

Year 8

Timing	Unit Title	Key Question	Knowledge	Assessing Understanding
Project 1	Egg Cup 1 term	Design and make an acrylic egg cup in the style of the Memphis Movement	<p>Design – knowledge and skills</p> <ul style="list-style-type: none"> ● Develop an understanding of the key features of the Memphis design movement. ● Develop skills in collecting research, presenting this research in the form of a moodboard and analysing this research to inform design criteria (for specification). ● Develop skills in writing a design specification. ● Understand the classification of acrylic as a thermoforming polymer and its properties linked to this classification. ● Be aware of the relevant market forms of acrylic. ● Name, recognise and use common manufacturing and construction techniques for acrylic including line bending, use of solvent cement, comb joints, halving joints and mortise and tenon joints. ● Develop skills in using quick sketching (thumbnails) to create initial design ideas which avoid design fixation ● Develop skills in card modelling to develop design ideas in 3D. ● Develop skills in the use of 3D CAD (Onshape) to present and further develop design ideas. ● Develop skills in generating 2D CAD drawings (.dxf) for CAM manufacture (cutting on the laser cutter). <p>Manufacture of a polymer based product</p> <ul style="list-style-type: none"> ● Develop skills in using computer aided manufacture (CAM): laser cutting ● Develop skills in using the line bender: forming ● Develop skills in accurately assembling a final acrylic product using liquid solvent cement (where relevant) - joining 	<ul style="list-style-type: none"> ● Design ideas (cardboard models) ● Practical outcome & final evaluation

Project 2	Nature Activity Box 0.5 terms	Design and manufacture 'Nature Activity Box' using Corel Vector (2D CAD) Group Project	<p>Design - knowledge and skills</p> <ul style="list-style-type: none"> ● Develop skills in working within a design team. ● Research relevant existing products. ● Analyse and evaluate existing products research. ● Use research analysis and evaluation to inform design thinking. ● Brand design ● Create designs for 'Grow your Own' & 'Craft' activities in the form of A5 cards using Corel Vector (2D CAD) which are representative of the brand. ● Use a range of Corel Vector tools, including line, box, spline, text, transform, fill, groups and layers & modifying .svg images. <p>Manufacture using papers and boards</p> <ul style="list-style-type: none"> ● Printing onto papers and boards. ● Cutting and scoring papers and boards: Cutting knife, safety ruler, rotary cutter, guillotine, circle cutter, bone creaser and cutting mat. 	<ul style="list-style-type: none"> ● Practical outcome (1 per group) ● Evidence log (1 per group member) detailing contributions to the design work/team.
Project 3	Storage Box 1.5 terms	Make a box with traditional wood joints	<p>Design – knowledge and skills</p> <ul style="list-style-type: none"> ● Research the use of repetition in designs from different cultures. ● Use research findings to inform design thinking for box lid designs. ● Produce 3D isometric drawings using an isometric grid. ● Render isometric drawings to convey 3D form and material textures. <p>Manufacture using timber based materials</p> <ul style="list-style-type: none"> ● Learn how woods are classified as softwoods, hardwoods and manufactured boards. ● Learn the properties of a range of woods. ● Understand workshop health and safety rules. 	<ul style="list-style-type: none"> ● Design ideas (Sketches of lid designs) ● Test on woods ● Practical outcome & rendered isometric of final design

			<ul style="list-style-type: none">• Learn how to use hand tools for marking out, cutting, abrading and joining wood.• Learn how to use a bandfacer.• Learn how woods can be enhanced and protected with wood finishes.	
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