

# KS3 Design and Technology Curriculum Map

	Knowledge and understanding	Research and design skills	Practical skills	Analysis and evaluation
<b>Year 7</b>	<b>Structures</b> <ul style="list-style-type: none"> <li>- Types of bridge structure</li> <li>- Simple forces</li> </ul> <b>Woods</b> <ul style="list-style-type: none"> <li>- Classification of woods</li> <li>- Characteristics of wood</li> <li>- Joining methods</li> <li>- Tools and equipment</li> <li>- 20<sup>th</sup> Century design movements</li> </ul>	<b>Bridge</b> <ul style="list-style-type: none"> <li>- Using 5Ws to focus research</li> <li>- Finding information using internet</li> <li>- Creating designs on existing research</li> </ul> <b>Clock</b> <ul style="list-style-type: none"> <li>- Creating designs based on 20<sup>th</sup> Century design styles</li> </ul>	<b>Bridge</b> <ul style="list-style-type: none"> <li>- Work shop safety</li> <li>- Using a glue gun</li> <li>- Creating triangular structures</li> </ul> <b>Clock</b> <ul style="list-style-type: none"> <li>- Lap and finger joints</li> <li>- Using a pillar drill</li> <li>- Using a belt sander</li> <li>- Using hand tools for wood</li> </ul>	<b>Bridge</b> <ul style="list-style-type: none"> <li>- Use of 5Ws to structure analysis</li> <li>- Reflection of bridge design to inform improvements to second design</li> <li>- Simple evaluation of project</li> </ul> <b>Clock</b> <ul style="list-style-type: none"> <li>- Use of 5Ws to structure analysis</li> </ul>
<b>Year 8</b>	<b>Metals and plastics</b> <ul style="list-style-type: none"> <li>- Classifications</li> <li>- Properties</li> <li>- Tools and equipment</li> <li>- Shaping techniques</li> </ul> <b>Electronics</b> <ul style="list-style-type: none"> <li>- Purpose of LEDs and resistors</li> </ul> <b>CAD</b> <ul style="list-style-type: none"> <li>- 2D design tools</li> </ul>	<b>Balance toy</b> <ul style="list-style-type: none"> <li>- Using 2D design to create a CAD drawing for laser cutter</li> </ul> <b>Electronics</b> <ul style="list-style-type: none"> <li>- To design for a target market</li> <li>- Generate a range of ideas with simple annotation</li> <li>- Development of idea leading to a final design</li> </ul>	<b>Balance toy</b> <ul style="list-style-type: none"> <li>- Using a metal lathe</li> <li>- Using a tap and die</li> <li>- Shaping metal with hand tools</li> <li>- Laminating wood</li> <li>- Using pop rivets to join metal</li> </ul> <b>Electronics</b> <ul style="list-style-type: none"> <li>- How to solder safety</li> <li>- How to use strip heater</li> <li>- How to create a circuit</li> </ul>	<b>Balance toy</b> <ul style="list-style-type: none"> <li>- Reflective evaluation at end of project</li> <li>- Evaluation of processes and skills</li> <li>- Peer evaluation</li> </ul>
<b>Year 9</b>	<b>Metals</b> <ul style="list-style-type: none"> <li>- Brazing</li> <li>- Joining methods</li> <li>- Finishing methods</li> </ul> <b>Graphical communication</b> <ul style="list-style-type: none"> <li>- Isometric drawing</li> <li>- Types of drawing</li> <li>- Line conventions</li> </ul>	<b>Metal bug</b> <ul style="list-style-type: none"> <li>- Creating a mood board</li> <li>- Creating designs based on nature</li> <li>- Annotation with review of ideas</li> <li>- Isometric drawing by hand</li> </ul> <b>Graphical communication</b> <ul style="list-style-type: none"> <li>- Isometric using drawing boards and equipment</li> <li>- Enhancement skills</li> </ul>	<b>Metal bug</b> <ul style="list-style-type: none"> <li>- Measuring and marking out using metal work tools</li> <li>- Shaping metal with hand tools</li> <li>- Brazing and dip coating</li> </ul>	<b>Metal bug</b> <ul style="list-style-type: none"> <li>- Task analysis at start of project using ACCESSFM</li> <li>- Reflective evaluation at end of project using some GCSE criteria</li> <li>- Peer evaluation</li> </ul>
<b>By KS4</b>	<b>To have a basic knowledge of wood, metal and plastic; classifications, types, joining and shaping</b>	<b>To have designed using traditional and CAD methods.</b>	<b>To have demonstrated a range of skills within all 3 main material areas and to have good knowledge of 2D design and Solid works.</b>	<b>To have demonstrated how to analyse and evaluate at different stages of the design process (NEA)</b>