

Chapter-7

GEOMETRY

STUDY NOTES

- * Curved Line
- * Straight Line
- * 2-D Shapes
- * 3-D Shapes or Solids
- * Tangrams
- * Tessellation, Identifying Tessellation
- * Dot Grid, Map Reading

1. Curved Line

➤ EXPLANATION

A line that is not straight is a curved line. If a point does not move in one direction, we get a curve. A curved line is one that is not straight and is bent.

➤ For example:



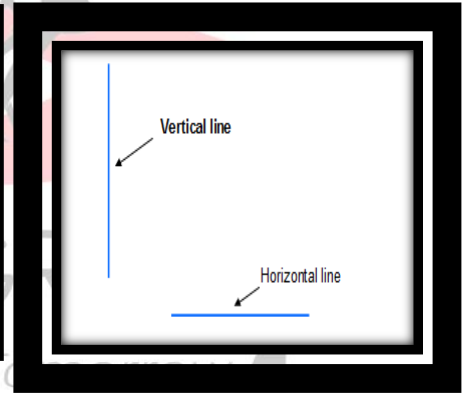
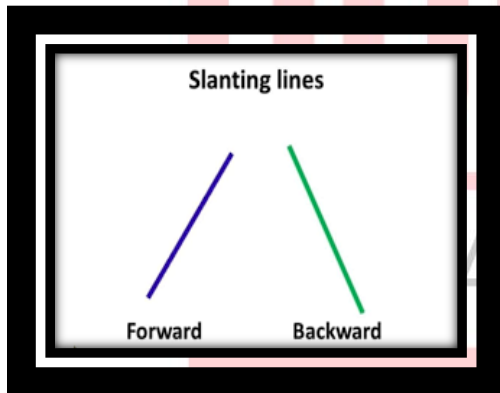
2. Straight Line

➤ EXPLANATION

A straight line or line is an endless one-dimensional figure that has no width. The straight line is a combination of endless points joined on both sides of a point. A straight line does not have any curve in it.





➤ For example:



Horizontal Line	Vertical Line	Slanting line
The lines drawn horizontally are called horizontal lines.	The lines drawn vertically are called vertical lines.	The lines drawn in a slanting position are called oblique or slanting lines.

Differentiate Between Curved Lines and Straight Lines

Curved Line	Straight Line
A smoothly bent line which is not straight is called a Curved Line.	The shortest line that joins any two points is called a Straight Line.
The points determining a curved line change direction from one end to the next point.	A straight line is a succession of multiple points aligned in the same direction.
A curved line can be any line, whether straight or not.	A straight line can be straight or curved.
	
Curved Lines do not move in one direction.	Straight Lines moves are one direction.

3. 2 - D Shapes

➤ EXPLANATION



Triangle, Square, Rectangle, Circle, Hexagon, Oval, Rhombus are 2- D shapes.

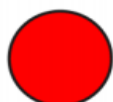


KEY WORDS

CORNER OR VERTEX, SIDES and DIAGONALS

DEFINITION

A 2-D (two – dimensional) shape is a flat shape that has only two dimensions – length and width, with no thickness or depth.



circle



rectangle



triangle



oval



octagon



square



heptagon



rhombus



pentagon



hexagon



kite

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4. 3 - D Shapes or Solids

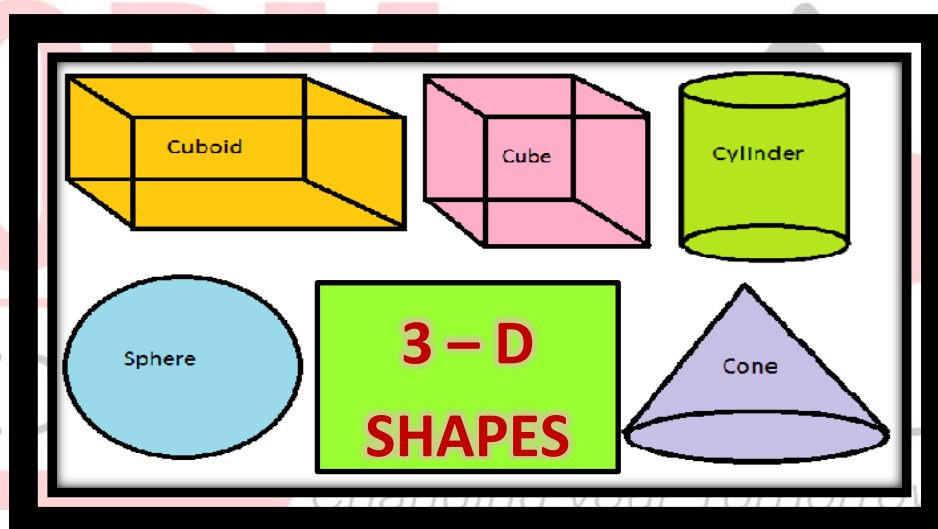
➤ EXPLANATION

Cube, Cuboid, Cone, Cylinder, Sphere are some 3 - D shapes.



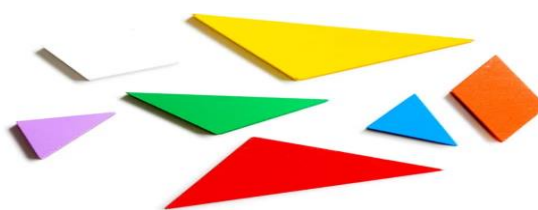
3D in the word 3D shapes means three-dimensional. Every 3D geometric shape occupies some space based on its dimensions and we can see so many 3D shapes all around us in our day-to-day life.

➤ For example:

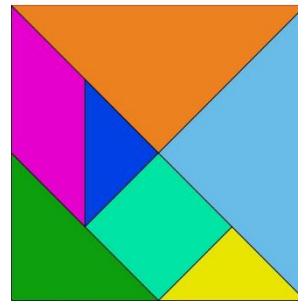
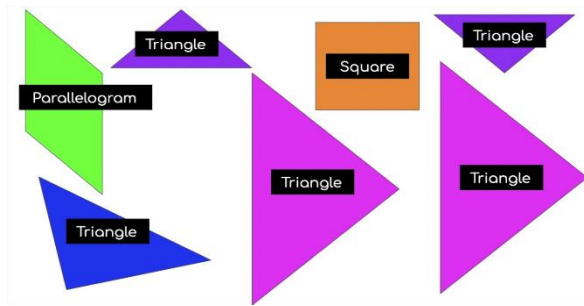


5. Tangrams

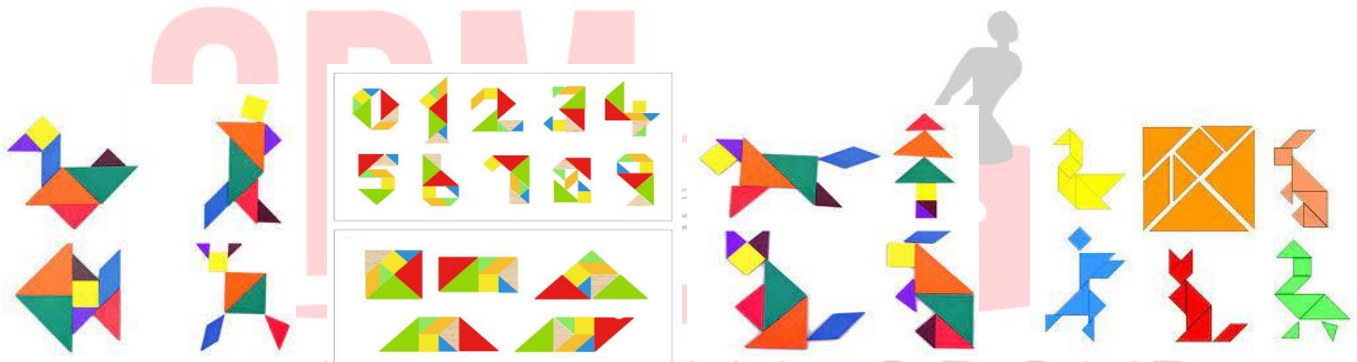
➤ EXPLANATION



A Tangram is a puzzle or a tricky set of seven geometric shapes made up of two small triangles, one medium triangle, two large triangles (total five triangles), a square, and a parallelogram.



➤ For example:



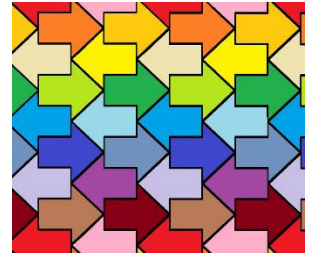
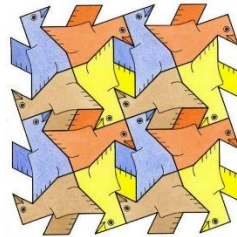
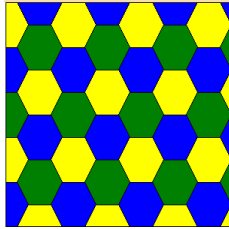
6. Tessellation, Identifying Tessellation

➤ EXPLANATION

A tessellation is a tiling over a plane with one or more figures such that the figures fill the plane with no overlaps and no gaps. Examples of a tessellation are: a tile floor, a brick or block wall, a checker or chess board, and a fabric pattern.



➤ For example:



There are three types of tessellations: Translation, Rotation, and Reflection

REMEMBER

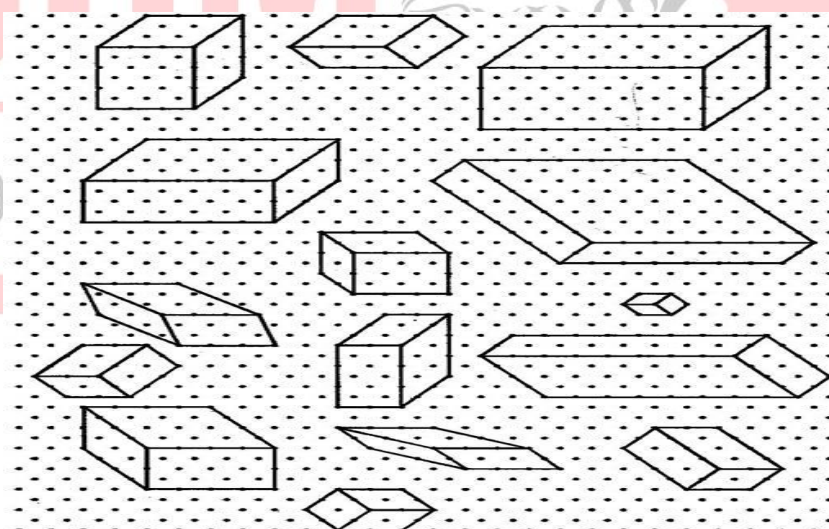
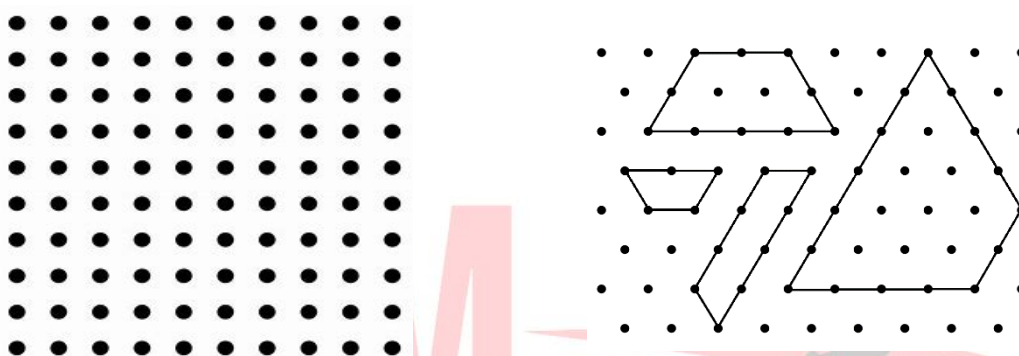
- **RULE 1:** The tessellation must tile a floor (that goes on forever) with no overlapping or gaps.
- **RULE 2:** The tiles must be regular polygons - and all the same.
- **RULE 3:** Each vertex must look the same.

7. Dot Grid, Map Reading

➤ EXPLANATION

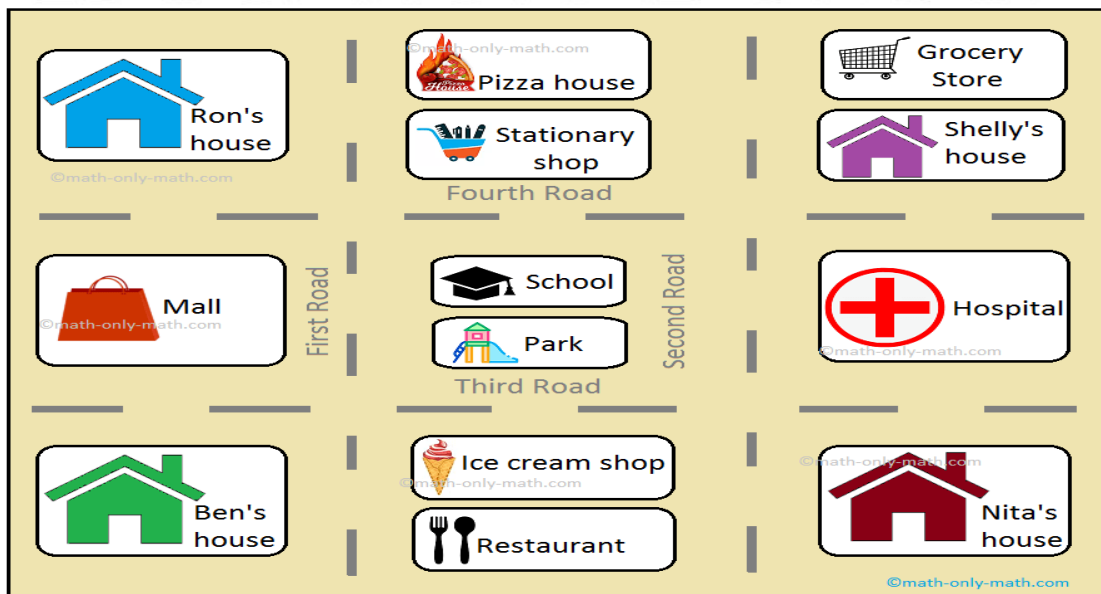
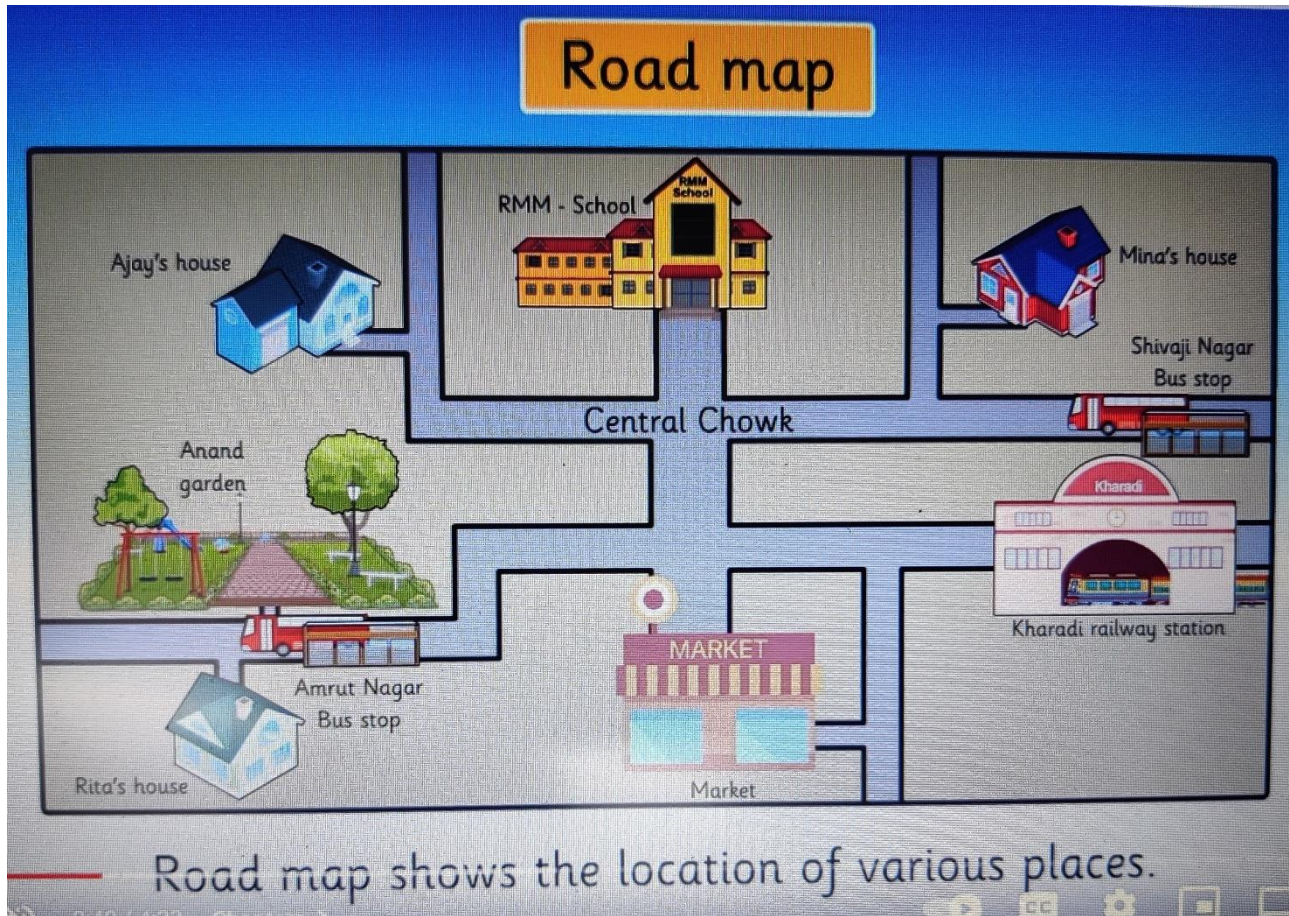
A **Dot Grid** is a pattern or structure made from horizontal and vertical lines using dots crossing each other to form squares. It is also a pattern of dots in a grid from which alphanumeric characters can be formed.

➤ For example:



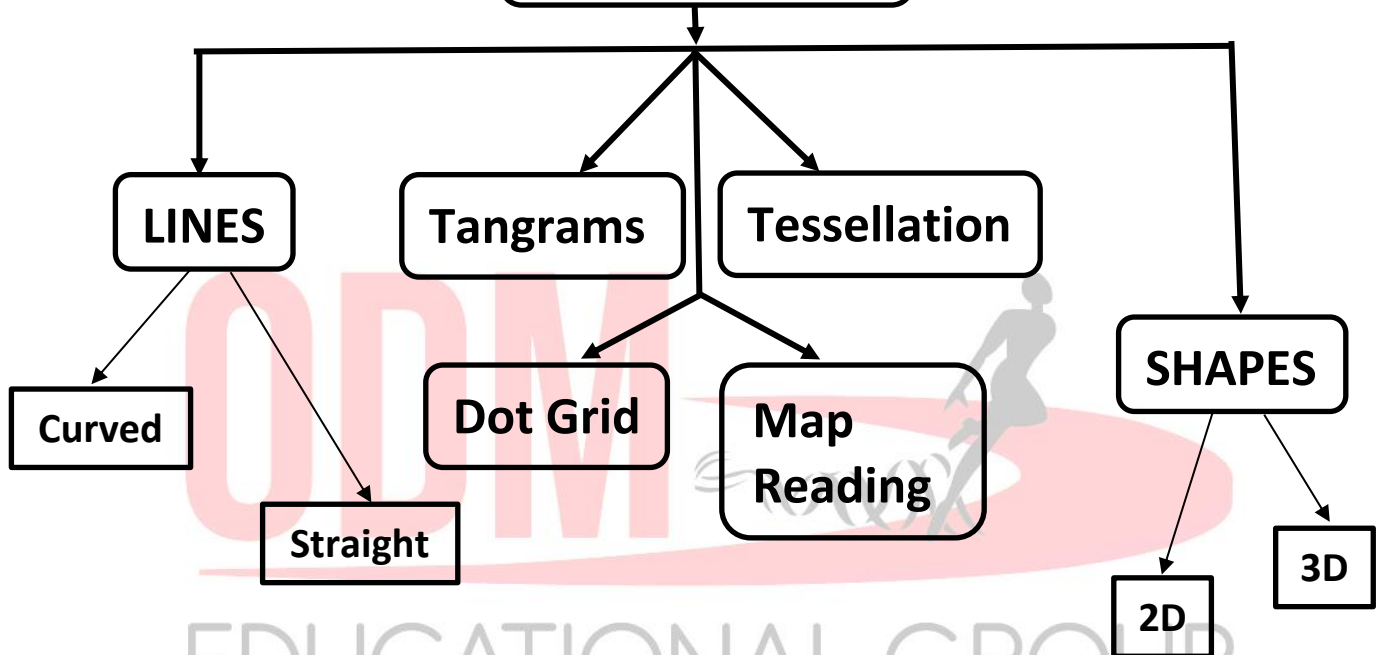
Map reading is the process of looking at the map to determine what is depicted

➤ For example:



MIND MAP

GEOMETRY



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