? ? ? Problem Solving, Creativity and Material understanding. ? ? ?

	6	7	8	9	10	11	12
Food Preparation & Nutrition 	•**Understand and apply the principles of a healthy and varied diet** •Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. •Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	•Introduction to food in D&T •H&S and hygiene •Why food is cooked •Heat transfer (conduction, convection, radiation) •Introducing cooking methods (water, fat and dry) •Introducing knife skills (claw grip and bridge hold) •Introducing technical skill (rubbing in, kneading) •Eat Well Guide and nutrition •Food science (enzymic browning, dextrinisation, biological raising agents)	•Developing H&S •Food spoilage and contamination •Introducing a use of high risk foods •Developing knife skills (progressing from chopping to uniform dicing) •Controlling rate of heat transfer •Sensory evaluation (identifying when food is correctly seasoned and cooked) •Developing nutrition and health (nutrients, protein, fat, carbohydrates, vitamins, minerals and water) •Identifying functional and chemical properties of food.	•Comparing British and International cuisines •Food choice (health & nutrition) •Extending sensory evaluation (seasoning and dextrinisation) •Food science (functional and chemical properties of food, shortening and coagulation) •Research and plan meals •Costing recipes •Time planning •Independent organisation of work area and hygiene	•Recall and develop principles of food safety (buying and storing food and preparing, cooking and serving food) •Recall and develop understanding of correct food spoilage and causes of contamination (microorganisms and enzymes and bacterial contamination) •Extending understanding of nutritional needs and health •Investigating and understanding nutrients (protein, fat, carbohydrates, vitamins, minerals and water) •Understanding food choices •Refining cooking of food and heat transfer skills •Investigating complex functional and chemical properties of food •Research and understanding of British and International cuisines •Sensory evaluation and the impact on food choice (smell, sight, taste, touch and hearing) •Understanding food provenance, processing and production •Environmental impact and sustainability •Mock NEA Task 1 & 2 •ST exams	•Continuation of food choices and understanding of nutrition •Traditional cuisines •Food investigation, research, planning, costing •Food preparation and recall of functional and chemical properties of food •Mock NEA •Revision and recall •NEA 1 Investigation task - October - December •NEA 2 Preparation Task - January - May, including one day for all pupils to complete their 3 products in 3 hours •Exam preparation •Final Exam (June)	•Reaseheath College: Bakery, Patisserie and Confectionery, Butchery, Food Technology. •Warrington Vale Royal College: Culinary Skills, Professional Cookery, Patisserie & Confectionary. •CCSW (Crewe): •Professional Cookery, Cooking & Patisserie. •A variety of apprenticeships.
Materials Technology 	•Basic understanding of design criteria. •Needs and wants of others. •**Modelling ideas.** •Annotation skills. •Range of tools to cut, shape and finish. (Masterclass only) •Choose appropriate materials. •Functions and aesthetics of materials. •**Investigating , analysis and evaluating skills.** •Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. •Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages).	•Understanding of new material names, groups & uses (timbers & polymers) •Sources and origins of materials •Sustainability of materials •Introduction to names of hand tools and equipment (some recall from Masterclass) •H&S in a workshop •The design process •Oblique drawing •Annotation •Rendering •Creative thinking •Introduce concept of Prototyping •Focused practical •Practical skills - cutting and finishing skills using a variety of tools and equipment (timbers and polymers) •Basic evaluation	•Developing research skills by investigating designers, design houses, brands and retailers. •Develop understanding of specifications and analysis from the design process •Develop a greater skill with hand tools •Wider use of machine tools and equipment with polymers •Forming polymers using jig and moulds •Introduce 2D Design CAD. Using it to enhance the quality of prototype. •CAM Use of vinyl cutter to add details to prototype. •Develop design process - more detailed constructional annotation, rendering, wider range of 3D ideas, creative thinking •3D prototype produced •Evaluation of prototype and skills developed (reflective)	•Recall knowledge of 2D design and develop CAD skills further. •Developing design skills - Orthographic and Isometric drawings of prototype. •Industrial manufacture discussed. •Use of CAD/CAM for commercial use. •The ease of world wide trade. •Creative thinking and innovation encouraged throughout design process. •Using of 2D design to build discreet components. •Introduce use of laser cutter •CNC. •DXF files. •Export/import. •Mass and batch production. •Tessellation. •Material wastage. •Recall use of vinyl cutter. •Independent recall of powered workshop tools. •Assembly of Prototype. •Recall evaluation skills to show deeper understanding of design and making process and further developments	•Recall and refine practical skills to produce prototypes •Continual development of specialist tools and processes •Forces and structures project •Iterative design process •Imaginative & creative individual thinking •Innovative designing. •Introduction to NEA structure •New theory knowledge based on the following; •New and emerging technologies •Materials and their working properties. Some recall from KS3. (Timbers, Polymers, Textiles, Metals, Paper & Card) •Smart materials •Environmental impact and sustainability throughout theory and practical •Introduce theory of 3D printer and rapid prototyping •Specialism in own material area (Timbers, Polymers, Textiles, Paper and Card) •Promote independent learning and recall using 2D design, laser cutter and vinyl cutter •Designing principles •Iconic designers •Revision •ST exams •NEA from exam board (1st June onwards)	•Continuation of NEA (30-35 hours) - recall from mock NEAs •Theory knowledge continues on the following: •Making principles •Common specialist technical principles •Energy materials, systems and devices •Revision and recall knowledge on topics covered on GCSE course •ST exams •Exam preparation •Final D&T exam	•Sir John Deane's 6th form College - 3D Design. •Reaseheath College - Agricultural engineering, construction, engineering apprenticeships, motor vehicle. •Warrington and Vale Royal College- Carpentry and Joinery, construction, Electrical installation, Engineering, Plumbing and Gas. •CCSW (Crewe): Textiles A-Level, Graphic Design A-Level •Vocational courses such as Engineering, Retail Fashion Communications, Construction and Motor Vehicle. •A variety of apprenticeships.
Textiles 	•Pattern pieces •Understanding of fabrics properties and aesthetics	•H&S and tools and equipment •Introduce to the sewing machine, parts and how to use •Design process -Design brief and writing own specification •Understanding what is a prototype •ICT skills (publisher) to create a repeat fabric pattern design •Use of a heat press and batch production •Overlocker function and use •Basic construction, plain seam, insert a zip and decorative techniques •Product evaluation	•Recall knowledge of component symbols from KS2 & Science. •Understanding resistance and the use of resistors in a circuit. •Circuit design & symbols. •Drawing circuits. •Soldering a circuit. •Vacuum forming. •Cutting & shaping HIPs. •Constructing the prototype. •Testing of prototypes with audience. •Developing evaluation skills including Live feedback. •How to develop a prototype further for commercial production.	***CAD/CAM & Materials Technology combine in Year 9*** •Recall sewing machine skills, independent use of all tools and equipment. •Design process - Write own design brief from client profile •Idea with samples to support annotation (iterative) •Understanding of scaled Prototyping. •Creation and use of manufacturing aids •Materials selection •Use of standard components •Recall of construction and decorative techniques as well as developing new techniques such as button hole, applique, hem •Recall evaluation skills against needs of client and making process	***CAD/CAM integrated throughout the whole of the GCSE course as individuals require. Must be evident in the NEA task. Theory understood for examination***	
Electronics 	•Understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors) **Component symbols.** •Apply their understanding of computing to program, monitor and control their products.						
CAD/CAM 	**Basic use of 2D design and vinyl cutter (Masterclass students only)**				***CAD/CAM integrated throughout the whole of the GCSE course as individuals require***		

Everything we use, has been designed by somebody.