

Year 8	Lightbox	Pizza Boxes	Food	Catapult	Character Hat
Specific knowledge and skills	This project involves designing and making a light sensitive lightbox with a custom designed graphic front panel. The following will be the focus: Wood • Types of woods • Sources of wood • How to join woods: using tools such as a tenon saw, jigs, and sanding machines • Adding a suitable finish to woods • Electronics: • How to solder • Knowledge of components (e.g. resistor, LED.) • Using 2D Design and a plotter/cutter • Assembling parts to construct a product • CAD Graphics • Using 2D Design • Cutting vinyl sheet with a plotter cutter • Applying vinyl to a flat surface accurately • Other knowledge • Use of fonts	Students will continue to develop their skills of 2D Design to design and create their own net. Students will test several designs before being introduced to the laser cutter where they will cut their final design and build this into a box for their pizza product. Students will learn about food packaging and will create bespoke labels for their pizzas ensuring all legal requirements are covered. This will include accurate nutritional information and allergen details. The following will be the focus: • Health and safety in computer room and the following of the classroom rules. • Safe use of equipment including computers and the laser cutter	Students will be building on health and safety. They will build on time management skills from year 7 by making more complex products such as scones, base pizza, Julienne salad and vegetable stir fry. The following will be the focus: • Knife skills such as julienne • Time management • Chemical raising agent • Use of the oven • Rubbing in method • Gluten formation • Evaluation skills • Use of blocks	Students will investigate and learn how historical technology can be blended with modern principles to design and construct a working prototype of a Roman catapult. Students will assemble their own catapults whilst working in small groups before testing the range and accuracy of their outcome. Learners will be required to read and write instructions and follow them to have a successful outcome. Numeracy skills will also be used when measuring and recording results. The following will be the focus: • Researching designs from historical sources • Designing mechanical structures • Constructing mechanical structures • Testing through repetition and	Students will be introduced to making a fashion product in the form of a winter hat based on popular characters. The following will be the focus: • How to use a tape measure to accurately take measurements. • Using measurements to draw from scratch <u>or</u> adapt a paper pattern. • Use of a sewing machine. • Build on existing hand sewing skills from year 8, use of back stitch to create appliqué. Some students may use a blanket stitch. • Understanding of environmental impact of textiles. • The difference between natural and synthetic fabrics

	• 3D Graphics skills • Analysing existing lighting products • 2D Orthographic drawing • Evaluation skills	• An understanding of iterative design and testing prototypes. • An understanding of food labelling requirements		continuous improvement • Recording test results and using them to inform improvements in design	
Key terms	Hardwoods and softwoods, mitre joints, jigs, vinyl, HIPS, PCB, soldering, plotter/cutters, CAD/CAM, oblique, isometric, perspective.	2D CAD, laser cutter, traffic light labels, allergens.	Julienne, rubbing in method, chemical raising agent, gluten formation, evaluation.	Pivot, fulcrum, level, testing, evaluation, risk assessment, design, specification	Measurement, tape measure, paper pattern, hand sewing, appliqué, back stitch, environmental impact, natural, synthetic.
Key concepts	Creativity Planning Materials Sustainable Futures	Creativity Materials Analysis	Planning Materials Analysis Sustainable futures	Planning Materials Analysis	Planning Materials Sustainable Futures
Assessment	Working with Materials Knowledge and Planning Testing & Evaluating	Planning and Knowledge Testing and Evaluating	Working with materials Testing & Evaluating	Planning and knowledge Working with materials	Working with Materials Knowledge and Planning