



Technology and Design

Technology and Design provides pupils with opportunities to develop their knowledge, understanding and skills using a range of materials to prepare them for a rapidly changing world and to consider the environmental impact of new technologies and products.

Pupils participate in tasks which help to develop their skills to problem-solve, plan and produce ideas through sketching and manufacturing products to meet human needs which then will be evaluated and modified.

The subject is also part of the STEM group and provides opportunity for collaboration, team-working and communication skills that are essential for any future employment.

The Technology and Design team comprises of two member of teaching staff and one technician, who have the ability to operate from two fully equipped manufacturing workshops and two planning rooms, one of which is a fully equipped computer suite.

The workshop is equipped with traditional and computer controlled machines with the latest CAD / CAM technology, consisting of a CNC laser cutter, CNC router, CNC vinyl-cutter and three 3D printers.





Key Stage 3

At Key Stage 3 Technology and Design is a compulsory national curriculum subject delivered over two lessons per week. The areas of study are designed to build-up key skills and knowledge in preparation from KS4 through design and manufacture projects in which pupils experience areas such as: Product Design; Electronics; Mechanisms; Pneumatics; Computer Control; Computer Aided Design; Computer Aided Manufacture; Materials / Manufacture; Workshop Skills.

Year 8	Year 9	Year 10
Health and Safety		
Metal Keyring	Nightlight project	Rubbish Grabber
Flashing Xmas Tree	Sweet Dispenser	Electronic Animal Nightlight
CAD/CAM Clock Mechanism	Graphic Design	Pneumatics
Notepad Holder	Phone Stand	Phone Stand
Graphic Design	(CAD)Phone Stand	(CAD)Phone Stand
CAD / CAM 3D Printer Project	CAD / CAM 3D Printer Project	Graphic Design





Key Stage 3 Projects



Flashing Xmas tree

Computer Aided Design Keyring

We are learning to use

NAME:



Aluminium Keyring



Pencil Holder



Coke Can Lamp



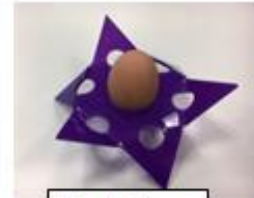
Moisture Tester



Colour changing Nightlight



Notepad Holder



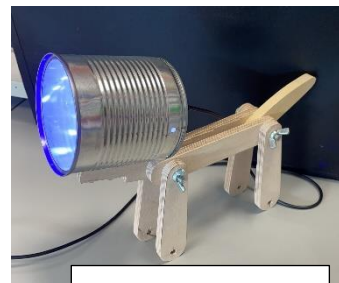
Egg holder



Birdfeeder



Birdfeeder



Animal Nightlight



Sound Amplifier



Rubbish Grabber



3D Printed Egg holder



Sweet Dispenser



Key Stage 4

At Key Stage 4 the department offers **CCEA GCSE Technology and Design** and **CCEA Occupational Studies Construction, in Joinery and Carpentry**.

CCEA GCSE Technology and Design Units and Assessment:

Unit 1: Technology and Design Core (<i>External Exam</i>)	25%
Unit 3: Product Design (<i>External Exam</i>)	25%
Unit 5: Design & Make Project (<i>Controlled Assessment</i>)	50%



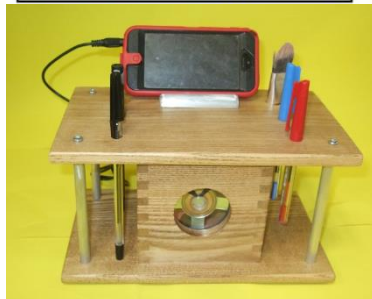
Design & Technology GCSE



Design & Technology GCSE



Design & Technology GCSE



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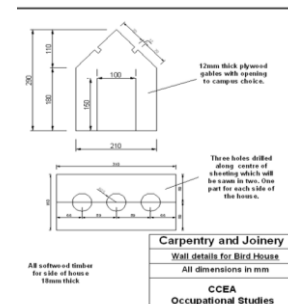
Design & Technology GCSE



Design & Technology GCSE

CCEA Occupational Studies Construction Units and Assessment:

Unit 16: Bench Joinery (<i>Controlled Assessment</i>)	50%
Unit 18: Carpentry and Joinery (<i>Controlled Assessment</i>)	50%





Key Stage 5

The department offers **GCE Edexcel A-Level Design & Technology, Product Design**. This product design based course offers pupils the chance to further develop their creative, problem-solving and entrepreneurial skills to apply knowledge and understanding to a range of technological activities to develop critical thinking and collaborative skills.

The course allows progression in design and manufacture including CAD / CAM technology and is a good foundation for product design, engineering and architectural based courses in Further or Higher Education colleges. This subject complements subjects such as Further Maths, Science, ICT and Art.

Edexcel A-Level Product Design Units & Assessment: (linear course - two years)

Unit 1: Principals of Design and Technology (External Examination) 50%

Unit 2: Independent Design and Make Project (Controlled Assessment) 50%



Design & Technology A2



Design & Technology A2



Design & Technology AS





CAREERS

Students who studied Technology and Design to A2 Level can pursue university courses and careers in areas such as:

- Product Design
- Mechanical Engineering
- Electronic Engineering
- Graphic Design
- Civil Engineering
- Quantity Surveying
- Teaching
- Architecture
- Manufacturing Engineer
- Automotive Engineer
- Set and Special Effects Engineer
- Biomedical Engineer
- Computer Operator
- Telecommunications Engineer
- Computer Programmer
- Web Designer
- Inventor
- Network/Communications Analyst
- Construction
- Interior Designer

A GCSE or A-Level in Technology and Design can also be useful for apprenticeships in carpentry, construction, manufacturing and engineering.

