

At Key Stage 3 students will complete nine unique projects that develop both traditional techniques but that also give them the tools to be a modern designer and manufacturer. This journey involves; CAD/CAM Carpentry, Engineering, Mechanisms, Electronics, Prototyping and Material investigation. This process will be underpinned by the iterative design process and preparation for the GCSE specification. The students will also experience food in year 9 to embed the life skills they need to live independently in a healthy manner. This curriculum has totally been rebuilt by the subject specialist and outstanding practitioners in the last two years to offer students an exciting and dynamic experience to create the designers and problem solvers of tomorrow.

Year 7

Graphics Products - Science museum hand held game

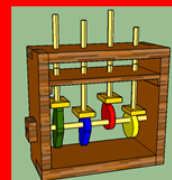
- Designing skills
- Typography/graphic design
- Iterative design
- CAD/CAM skills 2D design leading to laser cutting.
- Vac forming and the processes in forming plastics.
- Prototyping, Packaging design and Nets



Year 8

Mechanics/Engineering - Automata and Mechanisms project

- Types of forces
- Mathematics in Design
- Joinery
- Cams
- Gear systems
- Pulleys and levers



Year 9

Product Design - Dieter Rams inspired lighting

- Design principles
- Corrugated cardboard modelling
- Iterative designing
- Electronics
- Linkages
- Design originality



Carpentry - Arts and Crafts Tablet stand

- Contextual research
- Traditional Joinery
- Workshop machinery and hand tools
- Using JIGs
- Technical drawing
- Material finishes



Architecture - Grand Designs

- Data gathering, analysis and presentation.
- Architectural Research Sir Christopher Wren and Sir Norman Foster
- Plan drawing
- CAD rapid prototyping
- Scale modelling
- Modelling techniques



Product Design Enterprise - Design Ventura Competition

- Real world design challenge
- Team Designing
- Business considerations in designs
- Costing and budget control
- Designing sustainably
- Presentation skills
- Production processes



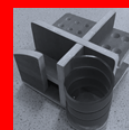
Metals - Alessi Key Fob

- Meta forming techniques
- Using templates and working to tolerance
- Smart ,composite and Modern materials.
- Using Metal machinery and hand tools
- Casting metals
- Finishing metals



Product Design – Desk-tidy inspired by Bauhaus design

- Mix Media Exploration
- Design Movement research
- Shaping and finishing plastics, Manufactured materials and metals.
- Joining materials temporary and permanent techniques.
- Exploring Material properties
- Moulding and forming materials.
- Laminating materials-Vac bagging



Food Technology - Preparing for University.

- Health and safety
- Knife skills
- Cooking techniques
- Food preparation
- Healthy eating
- Balanced diets
- Food Science

