

Yr 9 Design and Technology Intent: The year 9 transition year enables Key Stage 3 students to specialise in Workshop based Design and Technology and Engineering. It builds upon the grounding of wood metal, plastics and graphics which they have acquired in Years 7 & 8 and enables them to apply and develop them in a series of increasingly complex and challenging practical assignments. This will also build confidence and enthusiasm for the subject before giving them some dedicated Computer Aided design skill in preparation for the more to either D&T or Engineering at Key Stage 4.

	HT1	HT 2	HT 3	HT 4	HT 5	HT 6
Learning cycle	Food rotation-see Food technology LTP	Food rotation-see Food technology LTP	Sweet dispenser, Mechanical Systems and Timber Materials, Aesthetic design		Clocks-CAD, CAM and Polymer Materials	
Key Concepts and Themes	•	•	<ul style="list-style-type: none"> The iterative design process Identifying the design problem Creating the design concept Improvements made to the selected designs A fully developed design idea that has been evaluated against the design brief and specification Natural timbers and boards Categories of timbers – softwoods, hardwood, manufactured boards Properties and characteristics of timbers and boards Working with timbers and boards evaluation techniques 	<ul style="list-style-type: none"> Types of Motion Rotary Systems: Gears and Pulleys Levers and Linkages Modelling & Testing Quality Assurance: Templates, jigs and depth stops Quality Control – Testing and fault finding mechanical systems Wood cutting, wasting and finishing processes. 	<ul style="list-style-type: none"> Design Movements Designers and their work Writing a product analysis Using inspiration to create design iterations Developing design ideas Creating a scale model Use of colour Writing a design brief and specification 2D Computer Aided Design 	<ul style="list-style-type: none"> Laser Cutting Families of Polymers Properties of specific named polymers Working with timbers and boards Hand cutting acrylic and various finishing methods Using adhesives to bond materials Edge finishing Using the fret saw to create complex shapes Line bending Vinyl cutting Problem solving and independent thinking.
Vocabulary			Line weight, Tone, Crate, Geometric, construction lines, Rendering, Scale, , target market, manufactured board, themes, function, design brief, aesthetics, cost, customer. Environment, size, safety, function, material, specification, iterative design, templates	Linear, Rotary, Reciprocating, Oscillating, Cam, Follower, Lever, Linkage, Effort, Load, Fulcrum, pivot, Linkage, Gear, Pulley, Mechanical Advantage, Template, Jig, QC,	Movements, Computer Aided Design (CAD), Computer Aided Manufacture (CAM), Computer Numerical Control (CNC), Laser Cutter, Polymer, Thermoplastic, Thermoset, Plastic Memory,	Model, Part, Export, Orthographic, Dimensions, Adhesive, Plastic memory, Laser cutter, Engrave, Assemble, Mechanism
Skill development	<ul style="list-style-type: none"> Practical Skills: Hand Tools & Workshop Machines Graphical Skills: Freehand Sketching, 3D Drawing, Working Drawings: Orthographic and Schematic Computer Aided Design and Manufacture: 2D CAD, 3D CAD & CAM 					

Y9 Food Intent: To understand the principles of nutrition by studying the function of nutrients in the diet. We will develop practical skills to become knowledgeable in a range of cooking techniques and introduce students to a wide variety of International cuisines. Students will conduct sensory analysis in order to evaluate their products, we will examine current issues in food such as food waste, food miles and seasonality. Later in the term we will conduct food science experiments to gain an understanding of the functional characteristics of ingredients.

Food	HT 1	HT 2
Learning cycle	Food, Nutrition and Health	Food science and Hygiene and safety
Key Concepts and Themes	<ul style="list-style-type: none"> • Why we eat food • Eatwell Guide • Macronutrients • Micronutrients • Nutritional needs 	<ul style="list-style-type: none"> • Temperature control • Where do bacteria come from? • Pathogenic bacteria • Food Law • Cooking of food and heat transfer
Vocabulary	<ul style="list-style-type: none"> • Macronutrient • Micronutrient • Saturated • Unsaturated • Soluble 	<ul style="list-style-type: none"> • Danger zone • Pathogenic • Diarrhoea • Nausea • Dormant • Conduction • Convection • Radiation
Skill development	<ul style="list-style-type: none"> • Development of complex practical skills • Development of an understanding of the function of nutrients in our bodies • To be able to identify potential food hygiene risks and to mitigate them. 	

Year 9 Textiles Intent: To understand the principles of Textile design by using ACCESS FM to create a response to the design brief. We will develop practical skills to become knowledgeable in a range of surface decoration techniques and introduce students to a wide variety of decorative surface techniques. Students will develop key skills such as resilience, independence, problem- solving, creativity, accuracy and an ability to conduct a reflective evaluation. We will learn about biomimicry and how designers use nature to inform their designs. We will learn how to block print, tie dye, independently use the sewing machine effectively, apply sublimation printing to our work. Later we will use the skills used to create a finished product utilising a variety of decorative techniques.

Textiles	HT 1	HT 2
Learning cycle	<p style="text-align: center;">Analysis of design brief Using machinery and equipment safely Designing and responding to a design brief Choose an area from Nature to inform the designing process</p>	<p style="text-align: center;">Developing practical skills Manufacturing bag</p>
Key Concepts and Themes	<ul style="list-style-type: none"> • To identify a range of embroidery stitches - Demonstrate two different stitches to create a decorative sample • To know how to create a design specification– Explain ACCESSFM, what does it stand for, how is it useful for design specifications. • To understand how a sewing machine works and how to use it safely and correctly- • Produce a sample with 3 different stitches, independently able to rethread the sewing machine. • To demonstrate an understanding of the use of biomimicry in design. 	<ul style="list-style-type: none"> • To identify a range of skills to create a nature design/motif • To know how to combine and construct different skills and elements together to create a statement design or feature that links back to the design brief • Using and demonstrating a range of stitches on the sewing machine to construct your tote bag. • Manufacture a tote/draw string bag that includes straps/handles, design fitting the brief requirements of nature.
Vocabulary	<ul style="list-style-type: none"> • Design brief • Mood board • 6 R's • Applique • Embroidery • Biomimicry • Innovation • Block printing • Sublimation printing 	<ul style="list-style-type: none"> • Sewing allowance • Seam • Tolerance • Accuracy
Skill development	<ul style="list-style-type: none"> • 	