



Key Stage 3 Long Term Overview in accordance to the National Curriculum Requirements

During Years 7, 8 & 9 students work on a rotation system whereby most will complete a textiles project, food and nutrition project and one of resistant materials based project, (dependant on which workshop the students class is timetabled in).

	Year 7 Projects - Approx 12 Week Rotation				Year 8 Projects - Approx 12 Week Rotation				Year 9 Projects - Approx 12 Week Rotation			
	Resistant Materials	Resistant Materials	Textiles	Food & Nutrition	Resistant Materials	Resistant Materials	Textiles	Food & Nutrition	Resistant Materials	Resistant Materials	Textiles	Food & Nutrition
	Key Tag	Mechanical Toy	Fantastic Plastic Bag	Pasta Salad	CAD/CAM Puzzle	Clock	Pugle Monsters	Pizza Design	Bug Design	Carpentry & CAD/CAM Frame	Mobile Phone Cushion	International Food Project
creative and practical activities – through these activities pupils are equipped with the knowledge, understanding and skills to engage successfully and independently in the process of designing and making. They include focused tasks where pupils are taught specific technical knowledge, designing skills and making skills, and investigative and evaluative activities where they learn about D&T in the wider world, including existing products, materials and processes.												
iterative process – when designing and making, pupils should engage in an iterative process. Through this process pupils' ideas are communicated and clarified through action. As opposed to a formulaic linear or cyclical process, during an iterative process thought leads to action, resulting in further thought and action as pupils resolve design problems and address design opportunities.												
range of domestic, local and industrial contexts – pupils should carry out projects within contexts that add meaning, relevance and create motivating opportunities for learning. Engaging with contexts may involve visiting locations and people outside school, inviting experts into school and using media to enable pupils to explore less familiar surroundings. The list of examples illustrates the breadth of contexts in each key stage. They do not prescribe content to be taught, but a range of authentic situations which provide starting points for designing and making. Schools may choose to work in contexts that are not listed. For example, in KS3 pupils may work in contexts such as the circular economy or sustainable development.												
when designing and making – pupils' learning within Design, Make, Evaluate and Technical Knowledge should be developed as a connected, coherent whole when they are designing and making products.												
different cultures – pupils should study a range of cultures that are less familiar to them, providing opportunities to research and understand a variety of values, needs and wants.												
user needs – understanding needs is an essential part of designing for a client or user group. Pupils should be taught how to address the interests, problems and preferences of a wide range of people.												
solve their own design problems – pupils are required to identify problems themselves in addition to responding to those they are set.												
reformulate problems – this is when, following research and investigation, pupils determine that the original problem or brief requires redefining.				N/A				N/A				N/A
innovative, functioning and appealing products – projects set should always provide opportunities for originality, resulting in products that work in some way in order to be successful. Products should provide an elegant solution that is engaging and aesthetically pleasing for the intended user.												
variety of approaches – pupils should be taught to use a range of designing strategies. These strategies guard against otherwise stereotypical responses that can emanate from briefs, tasks and challenges that are set.				N/A				N/A				N/A
biomimicry – involves the techniques of looking at how the natural world solves problems and using this inspiration to develop new ideas for the made world. Pupils should be taught how to investigate nature, for example materials, structures and systems and use this to suggest new product ideas and possible solutions to problems. *				N/A				N/A				N/A
user-centred design – involves optimising the design of a product around the needs, wants, and values of its intended user. It requires the ability to be able to foresee how specific users are likely to use a product, by involving them at an early stage and in live testing and evaluation.												
computer-based tools – pupils should use a variety of computer-based tools including computer-aided design (CAD) and computer-aided manufacturing (CAM), for example reverse engineering, creating textiles products, modelling and testing electronic circuits, structural analysis and nutritional analysis.												
range of materials components and ingredients – pupils should use a broad range of both traditional and modern materials, including smart materials, and through learning about their properties, make informed choices about which to use in the products they design and make. 'Ingredients' refers to food ingredients.												
past and present professionals and others – as part of their designing and making, pupils should investigate the work of others, including design movements and designers, to develop their appreciation of design and to inform their own design thinking.												
new and emerging technologies – new materials, processes and technologies are constantly being developed, for example conductive threads in textiles, some of which are transforming the designed and made world. Pupils should be taught to investigate these and, where applicable, make connections with their own designing and making.				N/A				N/A				N/A
views of intended users – pupils should continuously evaluate their products and ideas, putting at the centre of their thinking the views of those who will use their products.												
impact – pupils should be taught about both the positive and negative impact of design and technology in the wider world. This could include the responsible use of resources, considering sustainability issues and becoming familiar with a circular economy approach to product lifecycles.												7
designers, engineers and technologists – pupils should reflect upon the impact of past and contemporary designers, engineers and technologists on the wider world, considering their own responsibilities when developing products.				N/A				N/A				N/A
properties of materials – pupils should learn about and make use of the properties of materials such as mechanical, thermal, electrical, magnetic, optical, chemical, nutritional and sensory when making an informed choice about the products they are designing. They should develop an understanding of how structures perform and use this to inform decisions related to the shape and size of structural elements.												
mechanical systems – pupils should understand and use more sophisticated mechanical systems including gears, gear trains, pulleys, levers and linkages using either kits or components they manufacture themselves.			N/A	N/A			N/A	N/A			N/A	N/A
principles of nutrition and health – pupils should be taught about energy, nutrients, water and fibre, diet and health and nutritional needs throughout life.	N/A	N/A	N/A		N/A	N/A	N/A		N/A	N/A	N/A	
repertoire of predominately savoury dishes – the range of dishes should be in line with the principles of The eatwell plate.	N/A	N/A	N/A		N/A	N/A	N/A		N/A	N/A	N/A	
feed themselves – pupils should take into account personal preference, socio-economic aspects, nutritional and health needs.	N/A	N/A	N/A		N/A	N/A	N/A		N/A	N/A	N/A	
healthy and varied diet – as depicted in The eatwell plate and Eight tips for healthy eating.	N/A	N/A	N/A		N/A	N/A	N/A		N/A	N/A	N/A	
source – pupils should explore the origin and production of food products and ingredients.	N/A	N/A	N/A		N/A	N/A	N/A		N/A	N/A	N/A	
seasonality – pupils should consider how seasons may affect the food available.	N/A	N/A	N/A		N/A	N/A	N/A		N/A	N/A	N/A	
characteristics – pupils should consider the function, nutrient profile and sensory attributes of ingredients.	N/A	N/A	N/A		N/A	N/A	N/A		N/A	N/A	N/A	
broad range – pupils should study and use a range of food commodities, e.g. cereals, fruit, vegetables, meat, fish, eggs, fats/oils, milk/dairy food products.	N/A	N/A	N/A		N/A	N/A	N/A		N/A	N/A	N/A	