

## Design & Technology

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.

They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. All projects will reflect the modern fast moving world of technology. Pupils will be encouraged to use a wide range of design and making methods including Electronics, Computer Aided design, lazer cutting and 3D printing. Pupils are expected to critique, evaluate and test their ideas and products and the work of others

### Staffing

<b>Mrs Doran</b>	Curriculum Leader for Technology & Computing
<b>Mrs Sales</b>	2 <sup>nd</sup> in Technology & Computing, Teacher of D&T and Photography
<b>Mrs Reader</b>	Assistant Headteacher/Teacher of Food & Nutrition
<b>Mrs Bennison</b>	Teacher of Technology
<b>Mr O'Hare</b>	Teacher of Technology
<b>Mr Sharples</b>	Technology Technician
<b>Mrs Kuczaj</b>	Food & Nutrition Technician

### Curriculum

The following topics are studied at KS3:

Students will study different topics as part of the technology carousel. Each year in KS3 comprises of 4 x 10 week rotations. Each rotation:

- a) Focusses on the core elements of the D&T curriculum (design, make, evaluate and knowledge)
- b) Embeds the fundamentals of health & safety when working in a practical environment
- c) Allows students to utilise a range of specialist tools and software when designing and making their own ideas and products

	<b><u>Rotation 1</u></b>	<b><u>Rotation 2</u></b>	<b><u>Rotation 3</u></b>	<b><u>Rotation 4</u></b>
<b><u>Year 7</u></b>	Let's Get Cooking (Food & Nutrition)	Bird Box (D&T)	Technical Drawings and Logo Development (Graphics)	LED Lamp (D&T)
<b><u>Year 8</u></b>	Healthy Me (Food & Nutrition)	Mechanical Toy (D&T)	Graphics and Website Development (iMedia)	Pewter Casting (D&T)
<b><u>Year 9</u></b>	Nutritional Needs (Food & Nutrition)	The Hammer (Engineering)	Creating a Digital Product (iMedia)	Design for Purpose (D&T)

The following units are studied at KS4.

Pupils have **2** lessons per week in year 10 and **3** lessons per week in year 11.

	<b><u>Autumn Term</u></b>	<b><u>Spring Term</u></b>	<b><u>Summer term</u></b>
<b><u>Year 10</u></b>	<p><b>Materials</b> (Wood, plastic, paper/card)</p> <p><b>Mini Project</b> (Research, Design, Model, Make, Evaluate)</p> <p><b>Joints</b> (Wood fixings and joint work evidence)</p> <p><b>Shape/Form</b> (Ergonomics and anthropometrics)</p> <p><b>Smart Materials</b> (Polymorph design and other smart materials)</p>	<p><b>Electronics</b> (programming)</p> <p><b>CAD and 3D Print</b> (3D work, On Shape/Sketch up, create a 3D product)</p> <p><b>Mini NEA</b> (Research, Design, Model, Make, Evaluate)</p>	<p><b>Metals</b> (Theory, pewter casting)</p> <p><b>Mechanisms</b> (theory and practice models)</p> <p><b>Start of the NEA</b> (Research, Design, Model, Make, Evaluate)</p>
<b><u>Year 11</u></b>	<p><b>Completion of NEA</b> (Research, Design, Model, Make, Evaluate)</p> <p><b>Year 11 Mock Exams</b></p>	<p><b>Final completion of NEA</b> (Research, Design, Model, Make, Evaluate)</p> <p><b>Theory Revision</b></p>	<p><b>Theory Revision and Exam Practice</b></p>

## **Extra-curricular activities and visits**

**Inter-house Challenge** – an annual challenge is set to all year groups to design a seasonal product. Winning designs are developed and are available for sale with monies raised being donated to the school's selected charities.

**Barcelona** – A new trip combining a range of cross curricular experiences. Those attending will experience architecture, sustainability and artist inspiration relevant to GCSE Design and Technology, in particular the works of Gaudi's biomimicry and sustainability concepts, by visiting La Casa Batllo. Pupils will be introduced to the Spanish culture and new cultural food, and culinary concepts, by a visit to La Boqueira Market and Las Ramblas. As part of our Catholic ethos, and also connecting to the RS GCSE specification, pupils will draw on the comparison between Sagrada Familia and other churches such as St Marys' and Liverpool Cathedral. Visits to Park Guell including access to Noble Flat and Terrace, this trip is will be beneficial to the 'Strange and Fantastic' topic within the GCSE Art curriculum, and will be used for first hand observational studies and inspiration.

**Creative Club** – Each half term we offer a different 'theme' to allow pupils to dip into the strands of technology that they enjoy – for some pupil this may be all of them! Clubs include:

- Coding/Gaming Club
- 3D Printing
- Food
- Textiles
- Photography

**Competitions** – Each year there are an abundance of STEM, photography and D&T competitions. These are publicized to pupils who are encouraged to enter.