In DT we are learning about… Shell Structures – Can you make a desk organiser for Mrs Otterburn to help her to keep tidy?

Key vocabulary

Shell Structures – a hollow structure with a thin outer covering.
Packaging –something used to protect or contain a product
Strong/stable - something that stays standing when weight or force is put on it
Durable – something that lasts for long time
Edge – Where two surfaces meet an angle
Face – a surface of a geometric shape
Vertex – used to refer to the corners of shape, where the edges meet
Net – the flat or opened out shape such as a box
Purpose –How your product is going to be used
Audience –Who is going to be using your product
Scoring – cutting a line or mark to make it easier to fold
Forces- the push or pull on an object
Appealing– how interesting the product looks and to its user
Font- a printer's term meaning the style of lettering being used
Tabs- additional strips on the net that can be scored and folded to make a surface for sticking vertices together

Characteristics needed for this topic:

- Problem Solving
- Improving/resilience
- Curiosity

Sticky knowledge and skills

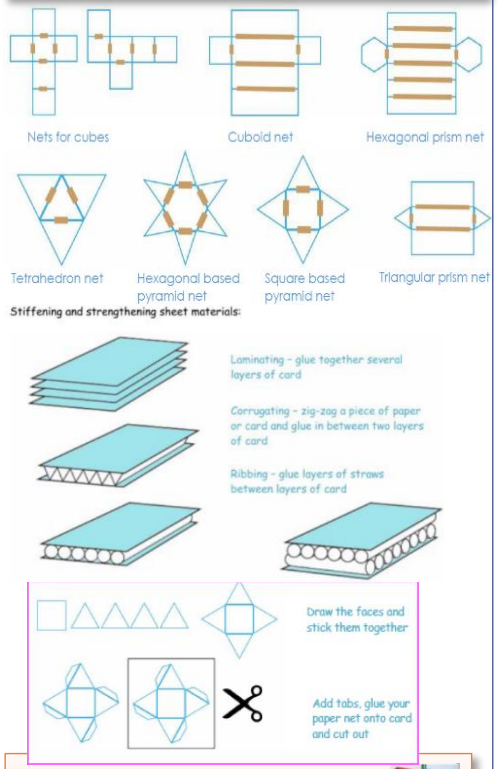
- Shell structures are structures with a solid outer surface (curved or flat) and a hollow inner area and are used to protect, contain or present products
- Some examples of shell structures are food packaging, tunnels, helmets, drinks cans, boats and desk organisers
- A rounded outer surface is strong because it spreads forces throughout the whole structure
- I can design an attractive product that meets the needs of my audience and has a clear purpose
- I can prove that it meets a specific design criteria
- I can use ideas from existing products to inform my design
- I can draw annotated sketches of my product including different viewpoints (year 4)
- I can produce a plan and explain the use of chosen materials (based on their properties), equipment and processes
- I can choose the correct tools for the task and show knowledge of handling basic tools
- I can mark, measure and cut accurately and a ruler for scoring
- I know how to strengthen a product by stiffening a given part or reinforce a part of a structure.
- I can persevere and adapt work when original ideas do not work (year 4) and I can evaluate a finished product for its purpose and appearance and suggest improvements

Links to previous learning

- Knowledge of 2D and 3D shapes
- Joining materials together e.g. with glue or tape or folding them and adding an extra layer of material strengthens them
- Rolling paper into a tube shape makes it stronger
- Using a pencil/paintbrush, scissors, ruler and a stapler/hole punch (with adult supervision)

Key Designers

Snehal Garg – The Work Desk Organiser
Jeff Sheldon – Modular Desk Orgniser
Subin Song – Cacty Desk Organiser
Marc Stueber and Laurent Hartmann – Re-ease Organiser



Aspirations

- Product developer
- Marketing manager
- Structural engineer
- Computer Aided Design (CAD)
- Advertising