



Year 8 - Design Technology - Lamp Project



Project Outline	Key words	Final Outcome	Practical Skills
<p>During this project, students will manufacture a lamp using clear instructions for a range of processes. They will be learning how to accurately cut and shape timber-based materials and how to use CAD/CAM.</p> <p>A wooden base will be made by hand where they will learn how to:</p> <ul style="list-style-type: none"> • Prepare timber for manufacture • Cut and shape timber using a tenon saw and a band facer • Cut a halving joint using a chisel • Cut a circular shape from MDF using a coping saw • Drill a recess using a Forstner drill bit 	<p>Timber, softwood, pine, man-made boards, MDF, hand tools, equipment, workshop, safety, try square, tenon saw, coping saw, chisel, file, tolerance, waste material, off-cuts, adhesives, joining methods, Computer-Aided Design, Computer-Aided Manufacture, evaluate</p>	<p>The final outcome will be a fully functional lamp with a laser cut lamp shade.</p> 	<p>Students will be learning the following practical skills:</p> <ul style="list-style-type: none"> • Cutting and shaping materials using a range of equipment including: a tenon saw, coping saw, a file, a chisel and a band facer. • CAD – Using 2D Design program. • CAM – Using the laser cutter to manufacture a lamp shade.
		CAD/CAM	Materials
<p>A polypropylene lamp shade will be designed and manufactured using:</p> <ul style="list-style-type: none"> • CAD – 2D Design • CAM – Laser cutter 		<div data-bbox="801 756 1532 1166" data-label="Diagram"> <p>CAD (computer-aided design) software is used by architects, engineers, drafters, artists, and others to create precision drawings or technical illustrations. CAD software can be used to create 2D drawings or 3D models</p> <p>CAM (Computer-aided manufacturing) is an application technology that uses computer software and machinery to facilitate and automate manufacturing processes. CAM is often used with computer-aided design (CAD).</p>  </div> <div data-bbox="600 1174 1704 1385" data-label="Image">  </div>	<p>The following materials will be used during this project:</p> <ul style="list-style-type: none"> • Softwood – Pine • Manufactured board – MDF (medium density fiberboard) • Thermopolymer – Polypropylene • Dowel – Cylindrical processed timber