

## Design & Technology

### KS3 Curriculum

#### What does this course involve at Key Stage 3?

Design and Technology is about all that surrounds us. It is a subject which encourages you to design and make products with creativity and originality using a range of materials such as paper/card, plastics, textiles, ceramics, food, electronics, timber-based materials and ferrous and non-ferrous metals. Students will develop a variety of techniques for working with these materials. The course has a practical approach that encourages students to design and make products with creativity and originality in a variety of practical activities. The study of packaging, branding and marketing tools are included in the course as part of the process of understanding commercially viable products.

We aim in Design and Technology to develop students' independence and opportunities for learning through their engagement, thinking, reflectiveness and Interdependence.

#### What do you need to be successful in this course?

To be successful in this course students' will be shown how to undertake different drawing and modelling techniques to design products. Channelling and developing their own creativity and problem solving skills will result in finished pieces of practical work being completed. Student will be responsible for ensuring they follow the safety procedures correctly whilst they are in the workshops.

Year 7	Students will be completing a range of projects firstly they will be leaning CAD using 3D design software which will then be 3D printed out to learn about Computer Aided Manufacture. Students will then go on to develop their knowledge of CAD and CAM using a 2D design software to create a small key ring project and a mobile phone holder. They will then complete a graphics based project then moving onto an electronics USB fan project and finally bringing graphics and Cad skills together to work on a packaging project.
Year 8	Students will be working on an electronic torch project which will also develop their CAD skills from year 7. Students will then develop their graphic skills with an introduction to mechanisms. Students will then develop their knowledge of promotional items with a graphic standee project. Finally students will be completing a mechanical toy project to develop their knowledge of resistant materials.
Year 9	Students will develop some technical drawing skills initially they will then look at using these skills as well as CAD skills they have learnt in year 7 & 8 to produce a cable tidy that has been designed in CAD and produced using CAD. They will also look at the full lifecycle of this project focusing on the packaging and promotion of the project as well as end of life use. Students will then look at prototyping using aluminium to produce a tealight holder and finally students will work on their carpentry skills.

### Key Stage 4 Curriculum

Years 10 & 11	<p><b>Qualification name:</b> AQA GCSE Design &amp; Technology: Product Design</p> <p>This is a design qualification teaching students how to design products to solve issues relating to real world problems. It will teach the students to design in an iterative way building on what they have learnt at KS3.</p> <p>Students will research, design, develop, make and evaluate a range of projects during the 2 year course and will specialise in woods, metals and polymers when designing.</p> <p><b>Year 10</b></p> <p>Students will learn how to design in an iterative way and learning about the design process from initial concepts of a product through to the manufacture. They will learn about the different types of woods, metals and polymers in a practical way by developing prototypes of their designs using these materials.</p> <p><b>Year 11</b></p> <p>Students will complete their controlled assessment responding to a design context to create a working prototype that solves a real world problem.</p>
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Students will also sit a written exam on the theory of design answering questions about different aspects of design using the knowledge that they will have learnt in both KS3 and KS4.

