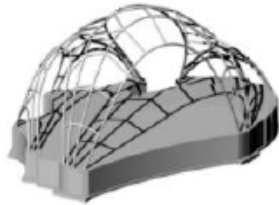




# Year 3 Design Technology - Structures - Shell Structures

## Shell Structures



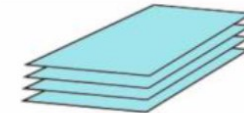
A shell structure is a hollow structure made from a thin outer layer. Many buildings use a shell structure including the O2 and Shard.

## Shell structures

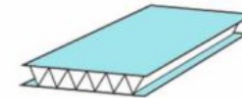


## Explore how to provide strength and structure:

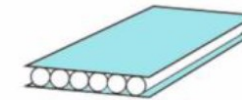
Stiffening and strengthening sheet materials:



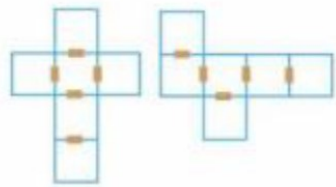
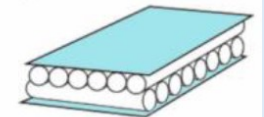
Laminating - glue together several layers of card



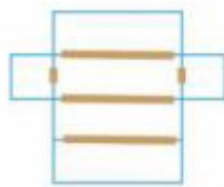
Corrugating - zig-zag a piece of paper or card and glue in between two layers of card



Ribbing - glue layers of straws between layers of card



Nets for cubes



Cuboid net



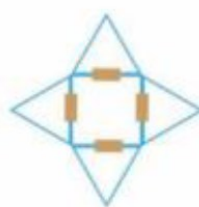
Hexagonal prism net



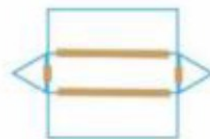
Tetrahedron net



Hexagonal based pyramid net



Square based pyramid net



Triangular prism net

## Key Vocabulary

- cuboid:** a solid 3D shape with rectangular sides.
- face:** a flat surface of a geometric shape.
- edge:** where two surfaces meet at an angle.
- net:** the flat or opened-out shape of an object such as a box.
- prism:** A prism is a 3D shape with flat sides. The 2 ends are an equal shape and size. The cross-section is identical.
- scoring:** cutting a line or mark into sheet material to make it easier to fold.
- vertex:** used to refer to the corners of a solid geometric shape, where edges meet.
- CAD (Computer Aided Design):** the use of computers to help in the creation, modification, analysis, or optimization of a design.