AECD's
Intelli Brain
Innovative Intelligent Incredible
Unique Edutainment Programme

Intelli Pentos
Class 5
GEOMETRICAL SHAPES & SOLIDS

Intelli Kid: _____

POINT, LINE, PLANE AND SOLID

- A point has no dimensions, only position.
- A line is one dimensional. (One dimension only - length)
- A plane is two dimensional. (Two dimensions only - length & width)
- A solid is three dimensional. (Three dimensions only - length, width & height)

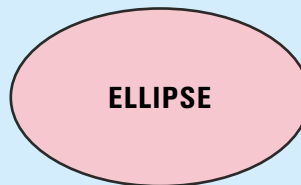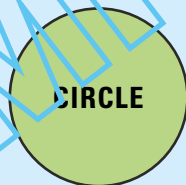All 2D shapes are either polygons or non polygons.

POLYGONS

A polygon is a plane 2D shape with straight sides.

TRIANGLE **SQUARE** **RECTANGLE** **PENTAGON** **HEXAGON** **OCTAGON**
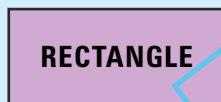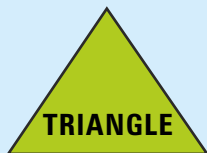
NON-POLYGONS

These 2D shapes have curves but no straight sides.

CIRCLE **ELLIPSE**

SHAPES

Every object around us has a shape. We see many objects with different boundaries which define their shape. Most commonly shapes are **2D** or **3D** shapes.

We see shapes in everyday life, some of them are:
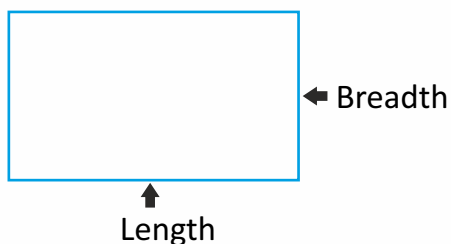
CANDLES **SIGNALS** **BALL** **OPEN UMBRELLA** **CONE**

2D SHAPES

2 DIMENSIONAL SHAPES

Any shape that can be laid flat on a piece of paper is said to be a 2D shape. 2D shapes have only 2 dimensions, such as length and breadth, but no thickness.

← Breadth

↑ Length

EXAMPLES OF 2D SHAPES:

Square, Rectangle, Triangle, Pentagon, Circle.
Different 2D shapes have different number of sides and corners.

LOOK AT THE TABLE BELOW

I have 3 sides	I have 3 corners	I am a Triangle	▲
I have 4 equal sides	I have 4 corners	I am a Square	■
I have 5 sides	I have 5 corners	I am a Pentagon	⬠
I have 6 sides	I have 6 corners	I am a Hexagon	⬡
I have 8 sides	I have 8 corners	I am an Octagon	⯃
I have infinite sides	I have no corners	I am a Circle	●

3D SHAPES

3 DIMENSIONAL SHAPES

Any shape that takes up space with three dimensions such as length, breadth and height is said to be a 3D shape.

← Height
← Breadth
↑ Length

Face

Edge
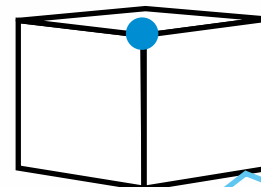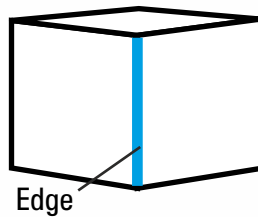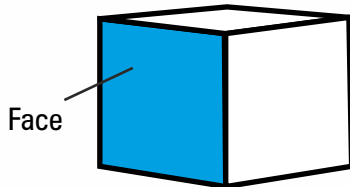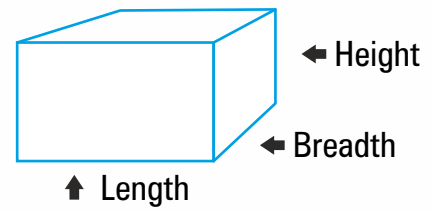
FACES	EDGES	VERTICES
Faces are the number of surfaces a shape has.	Edges are the line segments where two faces meet.	Vertices are the points where 3 or more edges meet.

EXAMPLES OF 3D SHAPES:

Cube, Cuboid, Cylinder, Sphere, Cone, Square Pyramid, Triangular prism. All 3D shapes have different number of faces, edges and vertices.
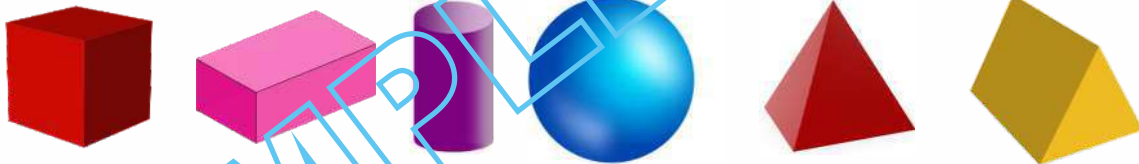
SHAPES AND NETS

A flat 2D shape that can be rolled / folded into making a 3D shape is called net.

I have 6 faces

I have 12 edges

I am a cube.

I am a 3D shape.

I have 8 vertices.

I look like a box.

SHAPE

NET

EXERCISE
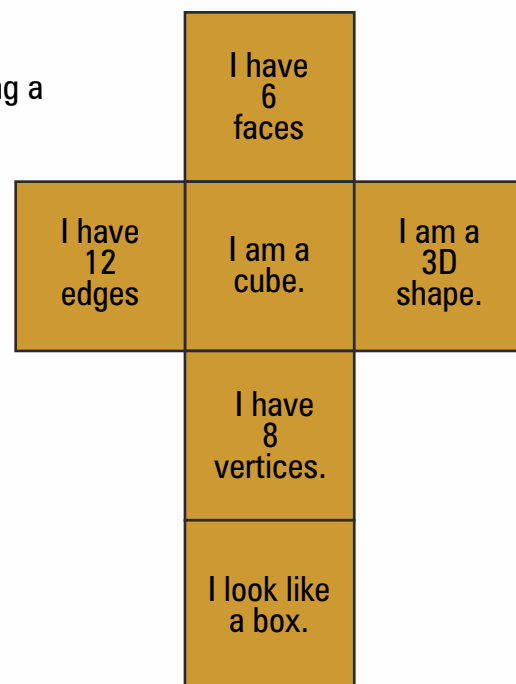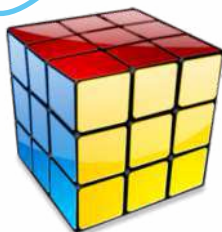
Q.1 Complete the table below:

NAME	SHAPE	FACES	EDGES	VERTICES	EXAMPLE
Cube		_____	12	8	
Cuboid		6	12	_____	
Square-based pyramid		_____	8	5	
Sphere		_____	0	0	
Cylinder		3	_____		
Cone			1	_____	
Triangular Prism		5	_____	6	

Q.2 Match the given images with names of shapes and their nets.

IMAGE	NET	EXAMPLE

Tick the correct option :

Q.1   I am a shape with 6 faces and 8 vertices, I am _____.

☐ Cube   ☐ Cylinder

☐ Pyramid   ☐ Cone

Q.2   I am a shape with 4 vertices and 4 equal sides, I am a 2D shape, I am _____.

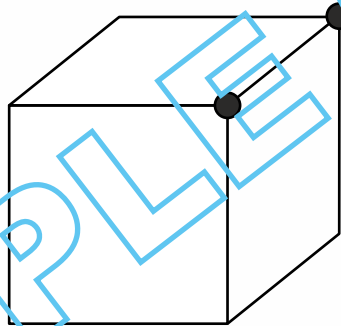☐ Triangle   ☐ Rectangle

☐ Square   ☐ Circle

Q.3   The highlighted parts of the given figure represents a

☐ Vertices   ☐ Edge
☐ Face   ☐ Plane

Q.4   An example of a sphere would be a _____.

☐ Dice   ☐ Cup

☐ Soccer Ball   ☐ Mad Angles

Q.5 Which 3D shape has square faces only ?

☐ Cuboid   ☐ Cube

☐ Prism   ☐ Square

Q.6 This shape has 4 corners and 4 sides. Two of the sides are short and two of the sides are long. It is a 2D shape, which shape is it ?

- ☐ Square
- ☐ Circle
- ☐ Rectangle
- ☐ Triangle

Q.7 I am a shape on the face of a cube. Which shape am I ?

- ☐ Square
- ☐ Circle
- ☐ Rectangle
- ☐ Rectangle and Triangle

Q.8 The shape of a matchstick box is ?

- ☐ Cuboid
- ☐ Cube
- ☐ Prism
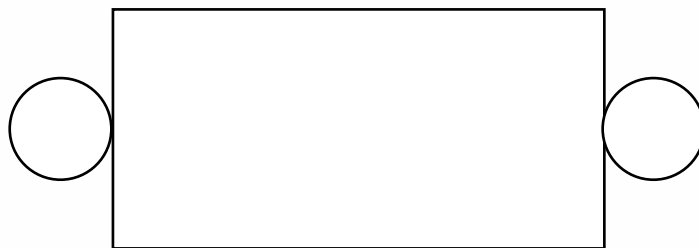- ☐ Cylinder

Q.9 The shape of your capped pen is ?

- ☐ Cylinder
- ☐ Cone
- ☐ Cube
- ☐ Cuboid

Q.10 Which 3D shape can be formed from the given flat 2D shape (net) ?

- ☐ Cylinder
- ☐ Cuboid
- ☐ Cone
- ☐ Cube

Q.11 Which of the following shapes has curved surface ?

- ☐ Cone
- ☐ Cuboid
- ☐ Cube
- ☐ Prism

Q.12 Which two mathematical shapes could you combine to make this building ?
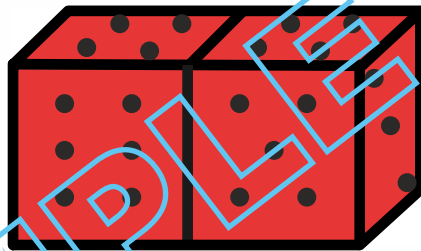
- ☐ Cone & sphere
- ☐ Cone & cylinder
- ☐ Cylinder & sphere
- ☐ Sphere & cone

Q.13 When two dice are joined, the new shape thus formed is ?

- ☐ Cube
- ☐ Cuboid
- ☐ Rectangle
- ☐ Pyramid

Q.14 When circular coins are placed one over the other, which shape would be formed?

- ☐ Cylinder
- ☐ Sphere
- ☐ Cone
- ☐ Circle

Q.15 When Krackjack biscuits are placed one over the other, then which shape is formed ?

- ☐ Cone
- ☐ Cuboid
- ☐ Cube
- ☐ Circle

Q.16 When Parle-G biscuits are placed one over the other, then which shape is formed ?

- ☐ Sphere
- ☐ Cube
- ☐ Cuboid
- ☐ Circle

Q.17 If two dusters are joined together side by side, then the new shape is

- ☐ Cube
- ☐ Cylinder
- ☐ Cuboid
- ☐ Prism

Q.18 I am a shape with 5 faces, 9 edges and 6 vertices, I am a 3D shape, I am _____.

- ☐ Triangular pyramid
- ☐ Square pyramide
- ☐ Triangular prism
- ☐ Cone

Q.19 When mad angles chips are placed one over the other, then which shape is formed ?

- ☐ Cone
- ☐ Cuboid
- ☐ Triangular prism
- ☐ Pyramid

Q.20 Identify the shape of the given image ?

- ☐ Cuboid
- ☐ Triangular prism
- ☐ Pyramid
- ☐ Cylinder