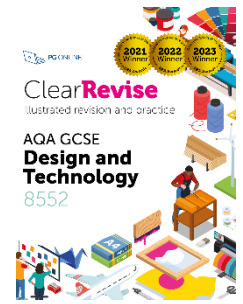


AQA GCSE Design & Technology PLC

Please use the Clear Revise textbook to help you with your revision. Please see Mr Beardsall if you don't have a copy. One can be purchased on ParentPay for £6



Section A: (20%) Core Technical Principles	Section B: (30%) Specialist Technical Principles (Timbers Focus)	Section C (50%) Designing & Making Principles
<p>1.1 New and Emerging Technologies</p> <ul style="list-style-type: none"> Impact of new technologies on Industry, Enterprise & Sustainability Pages 2-6 Market Pull and Technology Push Page 7 Changes in job roles and the workplace (automation and robotics) Pages 3 & 9 Sustainable design and environmental consideration Pages 5,10, 11 	<p>2.1 Selection of Materials or Components</p> <ul style="list-style-type: none"> Properties of Timbers Pages 32, 33, 64 Stock Forms Page 64, 65, 66 Physical & Working Properties Page 30 	<p>3.1 Investigation and Analysis</p> <ul style="list-style-type: none"> Conducting research to identify user needs. Primary & Secondary Research Page 110 Analysing existing products (disassembly and reverse engineering) Page 111 Ergonomics & Anthropometrics Page 112, 113
<p>1.2 Energy Generation and Storage</p> <ul style="list-style-type: none"> Renewable energy sources (wind, solar, tidal, etc.) Page 14, 15 Non-renewable energy sources (coal, gas, oil) Page 13 Energy storage systems (batteries, kinetic energy recovery systems) Page 16 	<p>2.2 Timber Processes</p> <ul style="list-style-type: none"> Wood Lamination Page 66 Tools Page 83, 84,85 Turning – Lathe + CNC Page 86 Health & Safety Page 136, 137 	<p>3.2 Communication of Ideas</p> <ul style="list-style-type: none"> Use of sketches, annotated drawings, and CAD tools Pages 124, 125 Technical drawings (e.g., orthographic projection) Pages 126, 127
<p>1.3 Developments in Modern and Smart Materials</p> <ul style="list-style-type: none"> Properties and uses of modern materials (e.g., graphene, titanium) Page 17 Properties and uses of smart materials (e.g., shape-memory alloys, thermochromic pigments) Page 18 Composite materials and their advantages Page 19 	<p>2.3 Scales of Production</p> <ul style="list-style-type: none"> One-off, batch, mass, and continuous production methods Page 104, 105 Appropriate manufacturing techniques for each scale Pages 104, 105,106 	<p>3.3 Development of Ideas</p> <ul style="list-style-type: none"> Iterative design process and prototype development Page 128 Testing and evaluating design ideas Design Strategies Page 122, 133

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<p>1.4 Systems Approach to Designing</p> <ul style="list-style-type: none"> • Input, process, and output components in systems Page 22, 23 • Control devices (e.g., sensors, switches, microcontrollers) Page 23 • Mechanical systems: levers, linkages, cams, gears, pulleys Pages 24, 25, 27 	<p>2.4 Surface Treatments and Finishes</p> <ul style="list-style-type: none"> • Processes to enhance the aesthetic and functional qualities of products Page 67 • Preparation and application techniques (e.g., sanding, painting, anodizing) 	<p>3.4 Material Management</p> <ul style="list-style-type: none"> • Minimizing waste and maximizing efficiency Page 134, 135
<p>1.5 Materials and their Working Properties</p> <ul style="list-style-type: none"> • Papers and boards (e.g., cartridge paper, corrugated card) Page 31 • Natural and manufactured timbers Pages 32, 33 • Metals and alloys (ferrous and non-ferrous metals) Pages 34, 35 • Polymers (thermoforming and thermosetting plastics) Pages 36, 37 • Textiles (woven, non-woven, knitted fabrics) Pages 38, 39 	<p>2.5 Polymer Processes</p> <ul style="list-style-type: none"> • 3D Printing, Vacuum Forming, Injection Moulding Pages 79,80 	<p>3.5 Ethical and Sustainable Design</p> <ul style="list-style-type: none"> • Ethical, Social & Cultural considerations in design and manufacture Pages 42, 43, 48 • Fairtrade & Deforestation Page 116
<p>1.6 Ecological and Social Footprint</p> <ul style="list-style-type: none"> • Life cycle assessment (LCA) of products Page 46 • Reduce, reuse, recycle principles Page 47 	<p>2.6 Quality Control and Quality Assurance</p> <ul style="list-style-type: none"> • Difference between quality control and assurance Pages 131, 132 • Methods for ensuring product quality (e.g., testing, tolerances) Pages 131, 132 • Templates & Jigs Page 133 	<p>3.6 The Work of Others</p> <ul style="list-style-type: none"> • Know at least 3 x designers and 3 x design companies Page 117-121
<p>1.7 Sources and Origins</p> <ul style="list-style-type: none"> • Conversion of raw materials into usable forms • Sources of natural and manufactured timbers Page 62 • 		