SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A+' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF AUTOMOBILE ENGINEERING

19AUT303 – Additive Manufacturing and its applications

III YEAR / V SEM

UNIT – 1 INTRODUCTION TO 3D PRINTING & CAD FOR

ADDITIVE MANUFACTURING

GENERIC AM

Effects of building using different layer thicknesses

2D Vs 3D Modelling

Aspects of 2D and 3D

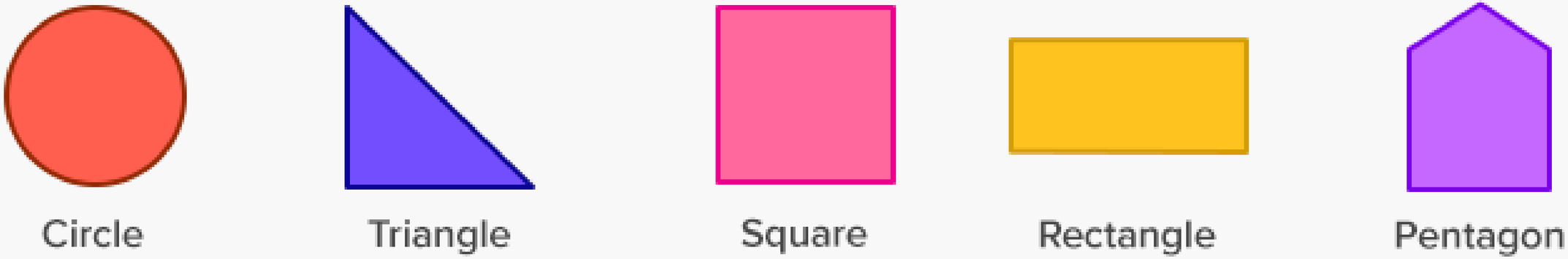
A 2D shape is a figure that has only length and height as its dimensions. Because 2D shapes lie on a flat surface, they are also known as plane figures or plane shapes. While they have areas, 2D shapes have no volume.

Apart from length and height, a 3D shape also has width or depth as its third dimension.

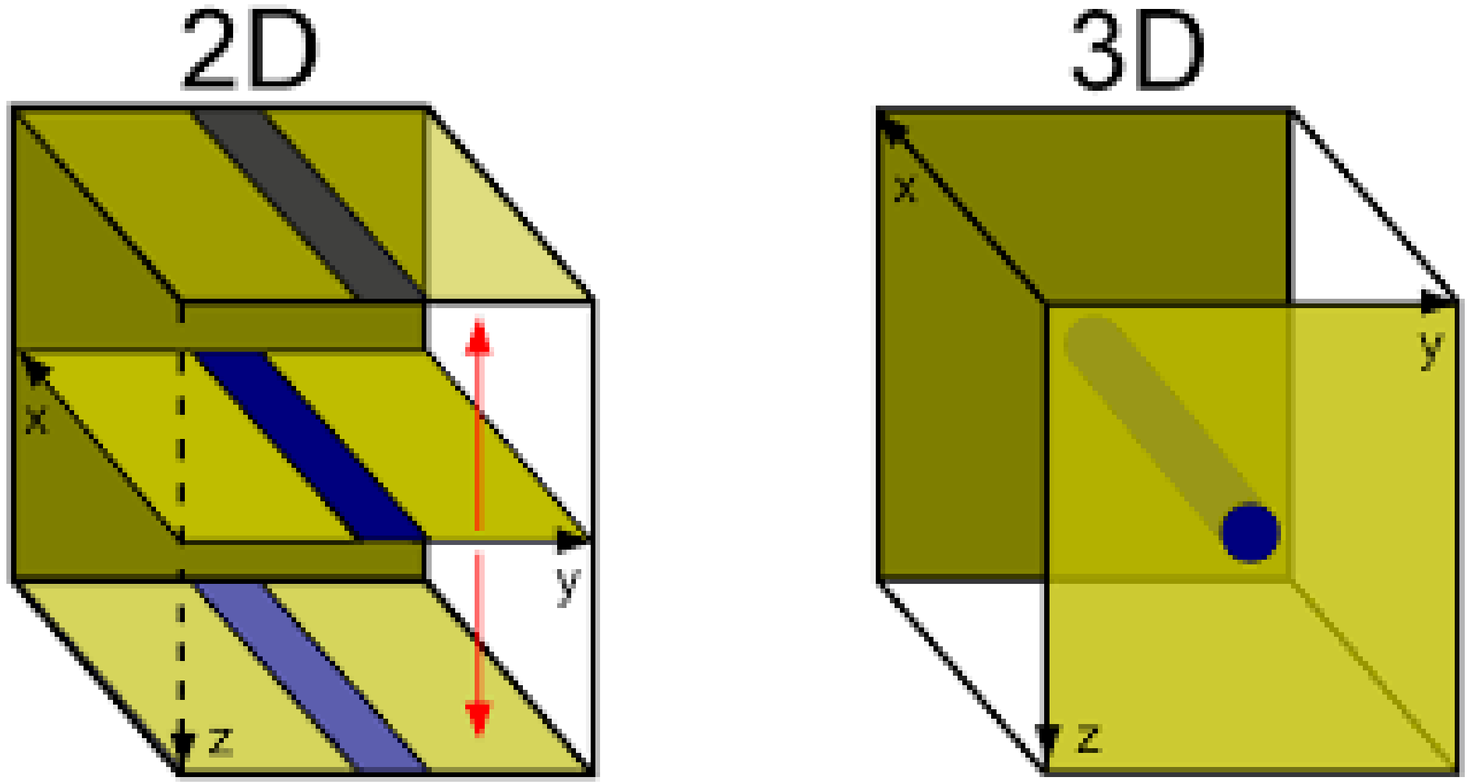
2D Vs 3D Modelling

	2D	3D
Definition	Two-dimensional	Three-dimensional
Dimensions	Length and height	Length, height, and width
Mathematical Definition	x- and y-axes	x-, y-, and z-axes
Examples	Circle, triangle, square, rectangle, and pentagon	Cylinder, pyramid, cube, and prism

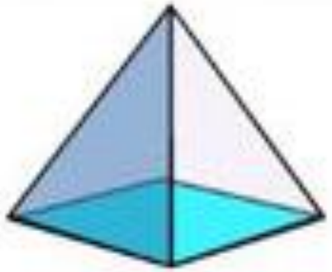
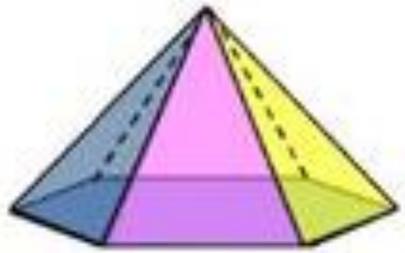
2D Examples

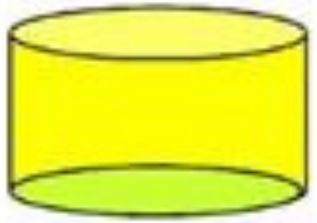


2D Examples

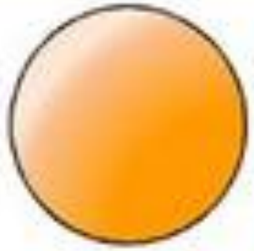


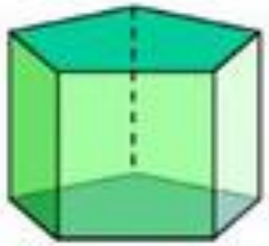
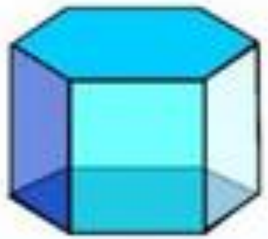
3D Examples

		
Tetrahedron (Triangular pyramid)	Square pyramid (Square-based pyramid)	Hexagonal pyramid

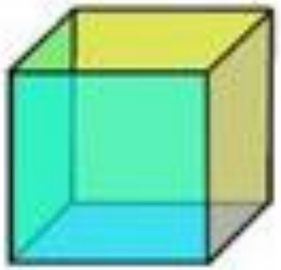
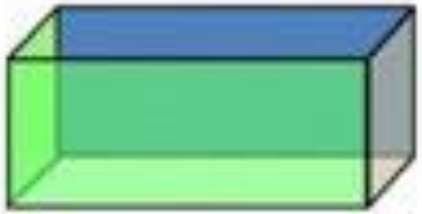
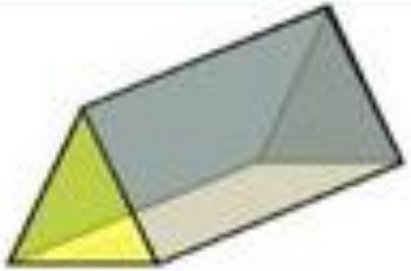
		
Icosahedron	Cone	Cylinder

3D Examples

		
Dodecahedron	Sphere	Ellipsoid

		
Octahedron	Pentagonal prism	Hexagonal prism

3D Examples

		
Cube	Cuboid	Triangular prism

3D Modelling Softwares

- Inventor
- Solid Edge
- Solidworks
- CATIA
- ProE.Houdini
- Cinema 4D
- Modo
- Autodesk 3Ds Max
- Autodesk Maya
- Autodesk Mudbox
- ZBrush
- Rhinoceros

2D Modelling Softwares

- AutoCAD.
- LibreCAD.
- nanoCAD.
- QCAD.
- DraftSight.
- Draft IT.
- ActCAD 2019 Professional.
- BricsCAD.

Thank You