



Mowbray School

Long Term Plans - Design and Technology

The National Curriculum for D&T says: When designing and making, pupils will be taught to...

Design

- use research and exploration, such as the study of different cultures, to identify and understand user needs
- identify and solve their own design problems and understand how to reformulate problems given to them
- develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations
- use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses
- develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools

Make

- select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture
- select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties

Evaluate

- analyse the work of past and present professionals and others to develop and broaden their understanding
- investigate new and emerging technologies
- test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups
- understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists

Technical knowledge

- understand and use the properties of materials and the performance of structural elements to achieve functioning solutions
- understand how more advanced mechanical systems used in their products enable changes in movement and force
- understand how more advanced electrical and electronic systems can be powered and used in their products [for example, circuits with heat, light, sound and movement as inputs and outputs]
- apply computing and use electronics to embed intelligence in products that respond to inputs [for example, sensors], and control outputs [for example, actuators], using programmable components [for example, microcontrollers].

Key Stage 3

Students experience and become familiar with a range of materials and process during their D&T lessons in Year 7, 8 and 9.



Projects include;

A Push-along Toy for another child

An acrylic key ring

A personalised door sign

Enamelled Jewellery based on natural shapes

Mechanical Toy using cams and levers

A simple articulated puppet

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Key Stage 4

Students build on the practical skills introduced in KS3 and develop their understanding of how products are manufactured.



are
quality.

Mathematics for essential designing and making.

Decorative Bookends.

Christmas Decorations (Enterprise Project).

Gardening sets and Sheet steel garden ornaments (Enterprise Project).

Mood Lighting

Assorted Upcycled Products (A-UP).

