

Information for website

Design and Technology – Product Design

Introduction and Vision –

‘Dream it, Believe it, Make it’

Key Stage 3

Within Year 7, 8 and 9 students undertake a design and make project in DT Product Design over a series of one-hour lessons. Students are taught how to respond creatively to a Design brief in order to solve problems. Students are always encouraged to respond to the Design problems with original, creative and exciting ideas, which allow them to choose the best processes, tools and techniques for manufacturing them. Throughout each project, the students are introduced to different methods as well as taught to analyse, evaluate and suggest improvements for their ideas.

Year 7 – Timber based materials

Year 8 – Polymers and Major 20th Century design movements

Year 9 – Metals and alloys and timber based materials

Key Stage 4 – AQA

At GCSE level students are introduced to the AQA Design and Technology specification. Within this, subject students acquire knowledge and understanding of the working characteristics of materials and manufacturing processes, while being encouraged to utilise this when designing and manufacturing products. Our GCSE allows students to study core Technical, Designing and Making principles including a broad range of design processes, materials techniques and equipment. They will also have the opportunity to study specialist technical principles in greater depth.

GCSE Design and Technology at Ramsey will prepare students to participate confidently and successfully in an increasingly technological world. Students will gain awareness and learn from wider influences on Design and Technology including historical, social, cultural, environmental and economic factors. Students will get the opportunity to work creatively when designing and making and apply technical and practical expertise.

In Year 10 and 11 students cover the following topics for their Component 1 – Written paper:

- new and emerging technologies
- energy generation and storage
- developments in new materials
- systems approach to designing
- mechanical devices
- materials and their working properties
- selection of materials and components
- forces and stresses
- ecological and social footprint
- sources and origins
- using and working with materials
- stock forms, types and sizes
- scales of production

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- specialist techniques and processes
- surface treatments and finishes
- investigation, primary and secondary data
- environmental, social and economic challenge
- the work of others
- design strategies
- communication of design ideas
- prototype development
- tolerances
- material management
- specialist tools and equipment

And the following topics for their Component 2 – Non exam assessment:

- Identifying & investigating design possibilities
- Producing a design brief & specification
- Generating design ideas
- Developing design ideas
- Realising design ideas
- Analysing & evaluating