

## Year 13 Product Design Revision Plan 2020

Subject: Product Design Resistant Materials. AQA 7552

Maths in PD HW will be set every week

Content	Exam Aim
Materials and applications Classification of materials A-level additional content: Elastomers	Become familiar with a wide range of specific materials and their uses. Be able to identify the classification or group to which they belong.
Investigating and testing materials	Have knowledge of a range of comparative workshop tests. Be able to suggest appropriate workshop tests.
Performance characteristics of materials	Have knowledge of specific materials along with their performance characteristics. Understand how they can be shaped and formed and how detail can be added through a range of printing techniques. Understand that materials can be combined to produce an enhanced material. Be able to explain and identify the suitability of composites for a given application. Understand the term stock forms and be familiar with timber conversion.
Design theory & Design styles and movements	Be aware of the key historical design styles, design movements and influential designers and the role they played in shaping product design and manufacture.

Day	Date	Wk	Examinations & Assessments	Topic /Skill Focus	Homework Set
Monday	WC: 3 <sup>RD</sup> Feb	<b>B</b>	Quizizz QLA	<ul style="list-style-type: none"> <li>Industrial and Commercial Practice: Electronic Communication and EPOS</li> <li>Performance &amp; Characteristics of materials <ul style="list-style-type: none"> <li>Paper/Boards</li> <li>Woods</li> <li>Metals</li> <li>Polymers</li> </ul> </li> </ul>	<p>Quizizz: 126 questions</p> <p>Maths in PD: Area &amp; Volume</p>
Thursday			Marking Against AQA Marking Guide	<ul style="list-style-type: none"> <li>Design Methods</li> <li>Design Influences &amp; Design Movements</li> <li>Technology &amp; Cultural Change</li> </ul>	Exam Style Questions:
Monday	WC: 10 <sup>th</sup> Feb	<b>A</b>	•	<ul style="list-style-type: none"> <li>Systems and Control: Manufacturing Systems, systems work flow</li> <li>Design Methods</li> <li>Technology and Cultural Change</li> </ul>	Revision of Systems, control and workflow. Page 107-109
Thursday			Quizizz QLA	<ul style="list-style-type: none"> <li>Design for Manufacture</li> <li>Design for Maintenance</li> <li>QA &amp; QC</li> </ul>	<p>Page 165-166</p> <p>Quizizz: 60 questions</p> <p>Maths in PD: Cutting Speeds</p>
Monday	WC: 24 <sup>th</sup> Feb	<b>B</b>	•	<ul style="list-style-type: none"> <li>Computer Integrated Manufacturing</li> <li>Selecting Appropriate Tools including QA/QC</li> </ul>	Revision of Digital Manufacture Page 115-124
Thursday			Lesson Assessment	<ul style="list-style-type: none"> <li>Robotics and Artificial Intelligence and there effects on employment</li> <li>Responsible Design</li> </ul>	<p>Test Knowledge Page 124</p> <p>Maths in PD: Volume &amp; Cost</p>
Monday	WC: 2 <sup>nd</sup> Mar	<b>A</b>	Marking Against AQA Marking Guide	<ul style="list-style-type: none"> <li>Flow charts: Open/Closed Loop Systems</li> <li>Forming &amp; Redistribution of Materials</li> <li>Technology &amp; Cultural Changes</li> </ul>	<p>Exam Style Questions:</p> <p>Maths in PD: Trigonometry</p>

Monday	WC: 9 <sup>th</sup> Mar	<b>B</b>	•	<ul style="list-style-type: none"> <li>Prototyping</li> <li>Design in Context: Influence of Design History</li> </ul>	Revision of Accuracy Page 267-275
Thursday			Present Research	<ul style="list-style-type: none"> <li>The use of Finishes</li> <li>Effects of Technology Change on Society</li> <li>Modern Materials</li> <li>SMART Materials</li> </ul>	Test Knowledge Page 275 Research Design Movements
Monday	WC: 16 <sup>th</sup> Mar	<b>A</b>	Quizizz QLA Marking Against AQA Marking Guide	<ul style="list-style-type: none"> <li>Form and Function: Ergonomics and Anthropometrics</li> <li>Industrial Practices</li> <li>Protecting Design and Intellectual Property</li> </ul>	Exam Style Questions: Quizizz 90 questions
Monday	WC: 23 <sup>rd</sup> Mar	<b>B</b>	•	<ul style="list-style-type: none"> <li>Sustainability: Cleaner designing and minimising waste production (Four R's)</li> <li>Enterprise and Marketing</li> </ul>	Revision of Sustainability Page 157-169
Thursday			Lesson Assessment	<ul style="list-style-type: none"> <li>Life Cycle Assessment (LCI)</li> <li>Social Footprint</li> <li>Product Comparison</li> <li>Investigate &amp; Test Materials</li> </ul>	Test Knowledge Page 169 Maths in PD: Graphical Data
Monday	WC: 30 <sup>th</sup> Mar	<b>A</b>	Marking Against AQA Marking Guide	<ul style="list-style-type: none"> <li>Renewable and Non-renewable Energy NFFO</li> <li>Material Application</li> <li>Conservation of Energy</li> </ul>	Exam Style Questions:
Thursday			Quizizz QLA	<ul style="list-style-type: none"> <li>Responsibilities of Developing Countries</li> <li>Sourcing &amp; Processing of Raw Materials</li> <li>Addition of Materials to increase performance</li> </ul>	Quizizz: 126 questions Maths in PD: Area & Volume
Monday	WC: 20 <sup>th</sup> Apr	<b>B</b>	Marking Against AQA Marking Guide	<ul style="list-style-type: none"> <li>SPI Plastic Codes</li> <li>Alternatives to Carbon Based Polymers</li> <li>Melting Points</li> </ul>	Exam Style Questions: Revision of Materials Page 39-45 Test Knowledge 45

Thursday			•	<ul style="list-style-type: none"> <li>• Go/no-go gauges</li> <li>• Non-destructive Testing</li> <li>• Alternative Energies</li> <li>• NFFO</li> </ul>	Revision of Responsible Design Page 276-289
Monday	WC: 27 <sup>th</sup> Apr	A	Quizizz QLA	<ul style="list-style-type: none"> <li>• Enhancement of Materials <ul style="list-style-type: none"> <li>○ Paper/Boards</li> <li>○ Woods</li> <li>○ Metals</li> <li>○ Polymers</li> </ul> </li> </ul>	Quizizz: 100 questions Maths in PD: Cutting Speeds
Thursday			Marking Against AQA Marking Guide	<ul style="list-style-type: none"> <li>• Improve strength and aesthetics</li> <li>• Forming &amp; Redistribution</li> </ul>	Exam Style Questions: Revision of Materials Page 39-45
Monday	WC: 4 <sup>th</sup> May	B	Marking Against AQA Marking Guide	<ul style="list-style-type: none"> <li>• Renewable and Non-renewable Energy NFFO</li> <li>• Material Application</li> <li>• Investigate &amp; Test Materials</li> </ul>	Exam Style Questions:
Thursday			Marking Against AQA Marking Guide	<ul style="list-style-type: none"> <li>• The use of Finishes</li> <li>• Effects of Technology Change on Society</li> <li>• Modern Materials</li> <li>• SMART Materials</li> </ul>	Exam Style Questions: Maths in PD: Trigonometry
Monday	WC: 11 <sup>th</sup> May	A	Marking Against AQA Marking Guide	<ul style="list-style-type: none"> <li>• Systems and Control: Manufacturing Systems, systems work flow</li> <li>• Design Methods</li> <li>• Technology and Cultural Change</li> </ul>	Exam Style Questions:  Maths in PD: Area & Volume
Thursday			Marking Against AQA Marking Guide	<ul style="list-style-type: none"> <li>• Digital Design &amp; Manufacture</li> <li>• Production Planning &amp; Control <ul style="list-style-type: none"> <li>○ JIT</li> <li>○ EPOS</li> <li>○ FMS</li> <li>○ AGV</li> <li>○ Kiazan</li> </ul> </li> </ul>	Exam Style Questions:

Monday	WC: 18 <sup>th</sup> May	B	•	<ul style="list-style-type: none"> <li>• Design Development</li> <li>• Inclusive Design</li> <li>• H&amp;S <ul style="list-style-type: none"> <li>○ COSHH</li> <li>○ PPE</li> <li>○ Risk Assessment</li> </ul> </li> </ul>	Revision of Systems, control and workflow. Page 107-109
Thursday			Lesson Assessment	<ul style="list-style-type: none"> <li>• Enterprise &amp; Marketing</li> <li>• Design Communication</li> <li>• Product Life Cycle (LCI)</li> </ul>	Page 165-166 Quizizz: 60 questions Maths in PD: Cutting Speeds
Monday	WC: 25 <sup>th</sup> May	A	Lesson Assessment	<ul style="list-style-type: none"> <li>• Design for manufacturing, maintenance, repair and disposal <ul style="list-style-type: none"> <li>○ reduction in the number of manufacturing processes</li> <li>○ maintenance</li> <li>○ ease of manufacture</li> <li>○ disassembly</li> </ul> </li> </ul>	Revision of Digital Manufacture Page 115-124
Thursday			•	<ul style="list-style-type: none"> <li>• Systems and Control: Manufacturing Systems, systems work flow</li> <li>• Design Methods</li> <li>• Technology and Cultural Change</li> </ul>	Test Knowledge Page 124 Maths in PD: Volume & Cost