

D&T – Shell Structures

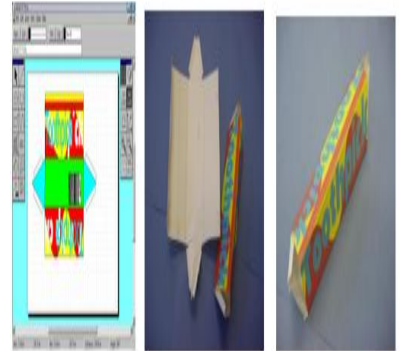
Year 3: Spring 2

Key Vocabulary

- Shell structure** – a hollow structure with a thin outer covering.
- Cuboid** – a solid body with rectangular sides.
- Edge** – where two surfaces meet at an angle.
- Face** – a surface of a geometric shape.
- Font** – a printer's term meaning the style of lettering being used.
- Net** – the flat or opened-out shape of an object such as a box.
- Prism** – a solid geometric shape with ends that are similar, equal and parallel.
- 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.
- Adhesives** – substances to stick objects or materials together, such as glue.
- Corrugating** – wrinkles or folds.
- Ribbing** – a rib-like structure or pattern.

Key Questions

- What is the purpose of the shell structure – protecting, containing, presenting?
- How has it been constructed?
- How has it been stiffened i.e. folded, corrugated, ribbed, laminated?
- How will the purpose and user affect your design decisions?
- How will we know that we have designed and made successful products?



Key Skills

- Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and the functional and aesthetic purpose of the product.
- Select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy.
- Use finishing techniques suitable for the product they are creating.
- Investigate and evaluate a range of existing shell structures including the materials, components and techniques that have been used.
- Test and evaluate their own products against design criteria and the intended user and purpose.
- Develop and use knowledge of how to construct strong, stiff shell structures.
- Use a range of techniques to shape and mould.

Concepts

Technical Knowledge -Technical knowledge is an understanding of modern technology, its working and advances. Your detailed understanding of anything that can be applied or reasoned with in any shape or form for any issues or applications is technical knowledge.

Making - The making of something is the act or process of producing or creating it.

Website Links

<https://kidworldcitizen.org/world-architecture-for-kids/>
<https://www.youtube.com/watch?v=Pp9U6IyoIqg>