



Year 3 DT - Shell Structures

EXAMPLE:
The designing, making and evaluating process to make a gift box

Key vocabulary	
Shell structure	A hollow structure with a thin outer covering
Net	The flat or opened-out shape of an object like a box
Font	The style of lettering being used
Cuboid	A solid object (3D) with 6 rectangular sides
Capacity	The amount a 3D object can hold inside
Join	To connect or fasten things together
Scoring	Cutting a line or mark into sheet material to make it easier to fold
User	Who the product is being made for
Purpose	What will be product be used for

THOUGHT	ACTION
What type of shell structure shall I make? What will be the purpose of my product? How will my product appeal to my intended user?	Discussing ideas, drawing annotated sketches, generating design criteria
Which materials will I use to make it?	Investigating and evaluating possible materials
Which shape will be the best for my structure? How will I stiffen and strengthen my structure?	Discussing, constructing and comparing different nets Exploring strengthening techniques
What graphics techniques will I use to achieve a desired visual effect and purpose?	Evaluating prototypes against success criteria
Will I work with someone else? How long will it take? What order will I work in? What tools, techniques and skills will I use?	Discussing, exploring, trialling and evaluating different graphics effects Negotiating, developing and agreeing a plan of action, evaluating actions
Do I need to adjust or change anything?	Discussing, trying out and modifying the design
Will my product meet the needs of the user?	Evaluating the product with the intended user and against the success criteria

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

Draw the faces and stick them together

Add tabs, glue your paper net onto card and cut out

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