

Year 8 Design Technology					
	Embarking	Emerging	Developing	Securing	Mastering
<b>Design</b>	<ul style="list-style-type: none"> <li>Use research created by someone else to suggest possible user needs.</li> <li>Identify a design problem and recognise why you are going to make the product.</li> <li>Develop simplistic specification criteria based on aesthetic grounds.</li> <li>Generate ideas and recognise that your designs have to meet a range of different needs.</li> <li>Communicate ideas visually using annotated sketches and use of at least one computer-based tool.</li> </ul>	<ul style="list-style-type: none"> <li>Use very limited research and exploration to identify and demonstrate a very limited understanding of user needs.</li> <li>Identify design problems and demonstrate a very limited understanding of how to reformulate problems given to them.</li> <li>Develop very limited specifications to inform the design of innovative, functional, appealing products that respond to very limited needs in a variety of situations.</li> <li>Use a very limited variety of approaches, to generate limited creative ideas and avoid stereotypical responses.</li> <li>Develop and communicate limited design ideas using annotated sketches, plans, 3D modelling, oral and digital presentations and computer-based tools.</li> </ul>	<ul style="list-style-type: none"> <li>Use limited research and exploration to identify and demonstrate limited understanding of user needs.</li> <li>Identify design problems and demonstrate a limited understanding of how to reformulate problems given to them.</li> <li>Develop limited specifications to inform the design of innovative, functional, appealing products that respond to limited needs in a variety of situations.</li> <li>Use a limited variety of approaches, to generate some creative ideas and avoid stereotypical responses.</li> <li>Develop and communicate some design ideas using annotated sketches, detailed plans, 3D and mathematical modelling, oral and digital presentations and computer-based tools.</li> </ul>	<ul style="list-style-type: none"> <li>Use research and exploration to identify and demonstrate some understanding of user needs.</li> <li>Identify their own design problems and demonstrate some understanding of how to reformulate problems given to them.</li> <li>Develop specifications to inform the design of innovative, functional, appealing products that respond to some needs in a variety of situations.</li> <li>Use a variety of approaches, to generate some creative ideas and avoid stereotypical responses.</li> <li>Develop and communicate design ideas using annotated sketches, detailed plans, 3D and mathematical modelling, oral and digital presentations and computer-based tools.</li> </ul>	<ul style="list-style-type: none"> <li>Use good research and exploration to identify and understand user needs.</li> <li>Identify and solve some of their own design problems and demonstrate a good understanding of how to reformulate problems given to them.</li> <li>Develop good specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations.</li> <li>Use a good variety of approaches, to generate creative ideas and avoid stereotypical responses.</li> <li>Develop and communicate good design ideas using annotated sketches, detailed plans, 3D and mathematical modelling, oral and digital presentations and computer-based tools.</li> </ul>
<b>Make</b>	<ul style="list-style-type: none"> <li>Think ahead about the order of your work, choosing appropriate tools, equipment, materials, components and techniques.</li> <li>Use tools and equipment with some accuracy to cut and shape materials and to put together components.</li> </ul>	<ul style="list-style-type: none"> <li>Select from and use limited tools, techniques, processes, equipment and machinery with some accuracy, including computer-based manufacture.</li> <li>Select from and use a range of materials, components and ingredients, taking into account a property.</li> </ul>	<ul style="list-style-type: none"> <li>Select from and use tools, techniques, processes, equipment and machinery with accuracy, including computer-based manufacture.</li> <li>Select from and use a wide range of materials, components and ingredients, taking into account a property.</li> </ul>	<ul style="list-style-type: none"> <li>Select from and use specialist tools, techniques, processes, equipment and machinery with some precision, including computer-based manufacture.</li> <li>Select from and use a wide range of materials, components and ingredients, taking into account their properties.</li> </ul>	<ul style="list-style-type: none"> <li>Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-based manufacture.</li> <li>Select from and use a wider complex range of materials, components and ingredients, taking into account their properties.</li> </ul>
<b>Evaluate</b>	<ul style="list-style-type: none"> <li>Explain how the work of others, such as designers</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate an understanding of the work</li> </ul>	<ul style="list-style-type: none"> <li>Explain the work of professionals and others to</li> </ul>	<ul style="list-style-type: none"> <li>Analyse the work of professionals and others to</li> </ul>	<ul style="list-style-type: none"> <li>Analyse the work of past and present professionals</li> </ul>

	<p>has influenced your own work.</p> <ul style="list-style-type: none"> <li>Identify what is working well and what could be improved to overcome technical problems.</li> <li>Identify where evaluation of the design and make process and your products has led to improvements.</li> </ul>	<p>of professionals and others to help their development and evidence of their understanding.</p> <ul style="list-style-type: none"> <li>Demonstrate some awareness of new technologies.</li> <li>Evaluate their ideas and products against a specification.</li> <li>Demonstrate an awareness of developments in design and technology, its impact on individuals and society.</li> </ul>	<p>help their development and evidence of their understanding.</p> <ul style="list-style-type: none"> <li>Demonstrate an awareness of new technologies.</li> <li>Evaluate and refine their ideas and products against a specification.</li> <li>Explain developments in design and technology, its impact on individuals and society.</li> </ul>	<p>develop and evidence their understanding.</p> <ul style="list-style-type: none"> <li>Demonstrate an awareness of new and emerging technologies.</li> <li>Evaluate and refine their ideas and products against a specification, taking into account the views of intended users.</li> <li>Demonstrate an awareness of developments in design and technology, its impact on individuals, society and the environment.</li> </ul>	<p>and others to develop and broaden their understanding.</p> <ul style="list-style-type: none"> <li>Investigate new and emerging technologies.</li> <li>Test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups.</li> <li>Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists.</li> </ul>
<b>Technical knowledge</b>	<ul style="list-style-type: none"> <li>Verbally explain the different properties of at least 2 different materials.</li> <li>Show an appreciation of a mechanical system can be used to change speed or direction of movement.</li> <li>Demonstrate how an electrical system can be powered and controlled using an external power sources.</li> <li>Demonstrate an awareness of how electronics can respond to both inputs and outputs.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate some understanding and use the properties of materials and the performance of structural elements to achieve some functioning solutions.</li> <li>Demonstrate some understanding of how mechanical systems are used in their products enable changes to movement and force.</li> <li>Demonstrate some understanding how electrical and electronic systems can be powered and used in their products.</li> <li>Use computing and demonstrate some awareness of the use electronics to embed intelligence in products that respond to inputs, and control outputs, using programmable components.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate a good understanding of:</li> <li>The properties of materials and the performance of structural elements to achieve functioning solutions.</li> <li>How more advanced mechanical systems used in their products enable changes to movement and force.</li> <li>How more advanced electrical and electronic systems can be powered and used in their products.</li> <li>Apply computing and demonstrate an awareness of the use electronics to embed intelligence in products that respond to inputs, and control outputs, using programmable components.</li> </ul>	<ul style="list-style-type: none"> <li>Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions.</li> <li>Understand how more advanced mechanical systems used in their products enable changes to movement and force.</li> <li>Understand how more advanced electrical and electronic systems can be powered and used in their products.</li> <li>Apply computing and use electronics to embed intelligence in products that respond to inputs, and control outputs, using programmable components.</li> </ul>	<ul style="list-style-type: none"> <li>Fully understand and use the properties of materials and the performance of structural elements to achieve functioning solutions.</li> <li>Fully understand how more advanced mechanical systems used in their products enable changes to movement and force.</li> <li>Fully understand how more advanced electrical and electronic systems can be powered and used in their products.</li> <li>Apply computing, use and explain electronics to embed intelligence in products that respond to inputs, and control outputs, using programmable components.</li> </ul>