

# In DT we are learning about... **Shell Structures - Can you make some packaging for a gift for a family member?**



## 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

**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

## Sticky knowledge



- 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
- The purpose of packaging is to protect the product inside and appeal to its audience/user through its appearance e.g. colour, wording, patterns etc

## Links to previous learning



### Year 3

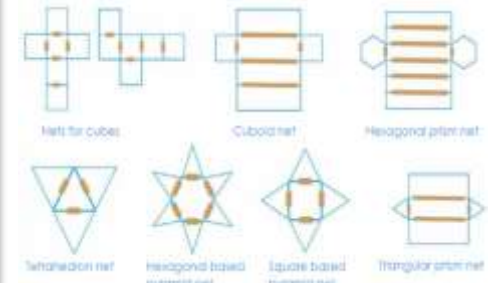
- Structures are more stable when they have a wider base
- Some materials are stronger and more rigid (stiffer) than others, e.g. card is stronger and more rigid than paper
- Joining materials together e.g. with glue or tape can make them stronger

### Year 4

- Folding or rolling paper/card into a tube makes it stronger
- Adding an extra layer of materials can make it rigid
- 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

## Key Designers

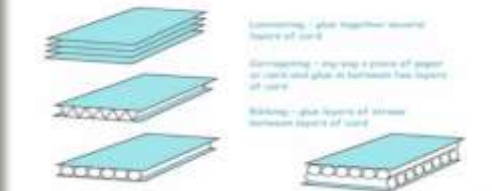
Recognisable food packaging e.g. Toblerone, Maltesers, Terry's Chocolate Orange and Pringles etc



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



Stiffening and strengthening sheet materials:



## Aspirations



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

## Characteristics needed for this topic:



- Reasoning and problem solving
- Making links
- Perseverance