Design and Technology Assessment Framework KS3

	- Emerging +	- Developing +	- Securing +	- Mastering +
Designing	• 2D sketches are simple and will show a front view of the product • An attempt at 3D drawing will show that a 2D sketch has been changed in part to look 3D • Limited develop of design that show some creativity • Once a design is produced, the main materials used will be added to the sketch with clear labels • Sketches will be outlined with a black pen • Some colour will be added to a sketch	• 2D sketches are simple and will show a front view of the product as well as side views to give more information • Some lines on a 3D drawing will be shown at the correct angle • A range of ideas that show a creative solution to the design task • Specific material types will be labelled on sketches • An attempt at adding thick lines to a sketch to help it stand out • Colour added to a design that enhances the sketch and is neatly presented	• Some dimensions added to the 2D sketches so that stock form of the material has been considered • All lines on a 3D drawing will be at the correct isometric angles • A creative range of ideas have been developed by the use of some form of inspiration • Specific material types will be labelled on sketches and construction methods added • Thick and thin lines will be added correctly to most parts of a 3D drawing • 3 tones are used to make sketches look 3D	• The 2D sketch will be to scale in part with dimensions added with clear leading lines • 3D shapes have been drawn correctly using a crating method • An innovative range of ideas have been produced from more than one source • Specific material types will be labelled on sketches as well as construction methods added, dimension calculations will shows that the stock form of the material has been considered • Thick and thin lines are added to 3D drawings • 3 tones are used to make sketches look 3D and rendering to show the material type
Making	• Simple shaping of materials using hand tools • A ruler is used with some accuracy to measure in mm • Materials can be joined together to achieve the desired form • The correct tools have been used to achieve the desired outcome	• Simple shape produced with some accuracy using hand tools • A ruler is used accurately to measure in mm • Materials can be joined together accurately achieve the desired form • The correct tools have been used in the correct order from the range available	• Using a variety of tools to achieve an accurate shape • A ruler is always used accurately to measure in mm, and checked with a square • Materials can be joined together accurately so that multiple parts can be fixed • The correct tools have been used fully so that the process from one tool leads on to the next	• Accurate shape produced, maybe with the use of a template to a fine tolerance • An engineers' square is used alongside a ruler to accurately mark out square and parallel lines • Materials can be joined together accurately so that multiple parts can be fixed by using the correct joining methods • The correct tools have been skilfully so that a high quality finish is achieved
Evaluating	• Identify some good points and areas for development • Consider the views of others when designing and making • Review more than one aspect of your work, for example, the function and form • Express an opinion about the work of others	• Identify the good points and act upon areas for development • Use the views of others when designing and making, suggest how designs meet the needs of users • Review several aspects of your work, for example, function, form, suitability for user, suitability for manufacture • Justified opinions about the work of others, and able to make some suggestions about improvements	• Identify how designs are suitable to meet the needs of a variety of users • Use the views of others from more than one source when designing and making. Suggest how designs meets the needs of multiple users. • Good ongoing analysis and evaluation used at most stages of the project • Justified and evidenced opinions about the work of others, and able to make several suggestions about improvements	• Justify the need for improvements that could be made to the products based upon detailed testing, • Reference to third party opinion, and specification comparison • Critically evaluate/review all aspects of work including throughout the project • Critically evaluate the work of others and detailed reference to next steps
Knowledge;	• Basic vocabulary is used to describe an idea • Labels can be added to work to show an understanding of the main material groups • The primary source of material groups is known • Know the working properties of some materials • Be able to describe a 'cradle to grave' account of a product • Know about the environmental impact of some materials • To be able to apply some basic maths to work out area • Know the relevant H&S precautions associated with tools and equipment	• Subject specific vocabulary is used to describe an idea • Labels can be added to work to show an understanding of the specific material names • The primary source and processes of material groups is known • Know the working and mechanical properties of some materials • Be able to describe a 'cradle to grave' account of a product • Know about the environmental impact of some materials and products • To be able to apply some basic maths to work out area and cost of a material • Know the relevant H&S precautions associated with tools and equipment	• Subject specific vocabulary is used to describe an idea, justified choices for designing and making are evident • Labels can be added to work to show an understanding of the specific material names and state why that material is suitable for the intended purpose • The primary source and processes of specific material is known • Apply knowledge of how the working and mechanical properties of some materials might impact design choices • Be able to produce a LCA of a product • To be able to apply some basic maths to work out area and cost of a material • Interpret graphs/charts and tables • Know the relevant H&S precautions associated with tools and equipment	• Subject specific vocabulary is used to describe an idea, justified choices for designing and making are evident • Detailed annotations can be added to work to show an understanding of the specific materials and state why that material is suitable for the intended purpose and possible further development • The primary source and processes of specific materials can be explained • Provide evidence, through some testing that the correct materials have been chosen based upon understanding of their working and mechanical properties • Consider how a product LCA can be used to reduce environmental impact • To be able to apply some basic maths to work out area and cost of a material, then suggest how to use the material in the most efficient way • Interpret graphs/charts and tables and suggest how to use the information • Know the relevant H&S precautions associated with tools and equipment