

WJEC Product Design Grid

Yr 10

Winter term 1	Winter term 2	Spring Term 1	Spring Term 1	Summer Term 1	Summer Term 2
<p>A range of drawing techniques 2D and 3D Drawing techniques.</p> <p>Students learn how to draw in isometric, which is a 3D Drawing technique.</p> <p>Students learn how to draw in orthography which is a 2D Drawing technique.</p> <p>Students learn the correct and safe methods of using tools and equipment in the DT Workshop</p>	<p>Students produce a range of Focus practical tasks. This includes making a scale model pencil sharpener out of card and wood joins a wooden box and pewter keyring.</p> <p>Students Learn to mark out and cut wood joints</p> <p>Students learn Cardboard engineering techniques how to manipulate pliable materials such as paper and card to create mock models</p> <p>Students learn a metal casting</p>	<p>Students learn about various Design movements and how they shaped and influenced design and the world around us</p> <p>Students learn about Art Deco and Memphis design etc.. and use them as a theme and inspiration into their design ideas.</p>	<p>Learn to use CAD Packages such as Google Sketch-up and 2D Design.</p> <p>Learn to draw Designs to scale.</p> <p>Learn how to render drawings to create realistic 3D Models and help visualise design ideas.</p> <p>Understand how the laser cutter can be integrated into their 3D Products.</p>	<p>Students will research existing designers.</p> <p>Learn the works of famous designers and well know designers and research and understand their design philosophies and their approach to designing.</p>	<p>Develop and create design ideas.</p> <p>Learn how to sketch in 'freehand isometric' to produce proportional correct sketches and help the students communicate their design ideas effectively.</p> <p>Learn to use research to influence their ideas and integrate themes into their designs.</p> <p>Use a criteria Feedback</p>

	technique, to create a 3D artefact.				
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Yr 11

Winter term 1	Winter term 2	Spring Term 1	Spring Term 1	Summer Term 1	Summer Term 2
<p>Students will develop design ideas and both as drawings and mock models.</p> <p>Learn techniques to manipulate pliable materials to create 3D representations of their design ideas using Mock models,</p> <p>Learn to use analyse and retrieve information from their mock models to feedback in their design development.</p>	<p>Students to test the application of different materials and finishes.</p> <p>Learn the different properties of materials and use the information to help select appropriate materials for their prototypes.</p> <p>Learn different finishing techniques and apply them to different materials and analyse the outcomes.</p>	<p>Students to produce a diary of manufacture.</p> <p>Learn to record and describe the making and development process in a logical and coherent manner.</p> <p>Students continue to learn different making skills, using machines and equipment.</p>	<p>Students to produce realistic 3D Renderings of their final design.</p> <p>Continue the making-of of their final prototype</p> <p>Learn to create 3D renders to the correct scale using CAD (Computer-aided manufacture)</p> <p>Students continue to learn different making skills, using machines and equipment.</p>	<p>Students to install electronics if applicable to their final prototypes.</p> <p>Students to apply relevant finishes to their final prototypes.</p> <p>Learn how to assemble basic electronic circuits</p> <p>Learn different types of finishing techniques and how to apply them.</p> <p>Students continue to learn different making skills, using machines and equipment.</p>	<p>Student to evaluation their final outcome.</p> <p>Know to analyse their final design by comparing it with the design criteria and specification.</p> <p>Be able to determine how successful the final prototype is based on the the initial criteria.</p>

