MATHEMATICS

STANDARD THREE

TERM - I

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MATHEMATICS

1 SHAPES AND FIGURES - I

Recall

There are number of shapes all around us.

The four basic shapes

- Triangle
- Square
- Rectangle
- Circle

Basic shapes

Shapes are plane figures

Look at the basic shapes :
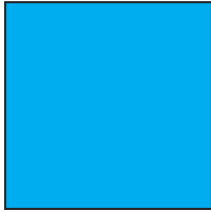
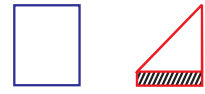| Square | Rectangle | Triangle | Circle |

Square :

It is a square
It has four sides and four corners.
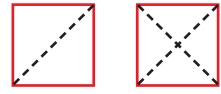
ACTIVITY 1

We will make a square through paper folding.

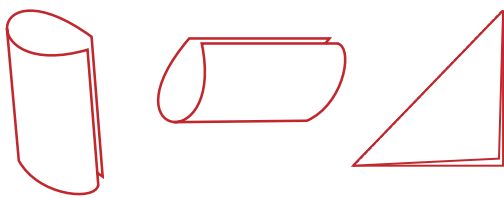Step 1 : Take a paper and fold it as shown in the figure.

Step 2 : Cut the shaded portion.

Step 3 : Now unfold the paper. We get a square.

The dotted line is a diagonal obtained by joining the respective opposite corners. There are two diagonals in a square.

To compare the sides of the square, fold the paper as shown in the figure.

All sides are equal in square

Measure the diagonals with a thread.
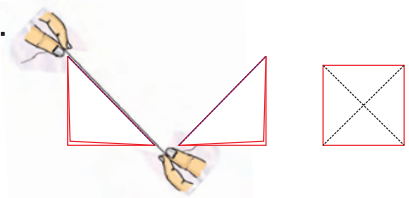
Diagonals are equal.

ACTIVITY 2 List out the things around you which are square in shape.

Rectangle :
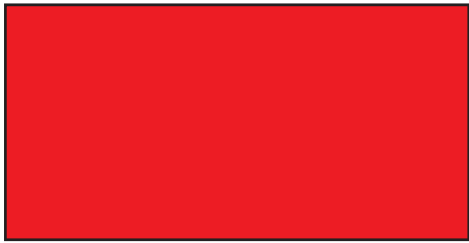
This is a Rectangle

It has four sides and four corners. To measure the sides of the rectangle fold its opposite sides .
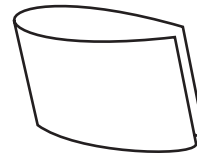
What do you observe? The sides coincide.

So! opposite sides are equal

As you did for the square, make the diagonals in the rectangle and measure the diagonals using a thread.
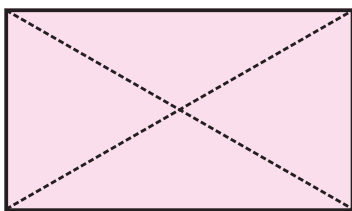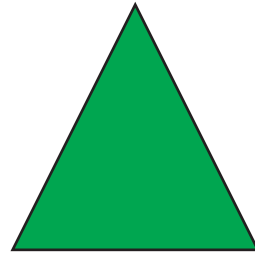

In rectangle also diagonals are equal

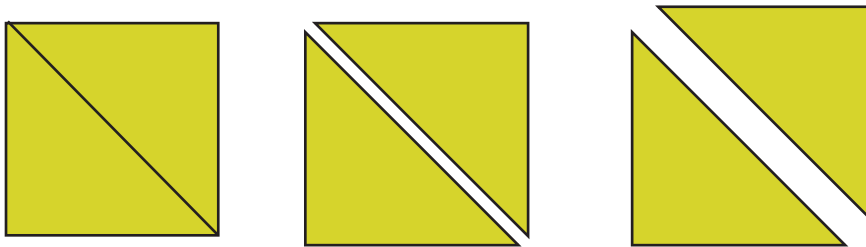**ACTIVITY 3** List out the things around you which are rectangular in shape.
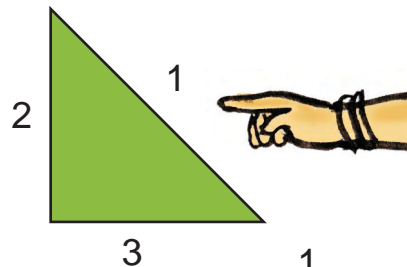
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Triangle :

This is a triangle

We will make a triangle through paper folding.

Take a paper and cut it along its diagonal, we get two triangles.

Triangle has three sides.

Triangle has three corners.
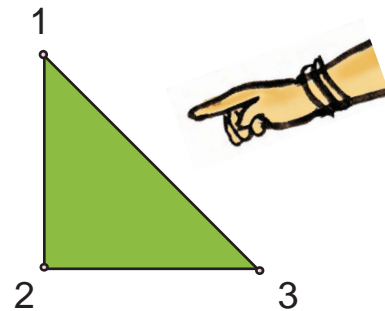
ACTIVITY 4

List out the things around you which are triangular in shape.

Vicks toffee			

Circle :

Circle is a closed curve.

It has no corner.

This is a Circle

Project
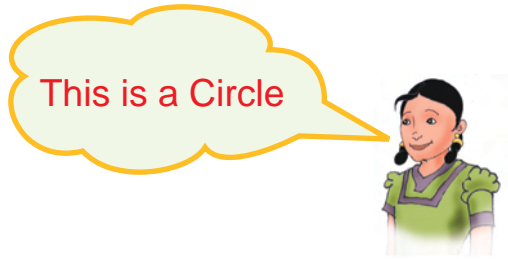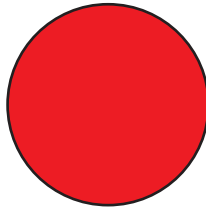
Draw a circle using pencil and thread.
Tie one end of the thread to the
pencil as shown in the figure.
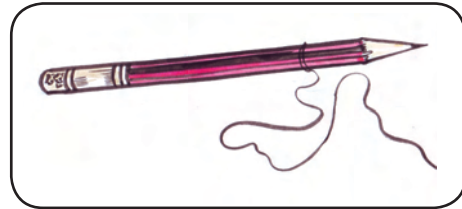
Press the other end of the thread on the paper and draw a curved line
with the pencil. We get a circle.

This is the Centre of the circle

The circle has no Corner
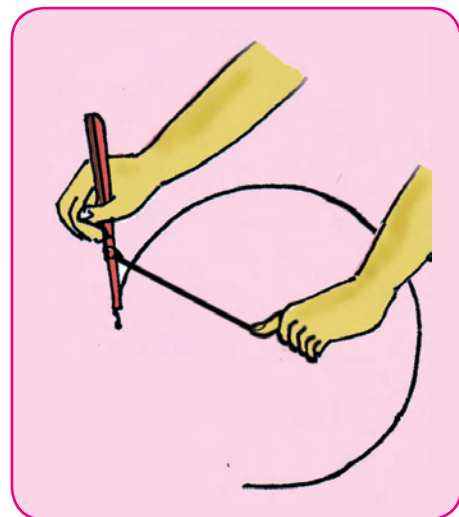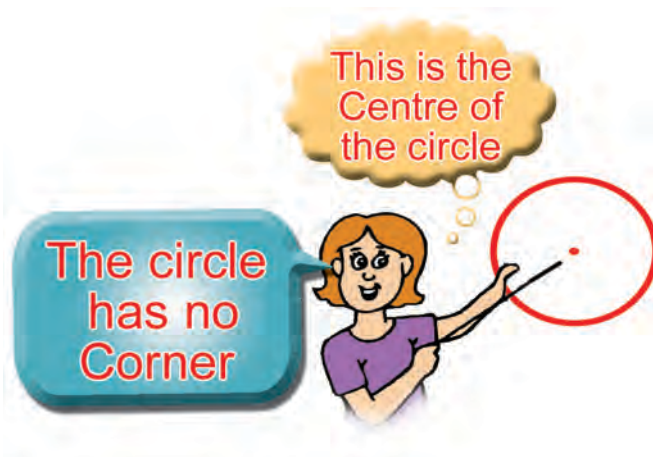
ACTIVITY 5

List out the things around you which are circular in shape.

Disc			

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Curved and Straight Lines
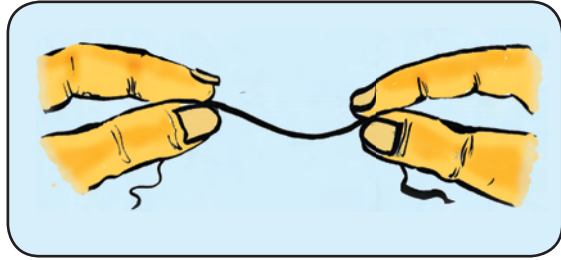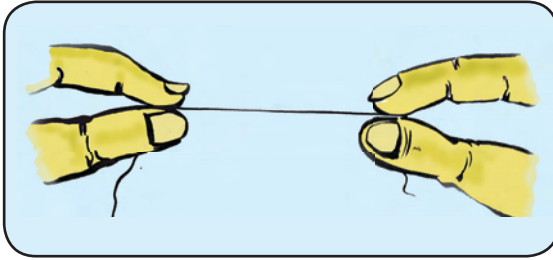
Pull a piece of thread tightly between your hands as shown in the figure. It gives you a straight line.

Now bring the two hands closer. It gives you a curved line.

Curved lines and straight lines can be drawn with the help of dots. Look at these designs.
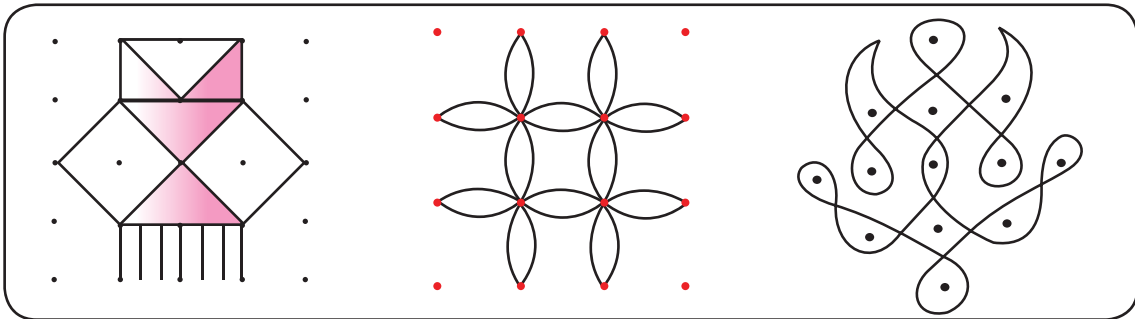
We call it as Kolam.

Write the number of corners and sides of the shapes in the boxes :
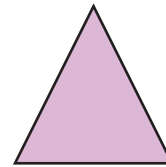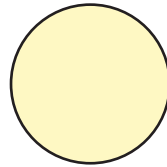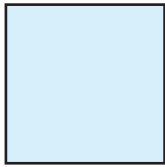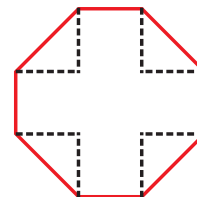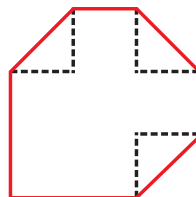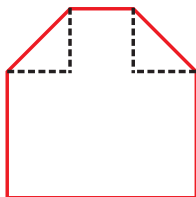
corners	corners	corners	corners
sides	sides	sides	sides

ACTIVITY 6

Fold a square paper at the corners as shown here and write the number of corners and sides obtained.
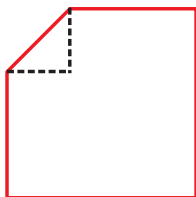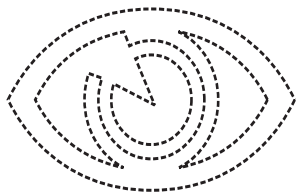
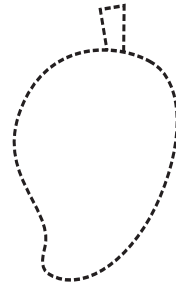| corners	corners	corners	corners
sides	sides	sides	sides

Try it !
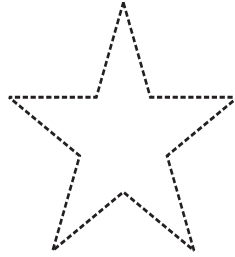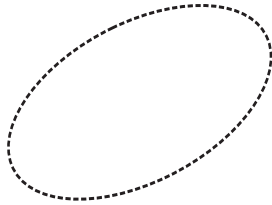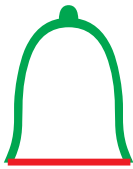
Fold all the corners of a square sheet in such a way that it still has only four corners!

Complete the diagram given below by using green colour and red colour crayons on curved lines and straight lines respectively.

MATHEMATICS
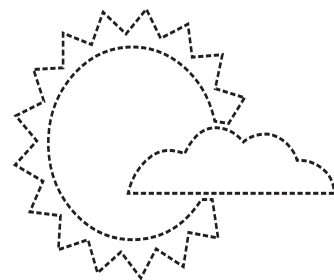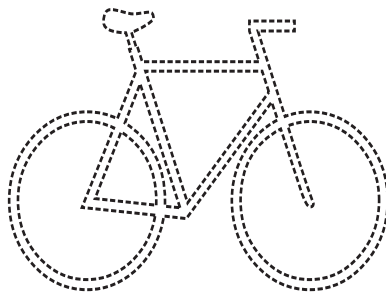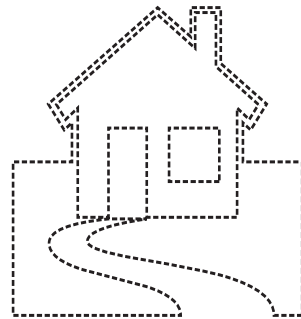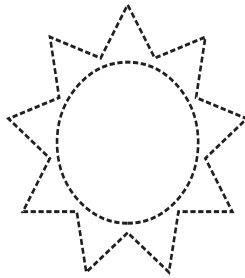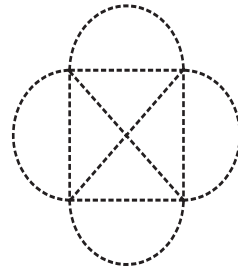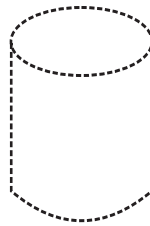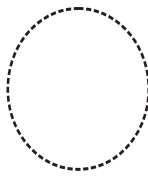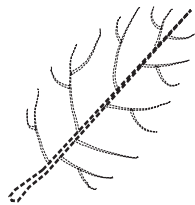
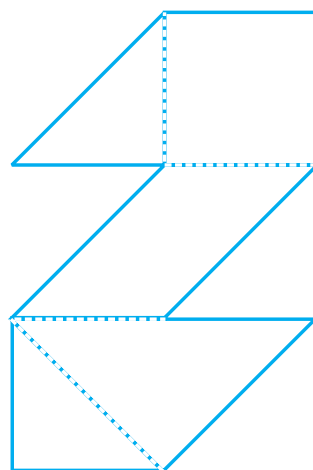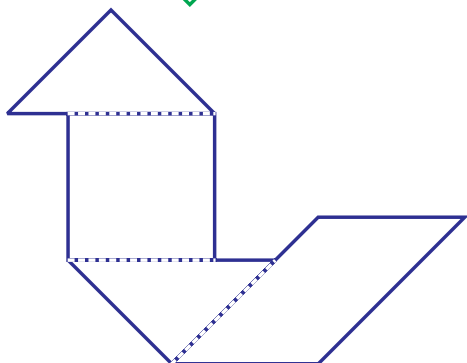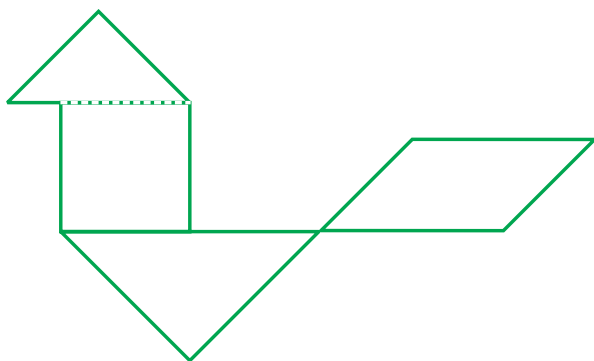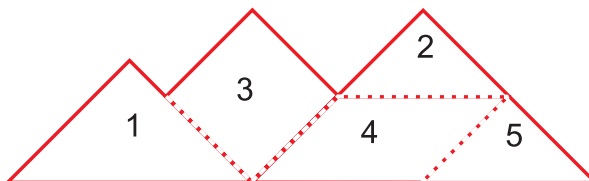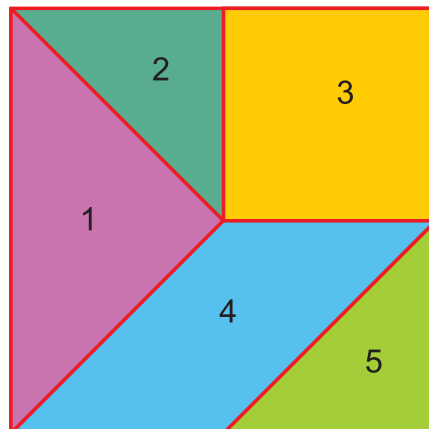**Tangram**

5 Pieces tangram

The tangram is an ancient chinese puzzle. From the pieces of the tangram, we can make many figures of animals, people and other things.
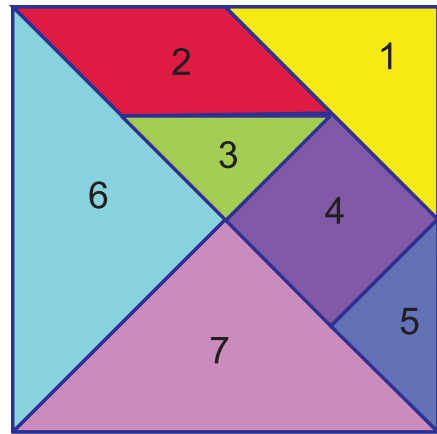
ACTIVITY 8

Prepare 5 pieces tangram and try to make the following figures with the suitable pieces.
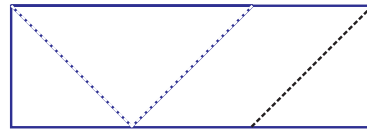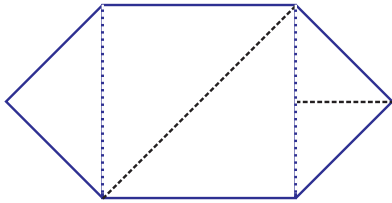
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Project

7 pieces tangram

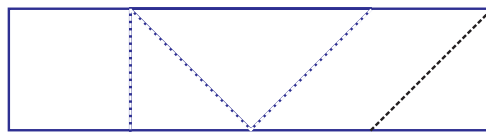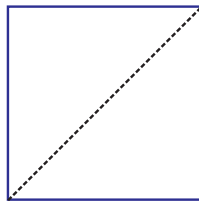
Prepare 7 pieces tangram and make the following shapes.
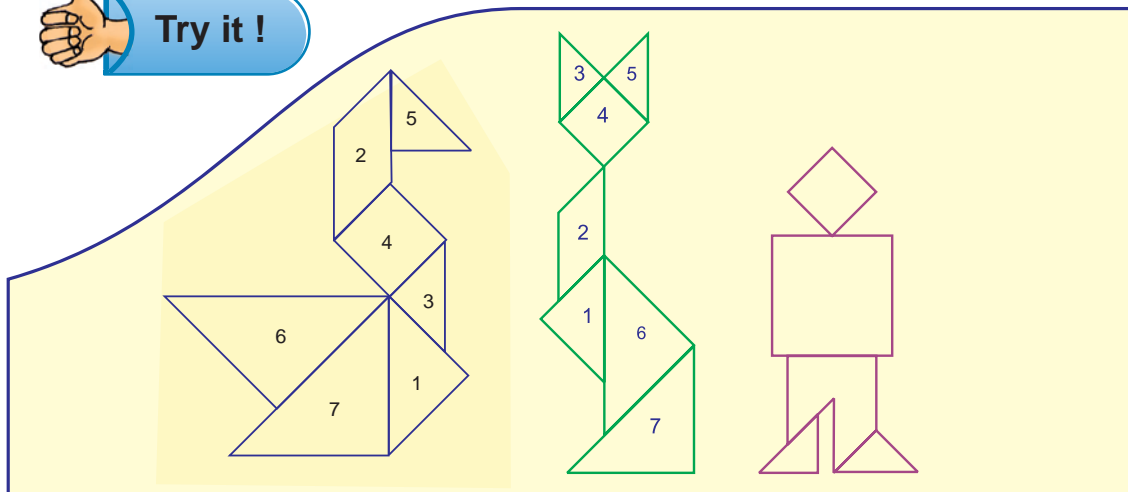
i) use all the 5 triangles

ii) use pieces 1, 2, 3 and 5

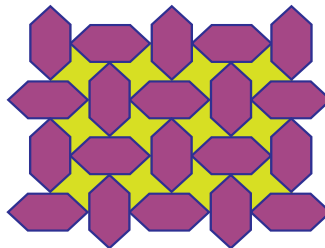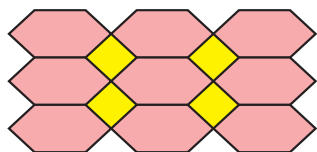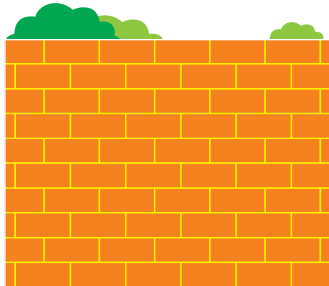iii) use only two triangles

iv) use pieces 1,2,3,4 and 5

Try it !

Tessellation

Observe the following pictures and discuss:
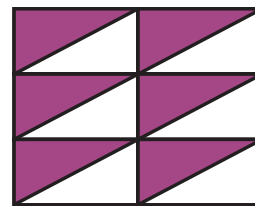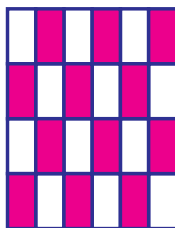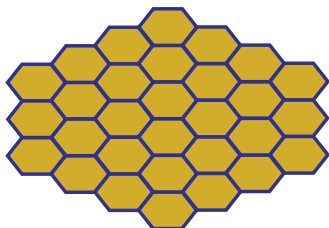
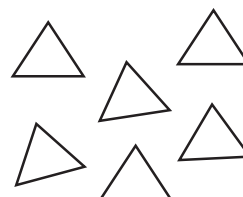When you fit individual tiles together with no gaps or overlaps to fill a flat space, you have a tiling.
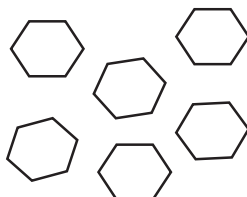
Example

Here are some examples :

ACTIVITY 9
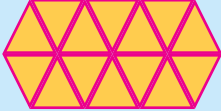
Tessellate a new region using the following shapes :

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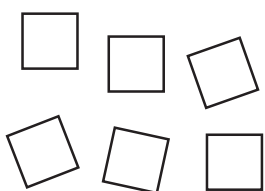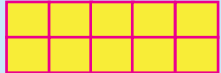
A tessellation is created when a shape is repeated over and over again covering a plane without any gaps or overlaps.

Triangles, Squares, Hexagons are the regular polygons tessellate in the plane.

Here are the examples of

a tessellation of triangles

a tessellation of squares

a tessellation of hexagons

Observe the following Pictures :

Pentagons
(Five equal sides)

Heptagons
(Seven equal sides)

Though Pentagons and Heptagons are regular Polygons they do not tessellate.

Project

Observe the tessellated shapes around you and discuss

MATHEMATICS

Map

Mapping means locating the place with the help of landmarks.

Look at the above picture and discuss about the spatial relationship such as - nearer, in front of, between, behind, far away, above, below, adjacent, bottom, top, etc.....

Exercise 1

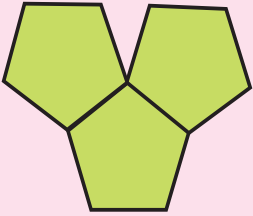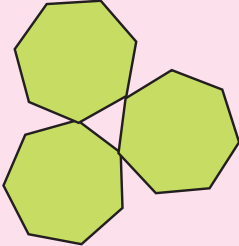1. .... is adjacent to the school. (hotel / bank)

2. .... is infront of the hospital. (park / fort)

3. .... is far away from the post office. (stadium / mountain)

4. Stadium is .... the school. (adjacent to / behind)

5. Park is .... the post office and the bank. (in between / infront of)

6. Court and hospital are .... each other. (behind / adjacent to)

7. Flag post is .... of the school. (infront / at the centre)

8. River is infront of the .... (Park / Stadium)

9. The post office is surrounded by .... (mountain / trees)

10. Stadium is situated at the .... of the map. (top / bottom)

we can easily find out the location with the help of a map.

Discuss the spatial relationship among the persons, objects and places found in the picture using the words such as below, above, under, on, in, between, etc.,
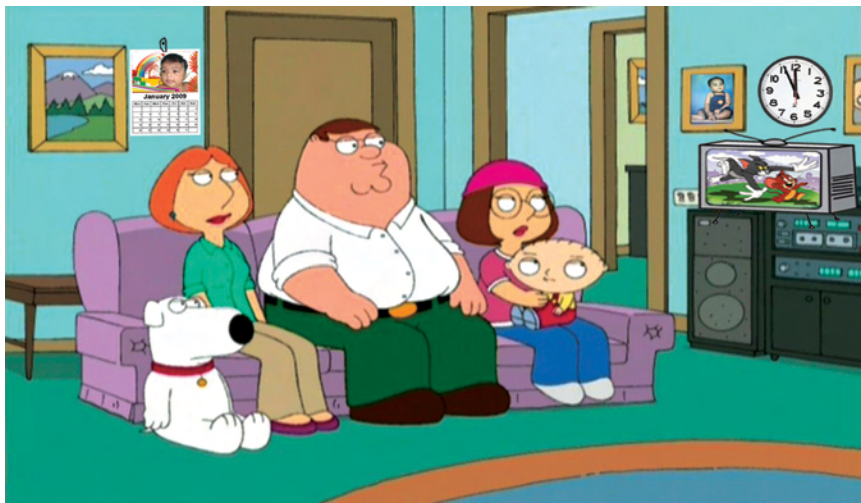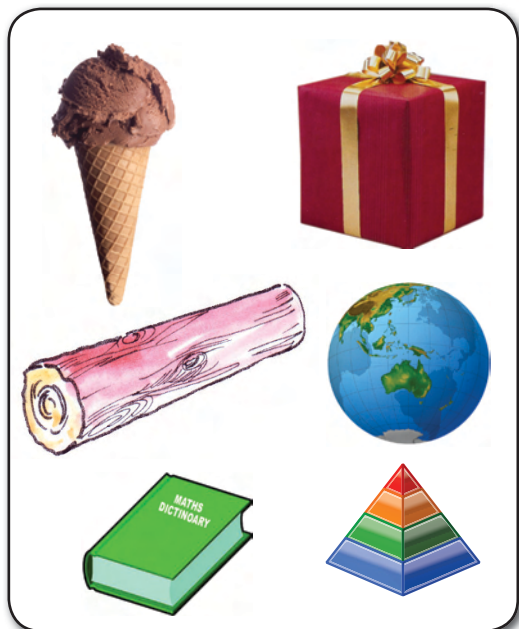

Project Try to draw a map of your house and school.
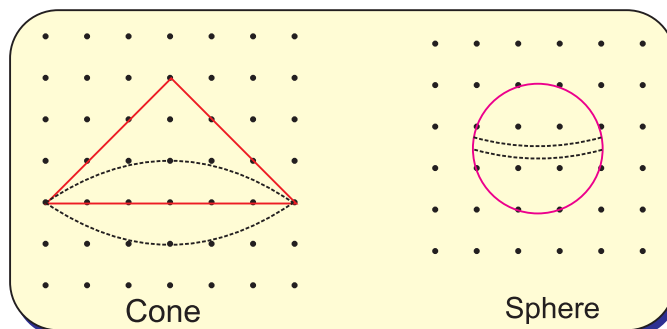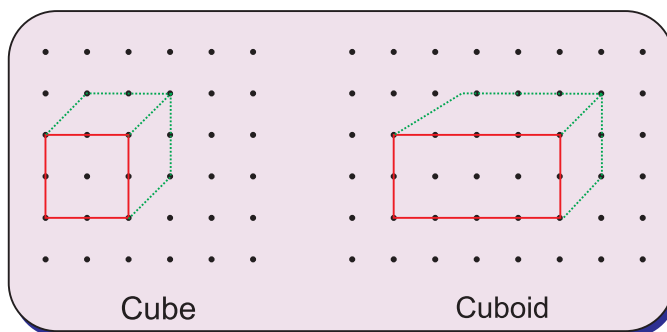
MATHEMATICS

Solid shapes

Solid shapes have 3 characteristics length, breadth and height.
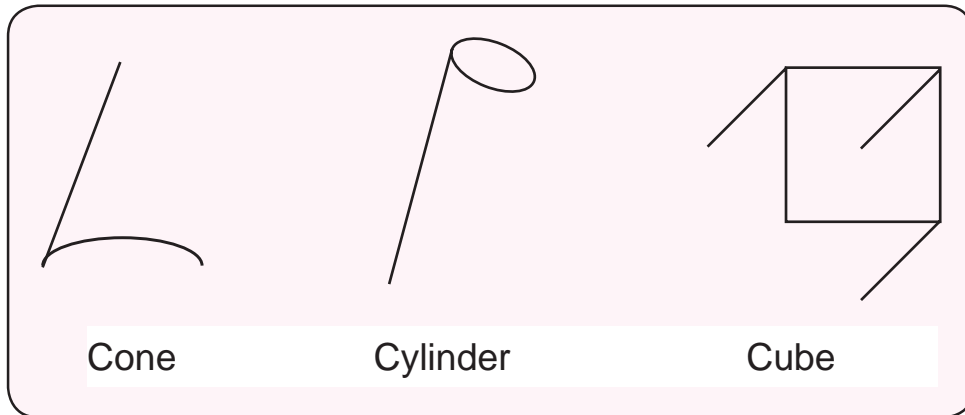
These are also called 3-D objects.

ACTIVITY ①

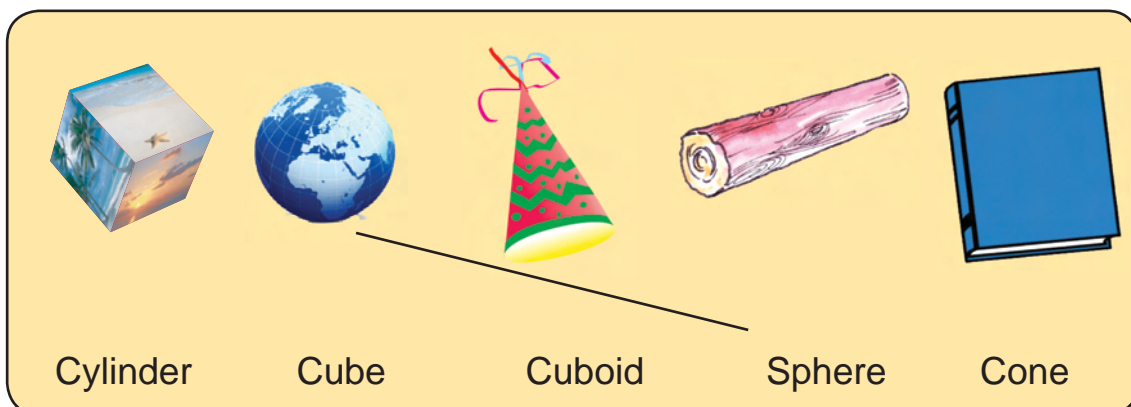Draw the solid shapes on the dot-grid using straight lines and curves :

Cube   Cuboid

Cone   Sphere

ACTIVITY 2

Draw the incomplete solid shapes and colour it :

| Cube | Cuboid | Sphere |

| Cone | Cylinder | Cube |
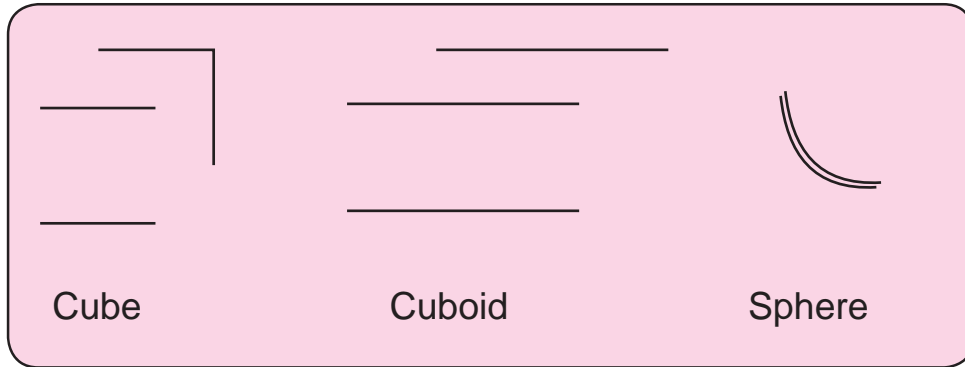
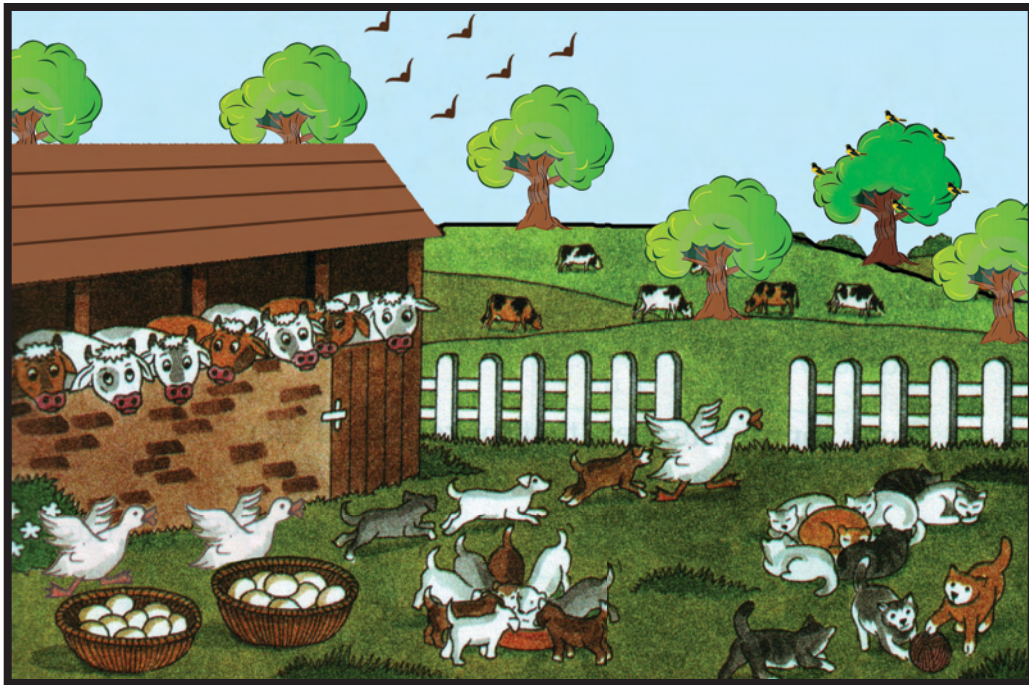**Exercise** 2

Match the solid shapes to its name :

Cylinder   Cube   Cuboid   Sphere   Cone
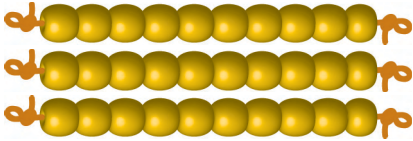
MATHEMATICS

Recall
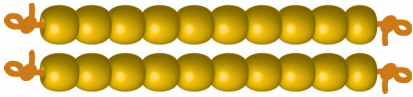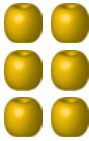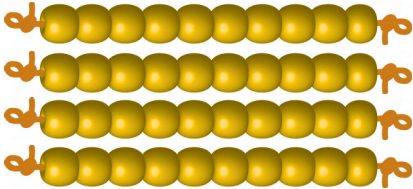

1. **Look at the picture and answer the following :**

    1.   Number of cows.   ☐

    2.   Number of cats.   ☐

    3.   Number of trees.   ☐

    4.   Number of eggs.   ☐

    5.   Number of birds.   ☐

    6.   Number of ducks.   ☐

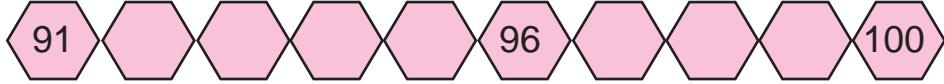   7.   Number of dogs.   ☐

    8.   Number of flowers.   ☐

2. Write the place value of the circled digit :

1. 5④ [4 ones]

2. ⑦1 [   ]

3. ⑥ 3 [   ]

4. 9⑧ [   ]

3. Count the beads and write the numerals in the boxes :

1. = 24

2. =

3. =

4. Write the missing numbers :

1. 41 ☆ ☆ ☆ 45 ☆ ☆ ☆ 49

2. 91 ⬡ ⬡ ⬡ 96 ⬡ ⬡ ⬡ 100

3. △ 37 △

4. ◇ ◇ 80

Try it !

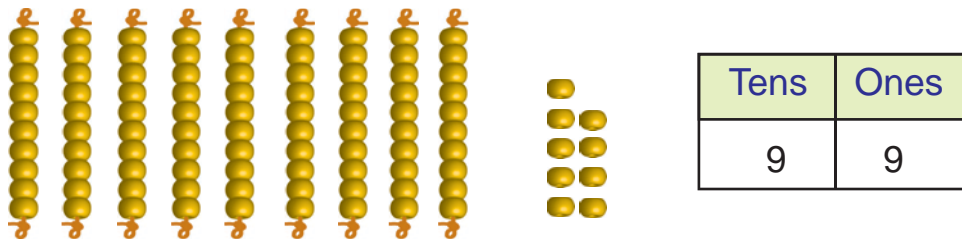If you add 1 to me, I will become one less than 100. Who am I ?
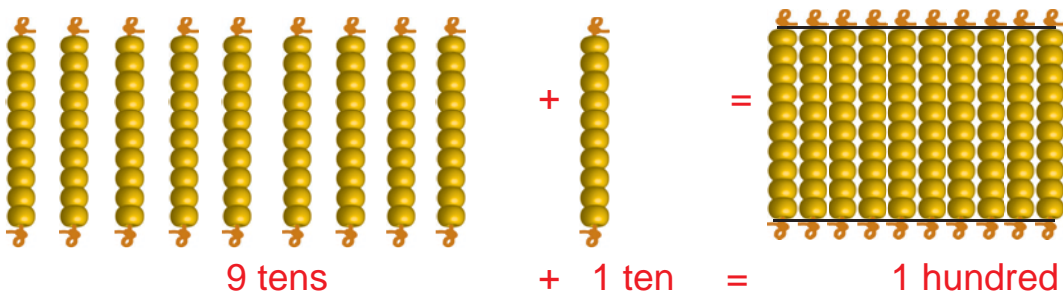
Number sequence upto 1000

Numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 are one digit numbers.

Numbers from 10 to 99 are called two digit numbers.
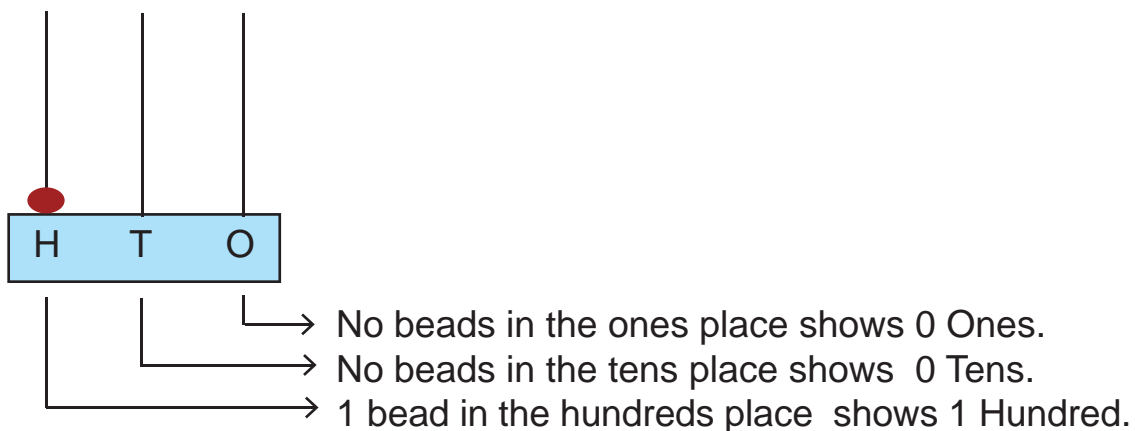
Number 99 is the biggest two digit number.

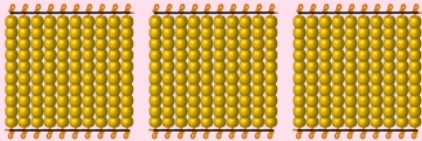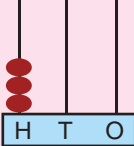| Tens	Ones
9	9

Adding 1 more bead to 99 beads, we get one hundred.

9 tens   +   1 ten   =   1 hundred
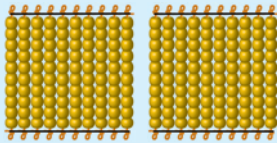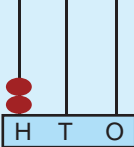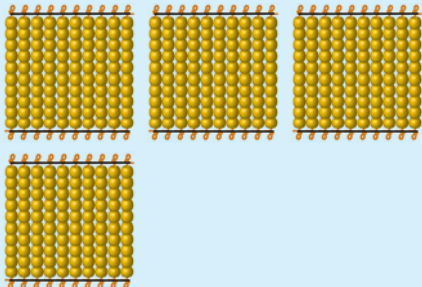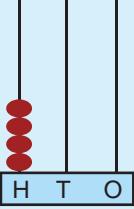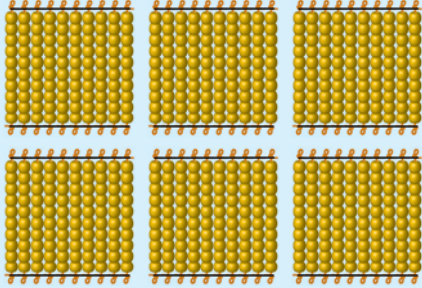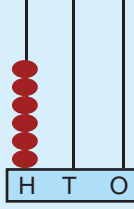
Shall we represent the number 100 in abacus?

H   T   O

→ No beads in the ones place shows 0 Ones.
→ No beads in the tens place shows 0 Tens.
→ 1 bead in the hundreds place shows 1 Hundred.

Hundreds	Tens	Ones
1	0	0

MATHEMATICS

Counting in Hundreds

Representing numbers from 200 – 1000
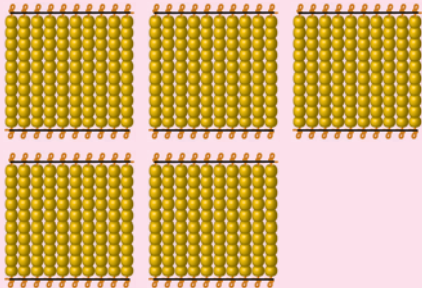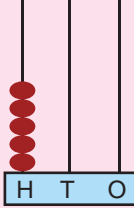
	Place value	Number name

H	T	O
2	0	0

Two Hundred

H	T	O
3	0	0

Three Hundred

H	T	O
4	0	0

Four Hundred

H	T	O
5	0	0

Five Hundred

H	T	O
6	0	0

Six Hundred

H	T	O
7	0	0

Seven Hundred

H	T	O
8	0	0

Eight Hundred

H	T	O
9	0	0

Nine Hundred

Th	H	T	O
1	0	0	0

Th H T O

Ten hundred or One Thousand

Thousand comes after Hundreds place

Remember

10 Ones   make   1 Ten

10 Tens   make   1 Hundred

10 Hundreds   make   1 Thousand

10 Ones = 1 Ten	10 Tens = 1 Hundred	10 Hundreds = 1 Thousand
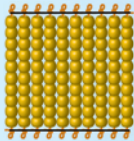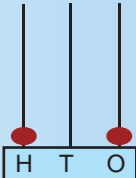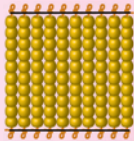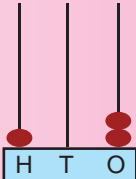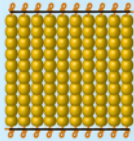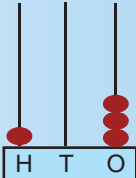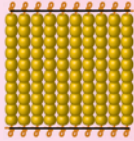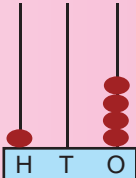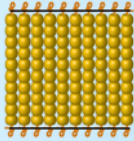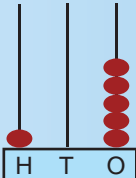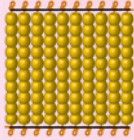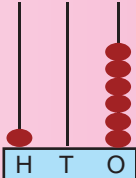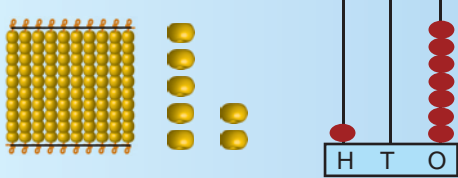
Forming Numbers from 101 – 110
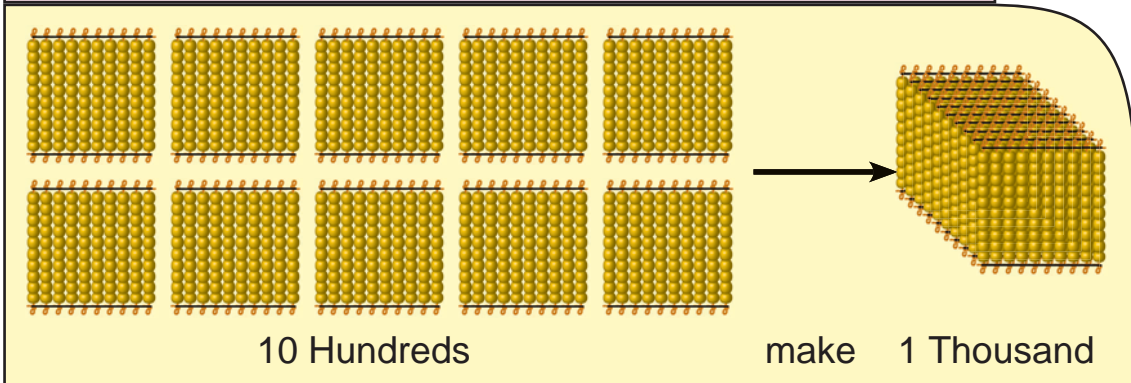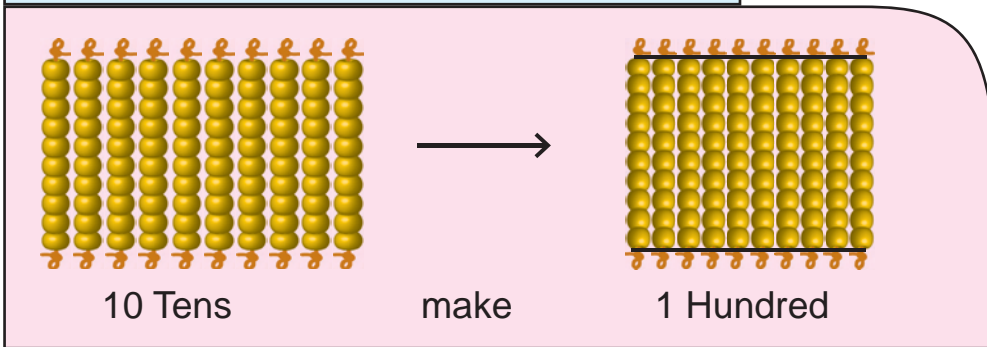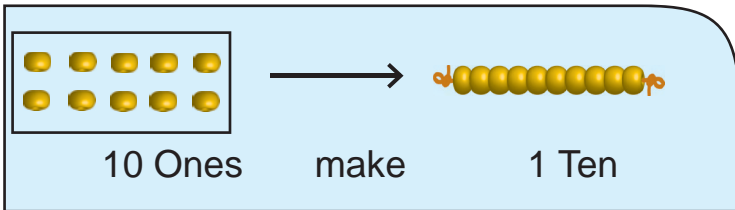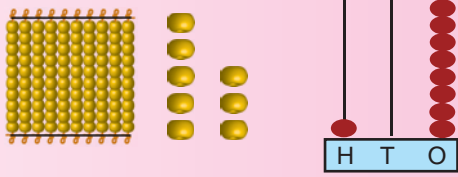
			Place value	Number name

			H	T	O	
			1	0	1	One hundred one
			1	0	2	One hundred two
			1	0	3	One hundred three
			1	0	4	One hundred four
			1	0	5	One hundred five
			1	0	6	One hundred six

MATHEMATICS
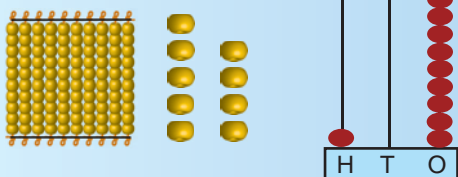
H	T	O
1	0	7

One hundred seven

H	T	O
1	0	8

One hundred eight

H	T	O
1	0	9

One hundred nine

H	T	O
1	1	0

One hundred ten

Note to the teacher

Use beads and spike abacus to teach numbers from 111 – 1000

Practise the students to read and write the numbers from 101 to 1000 as given in the next page.
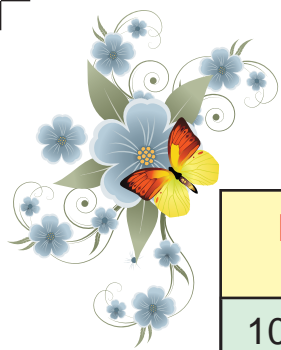
101	111	121	131	141	151	161	171	181	191
102	112	122	132	142	152	162	172	182	192
103	113	123	133	143	153	163	173	183	193
104	114	124	134	144	154	164	174	184	194
105	115	125	135	145	155	165	175	185	195
106	116	126	136	146	156	166	176	186	196
107	117	127	137	147	157	167	177	187	197
108	118	128	138	148	158	168	178	188	198
109	119	129	139	149	159	169	179	189	199
110	120	130	140	150	160	170	180	190	200

Write the missing numbers from 201 – 300.

201	211						271		
202									
					253				
			235						
				247					
							269		
210		230						290	300

MATHEMATICS

100

The numeral 28 is read as twenty eight.
Similarly 128 is read as one hundred twenty eight.

Now write the number names

Number	Number Names
137	One hundred thirty seven
172	
225	
248	
301	
346	
439	
482	
535	Five hundred thirty five
591	
648	
672	
720	
776	
800	
875	
909	Nine hundred nine
992	
999	
1000	One thousand

MATHEMATICS

Note to the teacher

Practise the students to write the number names upto 1000 in their note book.