

## Design & Technology Curriculum Maps 2021 - 2022

### Key Stage 4

Year	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
<b>10</b>	<p><b>Boat Challenge</b></p> <p>3.1 Core technical principles</p> <p>3.1.1 New and emerging technologies</p> <p>Industry</p> <p>Enterprise</p> <p>Sustainability</p> <p>People</p> <p>Culture</p> <p>Society</p> <p>Environment</p> <p>Production techniques and systems</p> <p>How the critical evaluation of new and emerging technologies informs design decisions</p>	<p><b>T-Shirt Project</b></p> <p>3.1.6.1 Material categories</p> <p><b>Papers and boards</b></p> <p><b>Natural and manufactured timbers</b></p> <p><b>Metals and alloys</b></p> <p><b>Polymers</b></p> <p><b>Textiles</b></p> <p>3.1.6.2 Material properties</p> <p><b>Material properties</b></p> <p>3.2 Specialist technical principles</p> <p>3.2.1 Selection of materials or components</p>	<p><b>Promotional Products</b></p> <p>3.1.2 Energy generation and storage</p> <p>Fossil fuels</p> <p>Nuclear power</p> <p>Renewable energy</p> <p>Energy storage systems including batteries</p>	<p><b>Festival Projects</b></p> <p>3.1.3 Developments in new materials</p> <p>Modern materials</p> <p>Smart materials</p> <p>Composite materials</p> <p>Technical textiles</p> <p>3.1.4 Systems approach to designing</p> <p>Inputs</p> <p>Processes</p> <p>Outputs</p> <p>3.1.5 Mechanical devices</p> <p>Different types of movement</p> <p>Changing magnitude and direction of force</p> <p>3.1.6 Materials and their working properties</p>	<p><b>Festival Projects</b></p> <p>3.2.2 Forces and stresses</p> <p>Materials and objects can be manipulated to resist and work with forces and stresses</p> <p>Materials can be enhanced to resist and work with forces and stresses to improve functionality</p> <p>3.2.3 Ecological and social footprint</p> <p>Ecological issues in the design and manufacture of products</p> <p>The six Rs</p> <p>Social issues in the design and manufacture of products</p>	<p><b>Non-Examined Assessment Prep</b></p> <p>3.2.4 Sources and origins</p> <p>3.2.5 Using and working with materials</p> <p>Properties of materials</p> <p>The modification of properties for specific purposes</p> <p>How to shape and form using cutting, abrasion and addition</p> <p>3.2.6 Stock forms, types and sizes</p> <p>3.2.7 Scales of production</p>

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