



**YEAR 8 DESIGN TECHNOLOGY
LEARNING PROGRAMME**

**Unit 1
Lamp Project**

<p>This unit I will be learning about...</p>		<p>The key vocabulary that I will learn this unit are...</p>	
<p>By the end of this unit I will be able to:</p> <ul style="list-style-type: none"> Precisely 'mark-out' material, ready for cutting. Students will use a rule and a try square. Use a range of wood cutting and shaping hand tools. This will include a tenon saw and a range of files. Cut material in between a tolerance. Safely operate a band facer. Join material together. The origin of a range of timber. Use a variety of tools within CAD to achieve a final outcome (lamp shade). Use CAM technology safely in order to achieve a final outcome. 		<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>Week's Learning</p>		<p>Literacy Links</p>	<p>Homework</p>
<p>Focus 1 - Marking Out</p> <ul style="list-style-type: none"> Students will use a rule to measure out the required dimensions for their lamp base. This will consist of 2x 150mm pieces with a half lap joint in the centre of each piece measuring 20x20mm. Students will learn how to use a try square to ensure accuracy. The housing of the lampshade and LED candle will be marked out using a compass. 		<p>Speaking and listening while using the <i>think-pair-share</i> initiative.</p>	<ul style="list-style-type: none"> Quiz
<p>Focus 2 - Cutting and Shaping</p> <ul style="list-style-type: none"> Students will learn how to accurately cut and shape the base of their lamp using a range of tools including: A tenon saw, a chisel and a band facer. Students will also use the band facer to manufacture the circular housing for the lampshade and LED candle. The centre of the housing will be drilled using the pillar drill and a 30mm Forstner drill bit. EXT: Students who are in need of additional challenge can add feet to their lamp stand by drilling a hole at the end of each section and adding a hand-cut dowel to raise the lamp up. 		<p>Keywords and communicating using the correct subject based terminology.</p>	<ul style="list-style-type: none"> Quiz
<p>Focus 3 – Designer influence</p> <ul style="list-style-type: none"> Students will research William Morris and the techniques used to create a successful repeated pattern. This design will then be featured as part of their lamp shade design. 		<p>Keywords and communicating using the correct subject based terminology.</p>	<ul style="list-style-type: none"> Research – William Morris
<p>Focus 4 - CAD</p> <ul style="list-style-type: none"> Students will use 2D Design to add a design to the lamp shade template. Students will learn how to use a range of tools within the program and create a design that is bespoke to them. This will be in the form of: text, repeated patterns and logos. 		<p>Keywords and communicating using the correct subject based terminology.</p>	<ul style="list-style-type: none"> Quiz
<p>Focus 5 - CAM</p> <ul style="list-style-type: none"> Students will manufacture their lampshades from polypropylene using the laser cutter. Students will fully control the machinery and learn how to set it up safely. 		<p>Evaluations of work produced</p>	<ul style="list-style-type: none"> End of unit questionnaire
<p>Focus 6 - Assembly and Evaluating</p> <ul style="list-style-type: none"> Students will assemble the lamp which will include: the pine base, mdf housing, polypropylene shade and LED candle. Students will self-assess their final outcome against the success criteria and peer assess each other's work. 		<p>Packaging information and step by step instructions for how to complete the puzzle.</p>	

Sequencing

How this unit builds on prior learning:

Students will use their prior knowledge and skills from Year 7 when cutting and shaping timber and following the health & safety procedures. This project will require students to cut more complex shapes in the material and will provide them with the opportunity to be creative by developing their product.

How this unit leads to future learning:

There is an increase in demand in regards to the shapes they will cut and the intricate joining methods used. Students will also be using CAD CAM to design and manufacture a lampshade from a thermos polymer. These methods will be used throughout the projects and topics covered at GCSE level.

Resources to support:

www.TechnologyStudent.com

Social, Moral, Spiritual, Cultural and British Values linked to this learning programme:

Students will learn that designers have a responsibility to design responsibly and to understand the environmental impact of specific materials. Students will be made aware of the significance of British innovation and engineering throughout history.

Assessment:

Students work will be assessed regularly using verbal feedback and formal feedback for their final outcome. Photographic evidence of practical work will be recorded using an assessment reflection sheet.