



Design & Technology

Materials & Construction

Year 3

Autumn Term

Statutory Requirements

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- generate, develop, model and communicate ideas through discussion, annotated sketches, prototypes, pattern pieces and computer-aided design
- select from and use a wider range of tools and equipment to perform practical tasks [e.g. cutting, shaping, joining and finishing],
- select from and use a wider range of materials and components, according to their functional properties and aesthetic qualities
- investigate and analyse a range of existing products
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- understand how key events and individuals in design and technology have helped shape the world
- apply their understanding of how to strengthen, stiffen and reinforce more complex structures

Experiences

(e.g. boxes for storage)

- Investigate different existing ideas on the market for similar uses
- Investigate own ways of making this type of product.
- Create own design ideas to meet needs of target market.
- Practice using practical skills safely and investigate best practice e.g. which glue works best, is scoring or folding necessary?
- Make basic product and evaluate to decide on improvements for making a unique final design.
- Use CAD (e.g. make a template using purple mash)
- Make own final product with improvements and evaluate

Materials & Construction Opportunities

- Cut materials accurately and safely by selecting appropriate tools.
- Measure and mark out to the nearest millimetre.
- Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs).
- Select appropriate joining techniques.
- Choose suitable techniques to construct products or to repair items.
- Strengthen materials using suitable techniques.

Key Vocabulary & Knowledge (Materials & Construction)

Research	Finding out ideas and/or information
Existing products	Products which have already been made.
Design	Thinking and creating ideas to solve a problem or meet a purpose
Components	Parts of something which together make a whole.
Functional	To serve a certain purpose
Aesthetics	Things to make products looks nice
Prototype / mock-up	A trial/test of a product before the final version.
Target Market	A group of people who will benefit/use the product.
Design specification	A list of criteria the final product should meet to be successful.
Evaluate	To check and make decisions throughout the design and making process are going to plan. To judge the quality of the final product

Some practical techniques

Cutting



Folding



Scoring



Slots & cut outs

