



2D Shapes and 3D Patterns Home Information Sheet Second Level (b)



MTH 2-16a Having explored a range of 3D objects and 2D shapes, I can use mathematical language to describe their properties, and through investigation can discuss where and why particular shapes are used in the environment.

MTH 2-16b Through practical activities, I can show my understanding of the relationship between 3D objects and their nets.

MTH 2-16c I can draw 2D shapes and make representations of 3D objects using an appropriate range of methods and efficient use of resources.

Over the next few weeks we are going to be learning to:

- Know and understand the terms face, edge, side, corner, angles, vertices, diagonals, radius, diameter, circumference, scalene, isosceles, equilateral, right-angled
- Know that the faces of solid shapes meet to form edges, and edges meet at a vertex
- Investigate and discuss the relationship between the radius and diameter of a circle
- Investigate and discuss the properties of triangles, quadrilaterals and polygons using appropriate vocabulary
- Investigate and discuss the properties of 3D shapes using appropriate vocabulary
- Investigate and discuss where and why particular shapes are used in the environment
- Understand the relationship between a 3D shape and its net
- Analyse other 3D shapes and create nets for them
- Use methods and drawing instruments (e.g. ruler, protractor, compasses) accurately to draw simple 2D shapes
- Create circle patterns using compasses
- Investigate the rigidity property of triangles in model making
- Appreciate the differences between skeletal and solid models
- Make skeletal and solid models of common 3D shapes using a range of resources

Here are some ideas of how you can help me at home!

An irregular robot Ask children to create a picture of a robot which is made up of a variety of irregular 2D shapes. They list the different shapes they have used. Back in class they discuss and display their robots.

Net paper Ask children to choose an object from around the home which has a

cuboid shape (e.g. a book, cereal packet, box). They draw around the faces of the object (they may need a large sheet of paper but newspaper will do) in order to create a net of a cuboid the same size. Back in school they show their net and other children guess what the original object was.

Imagine! paper Ask children to draw a fantasy building or street involving spheres, hemispheres, cylinders and cones. They may need to think about how their buildings are secured in place so they don't roll away.

Here are some websites that you may find useful to use with me!

Sort the shapes - <http://www.primaryresources.co.uk/online/longshape3d.html>

Enrichment nets –

<http://www.sadlier-oxford.com/math/enrichment/gr4/EN0411b/EN0411b.htm>

Quadrilaterals/Triangles -

http://www.bbc.co.uk/bitesize/ks2/maths/shape_space/shapes/play/popup.shtml