



GOVERNMENT OF TAMIL NADU

STANDARD FOUR

**TERM - III
VOLUME - 2**

**MATHEMATICS
SCIENCE
SOCIAL SCIENCE**

A publication under Free Textbook Programme of Government of Tamil Nadu

Department of School Education

Untouchability is Inhuman and a Crime

Government of Tamil Nadu

First Edition - 2019

Revised Edition - 2022, 2023

Reprint - 2020, 2021, 2024

(Published under New Syllabus in
Trimester Pattern)

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Content Creation



State Council of Educational Research
and Training

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Printing & Publishing



Tamil NaduTextbook and Educational
Services Corporation

www.textbooksonline.tn.nic.in



MATHEMATICS

TERM - III



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MATHEMATICS

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E-book



Assessment

GEOMETRY

UNIT-1



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.



House



House



Candle



Helicopter



Ship



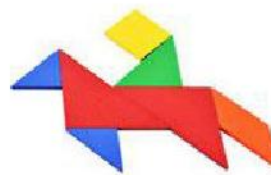
Rocket



Boat



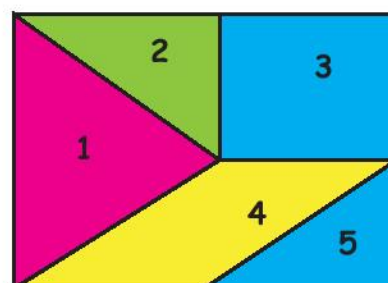
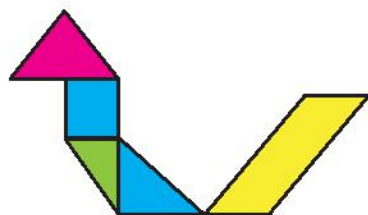
Fish



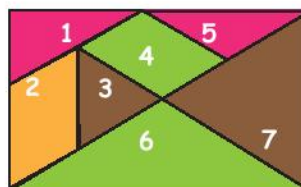
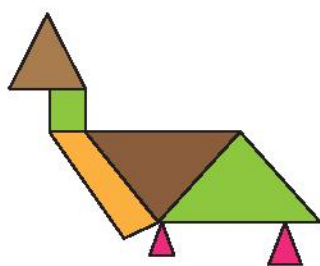
Horse riding

Examples

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



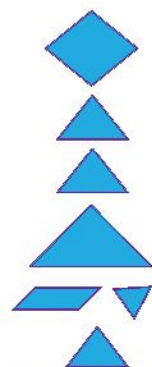
2. Join the seven pieces of tangram to form the following picture.



Activity

Use the tangram pieces to form pictures of your choice.

1.



2.

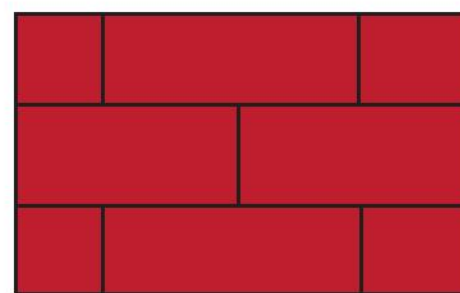
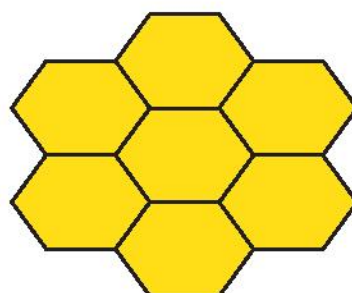
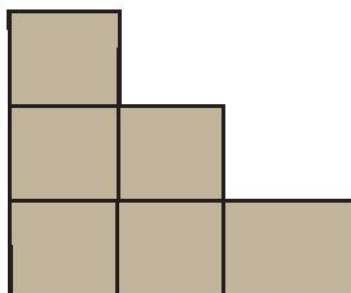
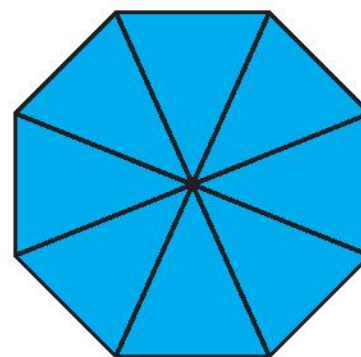
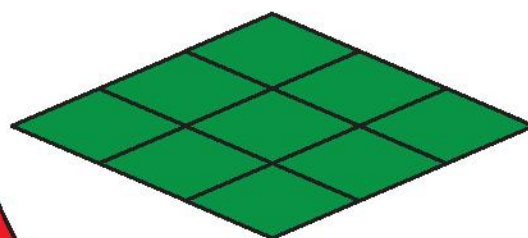
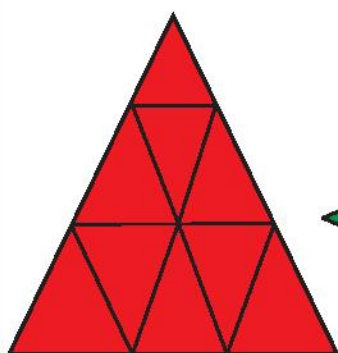


1.2.2 Tessellations.

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

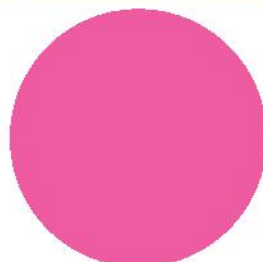


Examples



Try This

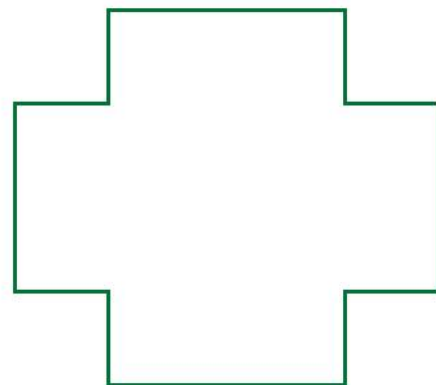
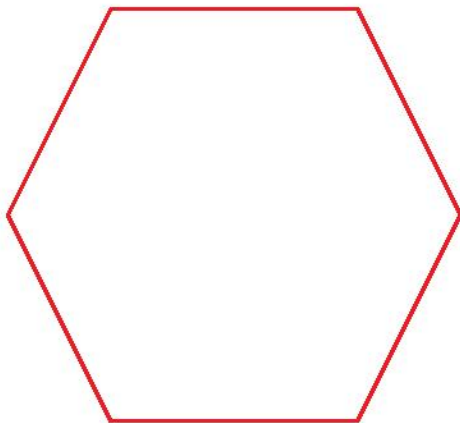
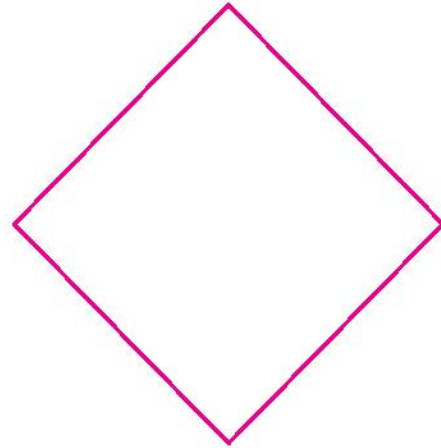
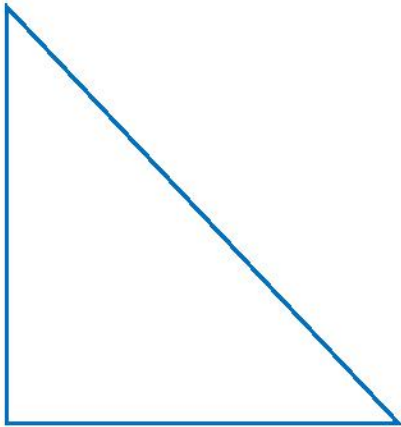
Can we fill a circle with square tiles?



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

Exercise 1.1

1. Fill the following shapes with appropriate tiles.



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



UNIT-2

NUMBERS



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.

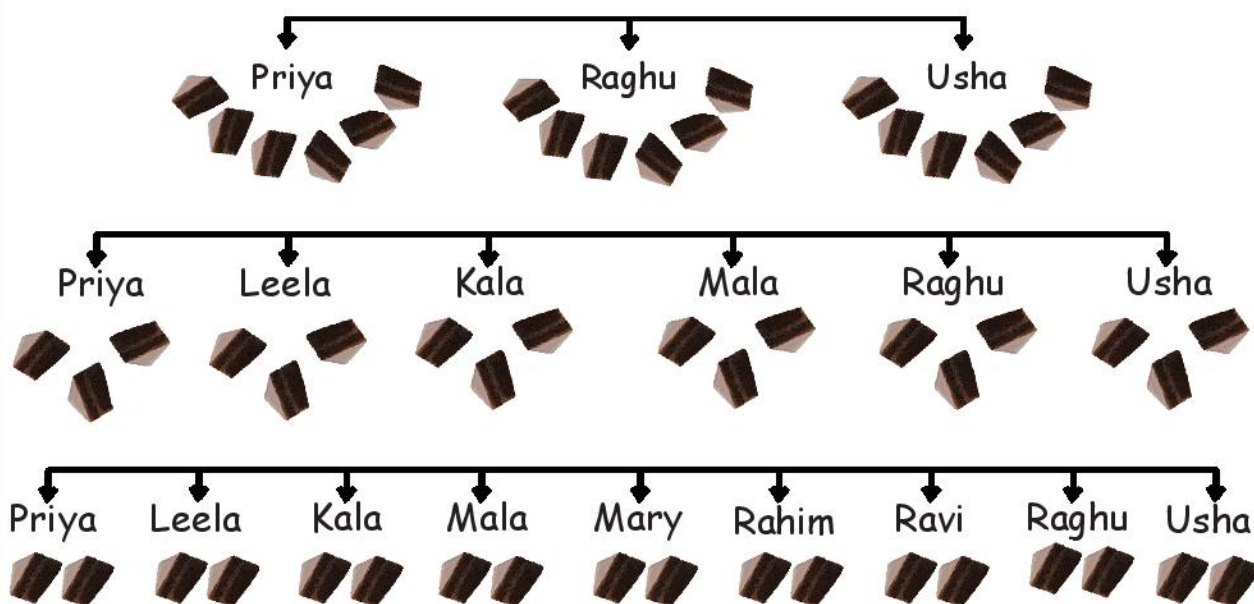
Equal sharing

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.

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 $670 \div 5$

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 remainder of 1, place the quotient 1, above the long division bar. Place as small superscript 1 beside 6.

$$\begin{array}{r} 1 \\ 5 \overline{) 6^1 70} \end{array}$$

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.

$$\begin{array}{r} 13 \\ 5 \overline{) 6^1 7^2 0} \end{array}$$

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.

$$\begin{array}{r} 134 \\ 5 \overline{) 6^1 7^2 0} \end{array}$$

$$670 \div 5 = 134$$



Division of three digit number by one digit number:

Division without remainder

EXAMPLE 1

Divide 450 by 6.

$$\begin{array}{r} 075 \text{ Quotient} \\ 6 \overline{) 450} \\ \underline{42} \\ 30 \\ \underline{30} \\ 0 \text{ Remainder} \end{array}$$

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) $6 \times 7 = 42$
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 = $531 \div 9$

$$\begin{array}{r} 59 \text{ Quotient} \\ 9 \overline{) 531} \\ \underline{45} \\ 81 \\ \underline{81} \\ 0 \text{ Remainder} \end{array}$$



Number of apples in each box = 59

Division with remainder:

EXAMPLE 3

Divide 369 by 7.

$$\begin{array}{r} 52 \\ 7 \overline{) 369} \\ \underline{35} \\ 19 \\ \underline{14} \\ 5 \end{array}$$

Step 1: Take 3 in the dividend, 3 cannot 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 by 7.

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?

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.

$$\begin{array}{r} 1236 \\ 6 \overline{) 7416} \\ \underline{6} \\ 14 \\ \underline{12} \\ 21 \\ \underline{18} \\ 36 \\ \underline{36} \\ 0 \end{array}$$

Quotient = 1236

Remainder = 0

EXAMPLE 2

$$\begin{array}{r} 1211 \\ 8 \overline{) 9689} \\ \underline{8} \\ 16 \\ \underline{16} \\ 08 \\ \underline{8} \\ 09 \\ \underline{8} \\ 1 \end{array}$$

Quotient = 1211

Remainder = 1

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?

Exercise 2.2

Divide the following

1) $5632 \div 6$ 2) $7460 \div 7$ 3) $4964 \div 8$ 4) $8616 \div 6$ 5) $8645 \div 7$ 6) $5742 \div 9$

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?

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.



- What is the price of ooty apple? Why do you prefer this?
- Find the cost of 3kg of green banana?
- What is the total cost if we buy 1kg each of simla apple, Poovan banana and Peyan banana?
- Find out the difference between the cost of ooty apple and simla apple?
- Mala had ₹ 70, how many kg of Peyan banana would she buy?

Exercise 2.3

Frame word problems using the table given below.

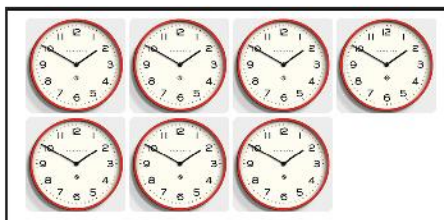
S.No.	Name of the Item	Price Per Kg (in ₹)
1	Raw Rice	56
2	Boiled Rice	54
3	Wheat	40
4	Tamarind	180
5	Red chilly	100

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

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



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
<u> </u>		<u> </u>
Total 131	Rounded sum	130
<u> </u>		<u> </u>

2) Estimate the difference

33	is rounded to tens	30
(-) 19	is rounded to tens	(-) 20
<u> </u>		<u> </u>
14 rounded difference		10
<u> </u>		<u> </u>

Exercise 2.4

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

1) $\begin{array}{r} 45 \\ (+) 93 \\ \hline \end{array}$ $\longrightarrow$

2) $\begin{array}{r} 42 \\ (+) 38 \\ \hline \end{array}$ $\longrightarrow$

3) $\begin{array}{r} 78 \\ (-) 32 \\ \hline \end{array}$ $\longrightarrow$

4) $\begin{array}{r} 91 \\ (-) 75 \\ \hline \end{array}$ $\longrightarrow$

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

$$\left. \begin{array}{l} = 3000 - 2660 \\ = ₹ 340 \end{array} \right\}$$

$\begin{array}{r} \text{TO} \quad \text{TO} \\ 95 \times 28 \\ \hline 760 \\ 190 \\ \hline 2660 \end{array}$	$\begin{array}{r} \text{HTO} \quad \text{TO} \\ 100 \times 30 \\ \hline 000 \\ 300 \\ \hline 3000 \end{array}$
--	--

Exercise 2.5

Estimate and calculate:

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

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....



Adding with multiples of 10

	H	T	O
(i)	2	2	3
		1	0
	2	3	3

	H	T	O
(ii)	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.

$$\text{i) } 2 + 1 = 3$$

$$\text{ii) } 4 + 1 = 5$$

Now we add the following

EXAMPLE 1

Add $374 + 10$

$$\begin{array}{r} 3\cancel{7}4 + \cancel{1}0 \end{array}$$

$$4 + 0 = 4$$

$$7 + 1 = 8$$

Therefore $374 + 10 = 384$

EXAMPLE 2

Add $286 + 30$

$$\overset{\text{---}}{2\text{ }8\text{ }6} + \overset{\text{---}}{3\text{ }0}$$

$$8 + 3 = 11$$

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

$$\text{Therefore } 286 + 30 = 316$$

Adding with multiples of 100

	H	T	O
(i)	5	8	4
+	1	0	0
	6	8	4

	H	T	O
(ii)	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 $682 + 100$

$$\overset{\text{---}}{6\text{ }8\text{ }2} + \overset{\text{---}}{1\text{ }0\text{ }0}$$

$$2 + 0 = 2$$

$$8 + 0 = 8$$

$$6 + 1 = 7$$

$$\therefore 682 + 100 = 782$$

EXAMPLE 4

Add 835 with 100

$$\textcircled{8}35 + \textcircled{1}00$$

$$8 + 1 = 9$$

$$\therefore 835 + 100 = 935$$

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

$$6\textcircled{2}5 - \textcircled{1}0$$

$$5 - 0 = 5$$

$$\textcircled{2} - \textcircled{1} = 1$$

$$\therefore 625 - 10 = 615$$

EXAMPLE 6

Subtract 50 from 981

$$9\textcircled{8}1 - \textcircled{5}0$$

$$8 - 5 = 3$$

$$\therefore 981 - 50 = 931$$

Subtracting by multiples of 100

EXAMPLE 7

Subtract 400 from 546

$$\begin{array}{r} \textcircled{5}46 \\ - \textcircled{4}00 \\ \hline \end{array}$$

$$5 \quad - \quad 4 \quad = \quad 1$$

$$\therefore 546 - 400 = 146$$

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.

EXAMPLE 1

Complete the following multiplication facts by adding partial products.

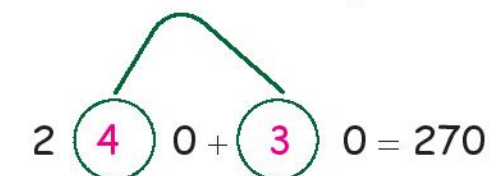
$$\begin{aligned} 6 \times 45 &= 6 \times (40+5) \\ &= (6 \times 40) + (6 \times 5) \end{aligned}$$

Then multiply those two parts separately as:

$$6 \times 40 = 240$$

$$6 \times 5 = 30$$

Then add these two partial results.


$$240 + 30 = 270$$
$$6 \times 45 = 270$$

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 |



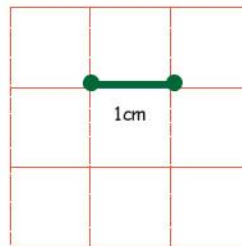
UNIT-3

MEASUREMENTS

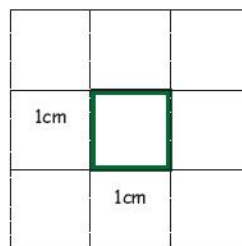


Recall:

A one dimension quantity - length



Two dimension quantity - length and breadth.

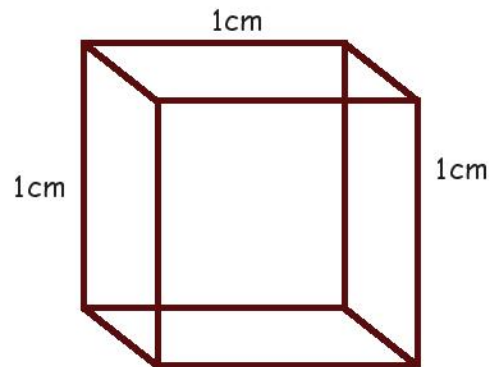


The space occupied here: $1\text{cm} \times 1\text{cm} = 1\text{sq.cm}$ (1 cm^2).

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

Definition of volume

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



The space occupied here: $1\text{cm} \times 1\text{cm} \times 1\text{cm} = 1\text{cu.cm}$ (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)



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?

4. Change litre into millilitre.

1. $1\text{ l} = \underline{1000}\text{ ml}$
2. $7\text{ l} = \underline{\hspace{2cm}}\text{ ml}$
3. $5\text{ l} = \underline{\hspace{2cm}}\text{ ml}$
4. $9\text{ l} = \underline{\hspace{2cm}}\text{ ml}$
5. $4\text{ l} = \underline{\hspace{2cm}}\text{ ml}$

5. Change millilitre into litre

1. $6000\text{ ml} = \underline{6}\text{ l}$
2. $2000\text{ ml} = \underline{\hspace{1cm}}\text{ l}$
3. $8000\text{ ml} = \underline{\hspace{1cm}}\text{ l}$
4. $9000\text{ ml} = \underline{\hspace{1cm}}\text{ l}$

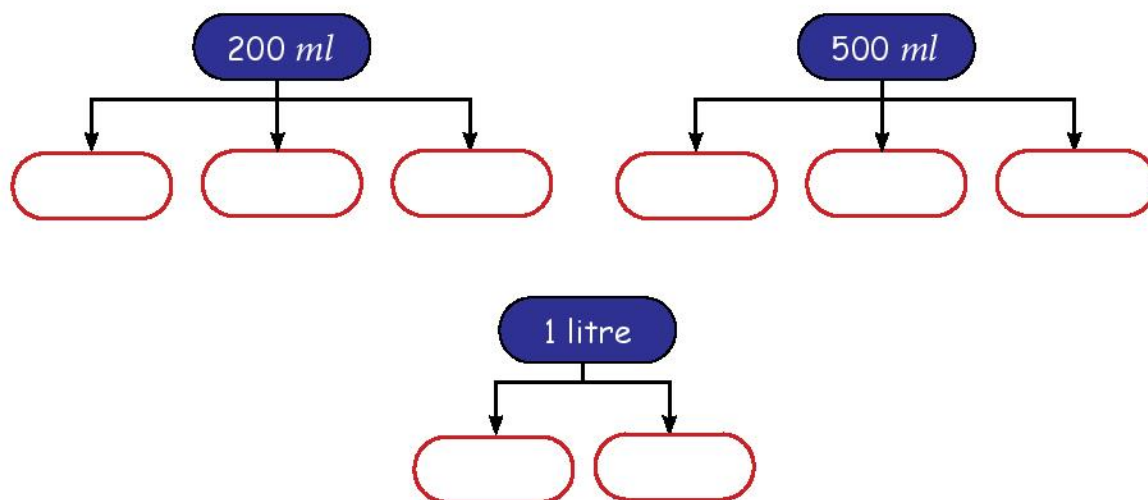
Note:

$1000\text{ ml} = 1\text{ litre}$



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.



Addition using standard units (litre and ml)
To add litre and ml, first convert the litre into ml.

EXAMPLE 1

Add: $1\text{ l} + 345\text{ ml}$

$$\begin{aligned} 1\text{ l} + 345\text{ ml} &= (1 \times 1000\text{ ml}) + 345\text{ ml} \\ &= 1000\text{ ml} + 345\text{ ml} \\ &= 1345\text{ ml} \end{aligned}$$

Note:

$$1000\text{ ml} = 1\text{ litre}$$

EXAMPLE 2

Add: $7\text{ l} + 9\text{ ml}$

$$\begin{aligned} 7\text{ l} + 9\text{ ml} &= (7 \times 1000\text{ ml}) + 9\text{ ml} \\ &= 7000\text{ ml} + 9\text{ ml} \\ &= 7009\text{ ml} \end{aligned}$$

EXAMPLE 3

Add: $63\text{ l } 380\text{ ml}$ and $14\text{ l } 175\text{ ml}$

<i>l</i>	<i>ml</i>
63	380
(+) 14	175
77	555

Step 1:

Start from millilitres.

$$380\text{ ml} + 175\text{ ml} = 555\text{ ml}$$

Step 2:

Then add litres. $63\text{ l} + 14\text{ l} = 77\text{ l}$

Exercise 3.2

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

i) $5\text{ l} + 376\text{ ml} = 5000\text{ ml} + 376\text{ ml} = 5376\text{ ml}$

ii) $3\text{ l} + 735\text{ ml} = \underline{\hspace{2cm}}\text{ ml} + \underline{\hspace{2cm}}\text{ ml} = \underline{\hspace{2cm}}\text{ ml}$

iii) $4\text{ l} + 43\text{ ml} = \underline{\hspace{2cm}}\text{ ml} + \underline{\hspace{2cm}}\text{ ml} = \underline{\hspace{2cm}}\text{ ml}$

iv) $8\text{ l} + 6\text{ ml} = \underline{\hspace{2cm}}\text{ ml} + \underline{\hspace{2cm}}\text{ ml} = \underline{\hspace{2cm}}\text{ ml}$

v) $6\text{ l} + 800\text{ ml} = \underline{\hspace{2cm}}\text{ ml} + \underline{\hspace{2cm}}\text{ ml} = \underline{\hspace{2cm}}\text{ ml}$

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

Subtract 8 l 450 ml from 28 l 750 ml.

	l	ml
	28	750
(-)	8	450
	20	300

Step 1: Subtract 450 ml from 750 ml

Step 2: Subtract 8 l from 28 l

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:

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.

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:

	<i>l</i>	<i>ml</i>
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:

	<i>l</i>	<i>ml</i>
1.	25	830
(+)	42	126

	<i>l</i>	<i>ml</i>
2.	13	645
(+)	54	143

	<i>l</i>	<i>ml</i>
3.	13	250
(+)	32	140

II Subtract the following:

	<i>l</i>	<i>ml</i>
1.	15	400
(-)	7	300

	<i>l</i>	<i>ml</i>
2.	29	910
(-)	21	500

	<i>l</i>	<i>ml</i>
3.	63	560
(-)	34	230

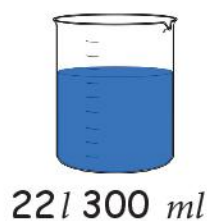
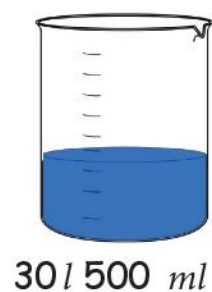
III Solve the following.

1. Ramu filled the petrol in his two cars. The first one hold the capacity of $23\text{ l } 500\text{ ml}$ and the second one hold the capacity $15\text{ l } 750\text{ ml}$. Find the total quantity of petrol .
2. Kannan has some cows. They give milk in the first week $48\text{ l } 480\text{ ml}$ and in the second week $57\text{ l } 530\text{ ml}$. 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	$16\text{ l } 500\text{ ml}$
2.	Mango juice	$23\text{ l } 160\text{ ml}$
3.	Grapes juice	$19\text{ l } 650\text{ ml}$
4.	Lemon juice	$20\text{ l } 350\text{ ml}$

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 $43\text{ l } 750\text{ ml}$ of groundnut oil. He sold $24\text{ l } 350\text{ ml}$. How much oil was left with him?
5. A bucket contains $15\text{ l } 500\text{ ml}$ of water. Gopi poured out $5\text{ l } 200\text{ ml}$ to water the plants. How much water is left in the bucket?
6. I purchased 73 l of milk. My sister has taken $34\text{ l } 500\text{ ml}$ of milk. So how much milk is left for me?



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

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 measure 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.

Exercise 3.4



1) Estimate how much liquid each object can hold.

(Hint: 500 ml, 200 ml, 100 ml, 50 ml, 20 l)

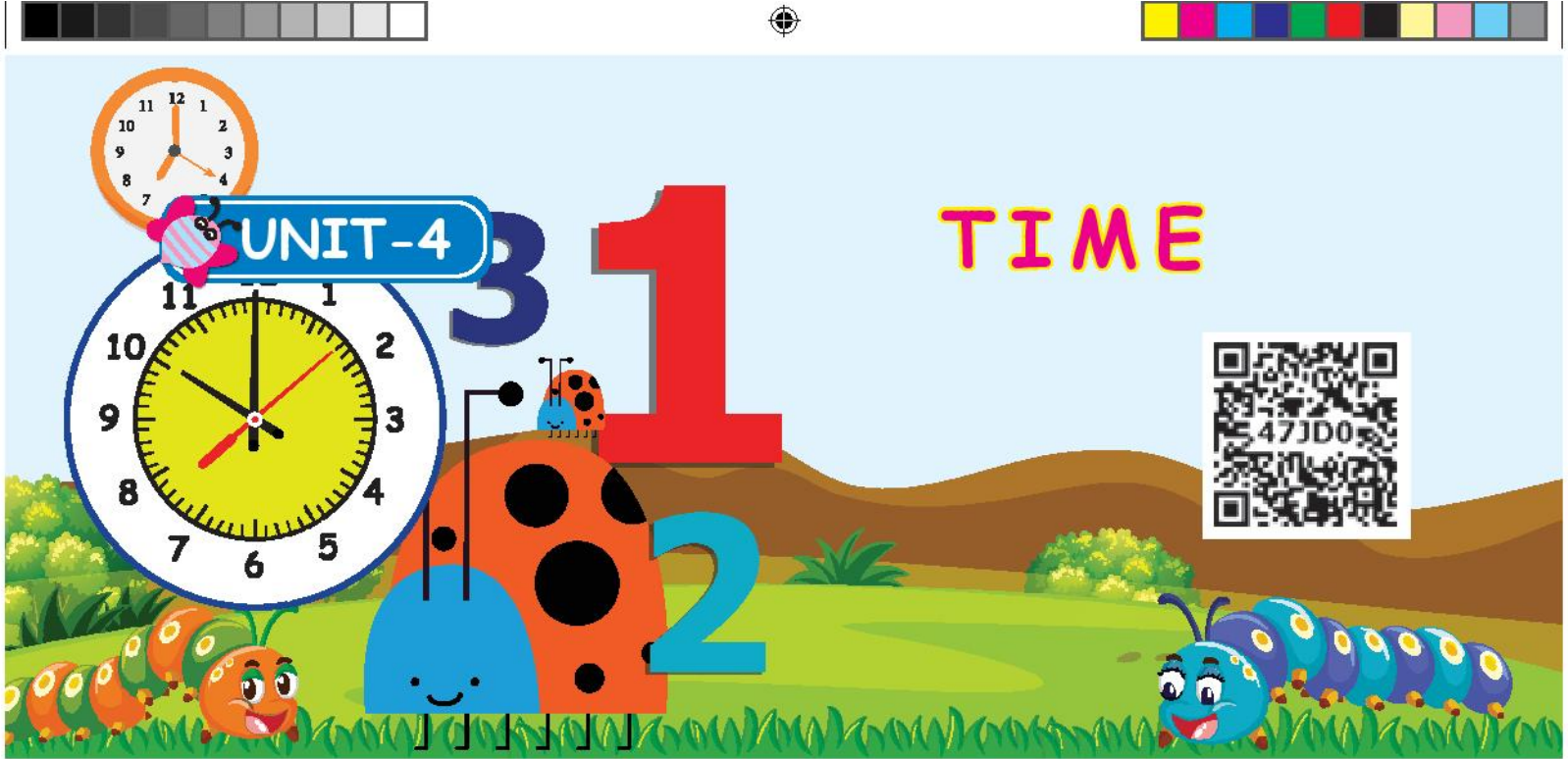
i)  Can hold (l/ml) _____ of Milk.

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.



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

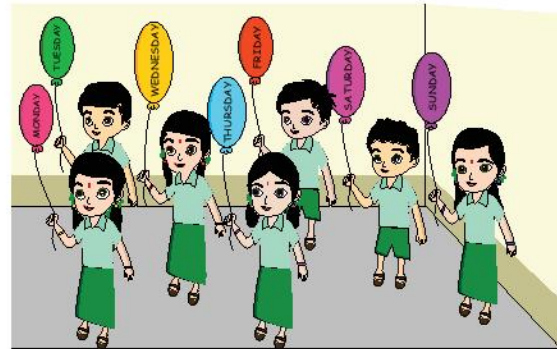
Prepare a table for time duration to chop vegetables, Cleaning the room at your home.

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?

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

Days (Jumbled)	Days	Order of the days
TRUSDAH Y		
DYARFI		
DSANUY		
NODMYA		
SDEUYAT		
NDWADSEYE		
YDASTAUR		



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		

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?

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?



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	4 weeks 2 days
5	May	31	4 weeks 3 days
6	June	30	4 weeks 2 days
7	July	31	4 weeks 3 days
8	August	31	4 weeks 3 days
9	September	30	4 weeks 2 days
10	October	31	4 weeks 3 days
11	November	30	4 weeks 2 days
12	December	31	4 weeks 3 days
	Total	365	4 weeks 3 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.

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

- January is the first month of the year.
- March is in between September and November.
- The last month of the year is July.
- February has 30 days.
- May is the successive month of April.

2. Write the missing month

- June, _____, August, September.
- March, April, _____, _____.
- _____, October, November.

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

In one week there are 7 days.

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.



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 = $60 \times 60 = 3600$ 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.



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



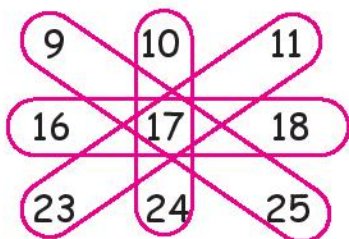
$$5 + 13 = 18$$

$$12 + 6 = 18$$



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



$$9 + 17 + 25 = 51$$

$$23 + 17 + 11 = 51, \quad 16 + 17 + 18 = 51, \quad 10 + 17 + 24 = 51$$

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.

Consider the line: 5 6 7 8 9 10 11

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	

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 (2×8) = 16

Sum of 6 and 10 is double the middle number (2×8) = 16

Sum of 7 and 9 is double the middle number (2×8) = 16



Try This



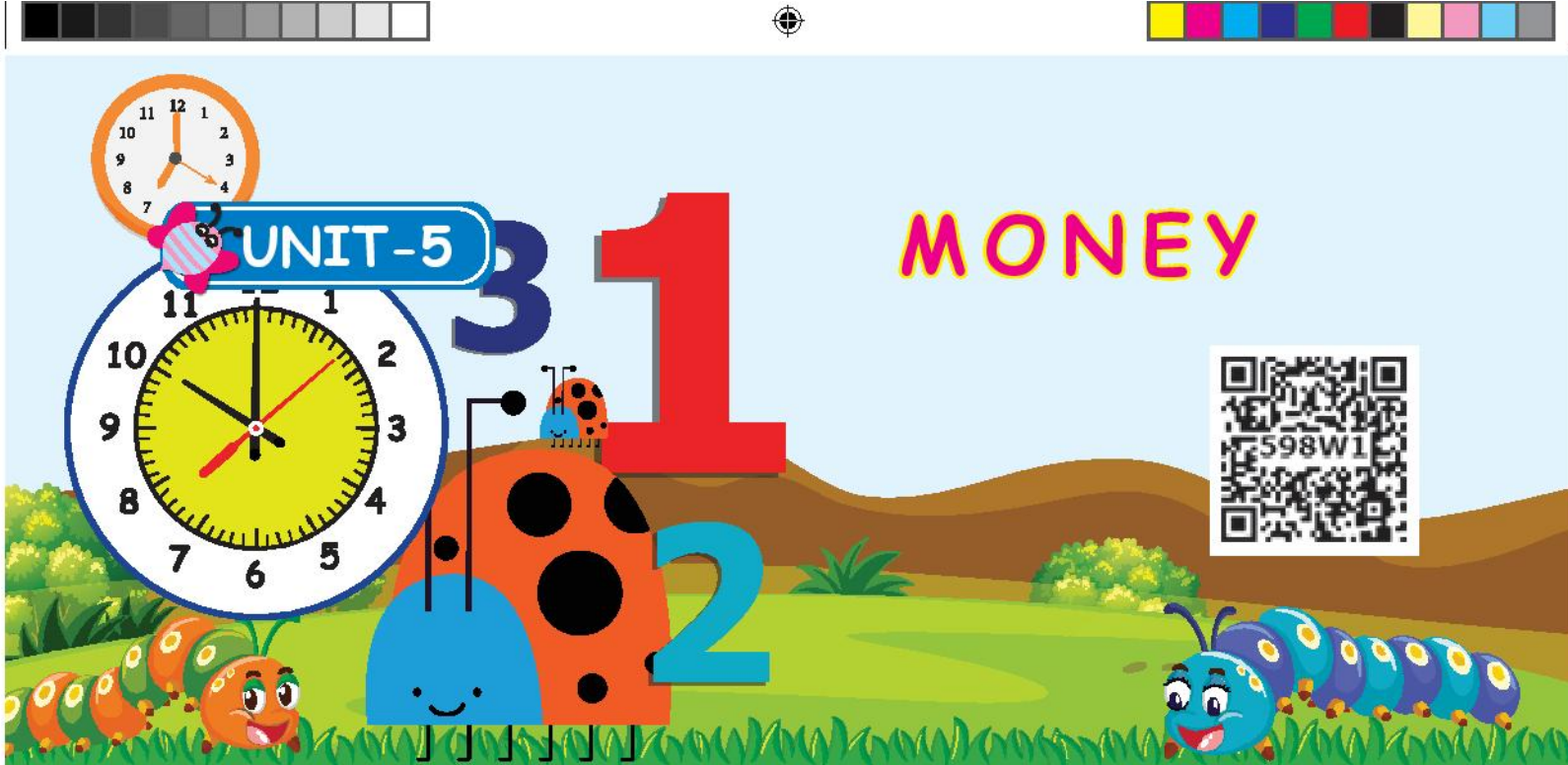
1 Select any month in a year. Find out the sum of any row and column. You wonder that the sum doubles the middle number.

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.



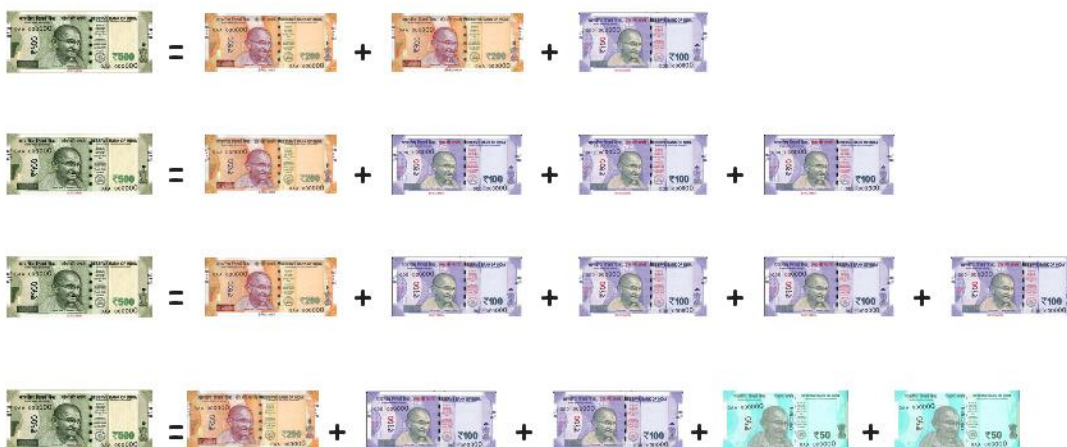
5.1 Convert rupees to paise:

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?

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

$$₹ 2000 \times 1 = 2000$$

$$₹ 500 \times 1 = 500$$

$$₹ 200 \times 1 = 200$$

$$₹ 100 \times 1 = 100$$

$$₹ 50 \times 1 = 50$$

$$₹ 10 \times 1 = 10$$

$$₹ 5 \times 1 = 5$$

Total = ₹ 2865

₹ 565 =

₹ 200 × =

₹ 100 × =

₹ 50 × =

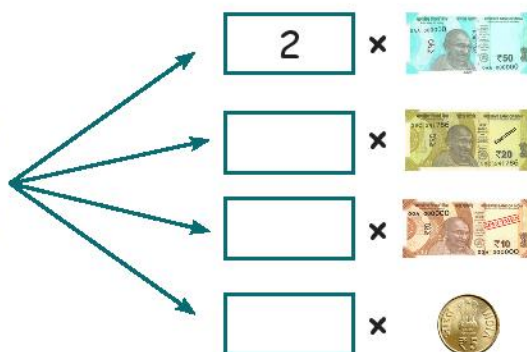
₹ 10 × =

₹ 5 × =

Total =

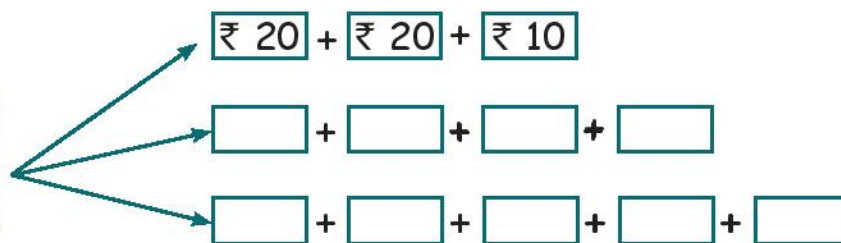


Try This



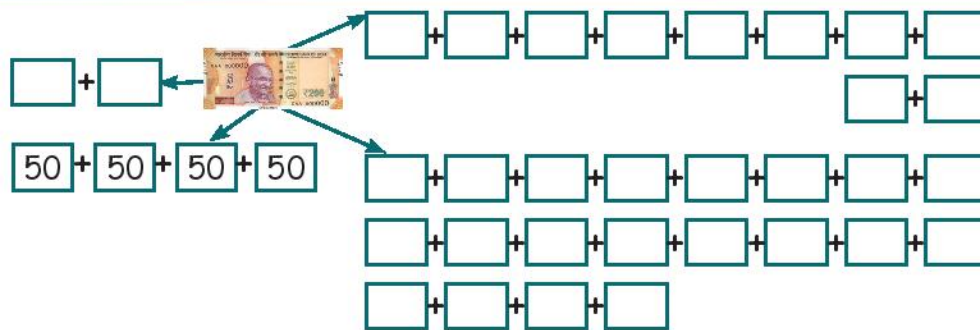
Activity

Fill in the box with model notes.



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.



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 = $2 \times 100 = 200$ 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.

$$\begin{aligned}\therefore ₹ 8.50 &= 8 \times 100 + 50 \\ &= 800 \text{ paise} + 50 \text{ paise} \\ &= 850 \text{ paise}\end{aligned}$$



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

$$₹ 38.70 = 38 \times 100 \text{ paise} + 70 \text{ paise}$$

$$= 3800 \text{ paise} + 70 \text{ paise}$$

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.

$$900 \text{ paise} = 900 \div 100$$

$$900 \text{ paise} = ₹ 9$$



EXAMPLE 2

Convert 1950 paise into rupees

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

$$1950 \text{ paise} = 1950 \div 100$$

$$= 19.50$$

$$= ₹ 19.50$$

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 × _____ =

₹ 100 × _____ =

₹ 50 × _____ =

₹ 10 × _____ =

₹ 5 × _____ =

₹ 1 × _____ =

Total = ₹ _____

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

₹ 845 =



(iii)

$$\begin{aligned} \text{🍌} + \text{🍎} &= ₹ 100 \\ \text{🍎} + \text{🍎} &= ₹ 50 \\ \text{🍌} &= ? \end{aligned}$$

(iv)

$$\begin{aligned} \text{🍌} + \text{🍎} + \text{🍌} &= ₹ 75 \\ \text{🍌} + \text{🍌} &= ₹ 45 \\ \text{🍌} + \text{🍌} &= ? \end{aligned}$$

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 |

5.2 Addition and Subtraction 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



Let us try

$$(i) \quad \text{₹ } 24.60$$

$$+ \text{₹ } 23.30$$

$$(ii) \quad \text{₹ } 44.50$$

$$+ \text{₹ } 22.20$$

$$(iii) \quad \text{₹ } 39.80$$

$$+ \text{₹ } 64.70$$

$$(iv) \quad \text{₹ } 48.35$$

$$+ \text{₹ } 54.67$$

Exercise 5.2

I. Add the following Rupees (without conversion)

$$1. \text{₹ } 38.40$$

$$+ \text{₹ } 41.25$$

$$2. \text{₹ } 19.27$$

$$+ \text{₹ } 10.31$$

$$3. \text{₹ } 28.50$$

$$+ \text{₹ } 20.14$$

$$+ \text{₹ } 41.32$$

$$4. \text{₹ } 34.20$$

$$+ \text{₹ } 13.18$$

$$+ \text{₹ } 12.11$$

II. Add the following rupees (with conversion)

$$1. \text{₹ } 19.56$$

$$+ \text{₹ } 23.64$$

$$2. \text{₹ } 64.75$$

$$+ \text{₹ } 36.25$$

$$3. \text{₹ } 28.37$$

$$+ \text{₹ } 18.43$$

$$+ \text{₹ } 17.65$$

$$4. \text{₹ } 64.15$$

$$+ \text{₹ } 38.27$$

$$+ \text{₹ } 41.18$$

- 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.

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.

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.

$$4 \text{ packets of cereals} = ₹20$$

$$\therefore 1 \text{ packet of cereals} = ₹20 \div 4$$

$$\text{So, 1 packet of cereals} = ₹5.$$

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,

$$\text{Cost of one cup of tea} = ₹5$$

$$\begin{aligned} \text{Cost of four cups of tea} &= ₹5 \times 4 \\ &= ₹20 \end{aligned}$$



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	$₹250 \div 5 = ₹50$
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	$₹8 \times 25 = ₹200$
2.	Marble	—	30	$— \times 30 = ₹210$
3.	Ball	₹9	23	—
4.	Ring Ball	₹20	—	$₹20 \times — = ₹200$
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

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.

$$\begin{aligned}\text{Nandhakumar spent the amount for petrol} &= ₹750 \\ \therefore \text{Cost for 1 l petrol} &= ₹750 \div 10 \\ &= ₹75\end{aligned}$$

EXAMPLE 2

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

$$\begin{aligned}\text{Cost of one packet} &= ₹65 \\ \therefore \text{Cost of eight packets} &= ₹65 \times 8 \\ \therefore \text{Cost of eight packets} &= ₹520\end{aligned}$$

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.

$$\text{Cost of onion} = ₹10.50$$

$$\therefore \text{Cost of cucumber} = + ₹ 8.75$$

$$\text{The amount spent for vegetables} = \underline{₹19.25}$$

$$\text{The amount given to the shopkeeper} = ₹20.00$$

$$\text{The amount spent for vegetables} = - ₹19.25$$

$$\text{Balance amount} = \underline{₹ 0.75}$$

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?

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.

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

Appa : ₹100

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

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)

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.



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.



Let us try

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

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

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

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

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.

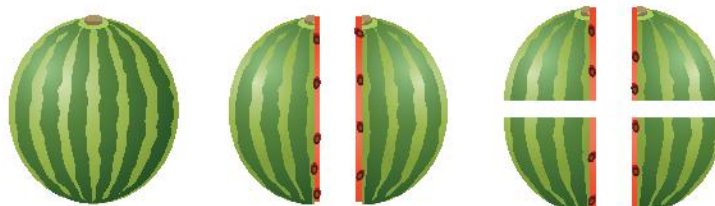




6.1 Symbolic Representation of Simple Fraction:

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



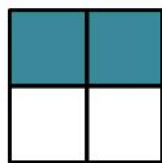
Whole = two equal parts = two equal parts

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

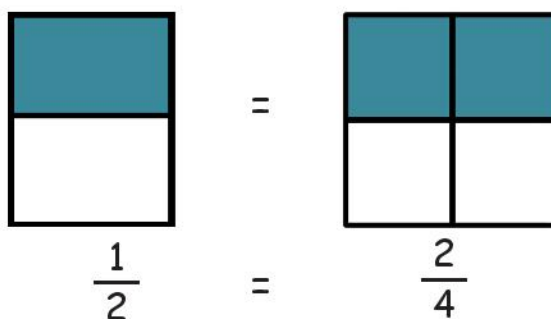
- Take a square sheet of paper and fold it into two equal parts. Colour one part of the paper



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



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

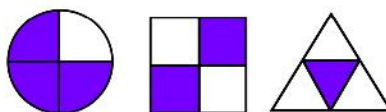


Two parts become four parts and the coloured one part changed into two parts

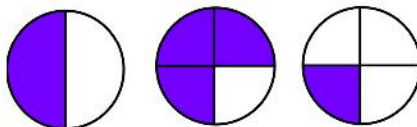
Thus it represents both $\frac{2}{4}$ and $\frac{1}{2}$ are equal. It is said to be equivalence.

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



Introduction

Mother : Muthamizh and Senthamizh come here

Muthamizh &

Senthamizh : Yes, Amma

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

Senthamizh : Amma, I need one more piece?

(She gave another piece to him)

Muthamizh : Amma you gave more than one piece to brother, that's $\frac{1}{4}$ for me and $\frac{2}{4}$ for brother.

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

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

Muthamizh : Amma you gave me $\frac{1}{4}$ part of the watermelon. For brother you gave $\frac{2}{4}$ it's more than $\frac{1}{4}$. Now you gave the last piece ($\frac{1}{4}$) part to brother so you gave more ($\frac{3}{4}$) 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 Senthamizh $= \frac{1}{4}$

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

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

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

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

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 $\frac{1}{4}$

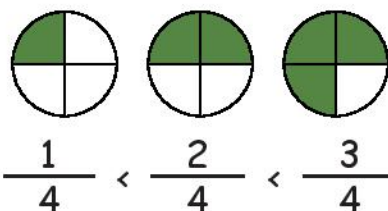
$\frac{3}{4}$ is greater than $\frac{2}{4}$

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



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

Similar fractions (or like fraction)



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

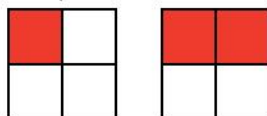
4, 4 and 4 are Denominator in each fraction

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

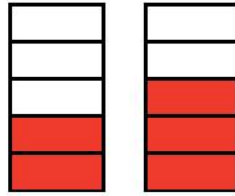


- If you observe the pictures you can notice that they are equally divided.
- In the first picture one part is shaded so its fraction = $\frac{1}{4}$
- In the second picture two parts are shaded. So its fraction = $\frac{2}{4}$

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

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

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.

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

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

