Year 7 Design Technology					
	Embarking	**Emerging**	**Developing**	**Securing**	**Mastering**
Design	• Use research created by someone else and verbally suggest possible user needs. • Identify a design problem and recognise how a new product could help. • Develop a very simplistic specification list. • Use models, pictures and words to describe your designs. • Use pictures and words to describe what you want to do and use at least one computer-based tool.	• You evidence research and exploration to identify user needs. • Identify design problems and show an understanding of the problems given to them. • Develop a very limited specification. • Use one approach to generate very limited creative ideas. • Communicate limited design ideas using annotated sketches using a limited range of techniques.	• Use very limited research and exploration to identify and demonstrate a very limited understanding of user needs. • Identify design problems and demonstrate a very limited understanding of how to reformulate problems given to them. • Develop very limited specifications to inform the design of innovative, functional, appealing products that respond to very limited needs in a variety of situations. • Use a very limited variety of approaches, to generate limited creative ideas and avoid stereotypical responses. • Develop and communicate limited design ideas using annotated sketches, plans, 3D modelling, oral and digital presentations and computer-based tools.	• Use limited research and exploration to identify and demonstrate limited understanding of user needs. • Identify design problems and demonstrate a limited understanding of how to reformulate problems given to them. • Develop limited specifications to inform the design of innovative, functional, appealing products that respond to limited needs in a variety of situations. • Use a limited variety of approaches, to generate some creative ideas and avoid stereotypical responses. • Develop and communicate some design ideas using annotated sketches, detailed plans, 3D and mathematical modelling, oral and digital presentations and computer-based tools.	• Use research and exploration to identify and demonstrate some understanding of user needs. • Identify their own design problems and demonstrate some understanding of how to reformulate problems given to them. • Develop specifications to inform the design of innovative, functional, appealing products that respond to some needs in a variety of situations. • Use a variety of approaches, to generate some creative ideas and avoid stereotypical responses. • Develop and communicate design ideas using annotated sketches, detailed plans, 3D and mathematical modelling, oral and digital presentations and computer-based tools.
Make	• Suggest and choose appropriate tools, equipment, materials, components and techniques. • Use tools and equipment with some accuracy to cut and shape materials.	• Use limited tools, techniques, processes, equipment and machinery with limited accuracy, including computer-based manufacture. • Use a limited range of materials, components and ingredients.	• Select from and use limited tools, techniques, processes, equipment and machinery with some accuracy, including computer-based manufacture. • Select from and use a range of materials, components and ingredients, taking into account a property.	• Select from and use tools, techniques, processes, equipment and machinery with accuracy, including computer-based manufacture. • Select from and use a wide range of materials, components and ingredients, taking into account a property.	• Select from and use specialist tools, techniques, processes, equipment and machinery with some precision, including computer-based manufacture. • Select from and use a wide range of materials, components and ingredients, taking into account their properties.

Evaluate	• Explain verbally how the work of others, such as designers could be used to influence your own work. • Suggest what is working well and what could be improved. • Identify both good and bad points of your work and how advances in technology (such as 3D printing) could lead to future improvements.	• Demonstrate a limited understanding of the work of professionals and others. • Demonstrate a limited awareness of new technologies. • Evaluate their ideas and products. • Demonstrate a limited awareness of developments in design and technology.	• Demonstrate an understanding of the work of professionals and others to help their development and evidence of their understanding. • Demonstrate some awareness of new technologies. • Evaluate their ideas and products against a specification. • Demonstrate an awareness of developments in design and technology, its impact on individuals and society.	• Explain the work of professionals and others to help their development and evidence of their understanding. • Demonstrate an awareness of new technologies. • Evaluate and refine their ideas and products against a specification. • Explain developments in design and technology, its impact on individuals and society.	• Analyse the work of professionals and others to develop and evidence their understanding. • Demonstrate an awareness of new and emerging technologies. • Evaluate and refine their ideas and products against a specification, taking into account the views of intended users. • Demonstrate an awareness of developments in design and technology, its impact on individuals, society and the environment.
Technical knowledge	• Verbally explain the different properties of at least 1 material • Show an appreciation of a mechanical system can be used to change speed of movement • Demonstrate how an electrical system can be powered and controlled using an internal power sources • Demonstrate an awareness of how electronics can respond to inputs or suggest suitable outputs.	• Demonstrate a limited understanding of the properties of materials. • Demonstrate a limited understanding of mechanical systems. • Demonstrate a limited understanding how electrical and electronic systems can be powered and used in products. • Use computing and use electronics to embed intelligence in products that respond to inputs and control outputs.	• Demonstrate some understanding and use the properties of materials and the performance of structural elements to achieve some functioning solutions. • Demonstrate some understanding of how mechanical systems are used in their products enable changes to movement and force. • Demonstrate some understanding how electrical and electronic systems can be powered and used in their products. • 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.	• Demonstrate a good understanding and use the properties of materials and the performance of structural elements to achieve functioning solutions. • Demonstrate a good understanding of how more advanced mechanical systems used in their products enable changes to movement and force. • Demonstrate a good understanding how more advanced electrical and electronic systems can be powered and used in their products. • 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.	• Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions. • Understand how more advanced mechanical systems used in their products enable changes to movement and force. • Understand how more advanced electrical and electronic systems can be powered and used in their products. • Apply computing and use electronics to embed intelligence in products that respond to inputs, and control outputs, using programmable components.