# GCSE D&T: Resistant Materials Examination Board: AQA Specification No: 4560

## Why choose to study GCSE D&T: Resistant Materials?

Designing and making products using timber metal and plastic is behind this programme of study. Customers need successful products that answer real life problems and make people's lives easier. During the course you will work on a design folder and work with clients to produce a working solution which you will then create using either traditional workshop skills and/or computer aided design. Having a degree of practical ability and being able to physically design and make something is a basic and fundamental desire for most boys… whatever their age… Whether the subject is pursued with an intention to develop it as a career or just an ability to use the skills for one's own pleasure or benefit, it allows an appreciation of materials and manufacturing processes. Such knowledge and ability informs choice and encourages a regard for quality in manufactured products. The course is very much about designing successful/commercial products for specific clients. There is also a considerable need for skilled designers, engineers and tradesmen in this country.

## What will I learn?

The Design and Technology resistant materials course builds on Year 9 foundation skills. In Year 10, set projects are made in wood, metal and plastic. Pupils become familiar with the properties of these materials by working them using both hand tools, machines and computer aided design. Practical experience in using these materials, safe working practice and extended knowledge of the design process forms the basis of this course. The emphasis is on learning by doing and the course has a practical element, supported with a folder showing why decisions about the product have been made. This course requires a **DESIGN** and **MAKE** mentality; you need to be competent in both elements to make a success of this program of study.

## How is GCSE D&T: Resistant Materials assessed?

Year 11 projects are set by the examining body, AQA, and cover a broad range of areas. Everything from designing gadgets for around the home, to using recycling materials to produce innovative products for the home can be chosen for investigation and design by pupils, ending up with a working product, in a chosen material. Projects are limited to around 25 A3 pages from start to finish and counts for 60% of the overall GCSE qualification. A written exam makes up the remaining 40% of the GCSE. The exam is a 2hour paper which covers all grades from A* to U. products are made during year 10 in metal, timber and plastic and students learn the skills to help produce a successful outcome in year 11. The department has recently purchased a laser cutter and 3d printers to support the practical outcome and has invested in Autodesk Inventor to heighten the success criteria and align with industry standards.

## Where will GCSE D&T: Resistant Materials lead?

| Course progression | Career opportunities |
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| Pupils taking any one of the GCSE Design and Technology options can continue the subject at A Level which is known as Design and Technology Product Design (3D Design) as long as they get a minimum of a B grade | At all levels of design and manufacturing, using a breadth of processes both automated, controlled or craft-based, the subject offers an insight into designing, engineering and trade skills that can be put to use on leaving school or developed further through further education or employment. |

## What do students say about GCSE D&T: Resistant Materials?

*"I like designing and making things".*

*"I enjoy using tools and equipment and I can plan and carry out tasks in the workshops".*

*"I was able to work with new materials and design and make something that had a specific purpose I was proud of. I took it home when it was finished."*

*"We made it to the final of the 2014 3D Printshow Educational Excellence Award"*