Y3N6Q9

Lesson-1

Shape and Figure

Look at the following picture and draw the geometrical shapes

Name the geometric shapes of the following objects

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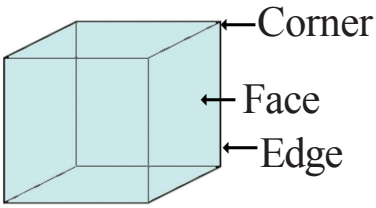
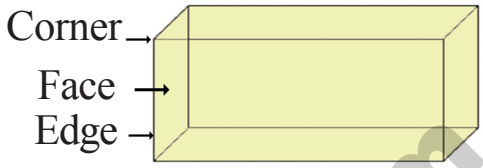
Cube and Cuboid



Cube



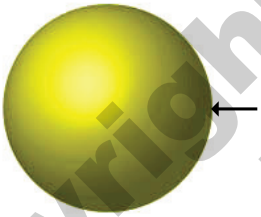
Cuboid

A cube/cuboid has 6 faces, 8 corners and 12 edges. Each face of a cube is a square and each face of a cuboid is a rectangle.

Let us take few examples of cube and cuboid




Sphere



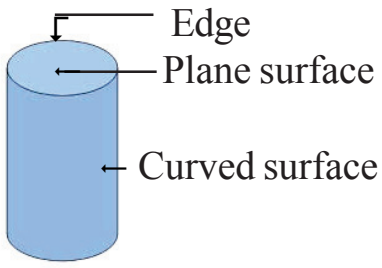
A sphere has no edge and no corner. It has only one surface. The surface of the sphere is not plain. It is called a curved surface.

Examples of spherical objects



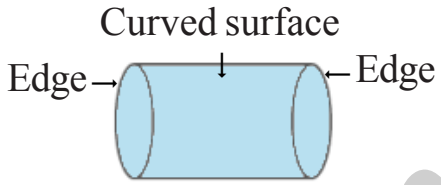

Cylinder

Two types of cylinders



A cylinder with one closed end

A cylinder with one closed end has two faces. One of them is plane and the other curved. It has two edges. It has no corner



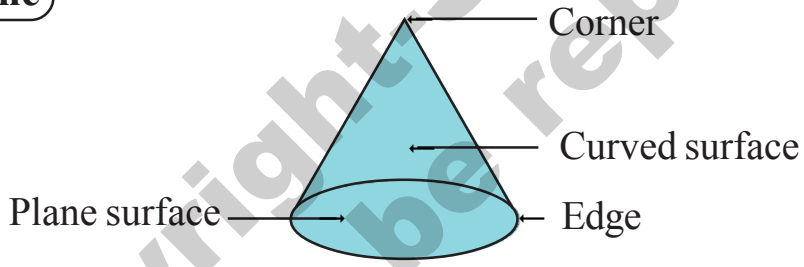
A cylinder with two open ends

A cylinder with two open ends has one face. It is curved. It has two edges. It has no corner.

Examples of cylindrical objects




Cone



A cone has two faces. One of them is plane and the other curved. It has one edge and one corner.

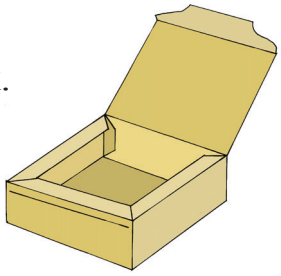
Examples of conical objects

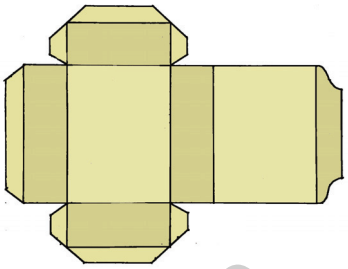



Fill in the table given below

Objects	Shape of the object	Number of Edges	Number of corners	Number of faces
				
				
				
				
				

Let us do





Take an empty box of sweets or chalk.
Open the box as shown here.
What do you find? A paper with a plane surface, is not it?
This plane surface paper is the 'Net' of the box.

Let us make a cuboid from a given 'Net'-

Draw lines on a paper as shown in figure 1. Now cut the paper along the outline. Fold the paper along the dotted line. Now you a cuboid?

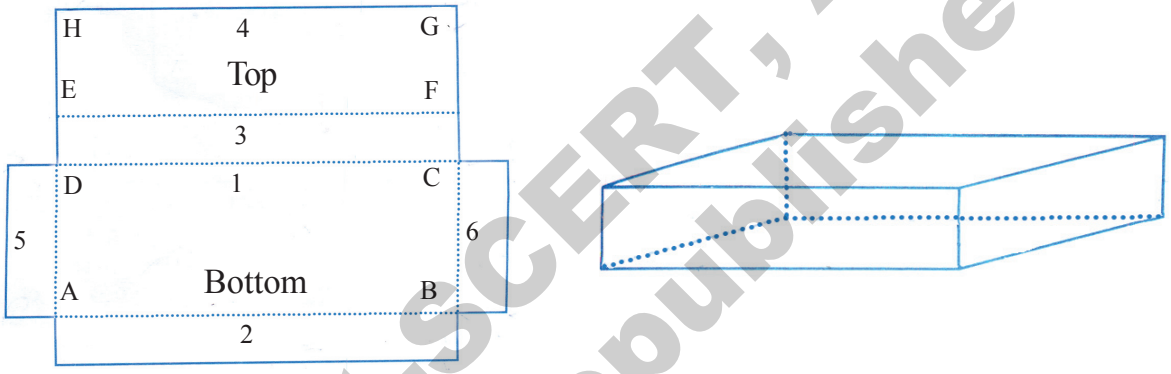
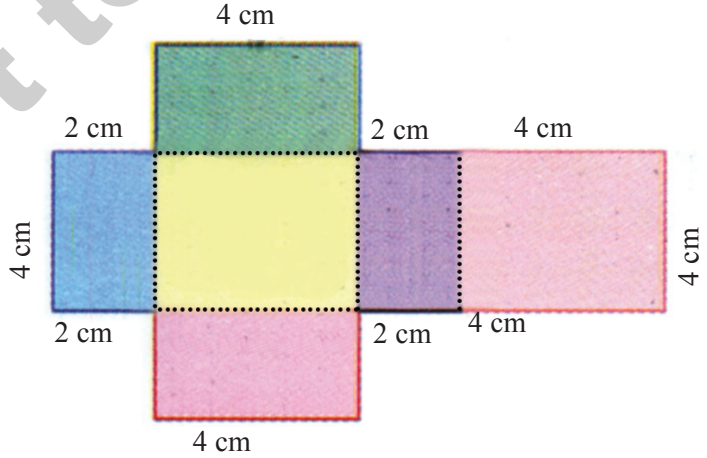


Figure -1

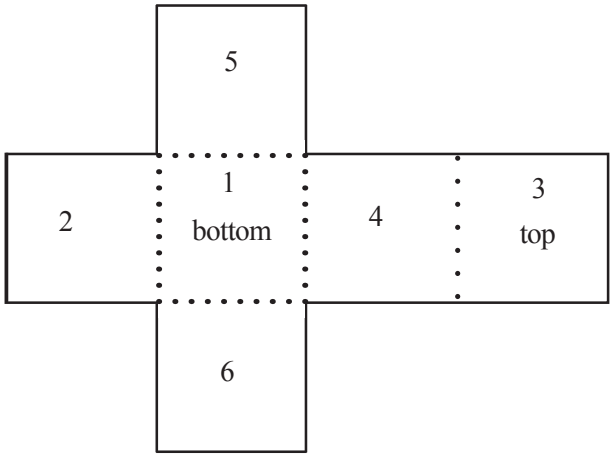
Do by yourself

- Make a cuboid from a 'Net' of given measurements as shown in the figure.
- Fold the paper along the dots (·).
- You get a cuboid, don't you?



Let us make a 'Net' of a cube.

Draw the figure as shown in figure 2 on a paper. Cut out the marked portions. Fold the paper along the dots. You will get a cube.



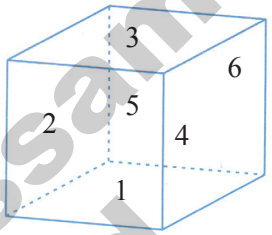
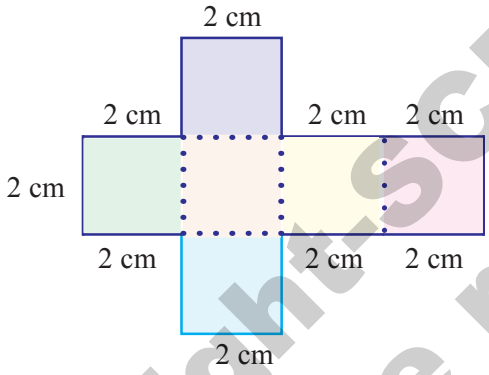


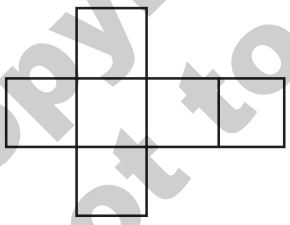
figure- 2

Draw a Net of a cube according to the measurements given below.

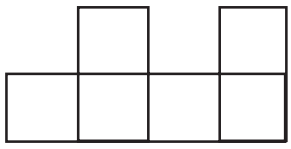


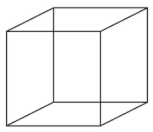
Tick (✓) the Net given below with which you can make a cube.

(a)



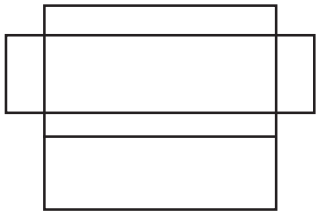
(b)



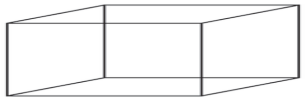


Tick (✓) the Net given below with which you can make a rectangle.

(a)



(b)



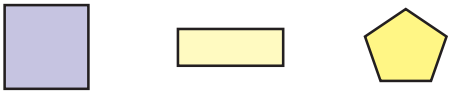
Observe the tiles used in the pavement on floor

(a)

(b)

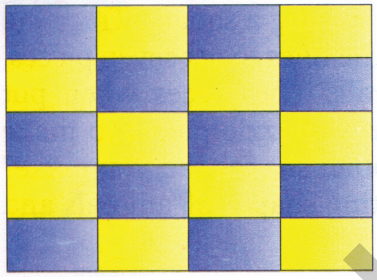
(c)

Let us find out the different shapes of the tiles

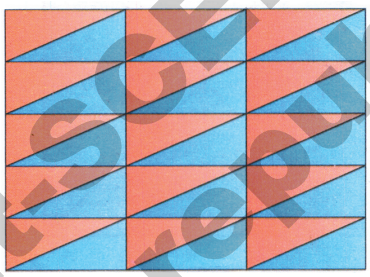


(a) (b) (c)

Draw the different shapes of the tiles given below

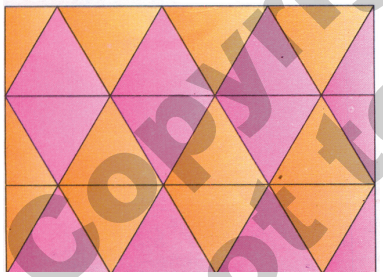


(a)

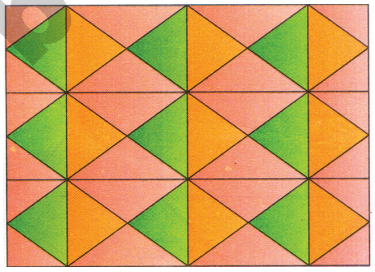


(b)

(c)

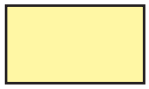


(d)



(e)

(f)



Draw tiling patterns according to the shapes given below.

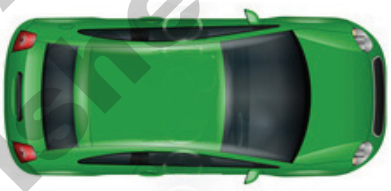
Let us know - the pattern of the tiles are made by leaving no gaps in-between the adjoining tiles.

Let us observe how it appears

A car

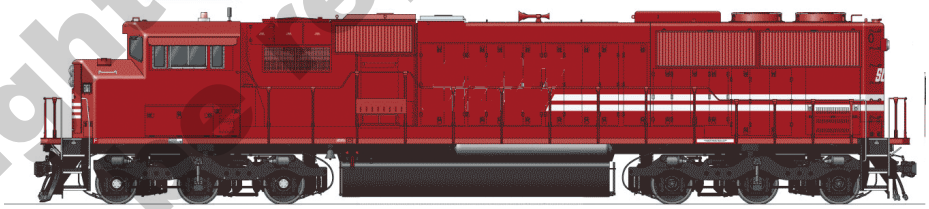
from the front/
front view

from the side/side view



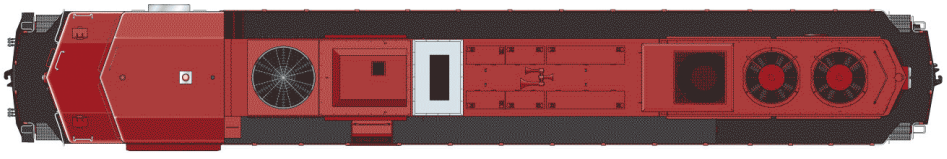
from top/top view

A train engine



from the side

from the front



from top

The same object appears different when viewed from different directions.

Look at the following pictures and state the directions from which you are looking at

A cup

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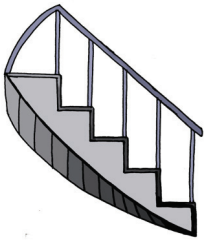
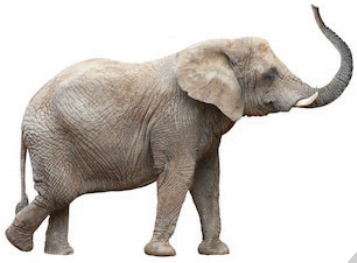
Stairs



....

An elephant



....

A table

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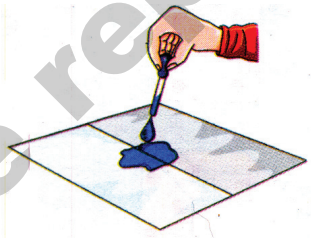
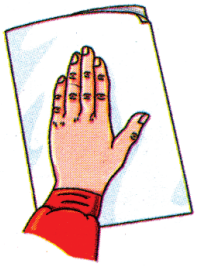
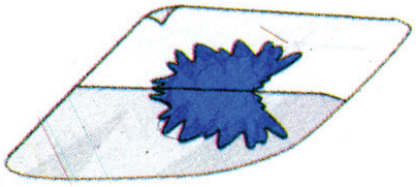
Let us do



- fold a piece of paper.
- unfold the piece of paper.
- drop a coloured liquid at one fold.

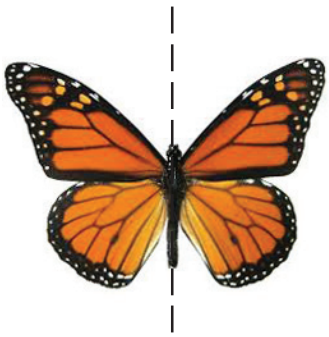


- fold the paper along the earlier folds.
- unfold the paper after sometime
- do you find same patterns on either side of the fold of the paper?



- such type of patterns are said to be similar to each other

Look at the pictures given below. The dotted line divides each picture into two similar parts.

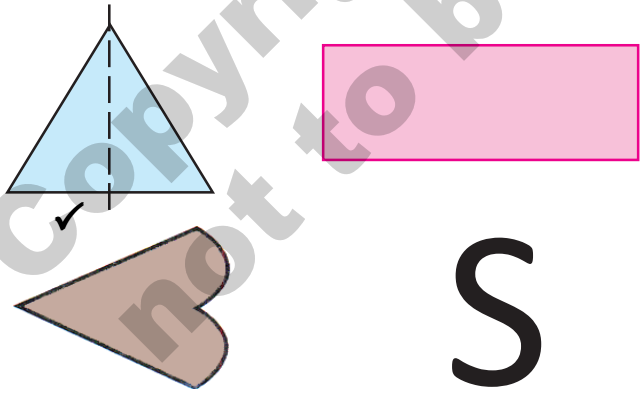


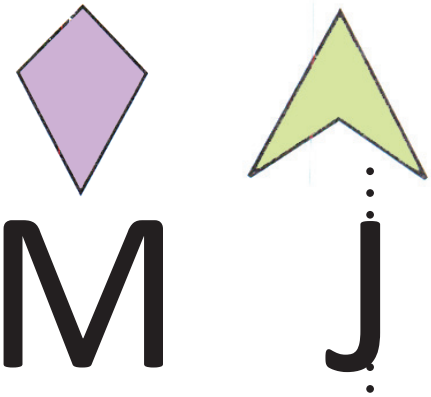
A V W

Now, look at the pictures given below. The dotted lines do not divide the pictures into similar halves.

N C F

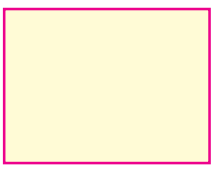
Draw dotted lines on the pictures given below. Tick (✓) the lines which divide the pictures into two similar halves.



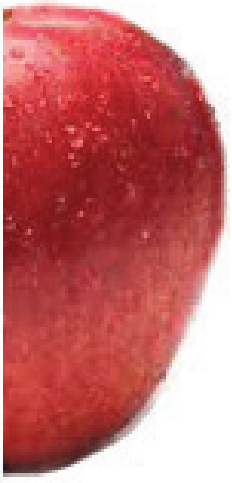


S M J

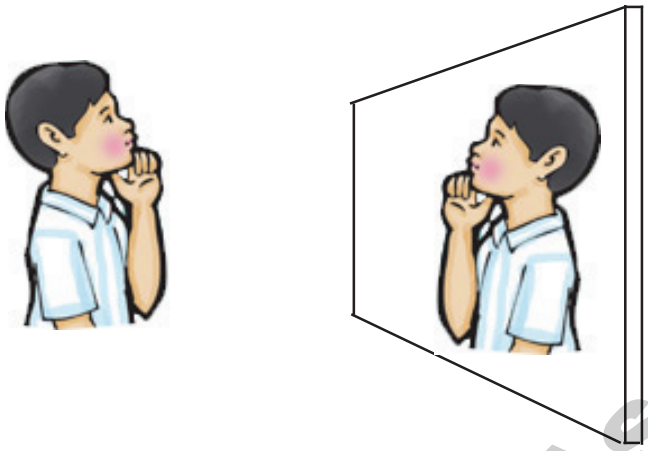
X



Complete the following pictures by drawing the remaining halves.



Stand in front of a mirror. Do you see your image there?



If you place a glass 'A' in front of a mirror you will see a glass 'B' in the mirror

(A) (B)

Let us see, how do the following English alphabets look in the mirror.

Now, observe the following English alphabets when placed in front of a mirror

X L K

Instruction to teacher : *Try to give the idea of symmetry with the concept of reflection also.*