

SUBJECT: Design and Technology – Product Design

CURRICULUM INTENT: ‘Embrace creativity whilst considering the needs of others’

To provide a creative and imaginative sequence of learning that inspires and encourages students to think and intervene creatively to solve problems both as individuals and as members of a team. The aim is to link wherever possible, other disciplines such as Mathematics, Science, Engineering, Computing and Art which, in turn, gives the learning purpose and relevance. Linking some work to existing designs, design movements throughout history and the designers themselves, provides opportunities for students to critically evaluate their ideas.

CURRICULUM OVERVIEW:

Year	<b>Technology lessons in Year 7 and 8 work on a carousel system. Students experience 8 lessons of Design &amp; Technology – Product Design each year.</b>
7	<b>Timbers</b> In Year 7 students are introduced to Product Design by learning skills to design, develop, manufacture and evaluate their product. The main focus of the study is to introduce students to variety of tools, equipment and manufacturing processes in a safe environment by producing a wooden toy for a young child. They are taught basic shaping, cutting and construction techniques for timber. Students are encouraged to respond with original, creative and exiting ideas. Students also learn how to use sources to inspire their own ideas together with introduction to one- and two-point perspective drawing skills. They learn where timbers come from and what is the difference between hard and soft woods. The programme of study is focused on developing student’s practical skills which will be built on in Year 8 and 9.
8	<b>Polymers</b> In Year 8 Product Design we recap the Design Process and the 4 assessment objectives. In Year 8 students will be introduced to three major 20 <sup>th</sup> century design movements and given a design brief to develop their own creative solution and manufacture a product inspired by one of the design movements. The project develops student’s skills in analysing existing products, design skills and manufacturing skills by building on their previous knowledge and introducing shaping and cutting tools specifically suitable for acrylics. They develop their designing skills by using tone and rendering. Students study Polymers: Where do plastics come from? What is the difference between Thermoplastic and Thermosetting plastic? How are products made from polymers formed?
Year	<b>Students who have opted for Design &amp; Technology – Product Design in Year 9 receive 18 lessons then move onto study their second Technology subject.</b>
9	<b>Sustainability and the 6Rs</b> Throughout Year 9 Product Design we review and reinforce knowledge and skills from Y7 and 8. In Year 9 students undertake a mini GCSE style projects in order to build on their knowledge and skills and therefore better equip them for Year 10 and 11 Design and Technology specification. Students are encouraged to use a higher level of analytical, design, manufacturing and evaluation skills. Students begin Year 9 Product Design by completing a series of practical activities where they learn a wider and more challenging range of joining techniques for timber. Students are introduced to sustainability and the 6Rs. They are encouraged to combine a mixture of techniques and are introduced to how a small storage unit is made.

Year	Autumn term	Spring term	Summer term
10	In Year 10 students undertake theory lessons together with practical skills projects using variety of materials in order to build their knowledge and understanding of being a responsible designer as well as characteristics of materials and manufacturing processes. The year is divided into smaller projects for the students to apply their knowledge to design, manufacture and evaluate a product in response to a design brief using variety of materials, manufacturing processes, tools and equipment. Study is linked to past exam questions in preparation for year 11.	Core, Specialist, Designing and Making theory to include all materials and industrial processes used within design. NEA practice mini project.	Revision and exam techniques for Year 10 written mock exam. NEA (coursework) briefs released by the examination board. Research and prep work for NEA task begins.
11	NEA Work Revisiting and recalling old topics	NEA Completion - Deadline late Feb/early March (50% of GCSE mark) Revision for written exam	EXAMINATIONS (50% of GCSE mark)

GCSE EXAM BOARD: AQA Design and Technology - 8552

USEFUL RESOURCES (TEXTBOOKS): Collins AQA GCSE 9-1 Design and Technology Complete Revision & Practice

Websites

<http://www.design-technology.info/home.htm>

<https://www.bbc.co.uk/bitesize>

[http://wiki.dtonline.org/index.php/Main\\_Page](http://wiki.dtonline.org/index.php/Main_Page)

<http://www.mr-dt.com/>

<http://www.technologystudent.com>

<https://app.senecalearning.com/courses?Price=Free>

