



9

Shapes and Pattern

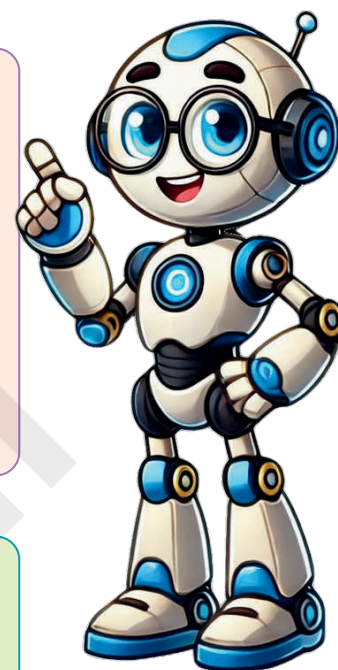
We'll cover the following key points:

- Straight and Curved Lines
- Types of Straight Lines
- Figures
- Solid Figures Around Us
- Different Solid Shapes
- Faces, Edges and Corners
- Patterns
- Geometric Patterns
- Number Patterns

Do you Remember fundamental concept in previous class:

In class 1st we learnt

- Shape around Us
- Patterns



Hi, I'm EeeBee



Still curious?
Talk to me by
scanning
the QR code.

Learning Outcomes

By the end of this chapter, students will be able to:

- Identify and draw straight lines and curved lines.
- Recognize and name different types of straight lines (e.g., horizontal, vertical, diagonal).
- Identify and name 2D shapes like squares, circles, triangles, and rectangles.
- Recognize solid figures around us, like cubes, spheres, and cones.
- Identify different solid shapes and their properties (e.g., cube, cylinder, pyramid).
- Understand and describe the faces, edges, and corners of 3D shapes.
- Recognize and create simple patterns using shapes, colors, or objects.
- Identify and extend number patterns (e.g., 2, 4, 6, 8 or 5, 10, 15, 20).



Warm Up

Identify the shapes of the things in your kitchen.



Match the objects given below with the different shapes.

- | | |
|----------------------------|---------------|
| 1. Plates | (a) Cylinder |
| 2. Jar | (b) Cuboid |
| 3. Roller pin | (c) Circle |
| 4. Cupboard | (d) Rectangle |
| 5. Lunch box | |
| 6. Saucepan without handle | |

Straight and Curved Lines

Have you ever observed different road? You can see that road in each path is not always straight. They can be curved too.

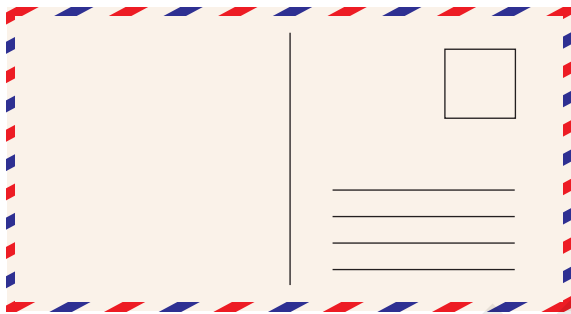


Straight Road



Curved Road

The following objects have straight or curved lines.



Edges of the Postcard are **straight** lines.



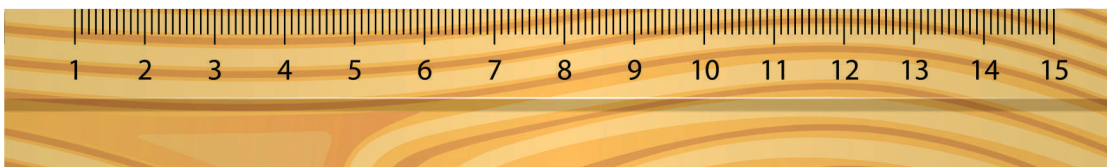
Edge of this frock is a **curved** line.



String held tight forms a straight line.



String held loose forms a curved line.






REMEMBER

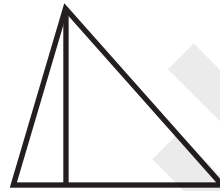
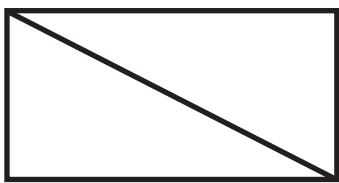
You need a ruler to draw a straight line.



Types of Straight Lines

Horizontal	Vertical	Slant
		

Identify the horizontal, vertical and slanting lines in these shapes.



Try it

Take some matchsticks. Use them to write Today's date as shown.



Plane Figures

You know each object is named differently according to its shape.

Oh! is that so?
Can you tell me more about it?

Some shapes are made with straight lines and some with curved lines.



Figures

Squares, rectangles and triangles are made of **straight lines**. Circles and ovals are made of **curved lines**.

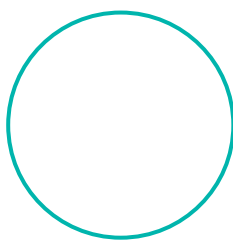
These figures are called plane figures.



Rectangle



Square



Circle



Triangle



Sides and Corners

The **sides** are the straight lines that form a plane shape. Sides are also known as **edges**.

The points where two sides meet are called **corners**.

Examples of shape

Object



Bangle Ring



Carrom board



Postcard



Road sign

Shape



Circle



Square

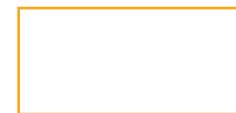


Rectangle



Triangle

Features



← corner

This is a side or edge.

A **circle** is a round figure with no sides and corners.

A **square** has 4 sides and 4 corners.

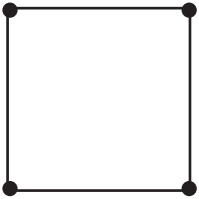

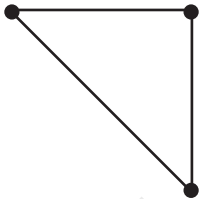

A **rectangle** has 4 sides and 4 corners.

A **triangle** has 3 sides and 3 corners.

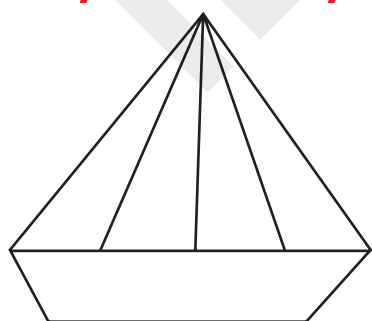


Exercise 9.1

1. How many corners and sides do these flat shapes have?

	Shapes	Corners	Sides
(a)		4	4
(b)			
(c)			
(d)			

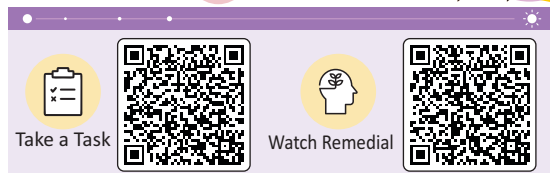
2. How many of each do you see in the picture?



- (a) Horizontal lines _____
- (b) Vertical lines _____
- (c) Slanting lines _____

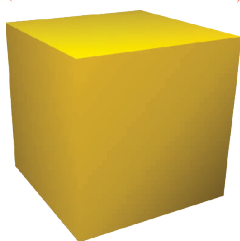


Solid Figures Around Us



Let me show you
some solid shapes that we
all see around us.

I will first tell you the
names of some of these
solid shapes.



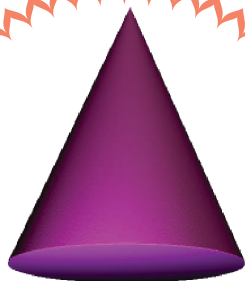
Cube



Cuboid



Sphere

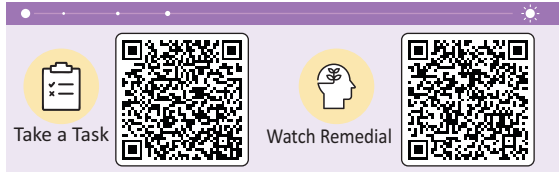


Cone



Cylinder

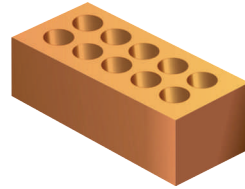
Different Solid Shapes



Cuboid



Cuboid

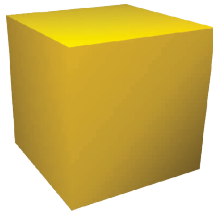


Brick



Match Box

Cube



Cube



Rubic Cube



Dice

Cone



Cone



Cracker



Softy

Cylinder



Cylinder

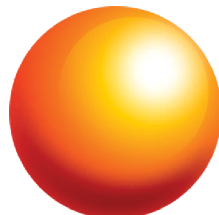


Can



Candle

Sphere



Sphere

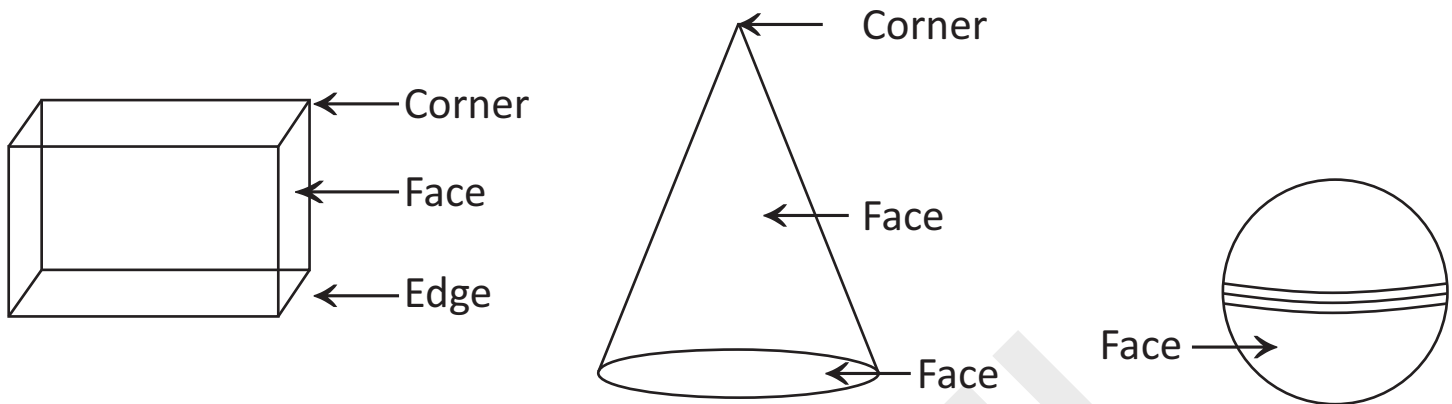
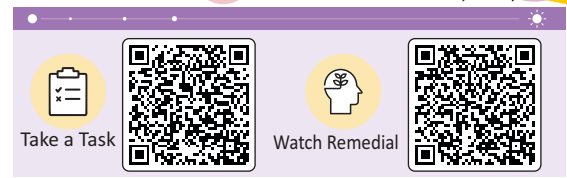


Ball



Globe

Faces, Edges and Corners



Follow this table:

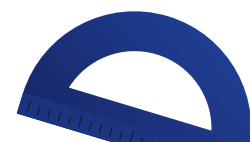
Shape	Faces	Edges	Corners
Cube	6	12	8
Cuboid	6	12	8
Sphere	1	0	0
Cone	2	1	1
Cylinder	3	2	0



Exercise 9.2

1. Fill in the blanks.

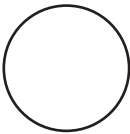


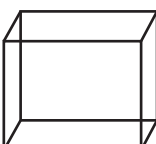
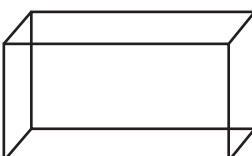
- How many faces does a cuboid have?
- How many faces does a cube have?
- How many edges does a cube have?
- How many sides does a rectangle have?
- How many sides does a triangle have?





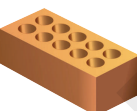




2. Match the columns.

Column A

- (a) 
- (b) 
- (c) 
- (d) 
- (e) 

Column B

- (i) 
- (ii) 
- (iii) 
- (iv) 
- (v) 

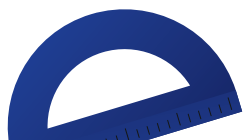
Circle the numbers and letters made up of straight lines and cross out the ones made up of curved lines.



Critical Thinking

T O K 4 Z 3 A I

X Q R 7 5



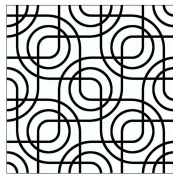
Patterns

There are patterns all around us. A pattern is made when shapes and numbers are repeated or put in a sequence.

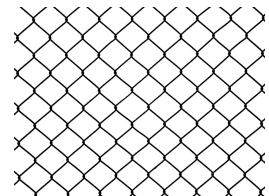
Patterns help us to understand different things in life. Maths is all about patterns.

We see patterns on cloth, tiles, gates, window grills in different types of shapes and designs.

Tiles pattern.



Window grill pattern.



Patterns with thumb prints.



Geometric Patterns

Look at the patterns. Draw the missing figure.

-
-
-
-

Number Patterns

See the numbers given below:

5, 10, 15, 20, 25, 30,

What do you observe?

This is an increasing pattern.

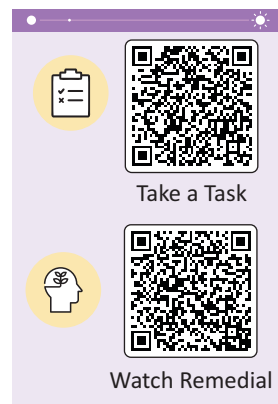
5 is added to each number to get the next number.

Let us take another example

32, 30, 28, 26, 24, 22,

This is a decreasing pattern.

2 is subtracted from each number to get the next number.



Exercise 9.3

1. What comes next in the sequence?

(a) ○ △ ○ △ ○ △ _____

(b) T ⊥ T ⊥ T ⊥ _____

































(c) Flower Lotus Flower Lotus Flower Lotus _____

(d) □ ○ □ ○ □ ○ _____

(e) △ ▭ △ ▭ △ ▭ _____




2. Tick (✓) the shape that will complete the pattern. One has been done for you.

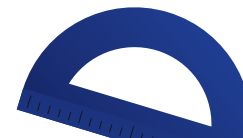
(a)	     	 <input checked="" type="checkbox"/>  <input type="checkbox"/>
(b)	     	 <input type="checkbox"/>  <input type="checkbox"/>
(c)	     	 <input type="checkbox"/>  <input type="checkbox"/>
(d)	     	 <input type="checkbox"/>  <input type="checkbox"/>

Tick (✓) the correct boxes. One has been done for you.



Experiential Learning

Figure	Sphere	Cone	Cuboid	Cube
1. 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





Gap Analyzer™

1. Tick (✓) the correct answer.

(a) A cube has _____ faces and _____ corners.

(i) 8, 9

☐

(ii) 6, 8

☐

(iii) 6, 7

☐

(b) How many faces does a cuboid have?

(i) 10

☐

(ii) 11

☐

(iii) 6

☐

(c) How many edges does a cone have?

(i) 1

☐

(ii) 2

☐

(iii) 3

☐

(d) How many corners does a sphere have?

(i) 0

☐

(ii) 1

☐

(iii) 2

☐

2. Fill in the blanks.

(a) A square has _____ corners and _____ sides.

(b) A rectangle has _____ corners and _____ sides.

(c) A triangle has _____ corners and _____ sides.

(d) A circle has _____ corners and _____ sides.

3. Match the following:

(a) _____

(b) _____

(c) _____

(d) _____

(i) Slanting Line

(ii) Curve Line

(iii) Vertical Line

(iv) Horizontal Line

Custom Learning Path

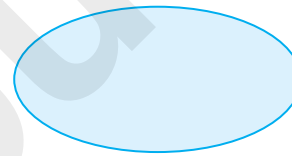
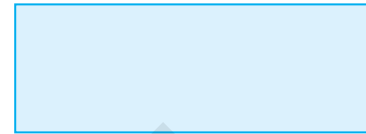
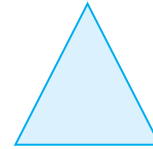
Scan to Create
Your Own
Learning Path





See the pictures and search the shapes name in the grid.

O	V	A	L	M	R	P	A
C	I	R	C	L	E	I	P
N	G	O	N	D	C	A	C
P	P	I	P	R	T	I	H
S	A	W	A	A	A	R	O
M	H	H	U	G	N	P	V
T	R	I	A	N	G	L	E
C	I	H	N	O	L	A	L
S	Q	U	A	R	E	R	T



Mental Math



Critical Thinking

Complete the series:

- (a) 1, 3, 5, 7, _____, _____
- (b) 5, 10, 15, 20, _____, _____
- (c) 10, 30, 50, 70, _____, _____
- (d) 100, 150, 200, 250, _____, _____



Fun Time Activity

Take some matchsticks, Use them to write today's date.

How many lines of each kind did you make?