

Structures - Money boxes



LKS2 Design & Technology: Structures

Design & Technology Concepts

Design	a plan or specification, such as diagrams, sketches, prototypes, pattern pieces or computer aided design, for the construction of an object or system.
Make	the act or process of forming, causing, doing to create an intended outcome.
Evaluate	to determine the quality, importance and significance, worth, or condition by careful appraisal and study.

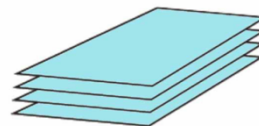
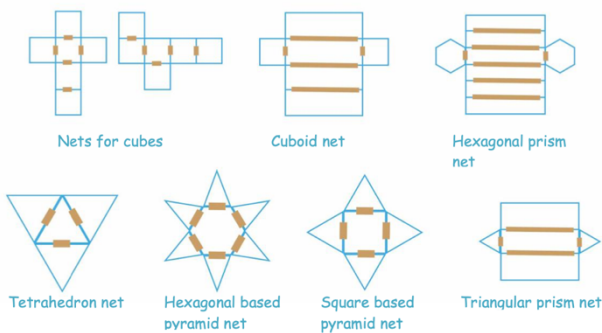
Core Vocabulary

Shell structure	a hollow structure made from a thin outer layer. Many buildings use a shell structure including the O2 and Shard
CAD	Computer Aided Design (CAD) is the use of computer-based software to aid in design processes. CAD software is frequently used by different types of engineers and designers.
Annotated sketch	a combination of notes and labelled drawings that provide an explanation about a scientific process.

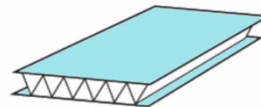
Technical Knowledge

Assemble and evaluate 3-D shapes using standard sized card squares, rectangles, equilateral triangles, isosceles triangles and hexagons, joined with masking tape.

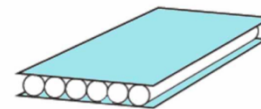
Stiffening and strengthening sheet materials:



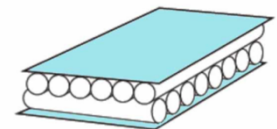
Laminating - glue together several layers of card



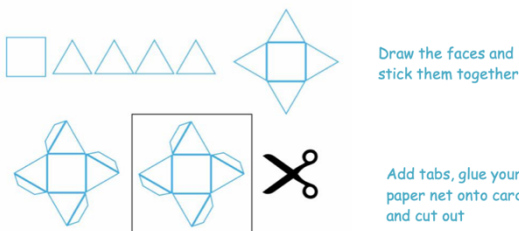
Corrugating - zig-zag a piece of paper or card and glue in between two layers of card



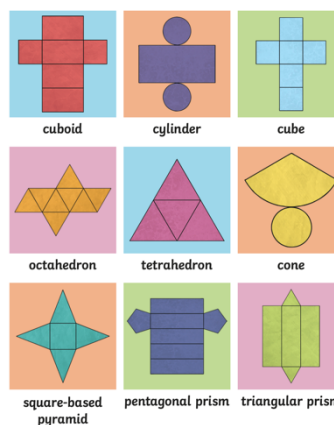
Ribbing - glue layers of straws between layers of card



Creating the net for the product you are designing and making without using computer-aided design:



Nets of 3D Shapes



Helpful Knowledge

1	Examples of natural shell structures include coconut shells, tortoise shells, sea shells and nut shells. Examples of man-made shell structures include tunnels, roofs, helmets, drink cans and boats
2	Nets can be used to make 3D products. Nets can be assembled using either CAD (computer aided design) systems or by hand.
3	Scoring is the process of marking a sheet to make it easier to fold. Tabs are additional strips on the net that can be scored and folded to make a surface for sticking vertices together.