

Subject: Design & Technology – Product Design

September-October Half Term		
Year 7	Year 8	Year 9
<p>Core Skills –</p> <ul style="list-style-type: none"> <li>• Sketching</li> <li>• Health &amp; Safety</li> <li>• Isometric Drawing</li> <li>• 1 point perspective</li> <li>• Measuring &amp; marking out</li> </ul>	<ul style="list-style-type: none"> <li>• Biomimicry</li> <li>• Development of design ideas</li> <li>• 2d Design</li> <li>• Using the laser cutter</li> </ul>	<p>Design Ventura</p> <p>Design Ventura challenges students to design a new product for the design museum shop.</p>
<p><b>Assessments/exams</b></p> <p>Independent study of formal graphic techniques</p>	<p><b>Assessments/exams</b></p> <p>Design Ideas</p>	<p><b>Assessments/exams</b></p> <p>Pitching event to the Principal, head of department and design professionals.</p>
<p><b>Enrichment activities</b></p> <p>Advanced skills in graphic communication techniques STEM Club</p>	<p><b>Enrichment Activities</b></p> <p>Incorporation of inlays in wood and or acrylic STEM Club</p>	<p><b>Enrichment Activities</b></p> <p>Opportunity to develop teamwork STEM Club</p>
November-December Half Term		
Year 7	Year 8	Year 9
<p>Investigating Woods</p> <p>Looking at the categories of woods.</p> <p>Learning safe use of the following equipment in the creation of a money box:</p> <ul style="list-style-type: none"> <li>• Tenon Saws</li> <li>• Pillar Drill</li> <li>• Bench Hook</li> <li>• Coping Saw</li> <li>• Scroll Saw</li> <li>• Belt Sander</li> <li>• Wood joining methods</li> </ul>	<p>Pewter cast jewellery</p> <p>Mould making</p>	<p>Flat pack clocks</p> <p>Laser cutting and traditional manufacturing methods</p>
<p><b>Assessments/exams</b></p> <p>Final product and project work STEM Club</p>	<p><b>Assessments/exams</b></p> <p>Final product and project work STEM Club</p>	<p><b>Assessments/exams</b></p> <p>Final product and project work STEM Club</p>
<p><b>Enrichment activities</b></p> <p>Design development Morticing machine</p>	<p><b>Enrichment activities</b></p> <p>Incorporation of inlays in wood and or acrylic Packaging</p>	<p><b>Enrichment activities</b></p> <p>Packaging</p>

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January-February Half Term		
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Investigating Plastics Exploring the categories of plastics. Looking at how we cut and form plastics using the following equipment: <ul style="list-style-type: none"> <li>Hot wire strip heater</li> <li>Vacuum former</li> </ul>	Sustainability Designing with recycled materials	Passive Amplifier Manipulation of sound Interfacing with existing products
<b>Assessments/exams</b> Final product and project work	<b>Assessments/exams</b> Final product and project work	<b>Assessments/exams</b> Final product and project work
<b>Enrichment activities</b> Product development STEM Club	<b>Enrichment activities</b> Developing circuits STEM Club	<b>Enrichment activities</b> Product development Finishing skills STEM Club
February-April Half Term		
Year 7	Year 8	Year 9
Design challenge	Mood light – Circuit	Passive Amplifier Developing practical work
<b>Assessments/exams</b> Year 7 Product Design Exam	<b>Assessments/exams</b> Final product and project work	<b>Assessments/exams</b> Design ideas
<b>Enrichment Activities</b> Developing designing skills STEM Club	<b>Enrichment Activities</b> Developing circuits STEM Club	<b>Enrichment Activities</b> Design development STEM Club
April-May Half term		
Year 7	Year 8	Year 9
Core Skills – <ul style="list-style-type: none"> <li>Investigating Control</li> <li>Investigating Electronics</li> </ul>	Alessi Egg cup project <ul style="list-style-type: none"> <li>Product Analysis</li> <li>Modelling and development</li> <li>CAD CAM</li> </ul>	Independent learning project
<b>Assessments/exams</b> Focused practical tasks	<b>Assessments/exams</b> Year 8 Product Design Exam	<b>Assessments/exams</b> Project work

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<b>Enrichment Activities</b> Developing systems STEM Club	<b>Enrichment Activities</b> Developing designing skills Use of CAD CAM STEM Club	<b>Enrichment Activities</b> Development of independent learning skills STEM Club
<b>June-July Half Term</b>		
<b>Year 7</b>	<b>Year 8</b>	<b>Year 9</b>
Core Skills – Investigating Mechanisms & Structures	Using the 3d printer Using the laser cutter	Independent learning project
<b>Assessments/exams</b> Focused practical tasks	<b>Assessments/exams</b> Final product and project work	<b>Assessments/exams</b> Final product and project work
<b>Enrichment Activities</b> Developing systems STEM Club House Glider Challenge	<b>Enrichment Activities</b> Developing designing skills Use of CAD CAM STEM Club House Glider Challenge	<b>Enrichment Activities</b> Developing designing skills Use of CAD CAM STEM Club House Glider Challenge

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<b>September-October Half Term</b>	
<b>Year 10</b>	<b>Year 11</b>
<b>Exam Board and Specification: AQA Product Design 4555</b>	<b>Exam Board and Specification: AQA Product Design 4555</b>
<p>Introduction to Product Design            Course content and key dates            Mark Scheme and mark allocations            Good / Bad design</p> <p>The importance of product design in our everyday lives            History of design            The design process            Key figures in design            Design movements, timeline and design classics</p>	<p>Design development for controlled assessment            Modelling design ideas            Manufacturing specification</p>
<p><b>Assessments/exams</b>            Exam questions for home works</p>	<p><b>Assessments/exams</b>            Controlled Assessment            Mock Exam</p>
<p><b>Enrichment activities</b>            Development of CAD CAM            STEM Club</p>	<p><b>Enrichment Activities</b>            STEM Club</p>
<b>November-December Half Term</b>	
<b>Year 10</b>	<b>Year 11</b>
<p>Packaging:            Purposes of packaging            Packaging types &amp; materials            Information and symbols found on packaging            Packaging manufacture techniques</p> <p>Manufacturing Processes</p>	<p>Manufacturing design idea</p>
<p><b>Assessments/exams</b>            Exam questions</p>	<p><b>Assessments/exams</b>            Exam questions for home works</p>
<p><b>Enrichment activities</b></p>	<p><b>Enrichment activities</b></p>

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STEM Club	Development of CAD CAM STEM Club
<b>January-February Half Term</b>	
<b>Year 10</b>	<b>Year 11</b>
Metals Ferrous metals Non-ferrous metals Alloys Properties Classification & types Sources & stock sizes Disposal and recycling	Packaging Evaluation
<b>Assessments/exams</b> Exam questions	<b>Assessments/exams</b> Controlled Assessment Deadline
<b>Enrichment activities</b> STEM Club	<b>Enrichment activities</b> STEM Club
<b>February-April Half Term</b>	
<b>Year 10</b>	<b>Year 11</b>
Smart, Modern and Composite	Theory
<b>Assessments/exams</b> Exam questions	<b>Assessments/exams</b>
<b>Enrichment Activities</b> STEM Club	<b>Enrichment Activities</b> STEM Club
<b>April-May Half term</b>	
<b>Year 10</b>	<b>Year 11</b>
Introduction to Controlled Assessment.	Theory
<b>Assessments/exams</b> Section 1 Assessment	<b>Assessments/exams</b>

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<b>Enrichment Activities</b> STEM Club	<b>Enrichment Activities</b> STEM Club
<b>June-July Half Term</b>	
<b>Year 10</b>	<b>Year 11</b>
<b>Revision</b>	Revision
<b>Assessments/exams</b> Mock exam	<b>Assessments/exams</b> Exam questions
<b>Enrichment Activities</b> House Glider Challenge STEM Club	<b>Enrichment Activities</b> STEM Club