

Year 9 Technology Curriculum



Year 9				
	Food	Textiles	Product Design	Graphics
	Advanced Skills	Protective fabric pouch for an electronic device	PD - Ring Pot - Metals	Graphics - Pop Art T shirt
Content: What will students know	They will know the terms coagulation and shortening. They will also know why it is importance to include fats, carbohydrates, protein, fruit and vegetables in the diet and the consequences of too much or too little of each of these nutrients in the diet. They will also know how to plan the making of dish and begin to understand how to evaluate dishes to allow them to improve. They will know more advanced food preparation techniques. They will know a range of meals that they can make to feed themselves and their families.	Students will embed the importance of health and safety and be able to apply this when completing their work. Students will know the sources and origins of a range of well known fibres. They will know how to create a useful mood board and use it to inspire their own ideas. Students will know how to communicate an effective design idea, building on their skills from Y8 and knowing what a design specification is and why they are used. Learners will experiment with a range of different stencilling techniques to learn how to control and apply the medium effectively. Students should learn and know the importance of accuracy when using seam allowances. They will understand why we use templates and why they might be used in industry. Most learners will know the process of making a protective pouch for their electronic devices, using correct sequencing. Most should know how use the sewing machine correctly & safely. Learners should know what accuracy is and how to apply it to their work using a range of equipment & techniques.	Students will strengthen their material knowledge by researching sources and origins of raw materials and understanding renewable and non-renewable materials. Students will learn about ferrous and non ferrous metals and develop their metalworking skills whilst making a brass jewellery pot with an acrylic lid. Students will understand soldering and apply this knowledge using the brazing hearth to solder together brass plate to brass tube using flux to stop oxidation occurring in the join. Pupils will know how to "finish" both brass and acrylic to a very high standard.	How to use research to inspire creative and original design work. How design concepts must meet constraints of a design specification to be successful. They will know how to vectorise CAD images to manipulate into new artwork, and how to apply advanced CAD techniques (pathfinder) to generate new areas of colour. They will know the requirements and limitations of the vinyl cutter (CAM). They will know how to prepare vinyl for, and how to "heat press". They will know that testing plays a vital role in iterative design process, leading to product success. Pupils will have a secure knowledge of IT file management, information retrieval, collaborative working, resource management and multitasking.
Skills: What will students be able to do	Students will continue to build upon the skills they have learnt in years 7 and 8, recapping key knife skills, health and safety, use of the oven and hob and how to prepare and cook meat and vegetables safely. They will also know how to make and shape a pastry dough, how to make and shape a wet mixture, how to layer a product and multi-task. They will be able to demonstrate more advanced technical skills.	Students will be able to tie dye fabric using a range of methods. They will be able to create their own stencil using scissors or scalpels safely. They will be able to use a sewing machine to sew a basic straight stitch, hopefully remembering to add a reverse stitch to secure. Learners will be able to construct their product, many with some assistance. Students will grow confidence in being able to pin fabrics together to temporarily secure them before machine sewing.	Students will be able to use the brazing hearth to solder. Students will be able to use tin snips to cut metal before using the lathe to trim the brass base to the same diameter as the tube. Use and set up metalworking vices with soft jaws. Be able to accurately use a file to shape metal. Understand how to use the laser cutter to cut through acrylic. Use and set up the lathe to face off acrylic. Understand different abrasive papers including emery cloth and wet and dry paper. Be able to use the buff and polish machines for both metals and plastics.	Advanced skills of pathfinder-unite-subtract, and developing skillset on Illustrator. They will manipulate and combine images with the possibility to produce original work. The pupils will use precise skills to heat press, cut card, crease, die cut and staple. They will produce a shop ready product. They will work collaboratively, share and organise data files. They will output to CAM machine and the printer.
Other: Literacy/ Numeracy/ Ethos	Understanding basic measuring and weighing and cooking times. Developing independence both when reading and following recipes with only guidance from the teacher. Promoting teamwork and communication skills to help others that are struggling with the recipe and when working to tidy up as the end of the lessons. Understanding the importance of a healthy balanced diet and lifestyle.	This design brief encourages students to explore another culture. Numeracy is important in order to ensure an accurate seam allowance and a functioning product. Students will learn about seam allowances and how to measure and mark them out manually and by using the seam guides on the sewing machine base plate. Students will be exposed to technical / specialist vocabulary relating to the subject and tasks they carry out.	Focus on material knowledge of metals and metalworking techniques. Some work on area calculation and applying this to GCSE style questions. Some basic maths calculations volume. Focus on using correct terminology when completing manufacturing diaries.	The focus is for this unit is utilising and appreciating the speed and accuracy offered by CAD/CAM, and for developing illustrator skills which is a critical component for future use of CAD/CAM throughout the key stages. The ethos and focus is on professionalism, precision and accuracy int their final products.
Assessment:	2 practical assessments - 1 that assesses students knives skills, health and safety and presentation and meeting a brief and presentation skills (dish that meets the Eatwell Guide) 1 that assesses dough making and shaping skills and presentation skills (Quiche). End of rotation assessment. Reasons for choosing practical dish (Eatwell Guide dish) and how well it meets the brief. Short knowledge check throughout rotation.	1) Design skills will be assessed based on creativity and their ability to use other's work to influence new and creative ideas. 2) Design presentation and annotation skills will be assessed based on key presentation criteria. 3) Student's learning will be assessed on their acquisition of key vocabulary and the uses of a range of tools. 4) Student's final products and practical skills will be assessed on the quality and complexity of their outcome.	Practical skills assessment, accuracy and precision of final product. Recall and describe tools, how they are used and what they can be used for.	Practical skill assessment of both hand skills and CAD skills. Assessment of analytical skills and application of knowledge to design within containing specifications. Assessment of colour and composition, accuracy and precision of final products