

Why do we teach Design Technology?	How do we teach Design Technology? (Key concepts and skills)
Design & Technology is a fundamental subject, which educates students in how to analyse and solve problems, produce high quality solutions and learn how to convert their ideas into working products. At the heart of the curriculum in the desire to deliver a broad variety of lessons which prepare our students to be successful in the subject, their wider lives and to create awareness of the world, design ethics & how different materials and processes effect the environment. We aim to achieve this through inspired teaching, thinking and learning that embraces new technologies whilst also maintaining a traditional skill set. We also offer enrichment opportunities for students that want to further their subject knowledge, be in a STEM learning environment and widen their experience within Design and Technology.	 The Design & Technology Curriculum boils down to three key skills that are present in Product Design and Food Design – coming up with a range of innovative designs to meet a variety of design briefs or needs of consumers Make – develop the skills to make and refine according to a design brief and develop a range of practical skills Evaluate – review yours and others work and consider ways to improve it
 What do we teach in Design Technology? In Product Design we support students in going through the Design/Make/Evaluate process with a variety of different products from Solar Cars, to LED Lamps to designing their own tool box. Fundamentally with all of these projects the students are developing their own skills to design, make and evaluate. In Food & Nutrition the students also use the Design/Make/Evaluate framework but they are introduced to a wide range of sweet and savoury dishes and cooking techniques throughout to ensure that they are able to develop the skills to cook for themselves and their families. 	How is Design Technology personalised for our learners? We aim to ensure that the products that the students make are ones that they can see the value of creating, eg the design of electric vehicles mirrors the local communities push away from the petrol engine. We also make sure to develop their understanding of the benefits of different materials for the local and national environment. In Food and Nutrition we are constantly striving to make meals that are both reassuring and relevant for the students, but also ones that are out of their comfort zones and increase their palates.

Design Technology (Product Design and Food & Nutrition) Curriculum Map

Product Design	YEAR 7	YEAR 8	YEAR 9
Key content	Solar Car Sustainable Energy	LED Lamp Design and Make	Designing and making a tool box. Iterative design
Key concepts & skills	 Design Responding to brief and writing their own design specification that is innovative and functional Investigating sustainable design Researching renewable energy sources and electronics in the wider world Make Using basic cutting tools eg saws to work with MDF Soft soldering techniques to solder electronic circuits Evaluate Testing solar car and getting feedback from others Technical Knowledge Materials properties and characteristics – natural vs man made woods 	 Design Design situations The 6 R's: Rethink, Refuse, Reduce, Reuse, Recycle, Repair ACCESS FM Working from a design specification Drawing skills – 3D, Isometric Sustainability and the environment Make Hand tools and machinery Working with MDF, Ply, Pine Joints – finger joint Measuring and marking Evaluate Test and evaluate to refine ideas Evaluating sustainability of product Technical Knowledge Materials properties and characteristics – range of woods 	 Design Designing a product - Iterative design Creating a design specification and considering the needs of a customer Make Reusing and repurposing materials – considering the environmental impact Introduction to a range of more complex wood joints – comb, dovetail, mitre, butt Introduction to using new materials eg plastic and metal Evaluate Test and evaluate to refine ideas Adapting design for intended user Understanding impact on environment of re-using materials Technical Knowledge Material properties and characteristics – plastic and metal
Summative Assessment	Final product and evaluation	Final Product and evaluation	Final product and evaluation
Builds on	KS2 NC Design and Technology	Design skills and responding to a brief Soft soldering techniques Understanding of circuits, components in a circuit Characteristics of natural and man-made woods	Understanding of simple joints Characteristics of natural and man-made woods 6R's
Builds towards	Soldering techniques in LED Lamp Using a range of woods in LED Lamp	Developing knowledge of joints Iterative design – from designing for a purpose Creating a design specification and considering the needs of a customer	Developing an understanding of sustainable design An understanding of the design process Making skills Sustainability and the environment Materials and their properties



Design Technology (Product Design and Food & Nutrition) Curriculum Map

Food and Nutrition 2023-24	Year 7	Year 8	Year 9
Key content	Nutrition, healthy eating and basic cooking skills	Techniques, ingredients and advanced cooking skills	Techniques, ingredients and advanced cooking skills
Key concepts & skills	 Healthy Eating and Nutrition Different food groups Components of a balanced diet – the eat well guide, food groups and uses Food hygiene and safety Food preparation and cooking techniques – chopping, boiling, grilling, baking simmering, blending, frying, using the hob, Considering alternatives Adapting recipes to season in a variety of ways Planning and making decisions on recipes and considering costs of ingredients (shop bought vs homemade) 	 Healthy Eating and Nutrition Different food groups Components of a balanced diet – the eat well guide, food groups and uses Food hygiene and safety Food preparation and cooking techniques – grilling, baking, frying, using the hob, using the oven, The functions of ingredients Considering dietary requirements Adapting recipes to season in a variety of ways Considering energy consumption v expenditure Planning and making decisions on recipes and considering costs of ingredients (shop bought vs homemade) 	 Healthy Eating and Nutrition Different food groups Components of a balanced diet – the eat well guide, food groups and uses Food hygiene and safety Food preparation and cooking techniques – grilling, baking, frying, using the hob, using the oven, The functions of ingredients Considering dietary requirements Adapting recipes to season in a variety of ways Considering energy consumption v expenditure Planning and making decisions on recipes and considering costs of ingredients (shop bough
Summative Assessment	Practical assessment of dishes prepared and written end pf term assessment	Practical assessment of dishes prepared and written end of term assessment	Practical assessment of dishes prepared and written end of term assessment
Builds on	KS2 NC Food and Nutrition	Intro to Cooking and Nutrition in Year 7	Intro to Cooking and Nutrition in Year 8
Builds towards	Year 8 Cooking and Nutrition – Techniques, ingredients and advanced cooking skills	Year 9 Cooking and Nutrition – Plan, prepare, cook for a special event	GCSE Food and Nutrition

Please note that we have re-introduced Food into the curriculum this year and are starting mostly with Years 7 and 8. Current Year 9 will have some opportunities to build on their Introduction to Food and Nutrition sessions throughout the year in their DT and Art lessons.



Design Technology (Product Design and Food & Nutrition) Curriculum Map

Food and Nutrition 2023+	Year 7	Year 8	Year 9	
Key content	Nutrition, healthy eating and basic cooking skills	Techniques, ingredients and advanced cooking skills	Plan, prepare, cook for a special event	
Key concepts & skills	 Healthy Eating and Nutrition Different food groups Components of a balanced diet – the eat well guide, food groups and uses Basic food hygiene and safety Basic food preparation and cooking techniques – eg, chopping, boiling, grilling, baking, simmering, blending, frying, using the hob Considering alternatives Adapting recipes to season in a variety of ways Planning and making decisions on recipes and considering costs of ingredients (shop bought vs homemade) 	 Evaluate recipes and foods to analyse whether they meet the different food groups Be able to explain the source, seasonality and characteristics of a broad range of ingredients Advanced food hygiene and safety eg, cross contamination and effective food storage Advance food preparation and cooking techniques – eg, making a roux, whisking, kneading, ridging, cooking meat Adapting recipes for a variety of different needs (eg vegetarian, low fat) Planning more advanced recipes and evaluating the best ingredients 	 Learn about a range of special events and culinary requirements for these Apply the skills, knowledge and techniques learned in Years 7 and 8 For example Plan, prepare, cook and evaluate a series of dishes to meet a design brief Consider a range of criteria to evaluate the suitability of ingredients (eg, cost, availability etc) Planning out an effective cooking plan for creating special dishes Cook and present dishes for specific events 	
Summative Assessment	Practical assessment of dishes prepared and written end of term assessment	Practical assessment of dishes prepared and written end of term assessment	Practical assessment of special event dishes and evaluation of meeting design brief	
Builds on	KS2 NC Food and Nutrition	Year 7 Cooking and Nutrition - Nutrition, healthy eating and basic cooking skills	Year 7 Cooking and Nutrition - Nutrition, healthy eating and basic cooking skills Year 8 Cooking and Nutrition – Techniques, ingredients and advanced cooking skills	
Builds towards	Year 8 Cooking and Nutrition – Techniques, ingredients and advanced cooking skills	Year 9 Cooking and Nutrition – Plan, prepare, cook for a special event	GCSE Food and Nutrition	

The Curriculum Map above is the Curriculum Map for the current Year 7 students moving forward as we introduce the new curriculum.



YEAR 10	Autumn	Spring	Summer 1	Summer 2
Key content	Mobile Phone Speaker	Insect Lamp	Pewter Pendants	NEA
Key concepts & skills	 Design & Making an amplifier Manufacturing a passive/electronic amp breadboard model The importance of prototyping 	 Drawing techniques – 2D/ 3D The importance of prototyping The importance of evaluation to refine designs 	 Marking techniques including rule, scribe and centre punch Manufacture of a mould to cast the pendant Understanding of release angles and undercuts in making a mould Safely casting small pewter objects Finishing techniques 	 Coursework project - designing and making to a theme provided by the examination board Exploration and analysis of design problems
Summative Assessment	Presentation of end product and evaluation End of Term 1 assessment	Presentation of end product and evaluation	Presentation of end product and evaluation	End of Term assessment
Builds on	Characteristics of natural and manmade woods Sustainable design Circuits and electronics	Understanding of circuits, soldering Iterative design	Materials and their properties	 Materials knowledge for an intended product.
Builds towards	 Prototyping using paper and card 	 Making moulds for casting Working with soft metals – pewter 	 Materials knowledge when developing ideas for NEA Design and make 	 Understanding how to conduct a range of research methods

Design Technology (Product Design and Food & Nutrition) Curriculum Map



YEAR 11	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1
Key content	NEA	NEA	NEA	Revision	Revision
Key concepts & skills	 Recording ideas, insights relevant to theme/ intention Responding to a design problem Developing design ideas Writing a design specification 	 Material knowledge Materials testing Prototyping Using feedback and evaluation to support an iterative design process 	 Materials list – measurements and costings Finalising a design Documenting the making process Evaluation 	 Materials knowledge: Natural woods and manufactured boards Metals Plastics Textiles and smart materials Paper and card 	 Materials knowledge: Natural woods and manufactured boards Metals Plastics Textiles and smart materials Paper and card
Summative Assessment	End of term assessment	Centre Assessment – past GCSE paper	Final Prototype and evaluation	End of term assessment	PD GCSE paper
Builds on	 Topics covered in at KS3 & Y10 Sustainability New & Emerging technologies Materials 	 Materials and their properties Knowledge of Plastics, Metals, Woods Designing for a client 	 Understanding a client's needs and wants Product testing Understanding of the design process 	 Material knowledge: Woods, plastics and metals Sustainable design New & Emerging technologies 	
Builds towards	 Identifying the client's needs. Developing an understanding of the design brief 	 Using a range of resistant materials to produce a product for an identified client. 	 An understanding of the design process from making, testing and prototyping to evaluating Designing for a client A repertoire of material knowledge Revision techniques 	 An understanding of the design process from making, testing and prototyping to evaluating Designing for a client A repertoire of material knowledge Revision techniques 	 Confidence in designing and making in the wider world The confidence in being able to select the right materials and tools for general DIY Problem and solution- based thinking