

THE

WYOMING STATE COLLEGE
SCHOOL

SWFYNEDARK

Year	Knowledge (Topics /Contexts) What pupils will 'know' .	Skills acquired What pupils will be able to 'do' .	Concepts developed What pupils will 'understand' .	Assessment (KPIs)
<p>7</p> <p>Core skills module</p>	<p>The importance of health & Safety considerations in the workshop environment including risk assessment.</p> <p>How to use tools and machinery in a safe and sensible manner.</p> <p>The vacuum forming as a method of mass production.</p> <p>The meanings of different pictograms applied to packaging and relevant mandatory information.</p> <p>The age rating classifications for toys, child safety and the small parts tester.</p> <p>The classification of polymers, their properties and sustainability issues.</p> <p>The environmental issues associated with oceanic pollution.</p> <p>How to analyse products to given criteria.</p> <p>The information contained within a barcode.</p>	<p>Classify criteria in a specification into must, should and could (MUST, SHOULD and COULD) including polymers and timbers with some (T) - uD75fidence</p>		

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10 Term 1	<p>The categorisation of different materials and their working properties.</p> <p>That the selection of materials and components should consider a variety of factors such as cost and functionality.</p> <p>The sources and origins of materials and how they are harvested or extracted.</p> <p>Stock forms, types and sizes of materials in order to calculate and determine the quantities of materials or components required.</p>			

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11 Term 1	<p>How to design and develop design ideas for a client to a written brief.</p> <p>How to shape and form materials, using cutting, abrasion and addition.</p> <p>How to use specialist techniques and processes such as jigs, patterns and templates where suitable.</p> <p>How surface treatments and finishes are applied to enhance aesthetics, functionality and durability of products.</p>	<p>NEA:</p> <p>Use a range of design strategies to generate imaginative and creative designs.</p> <p>Develop the use of a range of appropriate techniques to communicate design ideas including 2D and 3D drawings and computer modelling.</p> <p>Select materials and components appropriate to the task considering cost, functionality and availability.</p> <p>Work to specific tolerances, cutting, shaping and forming materials.</p> <p>Material management and the economical use of material.</p> <p>Work with specialist tools and equipment with precision.</p> <p>Use specialist techniques and processes.</p> <p>Design and develop prototypes in response to client needs and wants.</p>	<p>The importance of considering the needs and wants of a client when designing for them.</p> <p>The need to develop a specification that gives details of the constraints on a design project.</p> <p>The need to consider a wide range of design ideas and possibilities, avoiding design fixation.</p> <p>The need to research materials, components, joining and finishing methods before finalising design ideas.</p> <p>The need for accuracy in manufacture in order to produce a functioning and high-quality prototype.</p> <p>The need to carry out market research on a finished prototype to gauge opinions on suitability.</p> <p>The need to test a prototype fully with the client and others.</p> <p>The need to evaluate the prototype and suggest improvements.</p>	<p>KPI 11.1: Know, explain and demonstrate the making principles of material management, health and safety and manufacturing processes.</p> <p>KPI 11.2: Section A: Identifying & investigating design possibilities</p> <p>KPI 11.3: Section B: Producing a design brief & specification</p> <p>KPI 11.4: Section C: Generating design ideas</p> <p>KPI 11.5: Section D: Developing design ideas</p>
11 Term 2	<p>How to evaluate their prototypes fully using client feedback and testing to suggest improvements.</p>			<p>KPI 11.6: Section E: Realising design ideas</p> <p>KPI 11.7: Section F: Analysing & evaluating</p>
11 Term 3	<p>The internally moderated mark for their NEA.</p>			<p>Success with exam style questions during theory revision sessions.</p>

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12 Term 1	<p>The uses of materials and their applications.</p> <p>The theory of Polymers and polymer processing and finishing techniques.</p> <p>The theory of Timbers and timber processing and finishing techniques</p> <p>The theory of Papers & boards and associated processing and finishing techniques.</p> <p>The theory of Composites, smart and modern materials and associated processing and finishing techniques.</p> <p>The theory of Metals and metal processing and finishing techniques.</p> <p>Modern and industrial scales of production.</p> <p>Digital design and manufacture</p> <p>The requirements for product design and development</p>	<p>Be able to demonstrate skills in a range of communication and presentational techniques for conveying proposals and intentions to clients and potential users.</p> <p>Be able to describe how computers are used in modern</p>		

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