunny day and they were thirsty. So, they went to a fruit vendor and bought a watermelon. They sliced it into four equal parts and ate it. Shall we see how did they share the fruit among themselves

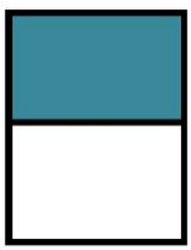
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Whole = two equal parts = two equal parts

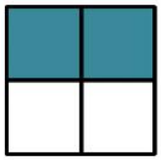
$1 = \frac{2}{2} = \frac{4}{4}$

- Take a square sheet of paper and fold it into two equal parts. Colour one part of the paper

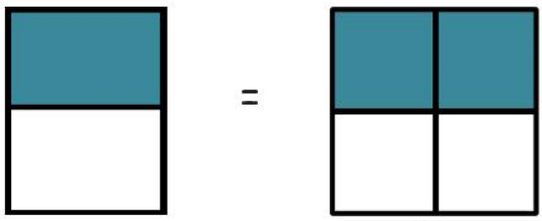


Fraction of coloured portion = $\frac{1}{2}$

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- Now observe keenly, the fraction of coloured portion = $\frac{2}{4}$
  There is no change in the paper

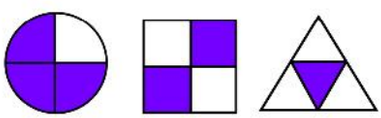


Two parts become four parts and the coloured one part changed into two parts

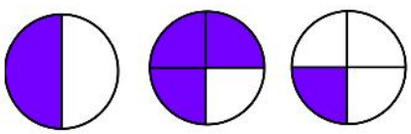
Thus it represents both $\frac{2}{4}$ and $\frac{1}{2}$ are equal. It is said to be equivalence.

Exercise 6.1

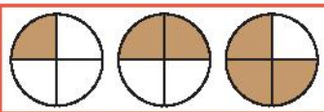
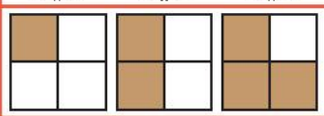
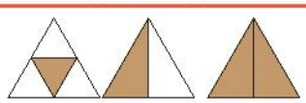
I. Choose the appropriate picture given below for the fraction $\frac{2}{4}$.



II. Choose the appropriate picture given below for the fraction $\frac{1}{2}$.



III. Choose the equivalence according to the fraction given against the pictures

1.	1/2	
2.	2/4	
3.	1/4	

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Introduction

Mother : Muthamizh and Senthamizh come here

Muthamizh & Sentamizh : Yes, Amma

(Mother had four equal parts of a watermelon. She gave them each one piece of the watermelon)

Sentamizh : Amma, I need one more piece?

(She gave another piece to him)

Muthamizh : Amma you gave more than one piece to brother, that's 1/4 for me and 2/4 for brother.

Mother : Muthamizh! Sentamizh is your younger brother know? So only I gave him ok, eat it and then play (After returned from the play)

Sentamizh : Amma, I am hungry (Mother gave last piece of the watermelon to him)

Muthamizh : Amma you gave me 1/4 part of the watermelon. For brother you gave 2/4 it's more than 1/4. Now you gave the last piece (1/4) part to brother so you gave more (3/4) parts of the watermelon.

Mother : you Know, your brother never tolerate his hungry? I have milk for you, go and drink it.

The four equal pieces of the watermelon



A piece given to Muthamizh $= \frac{1}{4}$

First a piece given to Sentamizh $= \frac{1}{4}$

Again a piece given to Sentamizh $= \frac{2}{4}$

Muthamizh Compares her piece of fruit with his brother and realises that her mother gives more pieces to him than her. 2/4 is greater than $\frac{1}{4}$ or

$$\frac{1}{4} < \frac{2}{4}$$

Sentamizh ate one more piece after playing $= \frac{1}{4}$

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So totally he ate = $\frac{3}{4}$ (three fourth)

Muthamizh now realize that $\frac{3}{4}$ is greater than $\frac{2}{4}$. Muthamizh compares all the three:

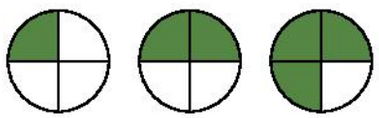
$\frac{3}{4}$ is greater than $\frac{1}{4}$ $\frac{3}{4}$ is greater than $\frac{2}{4}$

Thus: $\frac{1}{4} < \frac{2}{4} < \frac{3}{4}$



$\frac{1}{4} < \frac{2}{4} < \frac{3}{4}$

Similar fractions (or like fraction)



$\frac{1}{4} < \frac{2}{4} < \frac{3}{4}$

The shaded portion of the circle's fraction respectively are

$\frac{1}{4}, \frac{2}{4}, \frac{3}{4}$

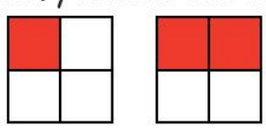
Here 1, 2 and 3 are numerator in each fraction

4, 4 and 4 are Denominator in each fraction

Thus the fractions have same denominator, such fractions are called similar or like fraction.

Similar (like) fraction are fraction with same denominators.

EXAMPLE 1 Identify which one is greater or smaller



- If you observe the pictures you can notice that they are equally divided.
- In the first picture one part is shaded so its fraction = $\frac{1}{4}$
- In the second picture two parts are shaded. So its fraction = $\frac{2}{4}$

In picture 2 the shaded portion is greater than picture 1.

$\therefore \frac{2}{4} > \frac{1}{4}$

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EXAMPLE 2



First picture's fraction = $\frac{2}{5}$

Second picture's fraction = $\frac{3}{5}$

Here the shaded portion of the second picture is more.
So, the shaded portion in second picture is greater than the first.

In other words, we can say that the shaded portion in picture 1 is smaller than picture 2.

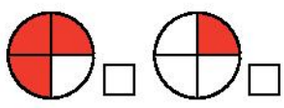
$\frac{2}{5} < \frac{3}{5}$ ($\frac{2}{5}$ is smaller than $\frac{3}{5}$)

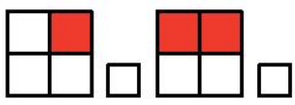
Exercise 6.2

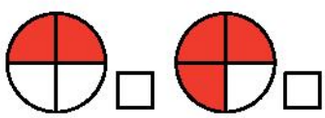
I. Circle the greater fractions

a. $\frac{1}{3}, \frac{2}{3}$ b. $\frac{3}{4}, \frac{1}{4}$ c. $\frac{2}{5}, \frac{4}{5}$ d. $\frac{6}{8}, \frac{3}{8}$ e. $\frac{4}{10}, \frac{3}{10}$ f. $\frac{2}{9}, \frac{7}{9}$

II. Tick (✓) the smaller fractions

1. 

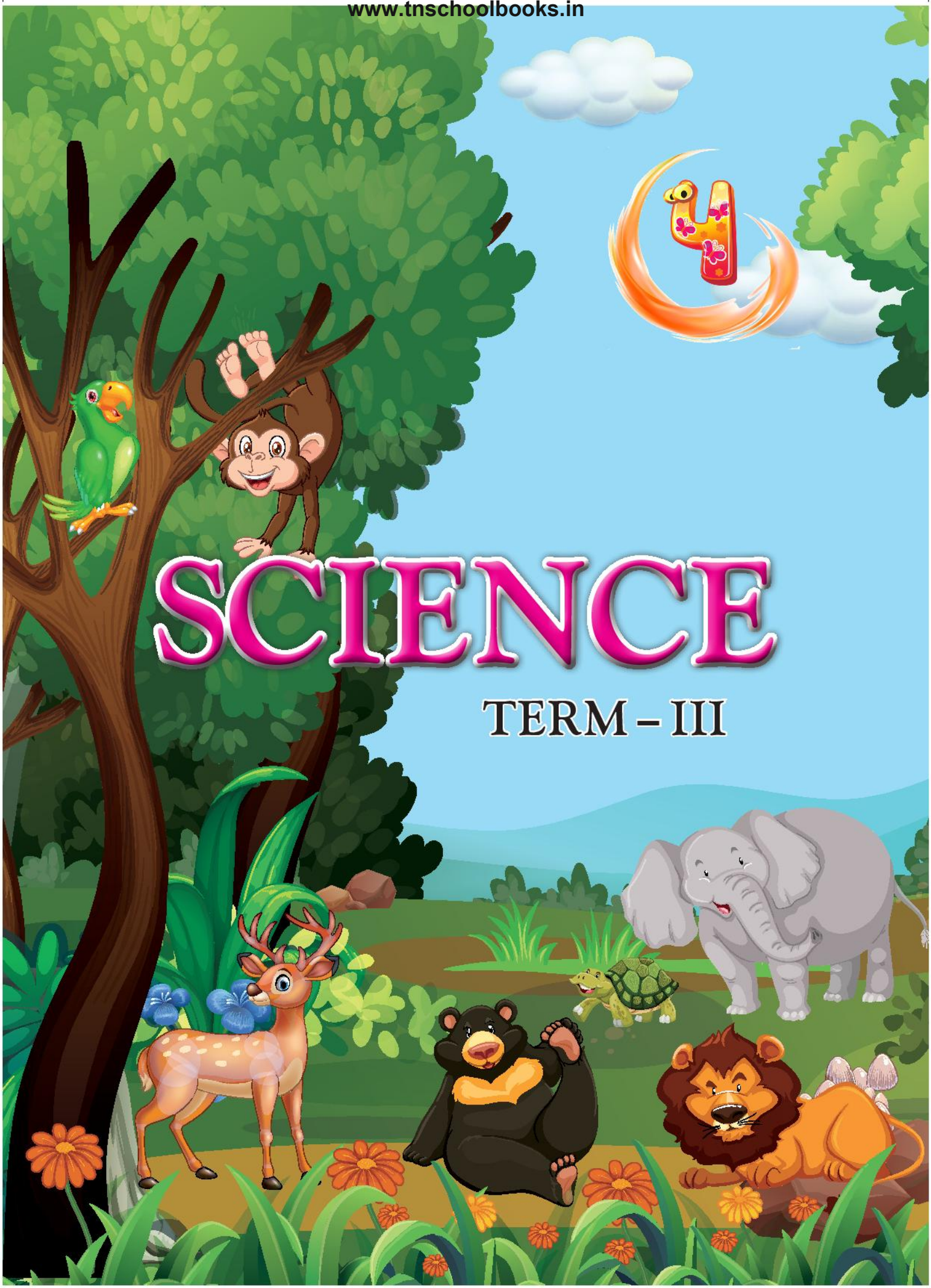
2. 

3. 

1L2TF

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Green Environment

Unit 1



Learning Objectives

After the completion of this unit students will be able to

- understand the importance of waste management.
- understand the role of 3Rs in waste management.
- learn how to conserve the environment by practising good habits.
- recognise eco-friendly materials.

Introduction

Nature provides us with a lot of useful things. Factories use these natural resources to make things that we buy in shops. When we are finished using these things, they become waste. **Waste is any object or material that has been used but is not wanted anymore. It is not useful to us because it is broken, worn out or cannot be used again.** Waste can be solid, liquid or gas and can come from many places such as houses, schools, markets, hospitals, shops, etc. Generally waste pollutes our environment.

Waste Management

Sristhika : Madam, I see a lot of waste things in our surrounding. Is there any way we can reduce wasting things?

Teacher : Yes. There are many ways to reduce waste. Reducing the waste is the first and most important step in waste management.

Vimal : What is waste management, Madam?

Teacher : It is the step we take to handle our waste and to make sure our environment does not get dirty and polluted. Waste management deals with both biodegradable and non-biodegradable waste.

Janani : Can you please explain the steps in waste management Madam?

Teacher : Yes, sure. There are four steps in waste management. They are

1. Separation of Waste
2. Waste collection and transportation
3. Waste recycling and composting
4. Waste disposal.

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1. **Separation of Waste:** This is a very important step in waste management. It means to sort or divide the waste in different waste bins. Each bin should have different type of wastes. It is good to separate waste in three different bins. Green for biodegradable waste, Blue for recyclable waste and Red for non-recyclable waste. Non-biodegradable waste can be classified as recyclable and non-recyclable.



2. **Waste collection and transportation:** Once we separate our waste in our homes and schools, it is important to keep it ready to be picked up by our panchayat, municipality or corporation. Picking up the waste is called Waste collection. Moving the waste from one place to another is called Waste Transportation.





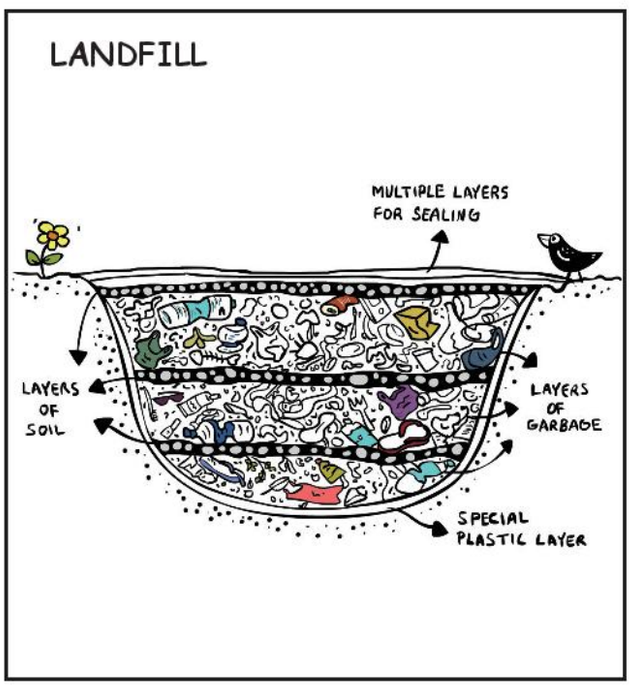
3. **Waste recycling and composting:** Biodegradable waste is taken to a place where it can be converted into compost. Compost is food for plants and helps to make our soil healthy. Non-biodegradable (recyclable) waste is taken to recycling factory for making new products.

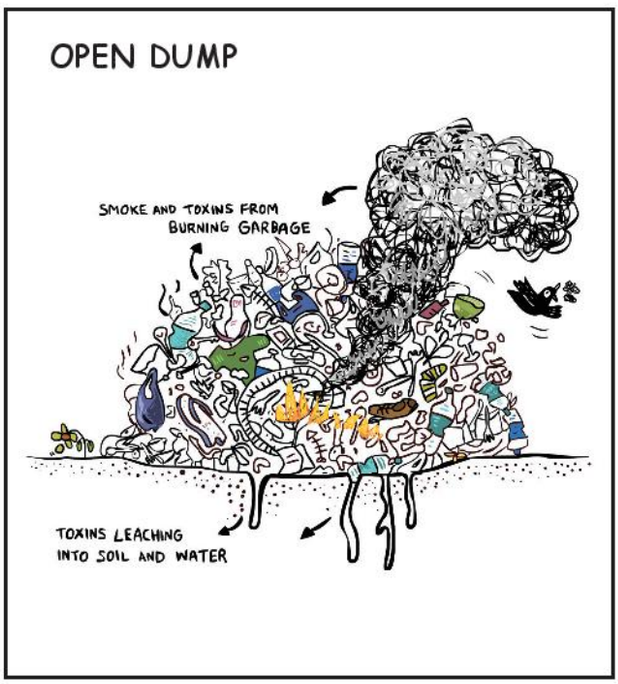
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4. **Waste disposal:** The waste that cannot be recycled (non-recyclable waste) needs to be sent for final disposal. This waste is sent to an open dump or landfill.





Activity

Write the waste management process in the correct order.

(Waste disposal, Waste collection and transportation, Waste separation, Waste recycling and composting)

1. _____
2. _____
3. _____
4. _____

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Rahul : How can we manage waste at home?

Teacher : There are many things we and our family can do to manage waste at home. 3Rs help to manage waste.

Gomathi : What are the 3Rs, Madam?

Teacher : The 3Rs stand for **REDUCE, REUSE, RECYCLE**. We must first reduce, then reuse and finally recycle. They are in this order to help us remember what to do first.

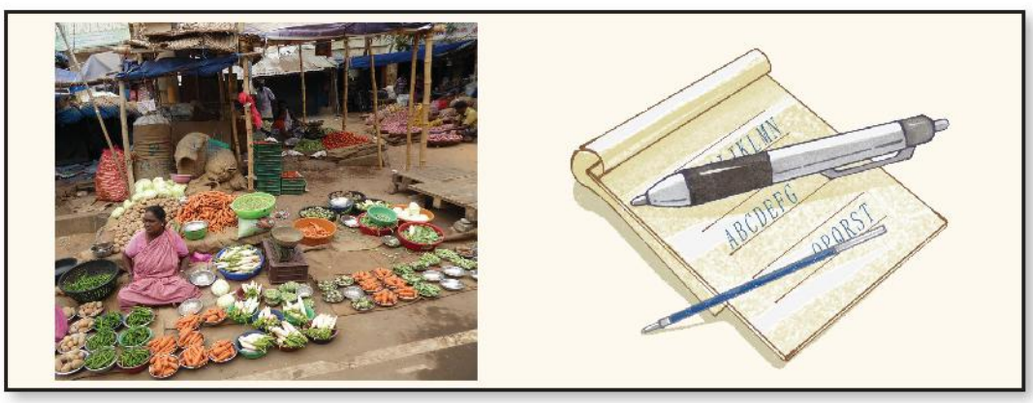


THE 3Rs

Reduce is to make and use less materials. This is to make, buy and use things that create less waste. It is the best thing to do first. How can make less waste? Some examples are given below.

1. You can buy an ink pen. When the ink is used up, you can refill and use it.
2. While shopping with your parents, you can carry a cloth bag. In this way you can avoid buying plastic carry bags.
3. You can use your own vessels for purchasing snacks items.
4. You can reduce waste by buying things in bulk instead of in small quantities.





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Activity

Using old water bottles, make different things such as Bird feeder, Flower vase, Pen holder and Wall hanging as shown below.








Reuse is using a thing repeatedly for the same or for another purpose. By reusing, we throw away less waste and do not dispose of it in a dump. Reuse saves money, energy and time. Here are some examples of how you can reuse materials at home.



1. You can reuse old clothes to clean your home.
2. You can reuse jam and pickle jars to store things.
3. You can donate old clothes which can be used.
4. You can reuse waste and make something new. E.g. You can reuse a plastic bottle as a pen stand or a bird feeder.

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Recycle is to take materials from things you throw away and make new products by using them. Recycling takes energy and time but saves the amount of 'new' resources (for example water, minerals, wood) we need to make things.



Here are some examples of how certain materials are recycled.

1. Old newspapers, note books and magazines are kept separate and sold to a scrap dealer. They will be made into new paper.
2. PET bottles are recycled into plastic threads and then used to make sports T-shirts.
3. Old glass bottles and broken glass pieces are melted to make new glass.
4. Broken metal items are melted and made into new metal products like toys.







Activity

List out four things that you can reduce, reuse and recycle at home or school.

Reduce	Reuse	Recycle

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Conservation of Environment

Rahul : What is meant by conservation of environment, Madam?

Teacher : Conservation of environment means to protect all things found in nature. It means that we have to use our Earth's natural resources (like water, soil, minerals, wildlife and forests) carefully.

Vimal : How can I conserve the environment?

Teacher : Everyone can help to conserve the environment by following good waste management habits.

What is the first 'R' in the 3Rs?

Kanimozhi : Reduce.

Teacher : Correct! We should first try to reduce the waste we make. Thus, we can easily conserve our environment.

Waste Separation

Household waste should be separated into biodegradable, recyclable and non-recyclable categories. Biodegradable waste such as left-over food and vegetable waste can be broken down naturally to create compost. Recyclable waste such as paper, glass and metal can be made into new useful products. Non-recyclable waste should be kept separate and will be sent to an open dump or landfill. This should be reduced as much as possible.









Glass containers for food and beverages are 100% recyclable and can be recycled endlessly without loss in quality or purity.

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Activity

Study the images below and write down three items you have at home in each category of waste.

Biodegradable



Recyclable items



Paper & Cardboard | Plastic | Metals | Glass

Non-recyclable items



Plastic bags & food packaging | Sanitary & medical waste | Multi-layer Plastics | CFL Lights | Polystyrene | Other waste

1. Biodegradable: _____
2. Recyclable: _____
3. Non-recyclable: _____

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Sristhika : I have heard the news that plastic is harmful to our environment. Is it true Mam?

Teacher : Plastic itself is not bad but we are using too much of it. Over use of plastic causes pollution. Plastics that are used only one time causes pollution. It is good to avoid or reduce one-time use plastics. The best way to start is to ask yourself this question. Is this plastic item going to be used one time or many times? If you can use it only once, then try to avoid buying such plastic items.

Plastics in Tamil Nadu

Tamil Nadu is leading the way in India by banning some one-time use plastic items. List of items banned in Tamil Nadu are given below.



Animals eat **plastic bags** by accident when they contain left over food. A cow was found with over 50 kilos of plastic in its stomach.



Used **Plastic plates** will stay in the environment for over a 1,000 years.



Water pouches often get littered and are difficult to recycle.



Plastic straws are difficult to recycle and end up polluting the environment.



Chemicals from **plastic sheets** leak into food more when the food is hot.

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Ekalaivan : What are the things that can be used instead of plastic, Madam?

Teacher : We can use things that are good for the environment. These are called environmentally friendly or eco-friendly materials, and can be either biodegradable or reusable.



Environment friendly materials



Things that can be decomposed or broken down by microorganisms are biodegradable. They can return back to the soil and become food for plants. These biodegradable items are environment friendly or eco-friendly materials.

Let us learn more about them.

Leaf plates are a tradition in Tamil Nadu and very eco-friendly. E.g. Banana leaf. They are fully biodegradable and do not contain chemicals like thermocol plastic or coated paper plates.

Bamboo is used to make many things such as bags, dustbins and even toothbrushes.













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Eco-friendly Activities:

- Practice the 3Rs.
- Always put waste in a bin. Do not litter open areas.
- Reduce your paper use by writing on both sides of every sheet of paper.
- Use reusable bags and containers.
- Separate biodegradable, recyclable and non-recyclable waste.
- Avoid one-time use plastics.



The first fully synthetic plastic was invented by Leo Baekeland in 1907

Let Us Try

Form small groups and start collecting plastic litter from school grounds or from the local area around your house. And separate them according to 3Rs.



Teacher : Some environment friendly materials are not biodegradable but they are very strong and can be used for many years. By reusing, we can reduce waste and conserve the environment.

Rahul : Can you please give us some examples?

Teacher : Yes, sure.

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Stainless steel water bottle and snack box are some examples of eco-friendly materials. Stainless steel does not leak chemicals into your food or water. So it is safer than plastic. These can be reused for a longer period of time.





Activity

Write any five non-recyclable items that you use or have seen in shop.

_____

_____

Litter Free Environment

Litter in our environment is ugly to look at and causes pollution. Wind and rain move litter into drains, rivers and lakes and often ends up polluting the ocean. It is also dangerous to animals as they may eat. Not littering is the best way to keep our community and environment clean.

National Green Corps (NGC)

It is a national programme initiated by the Government of India. NGCs motto is:

"Where there is Green, there is Prosperity"

NGC schools students protect and promote the conservation of natural resources through participating in activities such as the conservation of forests and managing waste.



Always throw litter in a dustbin and when you travel always carry a bag with you to store your litter.

If you see litter, pick it up and throw it away in a dustbin as this shows by example and encourages others to do the same.

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Evaluation

HES84

I. Choose the correct answer.

1. What is the first step in waste management?

   (a) Waste disposal (b) Waste separation (c) Waste collection

2. Which is an example for non-biodegradable waste?

   (a) Paper cup (b) Plastic plate (c) Coconut shell

3. Always put waste in a dust bin. It keeps the _____ clean.

   (a) waste collection (b) environment (c) litter

4. _____ is the first 'R' in the 3Rs.

   (a) Reuse (b) Reduce (c) Recycle

II. Fill in the blanks.

1. _____ is an example of reusing waste.
   (Using old jars for pickle/Saying no to a plastic bag)

2. _____ is used to make bags, dustbins and tooth brushes.
   (Rose / Bamboo)

3. _____ is a big threat to our environment.
   (Plastic pollution / Light pollution)

4. _____ is a non-recyclable item.
   (Glass / Multilayer plastic)

III. Match the following.

1. Plastic waste	-	3Rs
2. Waste separation	-	Eco-friendly material
3. Reduce, Reuse and Recycle	-	Threat to environment
4. Stainless steel	-	Biodegradable, recyclable and non-recyclable

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IV. Write true or false.

1. 3Rs method reduces the amount of waste that goes to landfills.
2. Eco-friendly material is harmful to the environment.
3. Plastic bag, thermocol and multilayer plastics are recyclable.
4. We should not separate our waste.

V. Answer in one or two sentences.

1. What are the 3Rs?
2. What is biodegradable waste?
3. Write the different steps in waste management.
4. Name any five items which are recyclable.

VI. Answer the following.

1. How will you manage waste at home?
2. What are the plastic items that have been banned in Tamil Nadu?
3. Write the benefits of recycling.
4. What is meant by eco-friendly material?

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Life of Animals

Unit 2



Learning Objectives

After the completion of this unit students will be able to

- understand group behaviour in animals.
- know adaptation in animals.
- explain the structure of insects.
- list out special senses in some animals.
- know about animals active at night.
- understand parental care in animals.



Introduction

Have you ever wondered why a dog drools on seeing food? Why cuckoo sings only during summer? Why baby birds open their mouths when the mother returns to the nest?

Each animal has some unique behaviour. Animal behaviour includes the activities of an animal and its interaction with other organisms. E.g. Blinking, eating, walking and flying.

Group Behaviour in Animals

Animals gain a lot of benefits by living together with other members of the same species. This is called group behaviour. Animals like tiger, bear etc live in solitary (alone). Some animals live in small groups (E.g. Pride of a few lions) and some live as larger herd (E.g. Herd of thousands of wilde beest).



Some animals such as elephants, squirrels, rats and bats do dream while sleeping. But cats, dogs and monkeys have longer dream time.

Group behaviour is also called social behaviour. Members of the group work together to find food, defend themselves and look after the young ones. The main purpose of group behaviour is to help animals survive in nature. E.g. All the fish in a school move together, following their leader in the front. Staying in a group helps the small fish appear big.

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Group behaviour in Bees



When insects live together, they often follow a hierarchy. E.g. Bees have one queen bee in every hive. There are a few male bees called drones. There are hundreds of female bees, which are the worker bees.

Nesting Behaviour in Birds

Birds are very different from each other. They live in different places, eat different foods and have different life styles. Some birds permanently live in groups while others come together only during the breeding season. Birds also live in groups.

Not all the bird species build nests. Some of them lay their eggs on the ground or in gap between rocks. Most of the birds build their own nests carefully like engineers. They build nests for their young ones. Some weave leaves, some use twigs, some build with thorns then pad it with soft materials.







Do You Know?

Social weavers do not build individual nests. All males work together and build a common nest in which 400 birds can be housed.



Though green heron cannot swim, it still eats fish from the water. How? It drops colourful leaves and fruits into the water. When the fishes come out, the heron catches them.



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Group behaviour in Elephants

Elephant group is called Herd or Parade. For each group there is a female head, which leads the group towards the availability of food, water and safety. The leader fights for their group. All animals in a group obey the command of their leader. Older animals teach manners and life skills to young ones. Like elephants deer, bisons and monkeys also live in groups.



Animals and their Group Names					
Animal	Group name	Animal	Group name	Animal	Group name
Lion	Pride	Fish	School	Ant	Colony
Wolf	Pack	Sheep	Flock	Owl	Parliament

Let Us Try

Match the animals with their group behaviour






Lives alone

Lives as part of a group






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Advantages of Group behaviour in animals.

S.No	Group behaviour	Example
1.	Procuring food	Hunting and sharing in lions.
2.	Taking care of young ones	Female elephant takes care of its calf.
3.	Protection from predators	Wildebeests make sounds to alert their group.
4.	Division of labour	Honey bees collect nectar, build comb and clean hive etc.
5.	Energy conservation	Birds fly in "V" shape to reduce wind resistance.



Sea otters hold hands while they are sleeping, so they do not drift apart.

Adaptations in Animals

Adaptation is the most essential factor of all living beings. The changes in an animal's behaviour to adjust with its habitat is called adaptation. If an organism fails to adapt to the particular environment, its survival is difficult.

All animals have special body parts to live in a particular place at a particular time. E.g. Giraffes have developed very long necks because of their environmental demands.



Let Us Try

Observe any animal in your surrounding and write a creative short story about it.

_____

_____

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Some more examples of adaptations are given below.



Tigers and Zebras have lines so they can hide themselves.



Camels have broad feet to walk in the desert.



Fish have gills to breathe in the water and fins to swim.



Elephants have long and large trunk to get their food.

There are three basic types of adaptations seen in animals. They are,

1. Structural adaptations

Changes in the physical features of the animal are called structural adaptations.

E.g. **Polar bears** living in cold climate have physical adaptations, such as thick fur and short ears to reduce heat loss.

2. Physiological adaptations

Changes in the functions of the animal's body are called physiological adaptations.

E.g. **Dog** shivers to generate more heat when it is cold and pants when it is hot.

3. Behavioural adaptations

Changes in the behavioural activities of the animal are behavioural adaptations.

E.g. **Birds** migrate to avoid adverse conditions.

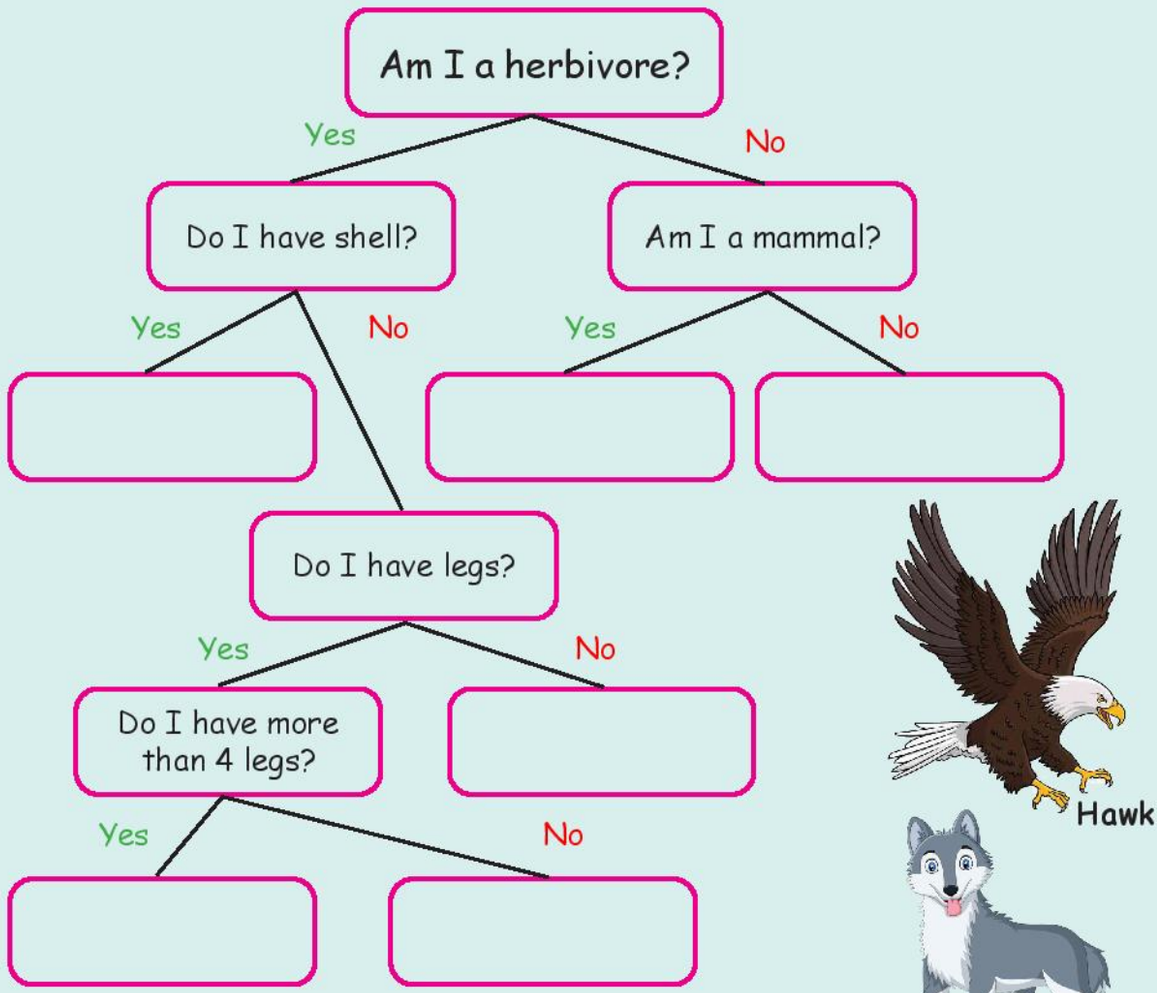
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- Porcupines have thorns on their body to defend from their enemies.
- Alligators can feel even small vibrations in the water through their skin.



Who am I?



Hawk

Wolf



Earthworm



Caterpillar



Squirrel



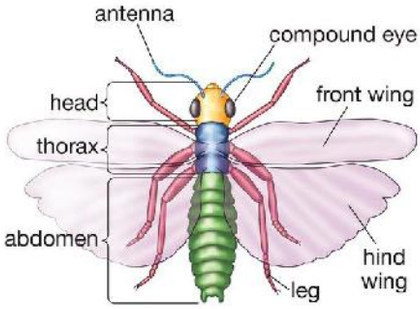
Snail

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Structure of Insects

Insects have three main body regions. They are;

Head, thorax, and the abdomen. All parts of the insect are inside an exoskeleton.



- **Head** The main visible parts on the head are the large compound eyes, the antennae (feelers) and the mouth parts.
- **Thorax** The thorax is the middle region of the body. It bears three pairs of legs and two pairs of wings.
- **Abdomen** The abdomen is the last part of the insect's body. Abdomen of the insects has clear segmentation.

Insects have differences in structures like wings, legs, antennae and mouthparts. The legs are modified for walking, jumping, digging or swimming.

Most of the insects have wings which can be folded flat over their body. E.g. Bug. There are some insects which cannot fold their wings. E.g. Dragonfly. Some insects are wingless. E.g. Silverfish.





Do you know?

The compound eyes of insects are made up of small units called ommatidia.

Let Us Try

Fill in the missing words.

Butterfly has three body parts like all other insects the _____, the _____ (chest), and the _____ (bottom). The butterfly has four _____ and six legs, attached to the throax. Butterfly uses its two _____ to smell.

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Special Senses in Ants and Bats

Some animals have well developed special senses. These special senses help the animals experience the world around them.

Ants

Ants have sense of sight, smell, taste and touch. Ants have organs of smell and taste in their antennae. They feel the vibrations in the ground through their feet. Ants have a good sense of smell.

Let Us Discuss

- Place a few sugar cubes in a plate. After sometime, you can see some ants visiting the plate.

Do You Know?

- Adding sugar to your cat's food is of no use, because cats cannot taste sweetness.
- Most snakes have poor eyesight. Snakes use their tongue to smell their surrounding.

Bats

Bats have a good sense of hearing. They use sound navigation. They produce ultrasonic sound which helps the bats find their way at night and find out the objects on their path. This is called "Echolocation".





Vampire bat

Vampire bats feed on the blood of their prey. Vampire bats have heat-detecting noses which allow them to find their prey.

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Animals Active at Night

When do you wake up? _____ .

When do you sleep?_____ .

When do you play? _____ .

Some animals sleep in the day time and are very active at night. A good example is cat at your home. Not only small animals but also some birds are active at night. Such animals are called Nocturnal animals. E.g. Owl, Bat.

Do you know?

Animals that are active during day time are known as Diurnal animals E.g. Hen, horse, camel etc.

Lions are active both during day and night.

Nocturnal creatures generally have highly developed senses of hearing, smell, and specially adapted eyesight.

Some examples of nocturnal animals are given below.



Cat



Mouse



Firefly



Owl



Bat



Moth

Let Us Find

Word search puzzle - Nocturnal Animals

S	N	A	K	E	O	B
X	O	W	L	U	N	A
L	V	F	E	C	A	T
F	I	R	E	F	L	Y

4th Std_Science_Term 3_ Unit 2_Animals_EM.indd 85 27-09-2023 14:43:59

Parental Care

Efforts taken by the adult to take care of their young ones is called Parental care. Parental care increases the survival rate and improves the quality of young one. It also increases the reproductive success of animals.



Kangaroo

Kangaroo is well known for parental care. Female kangaroo carries its baby in its pouch. The pouch provides a safe place for the young ones to stay until they grow large enough to survive outside on their own.



Cow

Cow gives milk and protects its calf from the enemies. Mother and calf communicate with each other through a sound. Calves respond to the calls from their own mother by calling back.

Human beings

Humans promote and support the physical, emotional, social and intellectual development of their child. The human infant is completely helpless at birth. Mother takes good care of the baby by feeding, helping to sleep and making comfortable with clothes etc. Through proper parenting the child is taught whatever needed to live successfully in the society.

Let Us Fill

Animal observation

Name of the animal	What is the adult doing?	What is the young one doing?

4th Std_Science_Term 3_ Unit 2_Animals_EM.indd 86 27-09-2023 14:44:00

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Evaluation



I. Who am I?

1. My group is called colony. ----------
2. Our home is nest. ----------
3. My feet are broad to help me walk in the sand. ----------
4. I use ultrasonic sound to find the objects in my path. ----------
5. I am active during day time as well as night time. ----------

II. Fill in the blanks.

1. The animals which are active at night are called ----------.
2. ---------- is well known for parental care.
3. The group of owls are called ----------.
4. ---------- lives in hives.
5. ---------- bites us and sucks our blood.

III. Match the following.

1.	Wingless insect	-	Smell
2.	Elephant	-	Gills
3.	Giraffe	-	Herd
4.	Ants	-	Long neck
5.	Fish	-	Silver fish

IV. Answer the following questions in brief.

1. Why do birds build nests?
2. What is meant by structural adaptation?
3. Define echolocation.
4. How do ants feel the vibration ?
5. List out any three animals that live in groups.
6. Why do birds fly in 'V' shape?

V. Give short answers.

1. Why do animals live in groups?
2. Explain the three main body regions of insect.
3. What are nocturnal animals?

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Air We Breathe

Unit 3



Learning Objectives

After the completion of this unit students will be able to

- know that air is a mixture.
- understand the composition and components of air.
- explain air pollution and its effects.

Introduction

Our earth consists of land, water, and air. All these components are very much important for the survival of all living creatures. Air is present all around us. It is very important to cause rain and for the growth of crops. It is needed for the respiration of plants and animals.





Activity

Take a squeezable bottle. Make a hole on the lid and close the bottle tightly. Bring the bottle near your face and press the bottle. What do you feel?



Importance of Air in Our Daily Life

1. Oxygen present in air is needed for respiration.
2. We can hear the sound only when there is air around.
3. Air helps in the dispersal of seeds for plant reproduction.
4. Monsoon and rain occurs due to the wind action.
5. Air regulates the atmospheric temperature.

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Let Us Do

Tick the objects which has air/gas in it.



Air is a Mixture

The air we breathe consists of a mixture of gases. It contains dust, water vapour and smoke. Air also contains gases like oxygen and nitrogen. Air shows the properties of all the gases present in it.

For example, air supports combustion because oxygen is present in it. While cooking using firewood, fanning air helps in burning of firewood.



Do you know?

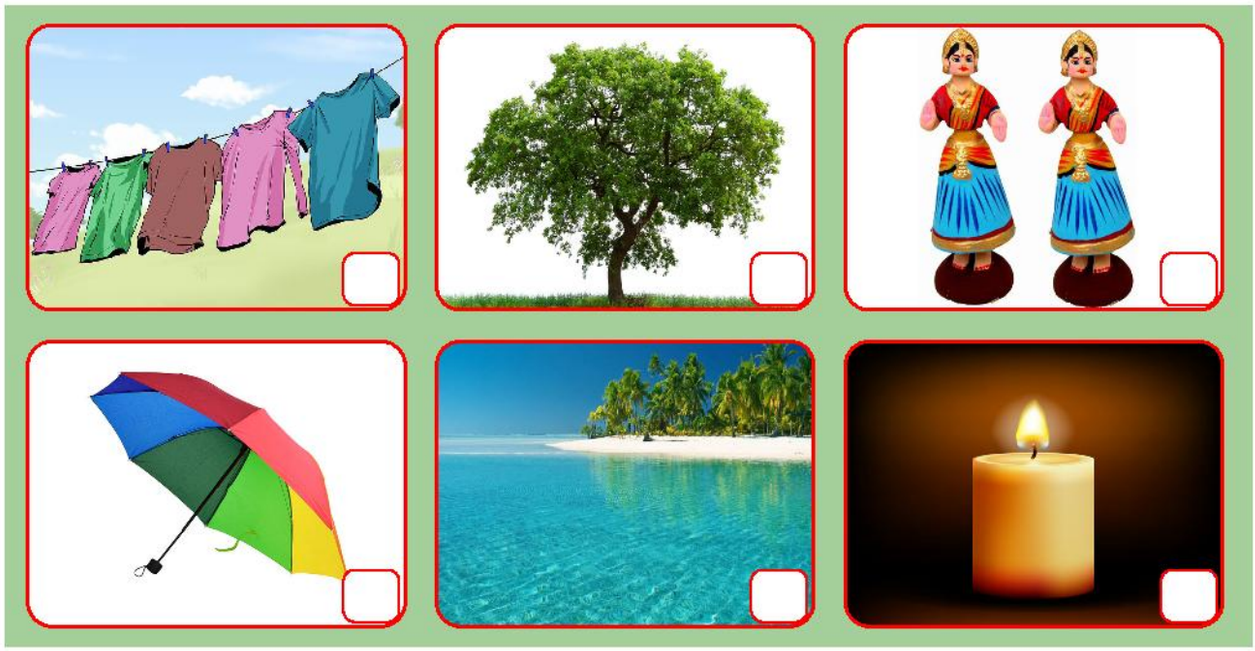
How do we get cool water from a clay water pot on hot sunny days?

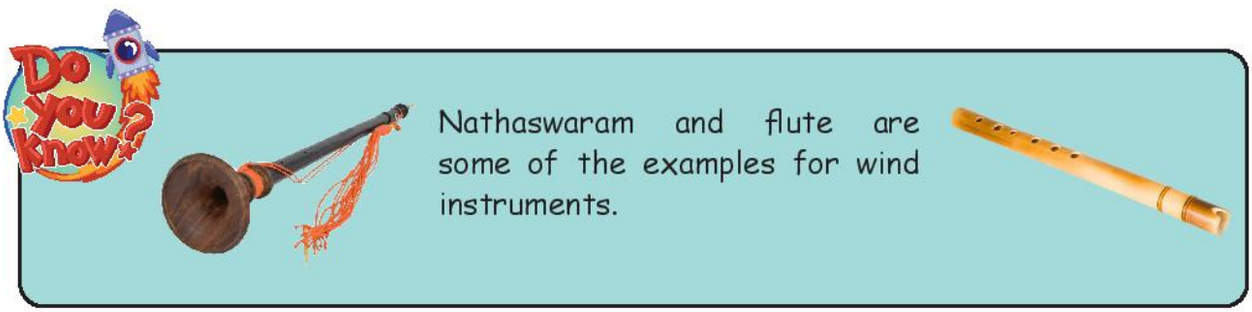
Clay pot has thousands of tiny pores through which water seeps out. This causes cooling effect.

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Let Us Do

Tick the objects from which water vapour comes out.

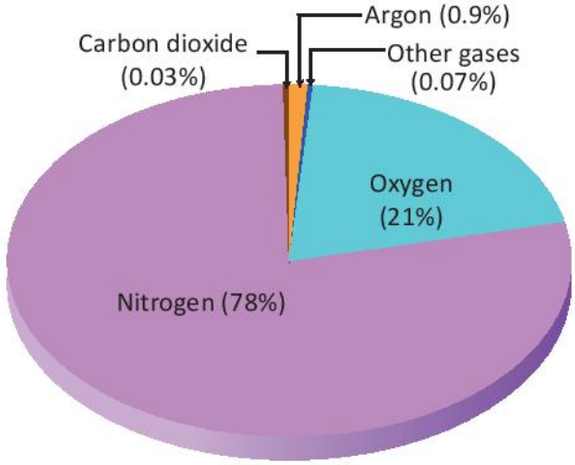




Nathaswaram and flute are some of the examples for wind instruments.

Composition and components of air

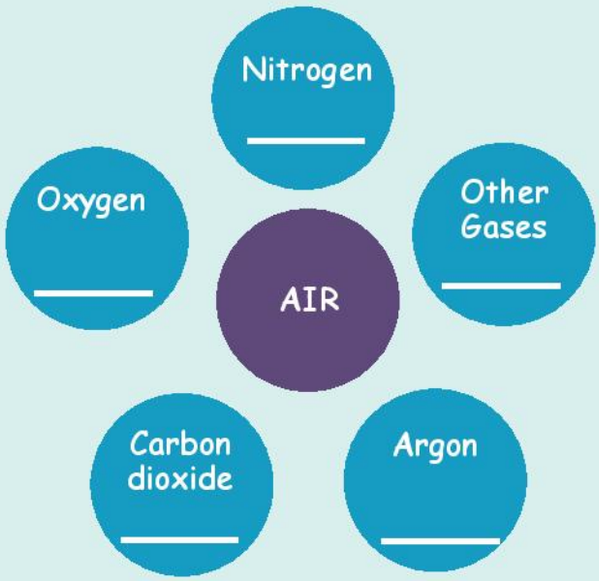
The composition of air is not constant. It varies from place to place and over time. Air is not a single element; it is made up of different substances.



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Let Us Fill

Write the percentage of the gases present in air.



Nitrogen

The amount of nitrogen present in air is about 78%.

It is used to fill up food packages to extend their shelf life.

Liquid nitrogen is used to store living cells.

Plants need nitrogen for their growth. We can see root nodules containing nitrogen in some plants.



Nowadays people use nitrogen gas to fill the tyres of their vehicles. Some compounds of nitrogen are used as explosives also.

Do You Know?

In 1772, the Scottish chemist, Daniel Rutherford, isolated "Nitrogen".

Activity

You might have seen some huge colourful balloons flying high in malls. Those balloons are filled with nitrogen gas. Write the reason for filling nitrogen gas in balloons.

_____

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Oxygen



It is one of the main components of air. The amount of oxygen present in air is about 21%. All the creatures cannot live without oxygen. The presence of oxygen can be tested with simple experiments.

Uses of oxygen

1. All living things use oxygen for breathing.
2. Oxygen is essential for burning.
3. Oxygen cylinders are used in hospitals to enable the patients to breathe when they cannot breathe normally.
4. Oxygen is used in gas welding.

Do you know?

Mountaineers and deep sea divers carry oxygen cylinders along with them.

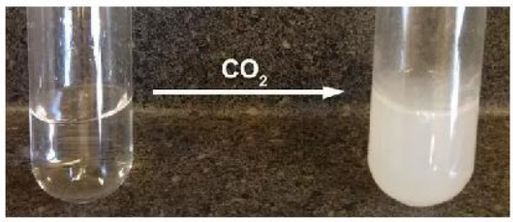




Carbon dioxide

The amount of carbon dioxide present in air is only 0.03%. Though it is less in percentage its uses are more and essential. It can be tested with lime water. The lime water changes from colourless to milky.

Uses of carbon dioxide:



1. Carbon dioxide helps plants in photosynthesis.
2. It is used in fire extinguishers.
3. It is used in refrigerators as dry ice for cooling purposes.
4. It is used to make plastics and polymers.

Do you know?

The Scottish chemist Joseph Black discovered that carbon dioxide is present in air.

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Air has other gases like hydrogen, helium, argon etc. in small proportion. Air also contains water vapour which varies according to the environment. When we breathe, we take oxygen from air and release carbon dioxide and water vapour to air.

Let Us Try Classify the following.

(Dog, cat, coconut tree, monkey, brinjal plant, papaya plant)

Things which give out oxygen	Things which give out carbon dioxide

Do you know?

A grown up tree intakes 1/3 of carbon dioxide exhaled by one person and it gives out the same amount of oxygen required by a person. Hence, three trees are needed to fulfill the required oxygen for a man to survive.

Air pollution

The atmosphere of earth is disturbed by human activities. This leads to environmental problems like air contamination and global warming. The air carries soot, smoke, and other particles from car exhaust and power plants. These are the major contributors to air pollution.

Activity

Look at the path of light rays entering through window of your home/school. You can see a lot of tiny particles suspended and moving in the air. These are dust particles. You can also test the same with the help of a torch light in darkness.





Do you know?

Covering our mouth and nose while sneezing or coughing prevents spreading of germs through air to people around us.

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Adverse effects of Air pollution

Global warming	This changes the climatic conditions of different regions of the world. It also causes disturbances in agriculture and food production. Melting of snow caps and increase in sea levels are the consequences of global warming.	
Formation of smog	When dust particles and smoke combine with fog in the presence of sunlight, smog is formed. It reduces the visibility. It also causes many respiratory disorders and allergies.	
Formation of acid rain	Sulphur dioxide and nitrogen oxides react with water in the atmosphere producing sulphuric acid and nitric acid. These acids come down along with the rain. This is called acid rain. Acid rain • causes respiratory and skin disorders • damages the leaves and affects the productivity of plants • enters the ground and river waters causing harm to the aquatic life • erodes marble and damages monuments like Taj Mahal.	 
Aerosol formation	When liquid or solid particles are dispersed in air, it is called aerosol. Aerosols are deposited on the leaves affecting photosynthesis.	
Depletion of Ozone	The hydrocarbons such as the Chlorofluorocarbons (CFCs) destroy the ozone layer. Ozone holes allow the UV rays to reach the earth's surface. UV radiation harms wildlife, damages plants and causes skin cancer in humans.	

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Activity

Tick the causes of global warming








Effects of Air pollution on human beings

Air pollution has bad impact on human health. When the pollutants increase in air, they cause irritation in the eyes, nose and throat. Air pollution can also produce wheezing, coughing and breathing problems in humans.

Some of the major effects of air pollution on human beings are:

1. Respiratory diseases. E.g. Tuberculosis
2. Cardiovascular damage.
3. Fatigue, headaches and anxiety.
4. Nervous system damage.






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Activity

- Go by walk or use a bicycle to nearby places.
- Plant more trees.





Steps to check air pollution

Air pollution can be reduced by the following steps.

1. Alternative source of energy (E.g. Solar energy) should be used.
2. Air filters should be used to prevent harmful gases mixing with air.
3. Smoke emission test and certification of motor vehicles must be enforced.
4. More trees should be planted to absorb carbon dioxide.









Alternative source of energy are Solar Power, Nuclear Power, Hydroelectric Energy, Geothermal Power, Wind Energy, Biomass Energy, Tidal Energy and Hydrogen Gas.

Activity

Write slogans on harmful effects of air pollution in a chart and stick it on the display board.

1. _____
2. _____
3. _____
4. _____



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Evaluation



I. Choose the correct answer.

1. Air is a _____.
   (a) Mixture (b) Compound (c) Complex
2. Percentage of Oxygen in air is about _____.
   (a) 21 (b) 78 (c) 1
3. Root nodules of some plants contain _____.
   (a) Oxygen (b) Nitrogen (c) Neon
4. The major cause of air pollution is _____.
   (a) Waste (b) Smoke (c) Water vapour

II. Who am I? (Tree, Bicycle, Carbon dioxide, Air)

1. I am a mixture of gases.
2. I give you oxygen.
3. I am not the supporter of burning.
4. You can help me to decrease pollution by riding on me.

III. Write 'True' or 'False'.

1. Plants need nitrogen for their growth.
2. Air is made up of oxygen only.
3. The gas used for burning things is Argon.
4. Carbonated drinks are bad to health.

IV. Math the following.

1. Nitrogen	-	Air pollution
2. Balloon	-	Smoke and fog
3. Smog	-	78%
4. Lung cancer	-	Air

V. Fill in the blanks.

1. Air is a mixture of many _____.
2. Amount of carbon dioxide in the air is _____%.
3. We inhale _____ gas.
4. _____ is used in fire extinguishers.

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VI. Answer the following questions in brief.

1. What are the importance of air in our daily life?
2. What are the components of air?
3. What are the adverse effects of air pollution?
4. What are the uses of oxygen?

VII. Give short answers.

1. How can we reduce air pollution?
2. What are the diseases caused due to air pollution?
3. List out the uses of carbon dioxide.

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SOCIAL SCIENCE 4

TERM - III







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CONTENT

UNIT	TOPIC	PAGE NO	MONTH
1	Tamils Around the World	101	January
2	The Story of Madras Presidency	113	February - March
3	Rights and Duties of Children	125	March-April

E-Book

Assessment



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Unit 1

Tamils Around the World







9GSWQ



Children will be able to

- list the countries that Tamils live in
- describe the culture of Tamils in different countries
- name the countries that have Tamil in their official language or currencies



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INTRODUCTION

Ancient Tamil Nadu shared its boundary with the sea on three sides. We had trade and cultural relations with many countries like Egypt, China, Myanmar, Japan, Rome and many more. We have trade contacts with the west from 3rd century BC(BCE). Many ships that sailed to China and Southeast Asia used our ports. Rajendra Chola's naval expedition helped to expand our trade and cultural relations to the East.

World Map



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SRI LANKA

Sri Lanka is home to many Tamils. There are two groups of Tamils living there. The first group of people living in Sri Lanka are called Sri Lankan Tamils. The other group of Tamils who moved from India to Sri Lanka are called Indian Tamils. They moved during 19th century to work in tea plantations.

Tamil is also an official language of Sri Lanka.

Koneswaram temple in Sri Lanka has thousand pillars. It is considered one of the richest and most visited temples in Asia.



Koneswaram Temple



Sri Lanka Currency



Tamil is one of the official languages in three countries namely India, Sri Lanka and Singapore.

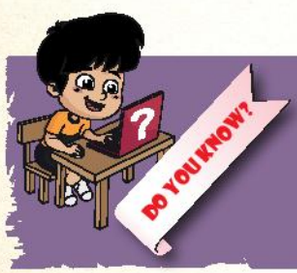
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MALAYSIA

Malaysia is a peninsula located in Southeast Asia. The relations between Tamil Nadu and Malaysia have existed for more than 2000 years. In ancient times, Tamils' ships reached the modern Malaysian state of Kedah (Kadaaram in Tamil). Tamils influenced the cultural and political nature of Malaysia at the time of Pallava and Cholas. Chinese traveller, I-tsing, records that there was regular transport from Nagapattinam to Kedah.

An inscription dated 779 AD(CE) has been found in Ligor, Malay Peninsula. This refers to the trade relationship that the Tamil country had with the peninsula. Today, Tamils form the third largest group in Malaysia after the Malays and the Chinese. One of the biggest Hindu festivals in Malaysia is Thaipusam. Tamil is one of the educational languages in Malaysia.



The World Tamil Conferences were held to discuss the growth of the Tamil language three times in Malaysia.



Batu Cave Murugan Temple

Batu Caves is a limestone hill, which has a series of caves and cave temple located at Gombak district in Malaysia. The Lord Murugan statue at the foot of Batu Caves is the second tallest Hindu deity statue in the world.

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SINGAPORE

Modern Singapore was founded in 1819 AD(CE) by a British statesman and Lieutenant-Governor Sir Thomas Stamford Raffles. The real history of Singapore starts from here. But the Tamils had maintained connection with this island much before that. When British ruled Singapore, Tamils came here as workers and traders. The hard work of Tamils is one of the reasons behind the development and modernisation of Singapore.



In 1828, a Mariamman temple was built in Singapore. It was built in Dravidian style by the Tamils. This is gazetted as a National Monument of Singapore.

During the early years of 19th century, the Singapore British government and Christian missionary schools selected only Tamils as teachers. Now the Tamil community consists of lawyers, lecturers, doctors, engineers, government officials and even politicians.

Construction of Johor bridge, Sembawang shipyard, Kallang airport and St. Andrew's cathedral are symbols of Tamils' hard work.



Kallang Airport

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FIJI

Fiji is a group of volcanic islands in the South Pacific. The Tamils were sent to Fiji by British as labourers between 1903 and 1916.

The Tamils in Fiji have always voiced their need for equal rights. As a part of this a women's wing was formed in 1938 called the Indian Sanmarga Maathar Sangam. The purpose of this wing was to set aside one handful of rice each day before cooking so that poor and hungry Tamils can be fed.

The book named Thirukurali was launched by Ratu Joni, the Vice-president of Fiji. He said that the book will help to promote peace and multiculturalism in Fiji. This book was a Fijian version of the ancient Tamil book 'Thirukkural'.

The Siva Subramaniya temple is a Hindu temple located in Nadi, Fiji.



Siva Subramaniya Temple

MYANMAR

Myanmar is our neighbouring country. Most of the people here follow Buddhism. The cultural and trade relations between Tamil Nadu and Myanmar was mostly through the sea.

King Anawrahta Minsaw was the founder of the Empire. He is considered the father of the nation and one of the most famous King. His son, King Kyansittha, had good relations with the Chola kingdom of Tamil Nadu.

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An inscription in Tamil belongs to 13th century AD(CE) was found in Bagang, a city in Myanmar. It says **Kulasekara Nambi**, a merchant from Chera country donated gifts to **Thirumal temple** in Myanmar.

In 1850, people from Tamil Nadu moved here and worked in the agricultural fields. The fights between Indians and Burmese led to riots in the country. This forced a large number of Tamils to leave Myanmar.

There are many temples in Myanmar for Hindu Gods like Mariamman, Murugan and Thirumal.



Ananda temple is famous in Myanmar. This temple's tower is made in **Dravidian style**. The upper part of the tower was built in **North Indian style** of architecture.



Ananda Temple



Upper Part of the Tower

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MAURITIUS

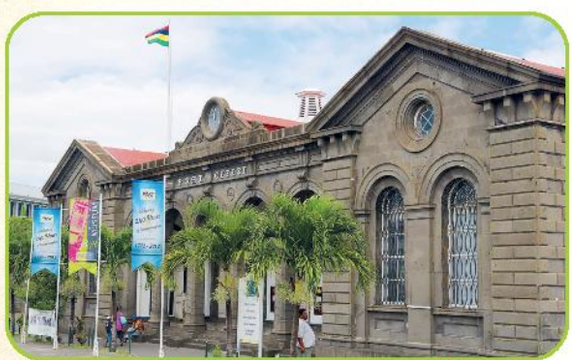
France was the first country to strive for the development of Mauritius during the early years. French brought many Indians to this island in the year 1729 AD(CE) as they were skilled workers.

85KOY

Many Tamils were brought from, in and around Puducherry from 1731 AD(CE). Generally, slaves who lived here were mere labourers but, Tamils went there as skilled labourers and artisans. The Tamils helped the French make this island suitable to live and to construct many buildings.



In 1810, Mauritius was captured by English and they brought more Indians to this island. Now, Tamils are 10% of the total population.



Postal Museum

This is a beautiful rock building of the 19th century and classified as historic monument. The building is in Port Louis and was built by Tamils.



Mauritius Currency

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REUNION

Reunion is an island located in the Indian Ocean, near Mauritius. It is a part of the French Overseas Department.

The French brought Tamils to this island from Puducherry and Karaikal. In the early days, Tamils worked in tea and sugarcane plantations. Tamils are more than one-fourth of the total population of this island.

There are no differences among Tamils based on caste and religion there. Still, many Tamils work in the agricultural sector. The educated Tamils also hold high positions in both government and private offices.

The interest of Tamils to learn Tamil and its culture are still strong in the island.



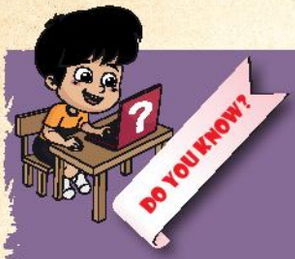
Magical Angkor Wat remains one of the most famous mountain-temple King Suryavarman II began its 30-year construction in the 12th Century.



Angkor Wat (Combodia)

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Tamil finds place not only in Indian currency notes but also in the currencies of other three countries as follows:

1. Sri Lanka 2. Mauritius 3. Singapore



Tamil Heritage Month in Canada

A decision was made by the government of Canada on October 5, 2016 to declare the month of January as Tamil Heritage Month. This recognizes the contributions that Tamil-Canadians have made to the Canadian Society.

CONCLUSION

In ancient times, Tamils sailed to many nations as traders and warriors. Tamils are noted for their hard work. It elevated the living standard of the Tamils. Tamils in abroad feel proud to be a Tamil.

Glossary

1. Expedition - a journey for the purpose of war.
2. Peninsula - an area of land surrounded by water on three sides.
3. Slave - a person who is forced to obey his/her owner.
4. Island - a small piece of land surrounded by water on all sides.
5. Multiculturalism - the different cultural groups in a society.
6. Riot - a violent crowd of people that disturb peace.
7. Strive - try hard
8. Trader - a person whose business is buying and selling.

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Recap

- Tamils travelled to many countries like Sri Lanka, Malaysia, Singapore, Fiji, Mauritius and Reunion.
- Tamil language is used in the currencies of Sri Lanka, Mauritius and Singapore.
- Sri Lanka is home to many Tamils. There are two types of Tamils - Sri Lankan Tamils and Indian Tamils.
- Reunion is an island that has many Tamils who are eager to learn language and its culture.

J8VN1



Evaluation

I. Choose the correct answer.

1. One of the official languages of Sri Lanka is _____.

   a) Mandarin b) Hindi
   c) Tamil d) Sanskrit

2. Modern Singapore was founded in _____.

   a) 1819 b) 1820
   c) 1947 d) 1835

3. In ancient times, Kedah state in Malaysia was connected with _____ of Tamil Nadu by sea route.

   a) Visakhapatnam b) Nagapattinam
   c) Madurai d) Chennai

4. Principal religion of Myanmar is _____.

   a) Hinduism b) Jainism
   c) Buddhism d) sikhism

5. In the year _____ British captured Mauritius.

   a) 1810 b) 1820
   c) 1910 d) 1920

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II. Match the following.

1. Ananda temple - Sir Thomas Stamford Raffles
2. Lieutenant-Governor - Ratu Joni
3. Thirukurali - Nagapattinam
4. Postal Museum - Myanmar
5. Ancient port - Mauritius

III. Write true or false.

1. Tamils influenced Malaysia during Pallava and Cholas. ( )
2. Fiji is a group of volcanic islands in the South Pacific. ( )
3. King Kyansittha is the son of King Anawrahta Minsaw. ( )
4. The Reunion island is a part of the French Overseas Department. ( )
5. Tamils are living only in Tamil Nadu. ( )

IV. Answer the following questions.

1. Describe the past relations between Tamil Nadu and Malaysia.
2. Write a note on Reunion island.
3. Name the countries in which Tamil is one of the official languages.
4. What were the contributions of Tamils in constructing the country Mauritius?
5. a. Which is one of the biggest Hindu festivals in Malaysia?
   b. Who is the father of nation in Myanmar?

Project

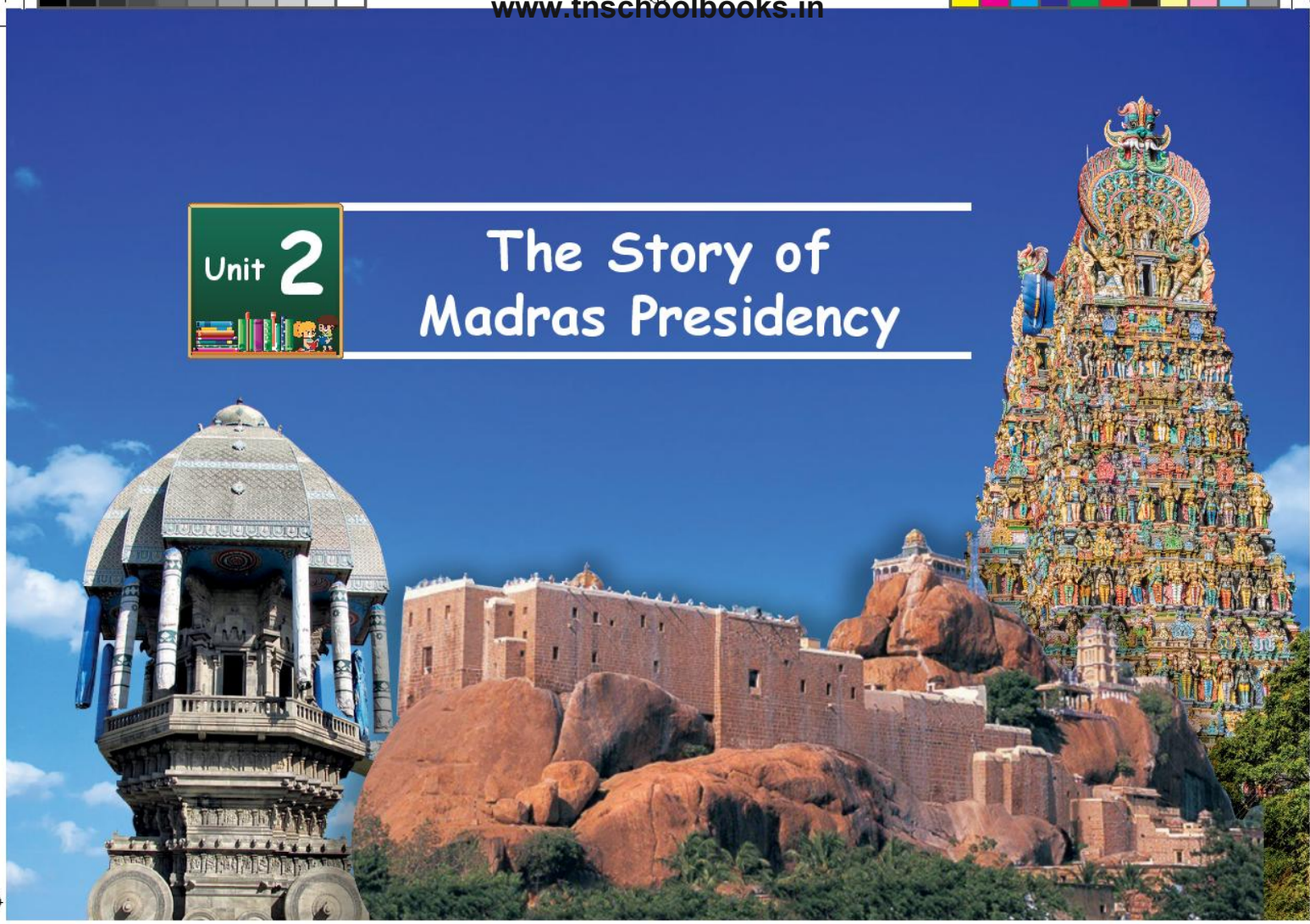
- Stick picture of World Map.
- Stick pictures of Tamil architecture found around the world in a chart.





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Unit 2

The Story of Madras Presidency



Learning Objectives

5QWHE



Children will be able to

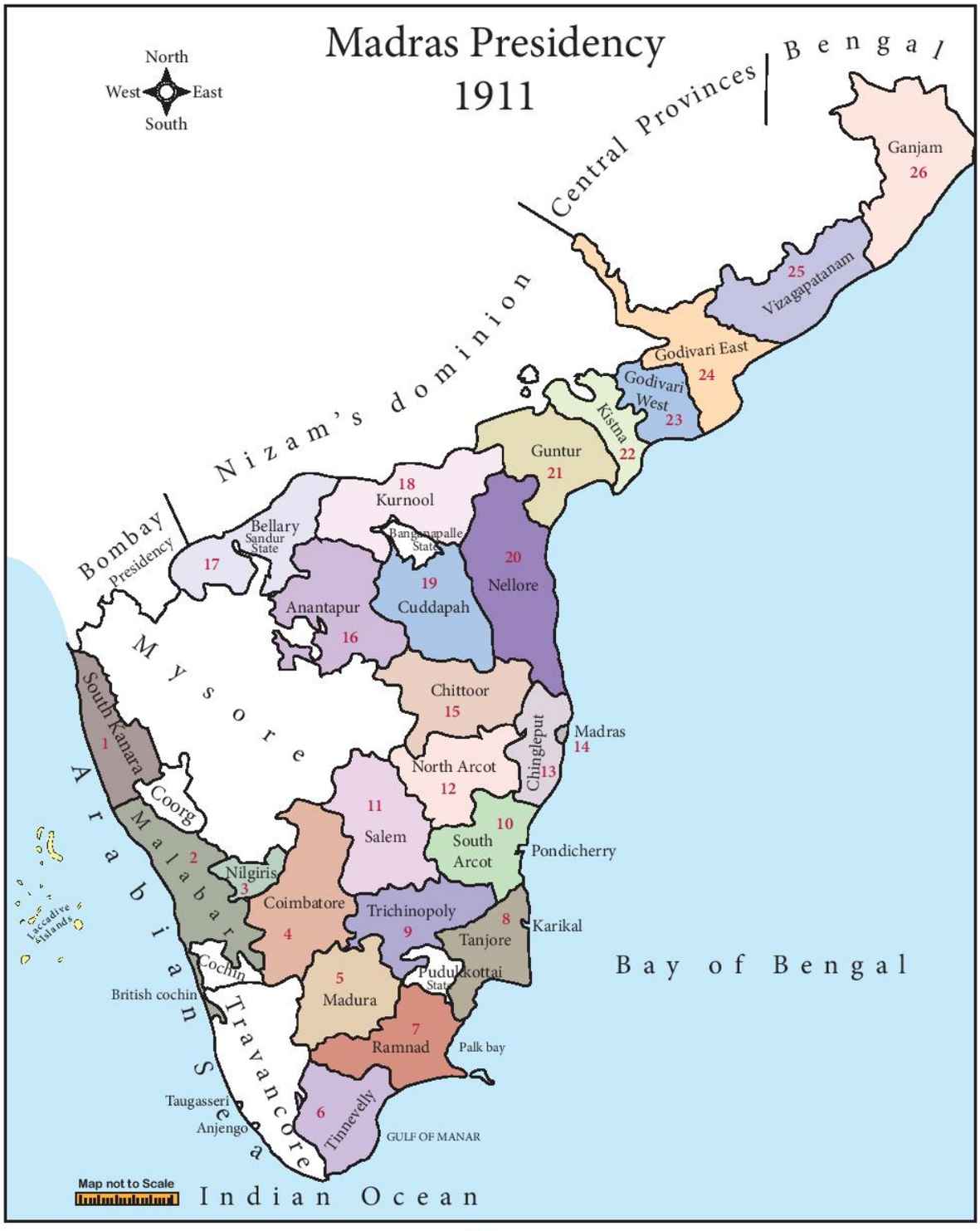
- list today's states and districts that were a part of Madras Presidency
- describe the history of Madras Presidency
- recognize the districts of Madras Presidency
- name the tourist places in Tamil Nadu



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Madras Presidency

Madras Presidency was formed in 1801. It was an important province of British India. It was also known as Madras Province and officially known as the Presidency of Fort St. George. It included areas of southern India, such as the states of Tamil Nadu, Kerala, Andhra Pradesh, Karnataka, parts of Odisha and the Union Territory of Lakshadweep.

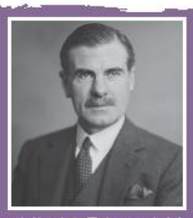


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The city of Madras now known as Chennai was the capital of the Presidency. In 1862, the province was divided into 22 districts. Then it was divided into 24 districts. Later in 1911, the province was further divided into 26 districts including North Arcot, South Arcot, Chingleput, Madras, Salem, Coimbatore, Trichinopoly, Tanjore, Madura, Ramnad, Tinnevelly and Nilgiris in Tamil Nadu. It was under British rule until 1947.



The first British Governor of Madras Presidency was Edward Clive and the last Governor was Archibald Edward Nye.


Archibald Edward Nye

After Independence



After 147 years of its formation, the Madras Presidency was renamed as Madras State in 1947 as India gained independence.

In 1956, the Madras State consisted of (four regions comprising of) 13 districts namely Madras, Chengalpattu, North Arcot, South Arcot, Salem, Tiruchirapalli, Thanjavur, Coimbatore, The Nilgiris, Madurai, Tirunelveli, Ramanathapuram and Kanniyakumari. It was officially renamed as Tamil Nadu in 1969. Let us learn more about the four regions of Tamil Nadu.

REGION I

Madras

The modern districts of Chennai, Tiruvallur, Kancheepuram and Chengalpattu constituted the Madras district. British bought a part of the land from the Nayak rulers in 1639. They built Fort St. George and named the area Madrasapattinam.


Fort St. George

Gudiyam Caves are rock shelters in South India and are known for their prehistoric stone tools and evidence of humans living there near by two lakh years ago.

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Mamallapuram was created by the Pallava Dynasty. It has many rock sculptures and is declared by UNESCO as a World Heritage site.



Mamallapuram

Uthiramerur, an ancient Chola village, is located in Kancheepuram district. The temple inscriptions of Uthiramerur are notable for their historical descriptions of rural self-governance.

North Arcot

The modern districts of Vellore, Tiruvannamalai, Tirupattur and Ranipettai constituted the North Arcot district.



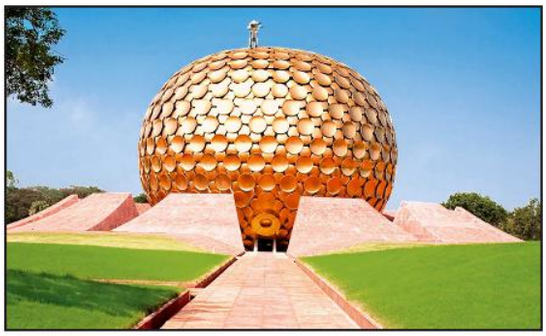
Vainu Bappu Observatory

Vellore Fort is an ancient fort built in 1566 by Chinna Bommi Nayak and Thimma Reddy Nayak.

The Vainu Bappu Observatory is an astronomical observatory. It is located at Kavalur. This is the biggest observatory in Asia.

South Arcot

The modern districts of Villupuram, Cuddalore and Kallakurichi constituted the South Arcot district.



Auroville

Auroville is an experimental township in Villupuram district near Puducherry. It is a place where people from all over the world come and live together to build a culture of unity.



Gingee Fort

Gingee Fort also called as Senji Fort is one of the beautiful forts in Tamil Nadu. This fortress is built across three hillocks in Villupuram district. The British called this fort as "Troy of the East".

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Porto Novo also called as Parangipettai, is situated in Cuddalore district. The first iron and steel industry of India was located at Porto Novo in 1830.

REGION II

Salem

The modern districts of Salem, Dharmapuri, Krishnagiri and Namakkal constituted the Salem district. The name Salem is derived from the word "SAILAM". It means an area surrounded by Mountains.



Hogenakkal waterfall

Mettur Dam also called as Stanely Reservoir was constructed across the river Cauvery in 1934. Hogenakkal is one of the waterfalls located in Dharmapuri district. Boat riding on Coracle made of bamboo is an attraction here. Hosur is an industrial city, located in Krishnagiri district.

Coimbatore

During British India, the Coimbatore district comprised the modern districts of Coimbatore, Erode, Tiruppur, The Nilgiris and a part of Dindigul.



Anaimalai Wildlife Sanctuary

Coimbatore is called as "The Manchester of South India". Anaimalai Wildlife Sanctuary is located in the Coimbatore district. It is now called as Indira Gandhi Wildlife Sanctuary and National Park. Erode district is famous for the production of handloom, power loom and readymade garments.

The Nilgiris

The Nilgiris was a place of special attraction for the Europeans because of its natural charm and pleasant climate. Doddabetta is the highest peak in the Nilgiris and it is the fourth highest peak in South India.



Queen of Hill Stations

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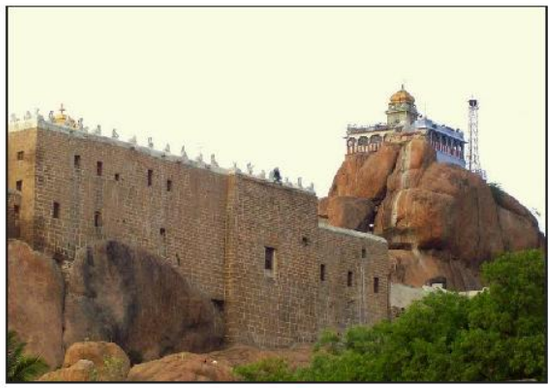
The 'Queen of Hill Stations' Udhagamandalam, better known as Ooty, is the most popular hill station in South India. Ooty was the summer capital of the Madras Presidency. John Sullivan, the district Collector of Coimbatore, is credited for developing the beautiful hill station of Ooty.

REGION III

Tiruchirapalli

The modern districts of Tiruchirapalli, Karur, Pudukkottai Perambalur and Ariyalur formed the Trichinopoly district.

Tiruchirappalli Rockfort is a temple built on an ancient rock. It is constructed on a rock that is 83 meters tall. There are two Hindu temples inside the fort.



Rock Fort

Ranjankudi Fort is located in Perambalur. This fort was constructed by Nawab of the Carnatic.

Gangaikonda Cholapuram is located in Ariyalur district. UNESCO declared this temple as one of the world famous heritage monuments. Ariyalur district is also known for its rich prehistoric fossils.

Thanjavur

The modern districts of Thanjavur, Nagapattinam, Tiruvarur and Mayiladuthurai formed the Tanjore District.

Thanjavur is popularly known as the Delta area and the "Rice Bowl of Tamil Nadu". Manora Fort is located in the district of Tanjore. It is known for the eight-storied miniature fortress built by Rajah Serfoji.

Kallanai is an ancient dam built across the River Cauvery in South India. This dam was constructed in 2nd century AD(CE) by the Chola King Karikalan.



Brihadeeswara Temple

Brihadeeswara temple is popularly known as "Thanjai Periya Koil".

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REGION IV

Madurai

The modern districts of Madurai, Ramanathapuram, Theni and parts of Sivagangai, Virudhunagar and Dindigul formed the Madurai district.



Thirumalai Nayakkar Palace

Thirumalai Nayakkar Palace, built by Thirumalai Nayakkar, located in the district of Madurai. It is classic fusion of Dravidian and Islamic architecture.

Bodinayakkanur is at the foothills of the Western Ghats. It is popularly known as "Cardamom City". It is located in the district of Theni.

Keeladi is located in Sivagangai district. According to Tamil Nadu Archaeological Department report Keeladi is an urban settlement of Sangam Age. This cultural finding belongs to the 6th century BC(BCE).

Tirunelveli

The modern districts of Tirunelveli, Kanniyakumari, Thoothukudi and Tenkasi along with a part of Virudhunagar formed the Tinnevely district.



Courtallam waterfall

Tirunelveli is located on the banks of the river Tamiraparani. Courtallam is located on the Western Ghats. It is called as the "Spa of the South India". Kattabomman Memorial Fort was constructed by the Government of Tamil Nadu. It is located in Panchalankurichi, 21 km from Thoothukudi. Thoothukudi is called as the Pearl City because pearl fishing is one of the chief occupations carried out in the town.

Conclusion

Tamil Nadu possesses many glorious sculptures, paintings, murals adorning walls and pillars. In addition to that giant temple towers (gopurams) were constructed by Tamil Kings. These have preserved the arts and culture of Tamil Nadu. This attracts the tourists all around the world.

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TAMIL NADU - POLITICAL



8

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	S.No	Districts	Tourist Places	Major Industries
Region I	1	Chennai	Marina Beach	Automobiles
	2	Cuddalore	Thillai Nataraja Temple, Chidambaram	Handicraft
	3	Kancheepuram	Kamatchi amman temple	Silk
	4	Chengalpattu	Mahabalipuram	Atomic power, Fishering
	5	Tiruvallur	Pulicat Lake	Agriculture
	6	Tiruvannamalai	Arunachaleswarar Temple	Silk reeling
	7	Vellore	Vellore Fort	Leather
	8	Tirupattur	Yelagiri, Jawadu hills	Leather and Small scale
	9	Ranipettai	Ratnagiri, Mahendrawadi	Leather and Tool making
	10	Viluppuram	Gingee Fort	Sugar
	11	Kallakurichi	Megam falls, Komukhi dam	Rice and Sugar
Region II	12	Coimbatore	Valparai	Cotton, Pump manufacturing
	13	Dharmapuri	Hogenakkal Waterfalls	Horticulture and Coir
	14	Erode	Bhavanisagar Dam	Cotton textile
	15	Krishnagiri	Krishnagiri Reservoir Project (KRP) Dam	Automobile
	16	Namakkal	Kolli Hills	Poultry
	17	Salem	Yercaud	Steel and Sago
	18	The Nilgiris	Botanical Garden	Flower exporting
	19	Tiruppur	Amaravathi Dam	Readymade garments
Region III	20	Ariyalur	Gangaikonda Cholapuram	Cement
	21	Karur	Pasupatheeswarar Temple	Paper and Textile
	22	Nagapattinam	Velankanni Church	Fishering
	23	Mayiladuthurai	Poompuhar	Fishering
	24	Perambalur	Mayil Ootru Waterfalls	Sugar
	25	Pudukkottai	Chithannavasal	Coir
	26	Thanjavur	Brihadeeswara Temple	Handicraft
	27	Tiruchirapalli	Rock Fort	Gem cutting
	28	Tiruvarur	Thyagaraja Temple	Food products and Packed water
Region IV	29	Dindigul	Kodaikanal	Locks and Steel safes
	30	Kanniyakumari	Vivekananda Rock Memorial	Wooden furniture and Rubber
	31	Madurai	Meenakshi Amman Temple	Agricultural implements-manufacturing
	32	Ramanathapuram	Pamban Island, Rameswaram	Preserved sea food, Handicraft made in palm leaf
	33	Sivagangai	Vettangudi Bird Sanctuary	Sugar
	34	Theni	Suruli Falls, Vaigai Dam	Spices
	35	Thoothukudi	Thiruchendur Murugan Temple	Fertilizer
	36	Tirunelveli	kalakkadu Mundanthurai Tiger Reserve	Cottage
	37	Tenkasi	Courtallam	Food and Beverages
	38	Virudhunagar	Ayyanar Falls	Cotton and Cement

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Note to the Teacher:
The above given table is only for teachers' reference to teach about the tourist places and major industries of the district in which the school is located.



In the state map, colour your native district and mark its neighbouring districts



- The districts of Madras, Chengalpattu, North Arcot, South Arcot, Salem, Tiruchirappalli, Tanjore, Ramnad, Tirunelveli, Madurai, Coimbatore and the Nilgiris are included in modern state of Tamil Nadu.
- The district of Malabar is included in modern state of Kerala.
- The districts of Chittoor, Nellore, Cuddapah, a part of Anantapur, Guntur, Kurnool, Kistna, Godivari East, Godivari West, and Vizagapatanam are included in modern state of Andhra Pradesh.
- The district of Ganjam is included in modern Odisha.
- The district of Bellary, South Kanara and a part of Anantapur, is included in modern Karnataka.

Glossary

1. Province - an administrative division or unit of a country.
2. Inscription - anything written on things made of metal or rock.
3. Observatory - a building with a large telescope from which scientists study the universe.
4. Delta - a triangular area where a major river divides into smaller parts.
5. Monument - a structure or building that is built to honour a special person or event.
6. Mural - a painting or other work of art drawn on a wall.
7. World Heritage Monument - Sites of great cultural and historical importance.

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Evaluation

I. Choose the correct answer.

1. Madras Presidency was formed in _____.

   a) 1800 b) 1801

   c) 1802 d) 1803

2. Madras Presidency was officially renamed as Tamil Nadu in _____.

   a) 1947 b) 1953

   c) 1956 d) 1969

3. Mamallapuram was created by the _____.

   a) Nayak dynasty b) Pallava dynasty

   c) Cholas d) British

4. Which is called as the "Spa of the South India"?

   a) Bodinayakanur b) Hogenakkal

   c) Courtallam d) Gingee Fort

5. Manora is known for the eight storied miniature fortress built by _____.

   a) Rajah Serfoji b) Chinna Bommi Nayak

   c) Thimma Reddy Nayak d) Thirumalai Nayakkar

II. Write true or false.

1. The city of Madras was the capital of the Madras Presidency. ( )

2. Uthiramerur an ancient Chola village, is located in Salem District. ( )

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3. Thirumalai Nayakkar Palace was built by Thirumalai Nayakkar. ( )

4. Coimbatore is called as "The Manchester of South India". ( )

5. Gangaikonda Cholapuram temple is popularly known as Thanjai Periya Koil. ( )

III. Match the following.

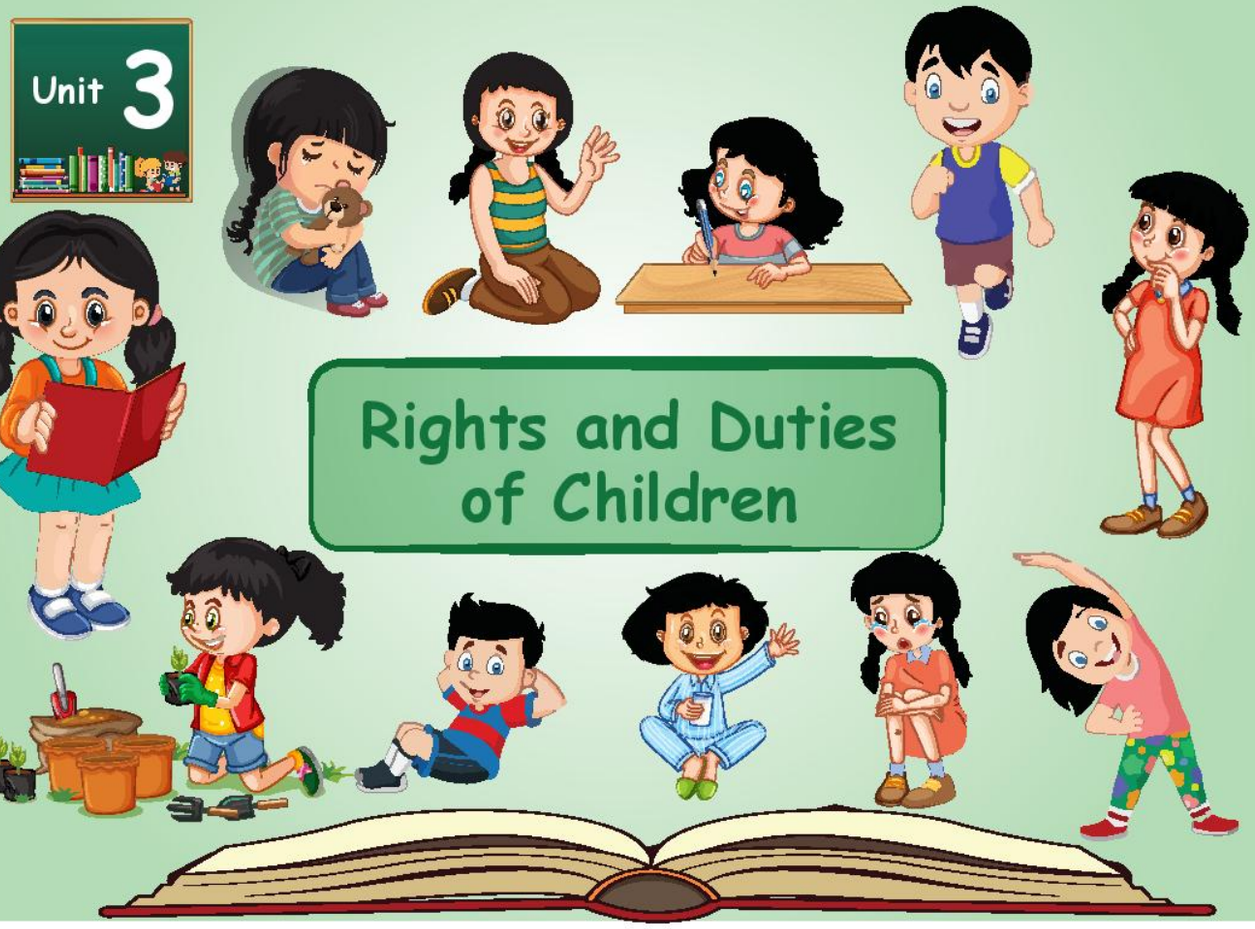
1. Kavalur - Troy of the East
2. Gingee Fort - Ooty
3. Bodinayakkanur - Vainu Bappu Observatory
4. Pearl City - Cardamom City
5. John Sullivan - Thoothukudi

IV. Answer the following questions.

1. What is the significance of the Gingee Fort?
2. What were the main features of the Thirumalai Nayakkar Palace?
3. Name some of the tourist places in Salem district.
4. Write a short note on Kallanai.
5. Write a short note on Rock fort.
6. Name some of the tourist places in Tamil Nadu.



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Rights and Duties of Children



A4DOX3



Children will be able to

- define citizen of a country
- list the rights of children
- describe right to survival
- explain right to development
- give details about right to protection and participation



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INTRODUCTION

In school today, Ramesh had an interesting day. He learnt many rules that he must follow in class. Let us listen to him talking to his mother about his class.



Today my class teacher has given us a list of rules that we all have to follow, Amma.

That's good!





We should not change our seats in the middle of the class time in school as it would disturb others. Like this, there are so many rules, Amma!

I think that is very important. Rules are made so that the class can work together properly without disturbing others.





I understand. Our teacher said the same.

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Do you know? There are rules that all citizens of the country have to follow.





Citizen? What does that mean, Amma?

Citizen is a person who is a member of a country. A citizen enjoys the rights given to him/her by the country.





Okey! Who sets these rules for citizens?



Did you know the number of years it takes for a foreigner to get Indian citizenship?

If a foreigner stays in India for 12 years, they can get Indian citizenship.

- The constitution of India sets these rules.
- The set of rules of a country is known as constitution.
- The constitution lays down certain rules to help the country work together smoothly.





The Indian constitution is the lengthiest constitution of the world. The original document was handwritten.

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So that my teacher said if we follow these rules we will become responsible. Does constitution make citizens responsible?

Yes. It helps all people to be a responsible citizen of our country.





CHILD RIGHTS

POD3R

All over the world, there are different policies and rights. Children have certain rights to ensure that every child is treated the same. These are practiced to create a healthy environment for the children to live in. Let us see what Kavya and her father talk about child rights.



Appa! Do children have any rights?

Yes Kavya. All over the world there are many countries which have agreed to make some basic rights for children. Our country is one of them.





Really? Appa, can you tell me more?

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Sure. The four major child rights are:

1. Right to survival
2. Right to development
3. Right to protection
4. Right to participation

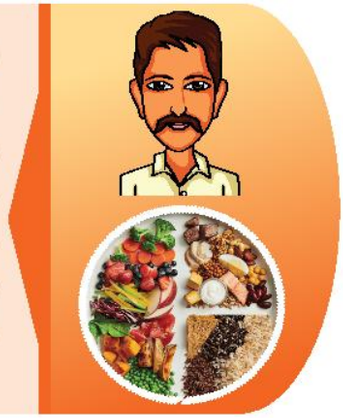


RIGHT TO SURVIVAL



Appa, can you explain about right to survival?

It is to ensure every child has access to minimum standards of food. This helps in healthy growth in all children. There are different rights for children below the age of 6 and between the age of 6-14 years. This is because both the age groups have different needs for their growth and development.





Very interesting. What else is a part of right to survival?

The WASH programme is also a part of it. Have you heard of it?





WASH? What happens in that program Appa?

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WASH stands for Water, Sanitation and Hygiene. It means there should be access to clean water for drinking and other needs. There are many diseases that spread through water. To avoid these, having access to safe water is very important.





Yes Appa. Even my teacher told us to wash our hands before and after food.

Very good. Creating awareness to wash hands with soap is also a part of the WASH programme.





Last week, I saw Muthu a child in opposite house, getting some drops of medicine. Is this a part of right to survival, Appa?

Yes, Kavya. That was Polio drops. There are many vaccines and drops which are given to children to protect them from certain diseases.





So nice, Appa.

RIGHT TO DEVELOPMENT

Every child has the right to go to school and develop life skills. Today Vijaya teacher is teaching about right to development.



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Mithra, do you know that coming to school is your right? Do you know that no one can stop you from getting admission in a government school?





Really? Near my house, I see some children not going to school.

Yes, you can see. But, all children upto the age of 14 have the right to go to school. The government is responsible to providing free education to all.





Is it so, I will convey this to their parents. May be, I can bring them to school tomorrow.

That's great, Mithra!





Think and Write.

If you see children not going to school, what will you do?

1. _____

_____

2. _____

_____

3. _____

_____

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Child Labour

What do you see in the picture?



Children are involved in different works at different places.

This is called Child Labour. It is illegal to force children below the age of 14 to work.



Really? What should we do if we see children working as child labour around us?

Call the Childline number 1098 [Ten Nine Eight] and inform.

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Okay teacher. Can I call this number at any time? How much does it cost?

You can call at any time and it is free of cost. If you see a child labour, talk to him/ her first. If they are forced to do the job, you can call the number and inform. They will come and help the child.





Identify a child in your neighbourhood who is not going to school and fill this questionnaire.

1. Name of the child : _____
2. Age of the child : _____
3. Has the child gone to school ever? : Yes/No
4. Reason for not going to school : _____
5. How will you guide her / him? : _____

Note

The survey can be for parents and the child. In pairs, the children of the class will visit one family or child for an interview. The teacher along with students will discuss the solutions for each case.



RIGHT TO PROTECTION

Children have the right to be protected in all circumstances. Indian government has set laws for the same. Raman and Kavitha's mother is talking to them about their right to protect themselves. Let us hear their conversation.

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Can you tell me what are the different parts of your body that no one should touch?





Lips, chest and between my legs.

Yes! To whom will you say, if someone touches you in these parts?





We will tell to an elder we trust, like you.

Will you be scared if someone touches you in any or all of these parts or any other part and make you feel uncomfortable?





No Amma. I will not be scared.



Yes, and I will shout at the top of my voice for help.

There are laws to punish people who touch children inappropriately. All you need to do is, keep on eye out for danger and be confident.





Are there any other rules to protect us?

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Yes. There is another rule, no person should hit or harm children. It is wrong to hit children, as it affects their well being.





Really?

Yes, all elders should help to create a safe environment for children to live.



RIGHT TO PARTICIPATE

Children have the right to participate in matters related to them. This includes asking questions, giving suggestions and making decisions in things that affect them. Let us listen to the discussion in Vani teacher's class.



Our school is going to be renovated. We need your suggestions to improve the school. Can you all discuss and make a list?





Yes, teacher.

(After some time)

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We have the following suggestions for the school:-

1. Our school should have toilets at every floor.
2. Drinking water facility for every four classrooms.
3. The sports room needs more carrom boards, chess boards, balls and badminton racquets. So that everyone can play.



Wonderful ideas. I will send this to the headmistress.





Thank you, teacher.

It was great for all of you to participate. Each one of you has the right to express and share your opinion.





Children have the **right to participate** in discussions and implementation of all things related to them.

Glossary

1. Renovate - to repair and improve something.
2. Survival - the state or fact of continuing to live.
3. Vaccine - substance that helps to protect against certain diseases.
4. Protect - keep safe from harm or injury.
5. Inappropriately - not correct.

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Recap

- Every citizen of the country can enjoy the rights and do duties.
- Children also have special rights.
- Children have the right to have healthy food for growth and development.
- Children have the right to go to school and have good education.
- Children have the right to be protected against danger.
- Children have the right to participate in the matters related to them.



Evaluation

I. Choose the correct answer.

1. This is against Indian law _____.
   a. Children studying in school.
   b. Children below 14 years working in industries.
   c. Children participating in school activities.
   d. Children getting nutritious food.

SAX80

2. Polio drops are given to _____.
   a. men b. women c. children d. senior citizens
3. A set of rules of a country is known as the _____.
   a. story book b. rule book c. constitution d. textbook
4. Which of the following is not a right of children?
   a. Getting driving license b. Getting education
   c. Getting adequate food d. Living in a healthy manner

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II. Write true or false.

1. The children have the basic right to get polio drops. ( )
2. There are same rights for all age groups of children. ( )
3. All children of age 6- 14 years should be employed. ( )
4. Hitting children is wrong. ( )
5. Children should be aware of bad touch. ( )

III. Match

1.	Childline number	-	member of a country
2.	Vaccines	-	sanitation
3.	WASH	-	illegal
4.	Citizen	-	protects from diseases
5.	Child labour	-	1098

IV. Answer the following questions.

1. What are the three parts on your body where no one should touch?
2. What are the different rights you have as a child?
3. Write short note on right to survival.
4. Have you ever used your right to participate? Describe.
5. Why are rights important?

Project

Work in groups of 5 and make a small play focusing on the need of any of the child rights discussed in this lesson.



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Class IV - Mathematics, Science and Social Science (Term III, Volume 2)
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