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STANDARD FOUR

TERM - II
VOLUME II

MATHEMATICS
SCIENCE
SOCIAL SCIENCE

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Department Of School Education

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MATHEMATICS

A5Z1X7

E-BOOK

G2Q5Z9

ASSESSMENT

B326_4_MATHS_EM

DIGI-LINKS

Difference between 2-D and 3-D objects:

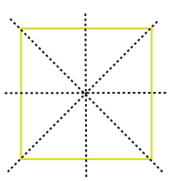
Concept	2-D	3-D
Definition	Two dimension	Three dimension
Dimensions	Length and breadth	Length, height and width.
Examples	Square, rectangle, circle, triangle, rhombus, parallelograms, trapezium, quadrilateral	Cube, cuboid, cone, cylinder, pyramid.

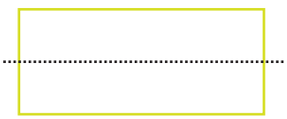
1.1 Introduction of symmetry

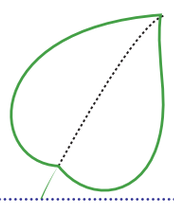
In our day to day activity we see many leaves of plants, blades, wings of **butterflies etc.**

The figures which can be divided into two parts of equal shape and size are called symmetrical figures.

EXAMPLE

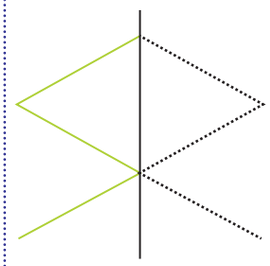
1. 

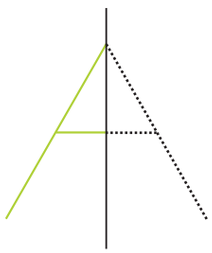
2. 

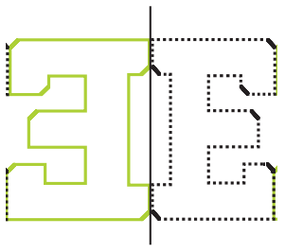
3. 

The two halves of the figures are the mirror images of each other.

EXAMPLE

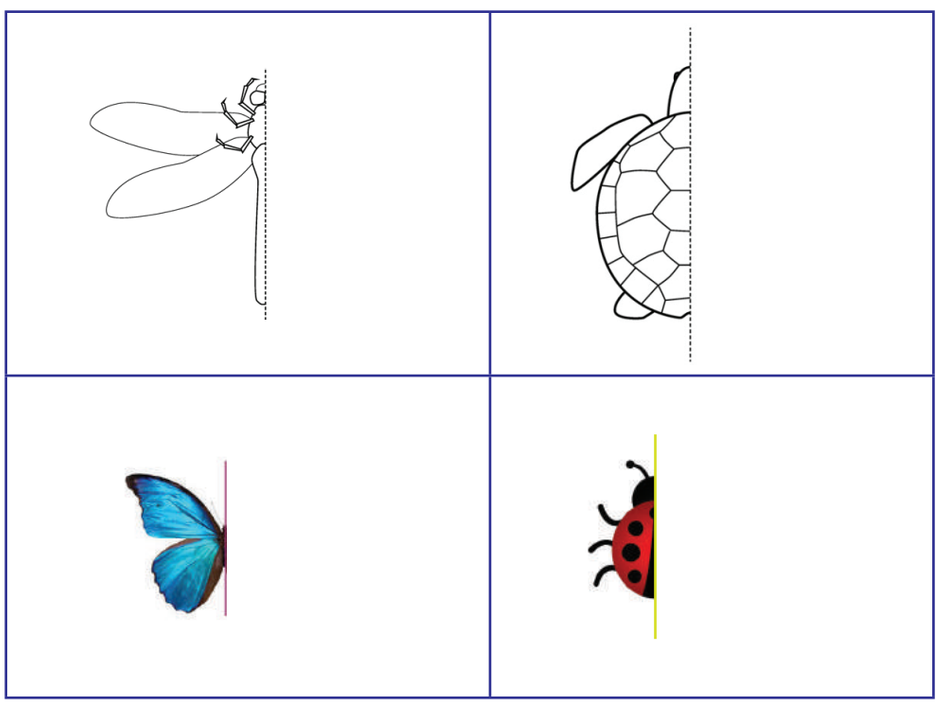
1. 

2. 

3. 

Activity

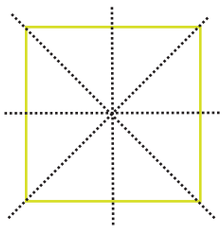
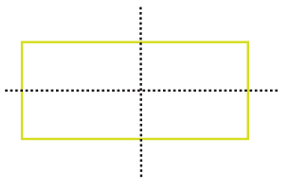
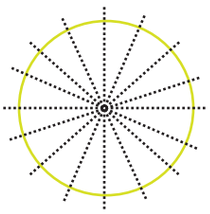
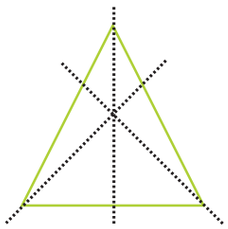
Draw the mirror symmetry using the other half.



Symmetry

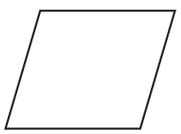
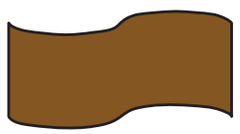
The line which divides a figure into two equal halves is called the line of symmetry.

Symmetry in Geometrical shapes

			
A square has four lines of symmetry	A rectangle has two lines of symmetry.	A circle has infinite lines of symmetry	An equilateral triangle has three lines of symmetry

Activity

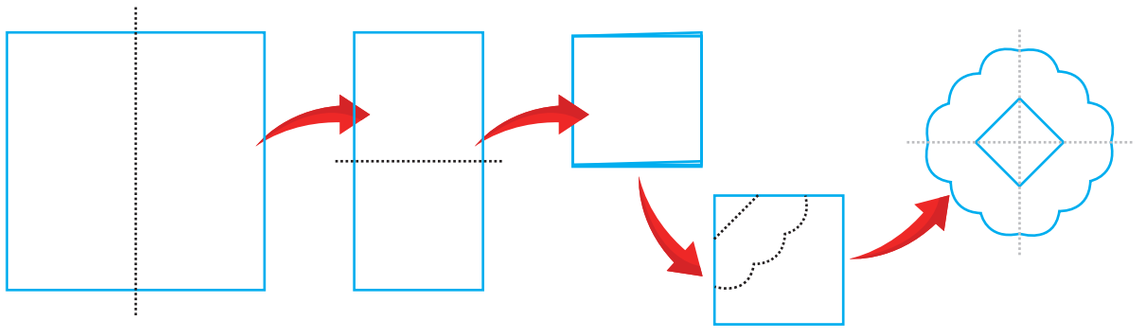
Find out the symmetrical figure and colour it:

1.		2.		3.		4.	

1.1.1 Able to explore intuitively the reflections through mirror ink blots, paper cutting and paper folding:

Activity

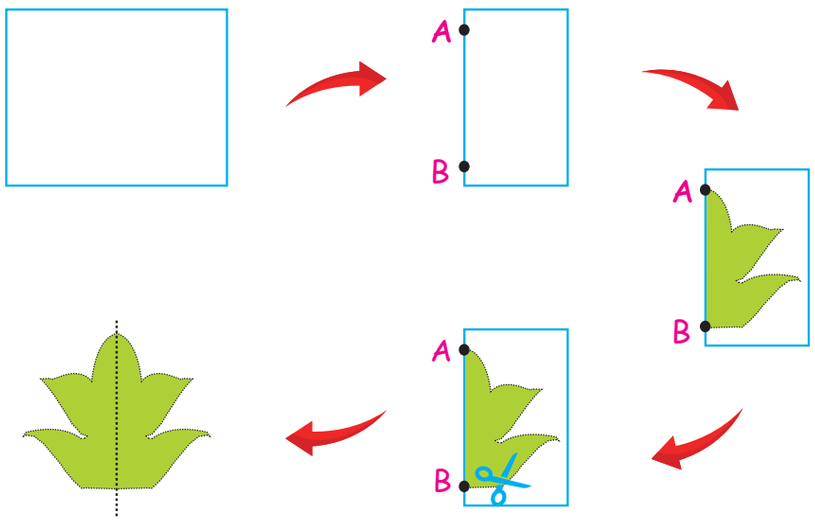
- Take a piece of paper. Fold it exactly into half. Now take the folded edge and fold it into itself. Cut from one folded edge to the other folded edge. Open the paper and get a symmetrical figure.



Activity

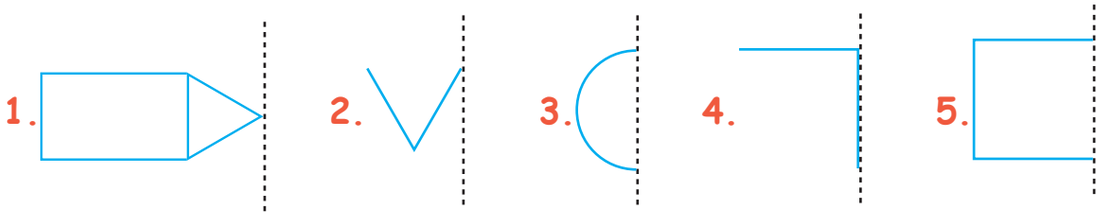
Let us understand the concept of symmetry by paper folding:

- Take a white sheet of paper and fold it once such that it is divided into two equal parts.
- Mark any two points say A and B on the folded line. As shown in figure.
- Draw a closed figure on the folded paper beginning at a point and ending at the other point.
- Cut the closed figure along the dotted lines marked.
- Unfold the paper. The half shapes on the either side of the line of fold AB are exactly the same.
- The line of the fold is the line of symmetry.

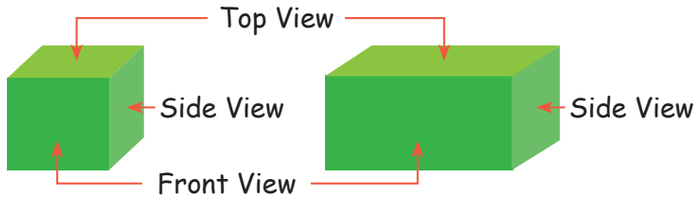


Exercise: 1.1

Draw the mirror images:



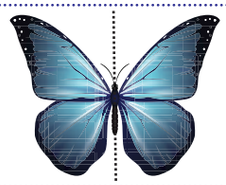
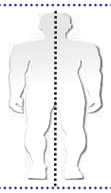
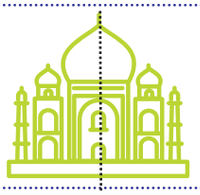
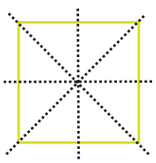
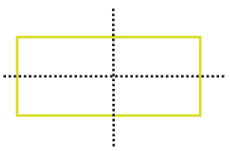
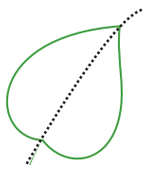
1.1.2 Able to draw top view, front view and side view of simple objects.



Activity

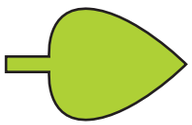
1.1.3 To observe from the surroundings and from day to day life situations and identify symmetrical objects.

Check whether the following pictures are symmetrical or not symmetrical

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

Exercise: 1.2

A Draw the lines of symmetry in each of the following figures.

1. 
2. 
3. 
4. 

B How many lines of symmetry for the following figures

1. 
2. 
3. 
4. 

1.1.4 Collects record symmetrical objects whenever / wherever they see.

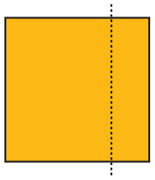
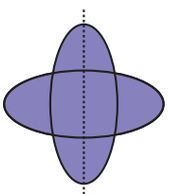
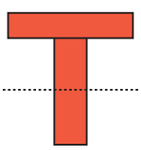
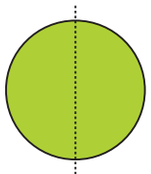
Activity

- Observe the objects around you at home. List the name and shape of the objects. Above these objects which can be called as symmetrical.

1.1.5 To draw such symmetrical objects and naming the same.

Exercise: 1.3

A Which of the following figure is symmetrical about dotted line?

1. 
2. 
3. 
4. 
5. 

Who am I?

1. I have no side, no vertices and many lines of symmetry. Who am I? ----------
2. I have 4 equal sides and 4 lines of symmetry. Who am I? ----------
3. I have 3 equal sides, 3 vertices and 3 lines of symmetry, who am I? ----------
4. I have 4 sides opposite sides are equal and I have 2 lines of symmetry. Who am I? ----------

J2N1B6

2.1 Multiplication by lattice algorithm (up to 2 digit number by 2 digit number and 3 digit number by single digit number)

2.1.1 Able to do elementary multiplication of 2 digit by 2 digit and 3 digit by single digit numbers using lattice algorithm and the standard (column) algorithm.

X7A4U5

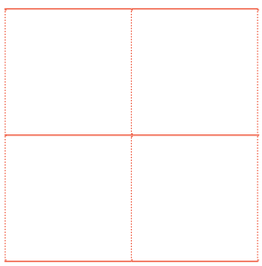
Multiplication of 2 digit by a 2 digit number:

Lattice Algorithm:-

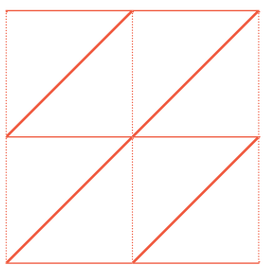
EXAMPLE 1

48×36

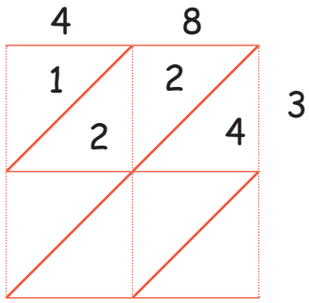
Step: 1



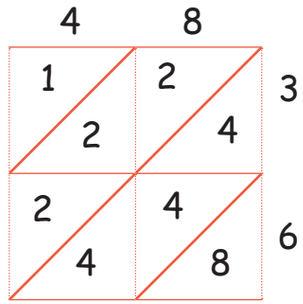
Step: 2:



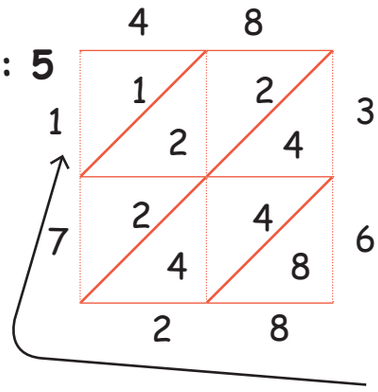
Step: 3



Step: 4



Step: 5

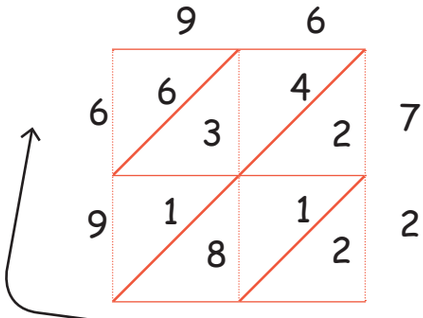


T8W2T6

48 × 36 = 1728

Multiply: 96 × 72

EXAMPLE 2



96 × 72 = 6912

Standard Algorithm:

Multiply: 48×36

$$\mathbf{36 = 30 + 6}$$

$$\begin{array}{r} 48 \times 36 \\ \hline 288 \\ 144 \\ \hline 1728 \\ \hline \end{array}$$

Step 1:	48×6 288 ones
Step 2:	48×30 1440 ones
Step 3:	$288 + 1440$ 1728 ones

EXAMPLE 3

In a school there are 24 desks in each class room. If there are 18 class rooms in the school, Find the total number of desks.

Solution:

Number of desks in each class rooms = 24

Number of desks in 18 class rooms = 18×24

$$\mathbf{24 = 20 + 4}$$

Standard Algorithm:

Multiply: 18×24

18×24

72

360

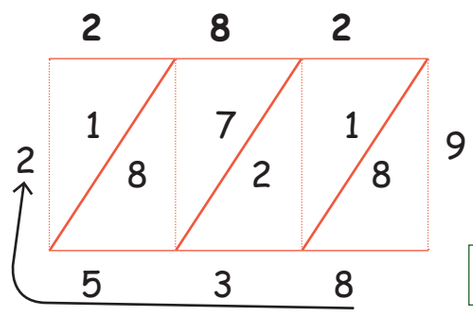
432

Step: 1	Step: 2	Step: 3
18	18	72
$4 \times$ ones	$20 \times$ ones	360 +
72 ones	360 ones	432

Multiply 3 digit number by 1 digit number: Lattice Algorithm:

EXAMPLE 1

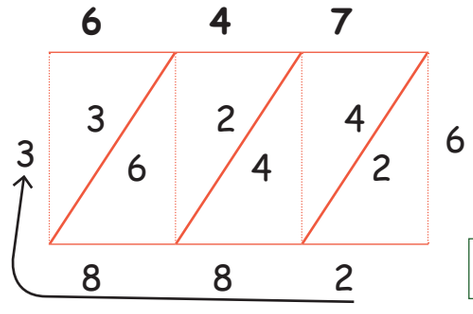
282×9



$282 \times 9 = 2538$

EXAMPLE 2

647×6



$647 \times 6 = 3882$

Standard Algorithm

EXAMPLE 3

282 × 9

TH	H	T	O
	(7)	(1)	
	2	8	2
		×	9
2	5	3	8

282 × 9 = 2538

Step: 1	Multiply the ones: 2 ones × 9 = 18 ones = 8 ones + 10 ones write 8 in the ones place and carry over 1 to the tens place.
Step: 2	Multiply the tens: 8 tens × 9 = 72 tens. 72 tens + 1 tens = 73 tens = 70 tens + 3 tens = 7 hundreds + 3 tens Write 3 in tens place and carry over 7 to the hundred place.
Step: 3	Multiply the hundreds: 2 hundreds × 9 = 18 hundreds. 18 hundreds + 7 hundreds = 25 hundreds. = 20 hundreds + 5 hundreds = 2 thousands + 5 hundreds

EXAMPLE 4

A book has 396 pages. How many pages are there in 9 such books?

Solution:

No. of pages in a book = 396 pages

Number of pages in 9 books = 396 × 9

= 3564 pages.

TH	H	T	O
	(8)	(5)	
	3	9	6
		×	9
3	5	6	4

Exercise 2.1

1. Multiply the following numbers by using lattice method.

   (i) 52 × 49 **(ii)** 347 × 5 **(iv)** 127 × 7

   (v) 65 × 37 **(vi)** 789 × 4 **(vii)** 37 × 29

2. Multiply the following numbers by using standard method;

   (i) 72 × 29 **(ii)** 31 × 27 **(iii)** 93 × 42

   (iv) 124 × 6 **(v)** 206 × 8 **(vi)** 479 × 3

3. One box contains 25 apples. How many apples are there in 36 such boxes?

   i. There are 28 pages in a daily newspaper. If Ajay buys newspapers for 45 days, how many pages will it contain?

   ii. A truck carries 125 bags of rice. If each bag has 9 kg of rice, how much kg of rice will there be in the truck.

   iii. If the cost of one chair is ₹ 857. What will be the cost of 6 chairs?

Multiplication:

If a box contains 6 chocolates, how many chocolates are there in 10 such boxes? Shall we calculate the number of chocolates in boxes?

Number of chocolates,

one box = $6 = 6 \times 1 = 6$

two boxes = $6 + 6 = 6 \times 2 = 12$

there boxes = $6 + 6 + 6 = 6 \times 3 = 18$

four boxes = $6 + 6 + 6 + 6 = 6 \times 4 = 24$

Ten boxes = $6 + 6 + \ldots$. 10 times = $6 \times 10 = 60$

Multiplication is the shortest form of repeated addition.

EXAMPLE

If 6 fans are needed for one room. How many fans are needed for 9 rooms?

Solution:

To find the total fans we have to multiply 9 by 6.

54 fans are needed for 9 rooms.

$$\mathbf{9 \times 6 = 54}$$

Exercise 2.2

1. $4 \times 6 =$ ☐ **2.** $7 \times 6 =$ ☐ **3.** $8 \times 6 =$ ☐

4. In a shirt there are 6 buttons, how many buttons will there be in 8 shirts?

5. In a carton, there are 9 rows with 6 eggs in each row. How many eggs are there in all?

Complete the 7th table: (using maths kit box). 7 Piece tan gram

	$7 \times 1 = 7$
	$7 \times 2 = 14$
	$7 \times 3 = 21$
	$7 \times 4 =$ _____
	$7 \times 5 = 35$
	_____
	$7 \times 7 =$ _____
	$7 \times 8 = 56$
	_____
	$7 \times 10 = 70$

Exercise 2.3

1. $3 \times 7 =$ ☐ **2.** $6 \times 7 =$ ☐ **3.** $9 \times 7 =$ ☐

4. A box contains 7 pens. How many pens are there in 5 boxes?

5. One week has 7 days. Calculate the number of days in 10 weeks?

Complete the 8th table: Number of legs in spider

	$8 \times 1 = 8$
	$8 \times 2 = 16$
	$8 \times 3 = 24$
	$8 \times 4 = 32$
	$8 \times 5 = 40$
	_____
	$8 \times 7 = 56$
	8×8 = _____
	8×9 = _____
	$8 \times 10 = 80$

Exercise 2.4

1. $8 \times 4 =$ ☐ **2.** $8 \times 6 =$ ☐ **3.** $8 \times 10 =$ ☐

4. One packet contains 8 pencils, how many pencils are there in 9 such packets?

5. The price of one ball is ₹ 10. Find the cost of 8 such balls?

Complete the 9th table:

$9 = 9 \times 1 =$

$9 + 9 = 9 \times 2 = 18$

$9 + 9 + 9 = 9 \times 3 = 27$

$9 + 9 + 9 + 9 = 9 \times 4 = 36$

$9 + 9 + 9 + 9 + 9 = 9 \times 5 = 45$

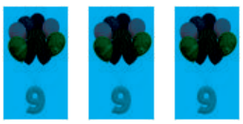
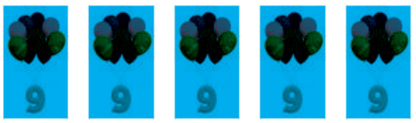
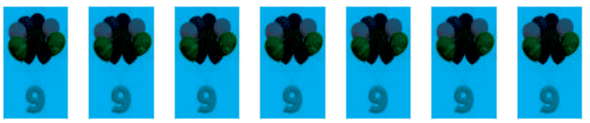
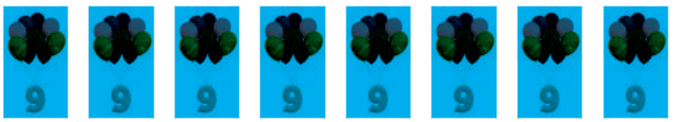
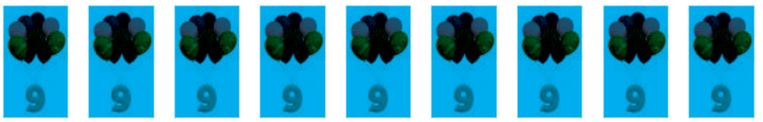
$9 + 9 + 9 + 9 + 9 + 9 = 9 \times 6 =$ _____

$9 + 9 + 9 + 9 + 9 + 9 + 9 =$ _____

$9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 = 9 \times 8 =$ _____

$9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 = 9 \times 9 = 81$

$9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 =$ _____

	$9 \times 1 = 9$
	$9 \times 2 = 18$
	$9 \times 3 = 27$
	$9 \times 4 = 36$
	$9 \times 5 = 45$
	$9 \times 6 = 54$
	$9 \times 7 = 63$
	_____
	$9 \times 9 =$ ____
	$9 \times 10 =$ ____

Exercise 2.5

1. $9 \times 3 =$ ☐ **2.** $9 \times 6 =$ ☐ **3.** $9 \times 10 =$ ☐

4. A sports team has 9 persons. How many persons will there be in 9 teams?

5. Number of rods in a window is 9. Find the number of rods in 7 windows.

Complete the 10th table:

From the tables 1 to 9 we will know the following:

Complete the following:

$10 \times 1 = 10$ $10 \times 1 = 10$

$10 \times 2 = 20$ $10 \times 2 = 20$

$10 \times 3 = 30$ $10 \times 3 = 30$

$10 \times 4 = 40$ $10 \times 4 = 40$

$10 \times 5 = 50$ _____

$10 \times 6 = 60$ _____

$10 \times 7 = 70$ _____

$10 \times 8 = 80$ _____

$10 \times 9 = 90$ $10 \times 9 = 90$

$10 \times 10 = 100$ _____

Exercise 2.6

Multiply by 10, 100, 1000

Z7Z5B2

Fill in the boxes.

1. $10 \times 7 = 70$
2. $100 \times 16 =$ ☐
3. $1000 \times 9 = 9000$
4. $10 \times 696 =$ ☐
5. $100 \times 96 = 9600$
6. $1000 \times 6 =$ ☐

Note:

When a number is multiplied by 10, 100, 1000, it is enough to write one zero, two zeros, three zeros respectively

Multiply by 1

$10 \times 1 = 10$ $7 \times 1 = 7$

$136 \times 1 = 136$ $9936 \times 1 = 9936$

$2000 \times 1 = 2000$ $789 \times 1 = 789$

The product of one and any number is the number itself.

Multiply by 0

$10 \times 0 = 0$ $6 \times 0 = 0$

$276 \times 0 = 0$ $7936 \times 0 = 0$

$3000 \times 0 = 0$ $675 \times 0 = 0$

The product of zero and any number is zero.

Order of multiplication

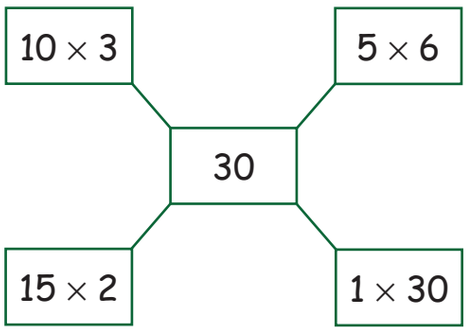
$4 \times 6 = 24 = 6x4$	$796 \times 9 = 7164 = 9 \times 796$
$136 \times 15 = 2040 = 15 \times 136$	$1326 \times 6 = 7956 = 6 \times 1326$
$1000 \times 9 = 9000 = 9 \times 1000$	$26 \times 24 = 624 = 24 \times 26$

The product of two number does not change, if we interchange the order of numbers.

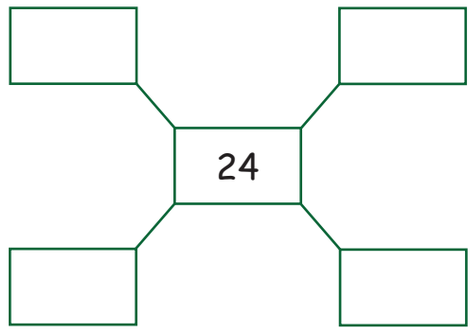
Exercise 2.7

Write the numbers 24, 16 and 36 as the product of two numbers. one is done for you.

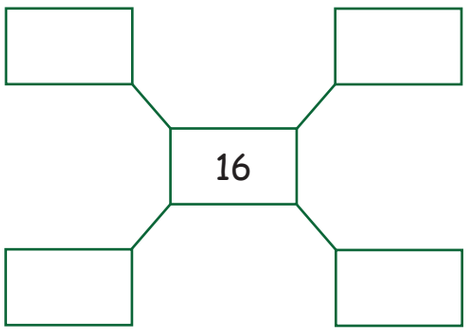
1.



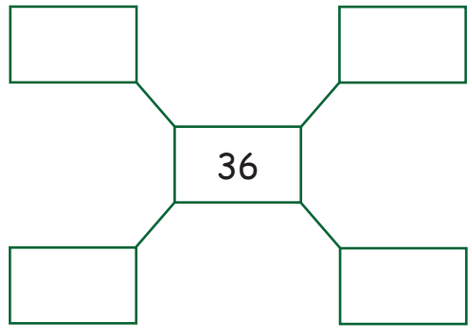
2.



3.



4.



Magic squares

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

20	90	40	
70	50	30	150
60	10	80	
150			

Try This

To frame magic squares by using,

1. Multiples of nine
2. Multiples of hundred

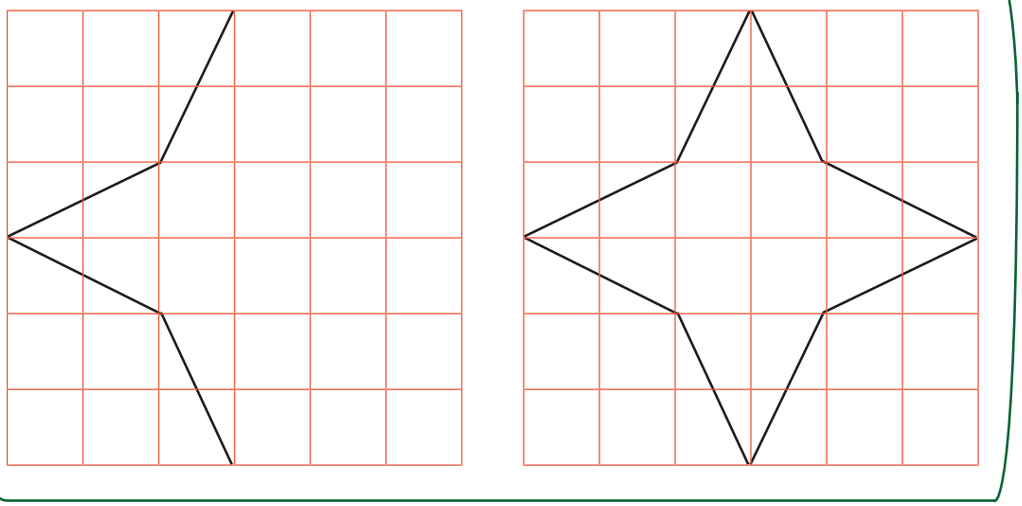
3.1 Patterns in Geometry

Able to identify symmetry in geometrical patterns.

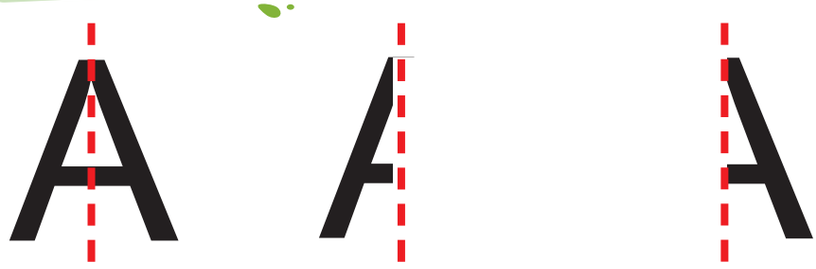
Symmetry

The figures which can be divided into two parts of equal shape and size are called symmetrical figures.

EXAMPLE 1



EXAMPLE 2



Activity

Write all the alphabets and then draw a symmetrical lines for each letters.

Exercise 3.1

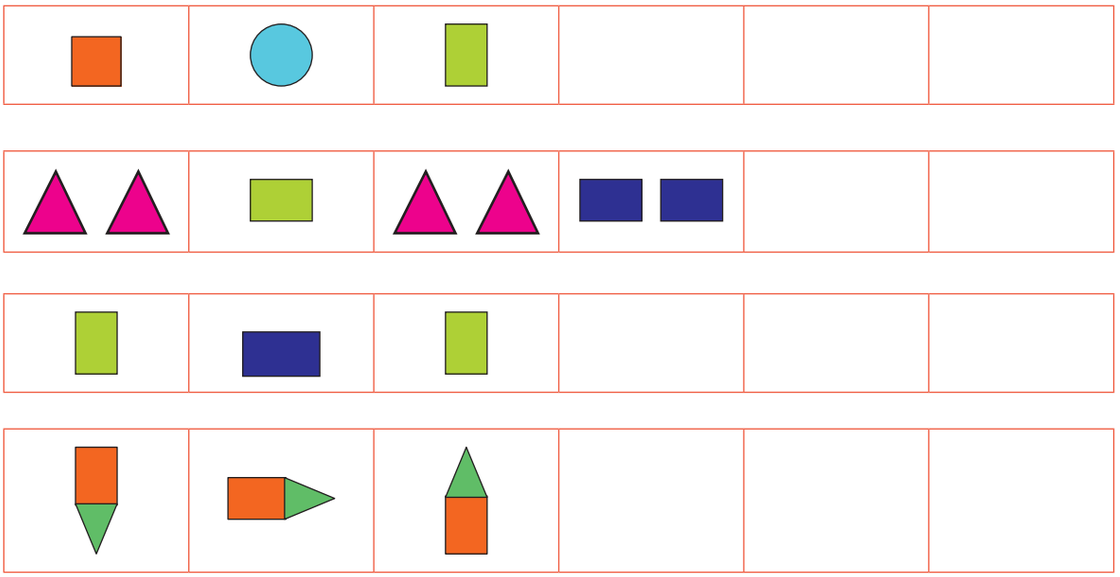
I. Draw symmetrical lines for the following shapes

1.

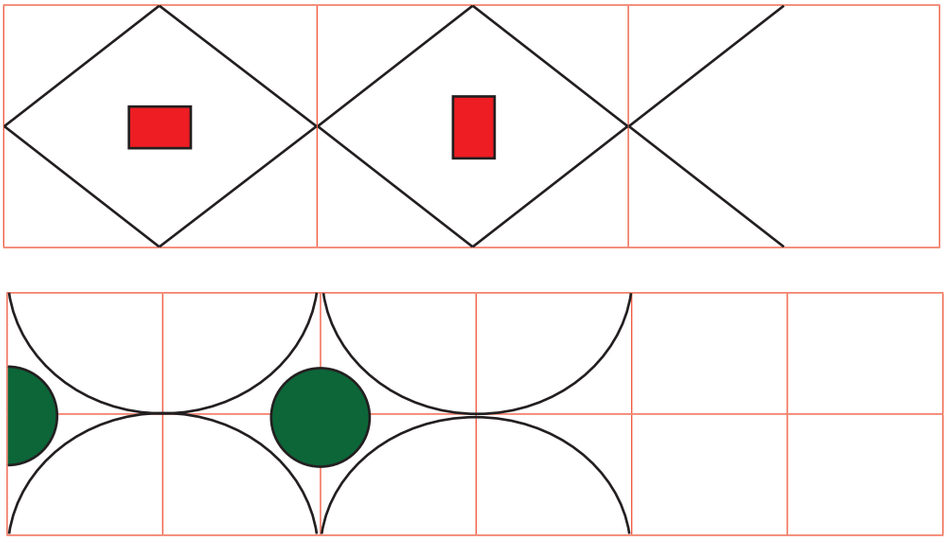
2.

3.

II. Fill in the Boxes



III. Complete the patterns



Exercise 3.2

S4J6N5

Fill in the blanks:

1. 1, 7, 13, 19, ___, ___, ___, ___

2.  _____ _____

3.  _____ _____

4. 5, 10, 15, 20, ___, ___, ___

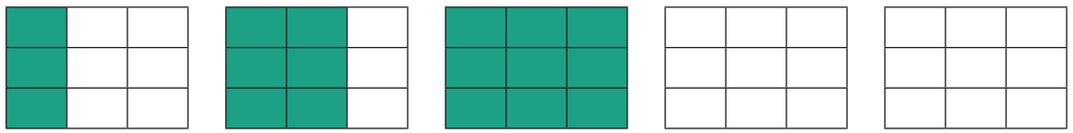
5. 12, 5, 11, 6, 10, 7, ____, ____, ____

6.  _____ _____

7.  _____ _____

8.  _____ _____

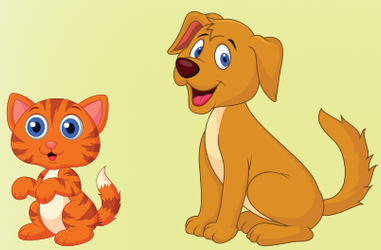
9.  _____ _____

10. 

Introduction

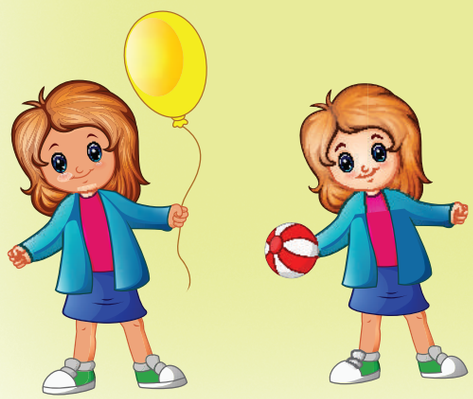
Nisha and Joe were friends. Nisha had a pet animal. It was a dog. It's name was Arjun. It was 25 kg weight. Joe had a pet animal. It was a cat. It's name was pooja. It was 15 kg weight.

Which animal is heavy?

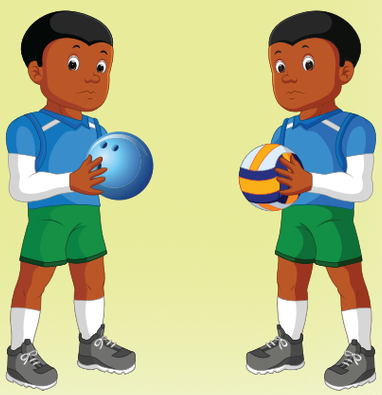


Which is heavy? Book or paper

Which is heavy? Ball or Balloon



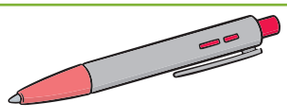
Which is heavy? Ball or iron ball



Activity

Estimate and tick the correct option

Find the weight whether it is in gram or kilogram.

S. No	Pictures	gram	kilogram
1.			
2.			
3.			
4.			
5.			
6.			

Different weighing instruments are used to measure weight.

Common balance

Digital balance

Weigh machine

Spring balance

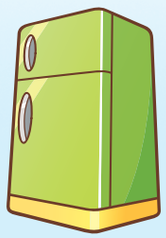
Note:

Vegetables, fruits and rice are measured in kilogram (kg)

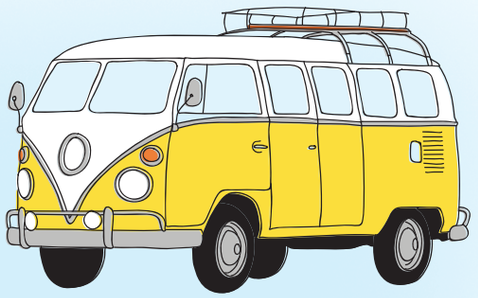
Activity

Observe the given picture and circle the correct weight.

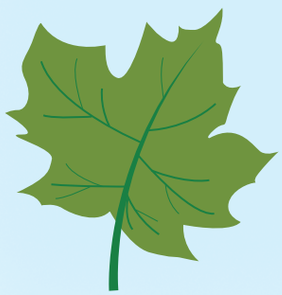
5 g 5 kg



160 g 160 kg



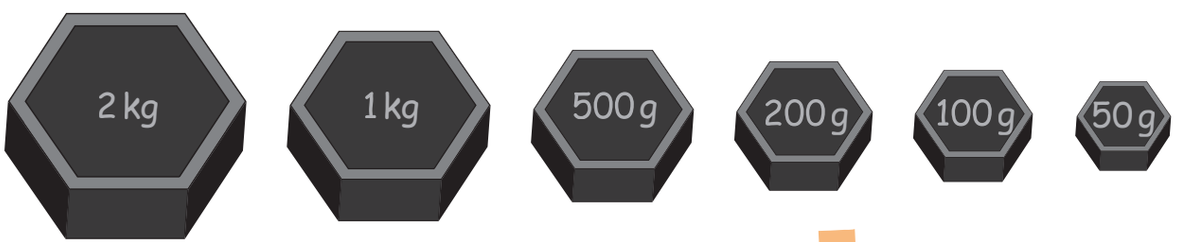
2000 g 2000 kg



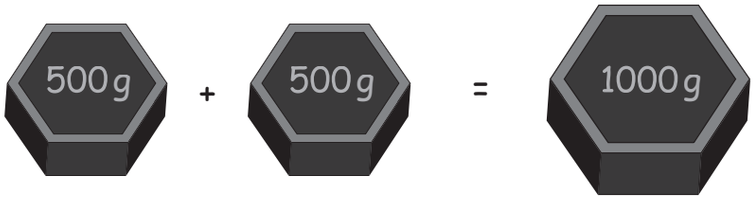
1 g 1 kg

50 g 50 kg

Let us know the Weighing stones are in grams and kilograms

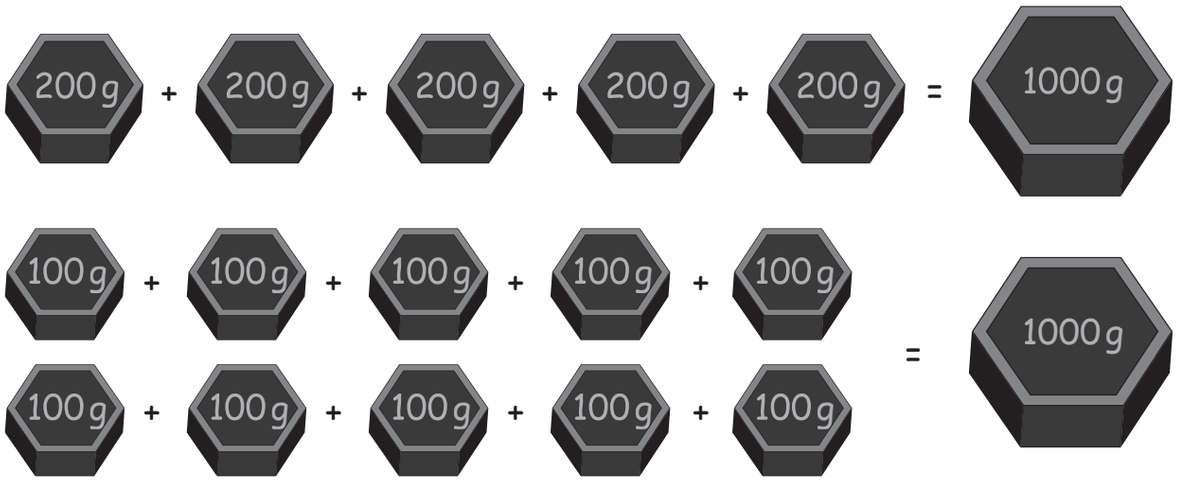


gram can be written as "g"



Note:

Gold, pepper, Tea powder, silver, Coffee powder etc. are measured by grams.



1 kilogram = 1000 grams

Change into grams and kilogram

a) 1 kg = 1000 g

b) 2 kg = _____ g

c) _____ kg = 3000 g

d) 15 kg = 15000 g

e) 23 kg = _____ g

4.1 Addition and subtraction of weights.

EXAMPLE 1

1. **Add** 4 kg 530 g and 3 kg 698 g.

kg	g
①	①
4	530
(+) 3	698
8	**228**

Answer: 8 kg 228 g

2. **Subtract** 23 kg 345 g from 55 kg 207 g

kg	g
④	⑪⑩
5~~5~~	2~~0~~7
(-) 23	345
31	**862**

Answer: 31 kg 862 g

EXAMPLE 2

Kavitha bought 3 kg 435 g of apples, 1 kg 350 g of oranges and 2 kg 355 g of mangoes. What is the total weight of the fruits that she bought?

Solution:

Weight of apples = 3 kg 435 g

Weight of oranges = 1 kg 350 g

Weight of mangoes = 2 kg 355 g

Total weight = 7 kg 140 g

kg	g
(1)	(1)(1)
3	435
1	350
(+) 2	355
7	**140**

EXAMPLE 3

A box full of bottles weighs 12 kg 248 g. The weight of empty box is 2 kg 290 g. What is the weight of the bottles in the box?

Solution:

Weight of the box full of bottles = 12 kg 248 g

Weight of the empty box = 2 kg 290 g

Weight of the bottles in the box is **9 kg 958 g**.

kg	g
(1)	(11)(14)
~~12~~	~~248~~
(-) 2	290
9	**958**

Exercise 4.1

1. Add:

kg	g
3	215
(+) 4	163

kg	g
6	525
(+) 2	363

kg	g
7	255
(+) 2	163

2. **Subtract:**

kg	g
43	650
(-) 11	340

kg	g
26	754
(-) 20	330

kg	g
54	115
(-) 36	000

3. Raman bought 3 kg 250 g of tomatoes, 5 kg 110 g of potatoes and 3 kg 750 g of onions. What is the total weight of the vegetables?

4. Kannan bought some fruits and vegetables whose total weight is 3 kg 480 g. If the weight of fruits is 1 kg 657 g, find weight of the vegetables.

5. The weight of first bag is 1 kg 200 g more than the weight of the second bag. If the weight of the first bag is 3 kg 500 g. Find the weight of the second bag.

4.2 Estimate the weight of an object and verify using a balance.

Introduction

Sumathi went to the market along with her mother. In the market they kept the vegetables heap. She evaluates the vegetables.

And then check through the balance.

1 kg 250g

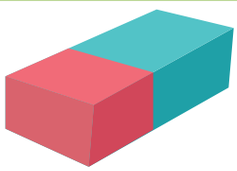
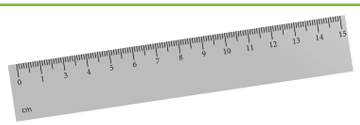
750g

1 kg 500g

2 kg

Sumathi's approximate value is near to the correct weight. Potato's weight is exactly correct

Activity

S. No	Pictures	approximate value	correct value
1.			
2.			
3.			
4.			
5.			

Exercise 4.2

1. Mohana bought 2 kg 600 g grapes and 1 kg 450 g guavas. How much more did Mohana buy grapes than guavas, by weight?

   1) 150 g
   2) 1 kg 150 g
   3) 1 kg 200 g
   4) 4 kg

2. Put >,< or = in the boxes provided below.

   50 g ☐ 340 g

   640 g ☐ 800 g

   34 kg ☐ 22 kg

   1000 g ☐ 1 kg

U7C9I8

3. Add:

kg	g
2	326
(+) 6	123

kg	g
16	564
(+) 11	270

kg	g
4	433
(+) 9	264

4. Subtract:

kg	g
8	645
(-) 6	375

kg	g
7	900
(-) 2	950

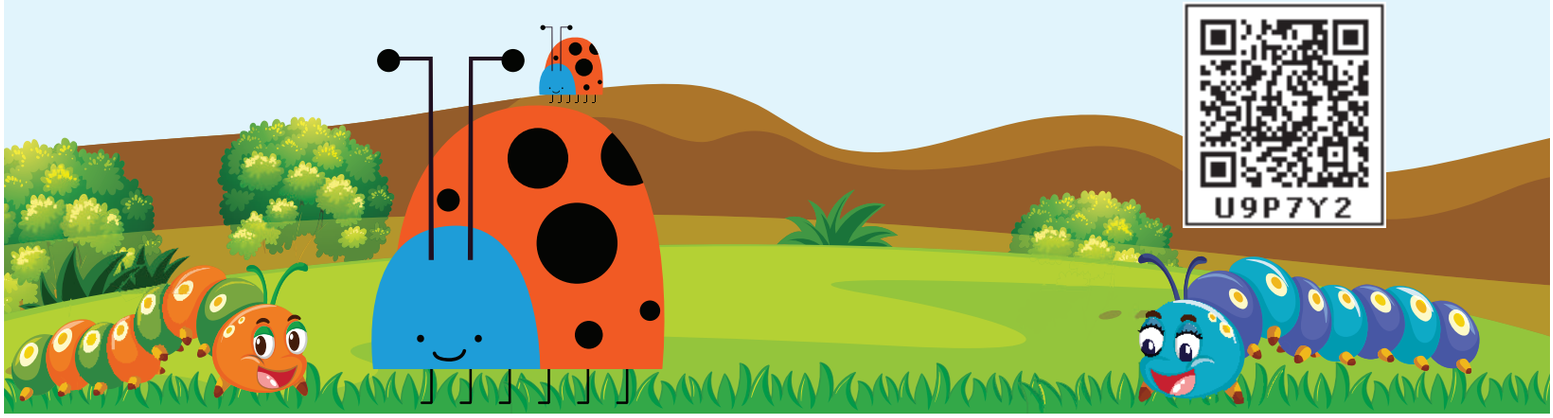
kg	g
5	147
(-) 2	140

5. The weights of three babies are respectively 3 kg 650 g, 5 kg 420 g and 4 kg 750 g. Find their total weight?

6. A shopkeeper had 275 kg 450 g of coffee powder. He sold 80 kg 475 g. How much coffee powder left?

UNIT-5

TIME



U9P7Y2

5.1 Express the time in terms of a.m. and p.m.

Look at the pictures:

In the above pictures, both the clock shows 9 o'clock only

9 o'clock in the morning is **9 a.m**

9 o'clock in the night is **9 p.m**

Ante meridiem – a.m.

Post meridiem – p.m.

Using a.m. or p.m.

Midnight 12 o' Clock

Noon 12 o' Clock

Midnight 12 o' Clock

a.m

p.m

12 hours → 24 hours ← 12 hours

24 hours → 1 day

Do yourself

Write the time using a.m. or p.m. First one has done for you.

1. 8 o' Clock in the morning – **8:00 a.m.**
2. 4 o' Clock in the evening _____
3. 10 o' Clock in the night _____
4. 5 hours after noon _____
5. 3 hours before noon _____

Teacher's note: Teacher can give extensive drilling and practise activities related to the time

5.2 Relates to 24 hour Clock with respect 12 hour Clock:

24 hour Clock is the most commonly used time notation in the world.

Did you see the display of time in Railways?

Midnight to noon
00:00 - 11:59

24 hour clock does not have a.m. and p.m.

Noon to midnight
12:00 - 23:59

The hour start at zero and go through 23.

Convert 24 hour Clock to 12 Hour Clock.

EXAMPLE

Example: Look at the time on this digital Clock.

hh:mm
20:27

Is it evening?

The clock says 20 hours and 27 minutes

Subtract 12 from 20 hours

	20:00
(-)	12:00
	8:00

There is no change in minutes

➔ The time in 12 - hour Clock is **8:27 p.m.**

To change time to 12 hr Clock, just subtract 12 from the hour.

☛ To convert 12 – hr Clock to 24 – hr Clock:

Think it..

1:00 p.m. becomes 13.00 in 24 – hr Clock.

01.00 _____

12:00 _____

13:00 _____

To change time to 24 – hour Clock, just add 12 to the hour.

Activity

Try the slider.

1. Convert the following clock time into 24 hour time. Two examples are done for you.

   12 hr ⟶ 24 hr

   4:25 a.m ⟶ 04:25

   9:20 a.m ⟶ _____

   6:30 p.m ⟶ _____

2. Convert the following clock time into 12 hour time.Two examples are done for you.

   24 hr ⟶ 12 hr

   11:00 ⟶ 11:00 a.m

   8:00 ⟶ _____

   12:28 ⟶ _____

   16:20 ⟶ _____

Introduction to natural fractions

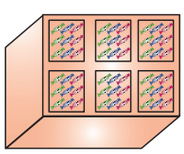
- Able to observe items being a part or parts of a whole.

Introduction:

Raja bought a cake for his four Children. He has to make it four equal parts. Then he took a knife and slicked it into four equal parts. Then he gave it to his Children they had eaten it happily.

Look at the following pictures keenly

I3F6G6



Flag Number rod Chocolate Palm fruit Label Leaf

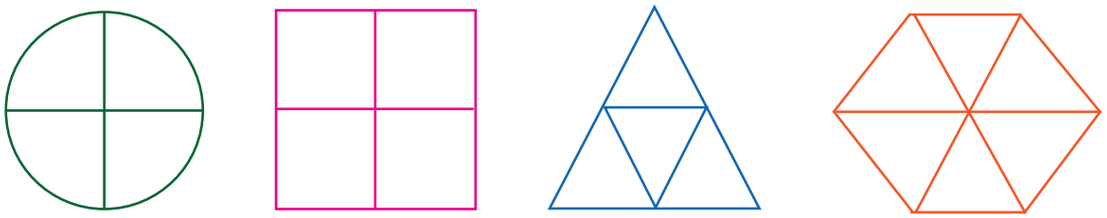
Note:

The Pictures given above are divided into equal parts.

Can we fill this?

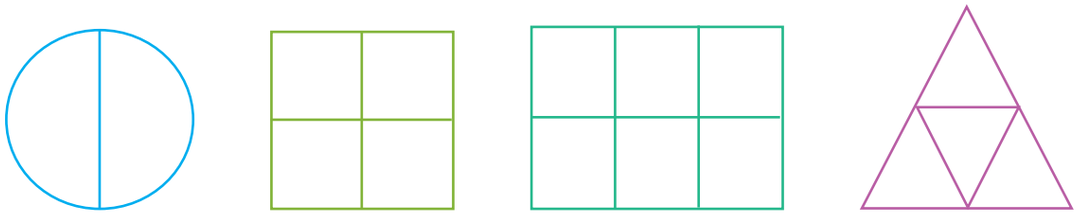
S.No	Picture's name	How many equal parts ?
1		
2		
3		
4		
5		
6		

The Following Shapes are divided into equal parts.



Exercise 6.1

1. Observe the following pictures and write how many equal parts are they divided into ?



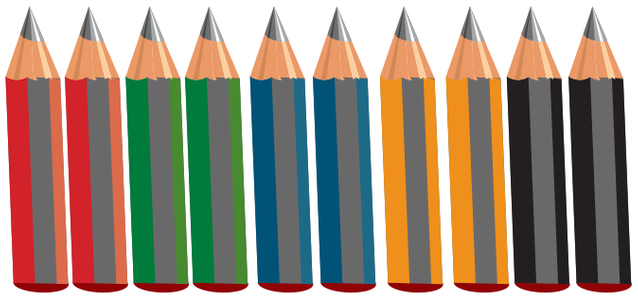
2. Draw square and circle. Make it into four equal parts.

3. Draw a rectangle and divide it into eight equal parts.

Able to find the fractional part of a Collection

Introduction:

Bala's father bought a colour pencil box for him. There are 10 colour pencils in that box, 2 red colout, 2 green colour, 2 violet, 2 orange and 2 black colour pencils.



Here, orange coloured pencils (fraction)

Represents two parts of whole i. e $= \frac{2}{10}$

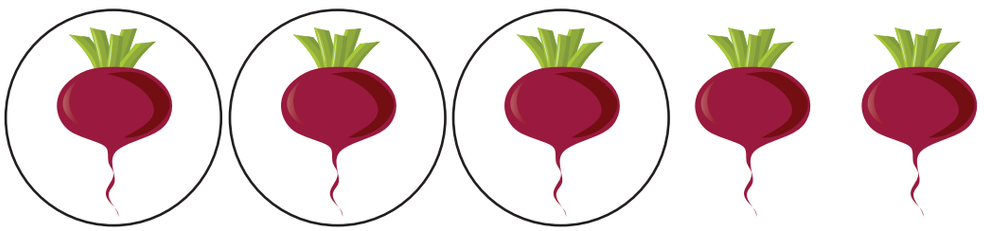
The fraction part of violet Colour pencils $= \frac{2}{10}$

The fraction part of Black colour pencils $= \frac{2}{10}$

The fraction part of Green colour pencils $= \frac{2}{10}$

EXAMPLE

Priya bought $\frac{1}{2}$ kg of beet root that counts to 5, that are given below. Find the fractional part of circled / uncircled beet roots.

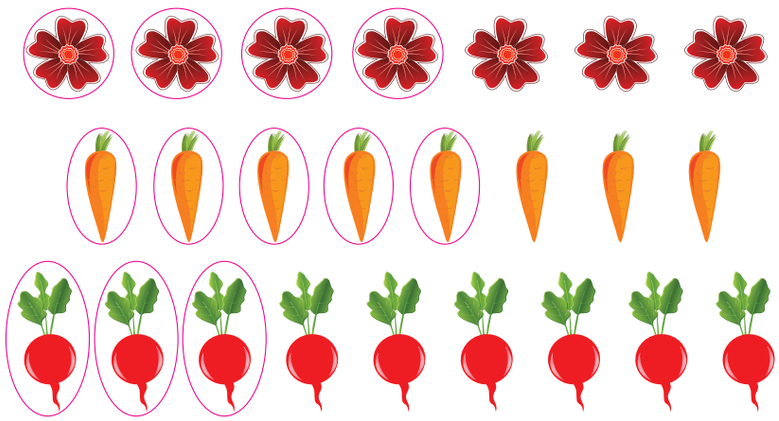


The fractional part of circled beet roots $= \frac{3}{5}$

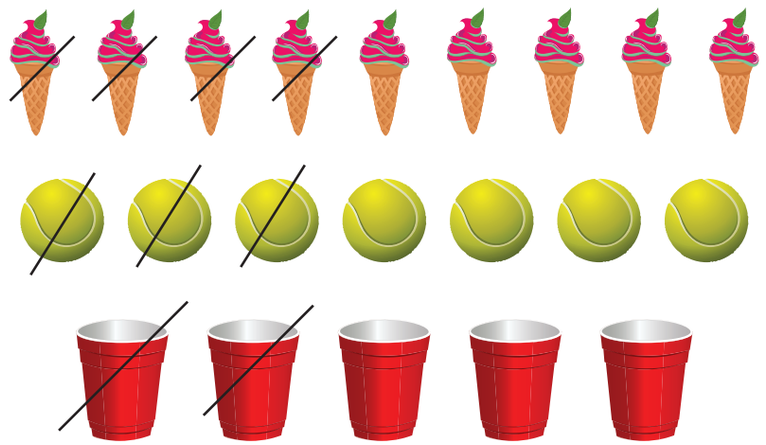
The fractional part of uncircled beet roots $= \frac{2}{5}$

Exercise 6.2

1. Write the fractional part for the pictures that is circled.



Match the following:



$\frac{3}{7}$

$\frac{2}{5}$

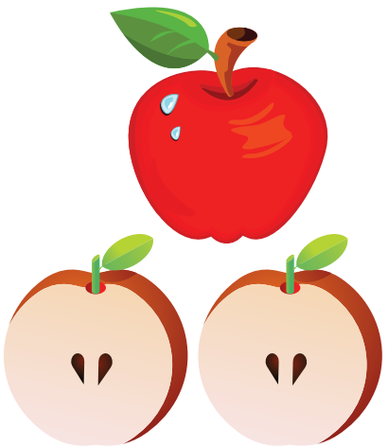
$\frac{4}{9}$

Mark the given pictures with the fractions given below.

1	$\frac{3}{8}$	
2	$\frac{2}{7}$	
3	$\frac{5}{9}$	

To identify the notation of fractions:

Introduction:



Ramu and Akil playing with their friends Rangan and thangam. Ramu's mother had an apple, so she called Ramu and Akil. She made it into two halves and gave it to them. She totaly forget Rangan and thangam. So she recollect the two pieces of apple from (her son) them. Then she made it as four equal parts and give it to them.

An apple fruit brought by Ramu's mother = 1

Here 1 means whole

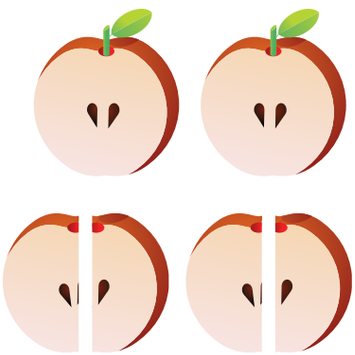
Two equal parts of an apple.

First one half given to Ramu = 1/2

Other half given to Akil = 1/2

If a whole is divided into two parts then its denominator is 2.

A whole is divided into two equal parts.
The divided parts is denominator.



Here $\frac{1}{2}$ which means 2 is denominator and 1 is numerator.

When Ramu's mother Collected the two equal parts of an apple from her sons and sliced it once again into four equal parts.

Four equal parts of an apple (the whole)

A part given to Ramu = 1/4

A part given to Akil = 1/4

A part given to Rangan = 1/4

A part given to thangam = 1/4

Denominator is the total number of parts that make up a whole.

Numerator represents the number of equal parts on a whole.

If a whole is divided into four equal parts then its denominator is 4.

In 1/4, 4 means denominator and 1 means numerator.

EXAMPLE

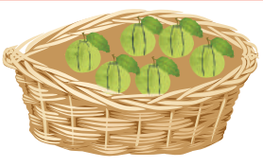
There are 10 Guava's in a basket which are equal sized.

Here the 10 Guava's makes a whole.

So it is the denominator (10 Guava's = whole)

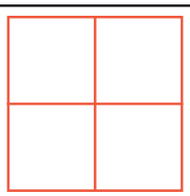
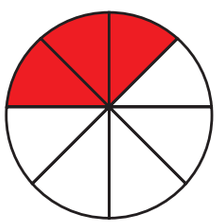
If we take 4 Guava's = $\frac{4}{10}$	

Now 10 means denominator and 4 means numerator.

Remaining fruits in the basket = $\frac{6}{10}$	

Now 10 means denominator and 6 means numerator.

Numerator and Denominator of different Shapes.

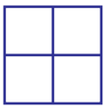
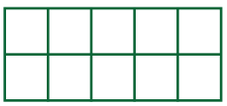
	The square is divided into four equal parts 4 equal parts said to be denominator, in this four parts one portion (part) is coloured, so the coloured one portion is numerator. Now we can write this as $\frac{1}{4}$.
	This circle is divided into eight equal parts. So its denominator is 8. In the 8 parts coloured 3 parts are said to be numerator. so its numerator is 3. Now we can write it as $\frac{3}{8}$ 3Slash8 = $\frac{3}{8}$ = $\frac{\text{The number above slash is Numerator}}{\text{The number below slash is Denominator}}$

Exercise 6.3

I. Write the numerator and denominator for the following Numbers.

1. $\frac{3}{7}$ 2. $\frac{4}{6}$ 3. $\frac{5}{10}$ 4. $\frac{1}{3}$

II. shade the parts according to the number and write the numerator and Denominator.

1	$\frac{2}{8}$		Numerator/Denominator
2	$\frac{3}{4}$		Numerator/Denominator
3	$\frac{5}{10}$		Numerator/Denominator
4	$\frac{1}{4}$		Numerator/Denominator
5	$\frac{3}{8}$		Numerator/Denominator

Use the vocabulary as half, quarter, three fourth, semi, partial and whole.

I7V7A6

Introduction

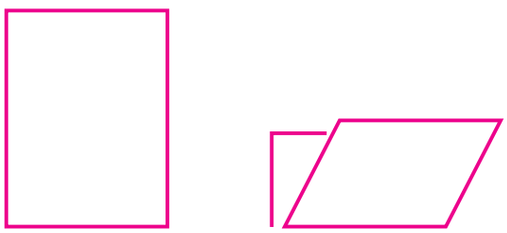
Ravi had two Children. He bought a pencil for kabilan and a pomegranate for Akilan. He doesn't have pencil. Then Kabilan said "I will give you a pencil". So (Kabilan) he cuts the new pencil into two halves gives to his brother Akilan and another half he kept himself.

Akilan was very thankful to Kabilan. so he said that he will give him one fourth or quarter part of the pomegranate to him. Akilan cuts the fruit into two halves and he took one half and once again cuts into two equal parts as quarter (one – fourth). Now Akilan gave one fourth portion to Kabilan and he kept three fourth for himself.

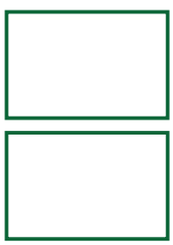
Activity

Take a square shape of a paper asked to fold it into equal parts (portion).

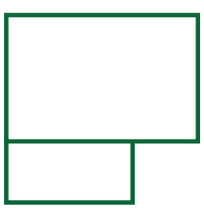
Explaining that the folded (Place) Spot represent the paper is made as two equal parts.



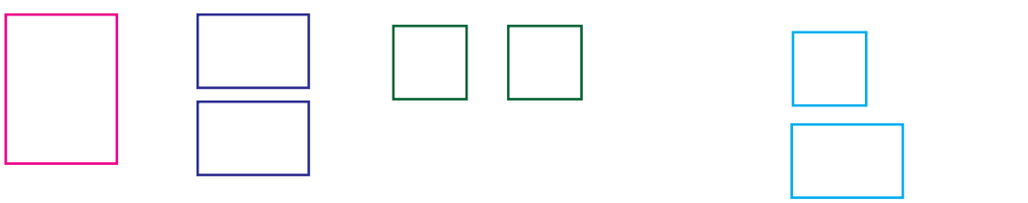
Cut the paper into two equal halves.



Take a part from the splited paper And once again fold the paper as two fourth (quarter)



Half one fourth



Whole

Two equal halves

Two equal quarter

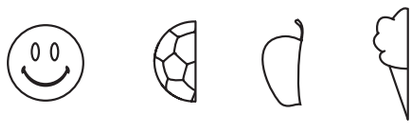
half and quarter to make three fourth

Activity

Ask the students to take a ribbon and cut it as half, half into one fourth, and join one half and one fourth to make three fourth. At last join all portion, its make whole.

Can we do this?

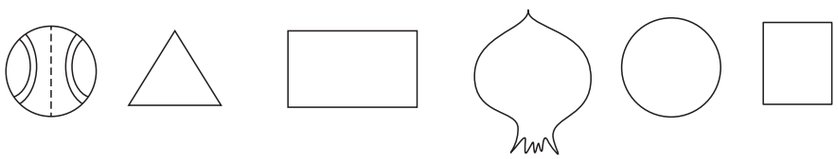
Half into a whole



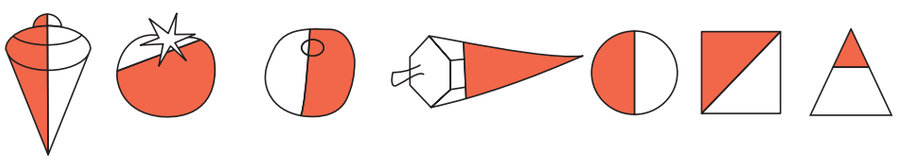
The above pictures are divided into two equal parts. Every parts represents half (or) semi. So we call it as half (or) semi.

Exercise 6.4

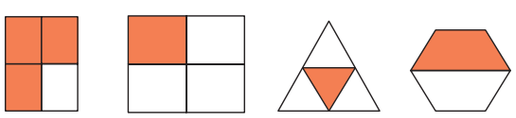
I. Colour or shade half portion of the following pictures:

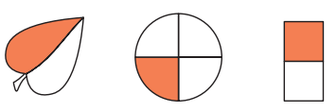


II. Tick the picture that represent semi portion.



III. Write appropriately which represent half, quarter, three fourth.





Able to Define fractions:

Swathi is studying fourth standard, today is her birthday. so the whole class bought a birthday cake for her. In front of her class teacher and students, swathi Cuts her birthday cake. In her class 19 students and a teacher. So she cuts the cake.

Teacher: students, you bought a cake, here cake is a whole part. Swathi divided the whole into 20 equal parts, everybody had a part (piece).

A piece of cake given to one student is one out of twenty. We can write it as $\frac{1}{20}$

If we have number's $\frac{1}{20}$ like this, then we Call it as fraction.

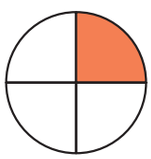
In $\frac{1}{20}$, 1 is numerator, 20 is denominator.

Thus Combination of number like numerator and denominator is called as fraction.

A fraction is how many part or parts of a whole we have.

$$\text{Fraction} = \frac{\text{Numerator}}{\text{Denominator}} = \frac{\text{Collected portion}}{\text{Divided portion}}$$

Observe the following pictures:

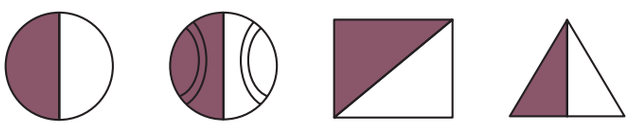


A circle is divided into four equal parts. In this four parts only one part is shaded.

The shaded portion is fraction = $\frac{1}{4}$ (or) one fourth

Definition:

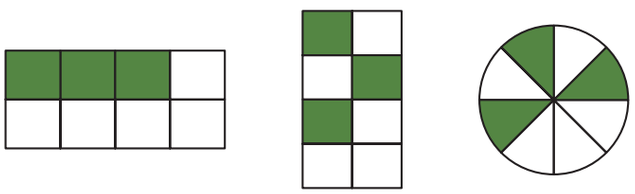
Division of the whole:



The whole portion was divided into two equal parts. In this two parts one part is coloured or shaded. The shaded parts fraction = $\frac{1}{2}$ (half)

The whole portion was divided into three equal parts. In that two parts are shaded. The shaded parts fraction = $\frac{2}{3}$ (two third).

The whole portion was divided into four equal parts. In that two parts are shaded. The shaded parts fraction = $\frac{2}{4}$ (two fourth)



The whole portion was divided into eight equal parts. In that three parts are shaded. The shaded portion's fraction = $\frac{3}{8}$ (Three eighth)

$\frac{1}{2}$, $\frac{2}{3}$, $\frac{2}{4}$, $\frac{3}{8}$ Such numbers are examples for fraction.

Exercise 6.5

I. Write the fraction for the shaded portions of the given figures.