

## 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. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Design	Year 7			Year 8			Year 9			Year 10			Year 11		
Use research and exploration, such as the study of different cultures, to identify and understand user needs															
Identify and solve their own design problems and understand how to reformulate problems given to them															
Develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations															
Use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses															
Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools															
Make	Year 7			Year 8			Year 9			Year 10			Year 11		
Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture															
Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties															
Evaluate	Year 7			Year 8			Year 9			Year 10			Year 11		
Analyse the work of past and present professionals and others to develop and broaden their understanding															
Investigate new and emerging technologies															

Test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups															
Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists															
<b>Technical Knowledge</b>	Year 7			Year 8			Year 9			Year 10			Year 11		
Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions															
Understand how more advanced mechanical systems used in their products enable changes in movement and force															
Understand how more advanced electrical and electronic systems can be powered and used in their products [for example, circuits with heat, light, sound and movement as inputs and outputs]															
Apply computing and use electronics to embed intelligence in products that respond to inputs [for example, sensors], and control outputs [for example, actuators], using programmable components [for example, microcontrollers].															
<b>Cooking &amp; Nutrition</b>	Year 7			Year 8			Year 9			Year 10			Year 11		
Understand and apply the principles of nutrition and health	Eatwell														
Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet															
Become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients: adapting and using their own recipes]															
Understand the source, seasonality and characteristics of a broad range of ingredients.															

Students Rotate around the DT Specialisms. The above is an indicative pattern.

Above is an indication of the skills and knowledge continued in the GCSE Dt or GCSE Food P&N Specifications