

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 (Mr Jones & Mr Lowry) and one technician (Mr Barclay), who can operate from two fully equipped manufacturing workshops and two planning rooms, both 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		
Tack Puller	Keyring Holder	Trinket Box
Desk Tidy	Sparky Nightlight	Fidget Toy
Phone Holder	Animal Nightlight	Hat & Coat Hook
Graphic Design	Graphic Design	Graphic Design
CAD/CAM	CAD/CAM	Careers
Pneumatics	Pneumatics	Pneumatics



Key Stage 3 Projects

Year 8



Tack Puller Project



Desk Tidy



Phone Holder

Year 9



Key Ring Holder



Sparky Nightlight



Animal Nightlight

Year 10



Trinket Box



Fidget Toy



Hat and Coat Hook

Key Stage 4

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

CCEA GCSE Technology and Design Units and Assessment:

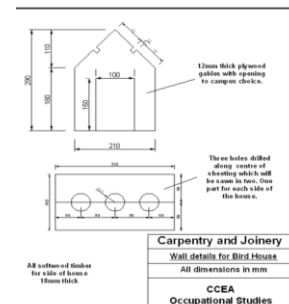
Unit 1: Technology and Design Core (<i>External Exam</i>)	25%
Unit 3: Product Design (C) (<i>External Exam</i>)	25%
Unit 5: Design & Make Project (<i>Controlled Assessment</i>)	50%

CCEA GCSE Engineering:

Unit 1: Design Portfolio (<i>Controlled Assessment</i>)	25%
Unit 2: Practical Exam (<i>Internal Exam</i>)	25%
Unit 3: Engineering Principles (<i>External Exam</i>)	50%

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%



All external timber
for side of house
18mm thick

Carpentry and Joinery
Wall details for Bird House
All dimensions in mm
CCEA
Occupational Studies

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: Principles of Design and Technology(External Examination) (Year 14)
50%

Unit 2: Independent Design and Make Project(Controlled Assessment) (Year 13)
50%



Design & Technology A2



Design & Technology A2



Design & Technology AS



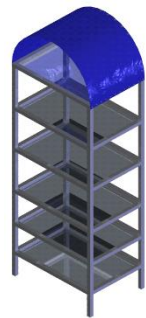
CAREERS

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

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

- 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

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



Partnership with 'Lowry Engineering'

As of Sept 2024, we are proud to be partnered with 'Lowry Engineering', a local firm who manages on site building and civil engineering services. This partnership sees the Construction Department at CHS work closely with the firm providing them with apprentices at the end of Yr12. Those apprentices go on to receive a fully funded fast track to the local colleges and on site employment with the firm.

