



Curriculum Map For Design & Technology Year 8

YEAR 8	Design & Technology 12-Week Rotation with Curriculum Repeated 3 Times a Year	
	Half Term 1	Half Term 2
Topics	<p>Design A Light</p> <p>Understanding How To Identify User Needs Effectively</p> <p>Understanding And Explore The Basics Of CAD/CAM & 2D Design</p> <p>Developing Personal CAD Skills</p> <p>Understanding How To Develop A Specification</p> <p>Understanding The Analysis Of Existing Designs And The Influence They Can Have On Your Own Work</p> <p>Understanding The Importance Of Researching A Specific Target Market And Writing A Specification</p> <p>Understanding The Importance Of Designs For Different Target Markets – Specifically The Disabled</p> <p>Understanding The Importance Of Producing A Range Of Designs</p> <p>Understanding How To Solve Problems Effectively Using Design</p>	<p>Understanding How To Draw To Scale To Produce A Final Presentation Drawing</p> <p>Understanding How To Effectively Plan And Start The Transfer From Hand Drawings To CAD</p> <p>Understanding The Importance Of Critical Evaluation</p> <p>Evaluating The Final Light Outcome</p>
Substantive Knowledge – The Knowledge Taught By The Teacher	<ul style="list-style-type: none"> • Health and safety with CAD/CAM equipment • Safe use of tools and equipment • Correct name for tools and equipment • Selection of best use of tools and equipment • Safe working environments • Origins of Plastics and Manmade Woods • Understanding of the design process • Designing for a client • The iterative process • Basic electronics • Use of nets • Units of measurement • Working to tolerances 	<ul style="list-style-type: none"> • Health and safety with CAD/CAM equipment • Safe use of tools and equipment • Correct name for tools and equipment • Selection of best use of tools and equipment • Safe working environments • Origins of Plastics and Manmade Woods • Understanding of the design process • Designing for a client • The iterative process • Basic electronics • Use of nets • Units of measurement • Working to tolerances

	<ul style="list-style-type: none"> • Use of CAD 	<ul style="list-style-type: none"> • Use of CAD
Disciplinary Knowledge – How The Knowledge Will Be Developed & Applied	<ul style="list-style-type: none"> • Analysis of the work of others for external influences and inspiration. • Self-reflection and evaluation of research. • Self-reflection and evaluation of designs. • Use of tessellation to improve sustainability and rates of output. • Responding to client feedback to meet their needs. • The impact of man-made materials compared to natural materials. • How and where CAD/CAM is used in the wider world. • The importance of CAD/CAM. 	<ul style="list-style-type: none"> • Analysis of the work of others for external influences and inspiration. • Self-reflection and evaluation of research. • Self-reflection and evaluation of designs. • Use of tessellation to improve sustainability and rates of output. • Responding to client feedback to meet their needs. • The impact of man-made materials compared to natural materials. • How and where CAD/CAM is used in the wider world. • The importance of CAD/CAM.
Skills	<ul style="list-style-type: none"> • Understanding of the needs of others. • Learning about different types of CAD packages and being able to accurately use 2D design. • Understanding the importance of a design specification and how product analysis play an important part in the research process. • Avoiding design fixation by being able to produce a range of imaginative design ideas. • Understanding how to solve problems effectively. 	<ul style="list-style-type: none"> • Understanding how to draw to scale to produce a final presentation drawing. • Understanding how to effectively plan and start the transfer from hand drawings to CAD. • Understanding the importance of critical evaluation. • Understanding the importance of personalised design. • Understanding the importance of effective packaging for a product.
Links To Prior Learning	<ul style="list-style-type: none"> • Effective use of plastics. • Ranges of plastics available. • Use of CNC in conjunction with hand skills for improved outcomes. • Heightened sense of health and safety requirements. • Designing for a client. • Use of CAD/CAM in Year 7. 	<ul style="list-style-type: none"> • How to measure and mark within tighter tolerances. • Effective use of plastics. • Ranges of plastics available. • Use of CNC in conjunction with hand skills for improved outcomes. • Heightened sense of health and safety requirements. • Designing for a client. • Use of CAD/CAM in Year 7.
Literacy/ Numeracy	<ul style="list-style-type: none"> • Literacy: research skills, being able to develop detailed design specification which has been concluded from research. • Numeracy: accuracy of computer aided design modelling skills by making sure design will be accurately cut out by the laser cutter; use of ratio and scale. 	<ul style="list-style-type: none"> • Literacy: research skills, being able to develop detailed design specification which has been concluded from research. • Numeracy: accuracy of computer aided design modelling skills by making sure design will be accurately cut out by the laser cutter; use of ratio and scale.
Cross Curricular	<ul style="list-style-type: none"> • Sustainability of materials and lifecycle assessment • English language when analysing and self-reflecting 	<ul style="list-style-type: none"> • Sustainability of materials and lifecycle assessment • English language when analysing and self-reflecting
Assessment	<ul style="list-style-type: none"> • End of unit assessments to track knowledge, teacher observations of practical skills: design and CAD skills. 	<ul style="list-style-type: none"> • End of unit assessments to track knowledge, teacher observations of practical skills: design and CAD skills. • Final product assessment.

YEAR 8	FOOD 12-Week Rotation with Curriculum Repeated 3 Times a Year	
	Half Term 1	Half Term 2
Topics	<p>Developing Culinary Skills Using High Risk Foods - Eggs & Fish And The Understanding Of Cross Contamination</p> <p>The Study Of Macro Nutrients And Function In The Body And Recap On The Eatwell Guide</p> <p>Using A Range Of Vegetables In Cooking</p> <p>Food Wastage And Its Impact On The Environment</p> <p>Food Labelling And Allergies</p>	<p>Continue To Learn About Food Commodities</p> <p>Food Science And How Ingredients Work Through Scientific Processes</p> <p>Food Production On A Wider Scale</p>
Substantive Knowledge – The Knowledge Taught By The Teacher	<ul style="list-style-type: none"> • Working safely in the kitchen • Understanding the importance of good food hygiene and how to avoid food poisoning and cross contamination • Cooking with high - risk ingredients to make a range of healthy meals • Creating dishes that use protein, fat and carbohydrate and understanding how to incorporate vegetables into our meals for a balanced and healthy diet • Using leftover food to create dishes to avoid food wastage • Finding ways to reduce food wastage • How to read food labels on a product and awareness of food allergies and intolerances 	<ul style="list-style-type: none"> • Understanding where flour comes from and how it is processed to produce a range of flours that we use in in cooking and baking • How flour acts as a thickening agent in a roux sauce • Understanding rice as a commodity and how it is used in a range of recipes in the wider world • Using knowledge of macronutrients and the Eatwell guide to create a healthy dish suitable for the task
Disciplinary Knowledge – How The Knowledge Will Be Developed & Applied	<ul style="list-style-type: none"> • Analysis of the work of others for inspiration. • Self- reflection and evaluation of skills and design. • Impact of nutritional knowledge and why eating more vegetables is beneficial for health. • Responding to peer assessment and evaluation through sensory testing. • Analysing the class food wastage and how this affects the environment. This can be challenged through debate. Applying this information in the real world to help reduce food waste and support climate change. • Apply knowledge to own health and diet when purchasing food for yourself and others. 	<ul style="list-style-type: none"> • Analysis of the work of others for inspiration. • Impact of nutritional knowledge on our health. • Responding to peer assessment and evaluation through sensory testing. • Self- reflection and evaluation of research, planning, skills and evaluation. • Use knowledge learnt about how commodities react in cooking processes to inform future outcomes.

Skills	<ul style="list-style-type: none"> • Know how to check for readiness – cooking with eggs, fish and pasta. • Skinning fish, shaping, coating and binding. • Creating dishes out of leftovers. • Problem solving and reading a recipe independently. • Understanding ingredients and how they react to the cooking processes. 	<ul style="list-style-type: none"> • Continue practical skills on sauce making and learning about the types of rice and how it can be used in a variety of dishes. • Developing research skills for recipes, designing dishes and writing a detailed time plan that could be followed by a Year 8 student. • Developing the practical skills to cook and present dishes using garnish. • Evaluating dishes using taste testers and sensory language.
Links To Prior Learning	<ul style="list-style-type: none"> • Skills gained at KS2, cooking clubs or cooking at home. • Some students have cooked a lot and others have no experience in working in a kitchen environment. • Some students will be familiar with the Eatwell guide at KS2. 	<ul style="list-style-type: none"> • Students will continue to develop their skills in using a knife accurately and with precision. • They will use the whole of the oven safely to make a range of baked goods. • They will use their knowledge of healthy eating to create their own healthy dish for assessment.
Literacy/ Numeracy	<ul style="list-style-type: none"> • Numeracy - weighing, measuring and ratio. • Literacy - reading recipes and food labels. Subject specific language and terminology. 	<ul style="list-style-type: none"> • Numeracy - weighing, measuring and ratio • Literacy - reading recipes and research skills, planning a dish using a time plan with subject specific language and terminology. Able to use sensory language to evaluate their dish.
Cross Curricular	<ul style="list-style-type: none"> • PSHE - Healthy eating and lifestyle choices. Learning the skills for the wider world. • Science- the human body and nutrition, plant proteins. • P.E - Healthy mind and body relating to diet and exercise. • Geography - impact of food on the environment and global warming. 	<ul style="list-style-type: none"> • PSHE - Healthy eating and lifestyle choices. Learning the skills for the wider world. • Geography - where our food commodities originate from.
Assessment	<ul style="list-style-type: none"> • Interactive quiz on the Eatwell guide. • Teacher observation of practical skills. 	<ul style="list-style-type: none"> • Food assessment researching, designing and making a healthy meal suitable for a Year 8 to make in food lessons. • End of term multiple choice assessment.

YEAR 8	TEXTILES 12-Week Rotation with Curriculum Repeated 3 Times a Year	
	Half Term 1	Half Term 2
Topics	<p>Students Will Make A Pugly Monster The course allows students to understand the design process from analysing the design brief, primary and secondary research, writing a design specification, initial designs, modelling, final design, planning to the making and evaluating.</p>	<p>Developing The Skills Learnt In The Modelling Lessons To Make Their Pugly Monster</p> <p>Evaluating The Product Against The Design Specification And Justify Any Suggestions For Improvement</p>
Substantive Knowledge – The Knowledge Taught By The Teacher	<ul style="list-style-type: none"> • Health and safety in the workshop • Safe use of tools • Correct name for tools and equipment • Selection of best use of tools and equipment • Safe working environments • Natural and man-made fibres • Understanding of the design process • Designing for a client • The iterative process • Use of patterns/templates <ul style="list-style-type: none"> ○ Working to tolerances when using seam allowances 	<ul style="list-style-type: none"> • Health and safety in the workshop • Safe use of tools • Correct name for tools and equipment • Selection of best use of tools and equipment • Safe working environments • Natural and man-made fibres • Understanding of the design process • Designing for a client • The iterative process • Use of patterns/templates • Working to tolerances when using seam allowances
Disciplinary Knowledge – How The Knowledge Will Be Developed & Applied	<ul style="list-style-type: none"> • Analysis of existing products for external influences and inspiration • Self-reflection and evaluation of research • Self-reflection and evaluation of designs • The impact of man-made materials compared to natural materials 	<ul style="list-style-type: none"> • Analysis of the work of others through cultural homework research • Self-reflection and evaluation of research • Self-reflection and evaluation of the Pugly Monster
Skills	<ul style="list-style-type: none"> • To continue to develop knowledge of the design process through use of a wide range of Textile materials and equipment. • The development of independence and the application of skills and knowledge to develop a unique product. 	<ul style="list-style-type: none"> • To follow their plan to make paper patterns, select suitable fabric, pin and cut accurately. • The correct selection of tools and equipment. • The development of skills trialled through modelling lessons to complete a Pugly Monster. • The development of design skills through making a cultural-inspired fabric pattern. • Using this pattern to develop manipulative skills through Origami.
Links To Prior Learning	<ul style="list-style-type: none"> • There will be one Year 8 group who has no experience of Textiles and this class spends more time on the modelling lessons to enable them to develop the relevant skills. • Other classes have relevant practical skills including pinning, cutting, machining. They have an awareness of health and safety and the design process. 	<ul style="list-style-type: none"> • There will be one Year 8 group who has no experience of Textiles and this class spends more time on the modelling lessons to enable them to develop the relevant skills. • Other classes have relevant practical skills including pinning, cutting, machining. They have an awareness of health and safety and the design process.

Literacy/ Numeracy	<ul style="list-style-type: none"> • Literacy, subject-specific terminology, research skills, being able to develop detailed design specification which has been concluded from research. • Numeracy: accuracy of measuring, tolerances and marking out. 	<ul style="list-style-type: none"> • Literacy, subject-specific terminology, research skills, being able to develop detailed design specification which has been concluded from research. • Numeracy: accuracy of measuring, tolerances and marking out.
Cross Curricular	<ul style="list-style-type: none"> • Science and Geography - when looking at product analysis we look at sources of fibres and link this to environmental impact e.g., use of finite resources in the production of polyester and carbon footprint of toys being produced in other countries. 	<ul style="list-style-type: none"> • Looking at cultural Textiles. • Geography - considering the environmental impact of fabrics. • Music - looking at Brazilian Carnival Costume when holding a Samba workshop and this will link into Year 8 Textiles rotations in the Spring and Summer term.
Assessment	<ul style="list-style-type: none"> • Assessment of focused homework tasks. 	<ul style="list-style-type: none"> • End of project quiz. • Assessment of practical product.