

PROGRESS IN DESIGN & TECHNOLOGY YEARS 7-9

Grade	Y7	Y8	Y9	DESIGN	MAKE	EVALUATE
8	GD	GD	GD	<p>*) Demonstrate and effectively apply comprehensive knowledge and understanding of the principles of design & technology in a range of familiar and unfamiliar situations. Such as domestic and industrial settings.</p> <p>*) Effectively employ sophisticated technical language and a range of communication methods, such as schematic and exploded diagrams, and mathematical modelling.</p> <p>*) Use research and exploration, such as the study of different cultures, to identify and understand user needs and problems.</p> <p>*) Design and write specifications that inform the needs of the user.</p> <p>*) Effectively employ sophisticated technical language and a range of communication methods, such as schematic and exploded diagrams, digital presentations (CAD) and mathematical modelling, whilst avoiding stereotypical responses.</p>	<p>*) Experiment and innovate to develop and refine fully functioning prototypes safely and effectively, applying relevant technical skills with precision.</p> <p>*) Use a range of mathematical skills and scientific knowledge to make accurate calculations and inform choices.</p> <p>*) Select from and use specialist hand tools, techniques, processes, equipment and machinery precisely, including CAM.</p> <p>*) Select from, choose and use a wider, more complex range of materials, components and ingredients, considering their properties.</p> <p>*) Understand and use mechanical systems in products to enable changes in force and movement.</p> <p>*) Understand how electronic and electrical systems operate and can be used in systems/products.</p> <p>*) Understanding input, process and output within electronic systems.</p>	<p>*) Critically analyse and evaluate design decisions and outcomes to draw well-evidenced conclusions.</p> <p>*) Analyse and evaluate the work of other professionals.</p> <p>*) Investigate new and emerging technologies.</p> <p>*) Test their designs against a specification, considering the views of users or groups.</p> <p>*) Understand the impact design & technology has on society and the environment.</p> <p>*) Demonstrates an understanding of designers, engineers and technologists.</p>
6-7	SEC	SEC	SEC	<p>*) Demonstrate and apply knowledge and understanding of the principles of design & technology in a range of familiar and unfamiliar situations.</p> <p>*) Use sophisticated technical language and a range of communication methods, such as schematic and three-dimensional diagrams, with some mathematical modelling.</p> <p>*) Use research of different cultures and designers, to identify and understand user needs and solve their problems</p> <p>*) Modify and write specifications that inform the needs of the user.</p> <p>*) Use some sophisticated technical language and a range of communication methods, including digital presentations (CAD) and mathematical problem solving, whilst avoiding design fixation.</p>	<p>*) Design, develop and refine working prototypes safely and effectively, applying relevant technical skills with precision.</p> <p>*) Use a range of mathematical skills and scientific knowledge to make accurate calculations and predictions.</p> <p>*) Select from and use hand tools, techniques, processes, equipment and machinery precisely and safely, including CAM.</p> <p>*) Select from and use a range of materials, components and ingredients, considering their properties.</p> <p>*) Understand and use mechanical systems in products to enable change. Demonstrate mechanical mathematics.</p> <p>*) Understand and demonstrate how electronic and electrical systems can be used in systems/products.</p> <p>*) Demonstrates how to use input, process and output within an electronic system.</p>	<p>*) Analyse and evaluate design decisions and outcomes to draw iterative conclusions.</p> <p>*) Study and evaluate the work of other designers.</p> <p>*) Study new and emerging technologies.</p> <p>*) Test their designs against a design specification, comparing the views of users.</p> <p>*) Demonstrate the impact design & technology has on society and the environment.</p> <p>*) Understands the importance of designers and engineers.</p>
4-5	DEV	DEV	DEV	<p>*) Demonstrate and apply some accurate and appropriate knowledge and understanding of the principles of design & technology in familiar situations.</p> <p>*) Use appropriate technical language and methods of communication, such as formal drawings and annotated sketches.</p> <p>*) Use research, of different subject matter, to identify and list user needs and problems.</p> <p>*) Write specifications that tells us more about the needs of the user.</p> <p>*) Use technical language and a range of communication methods, such as 2 dimensional and 3 dimensional drawings, involving some mathematical modelling.</p>	<p>*) Develop functioning prototypes safely and effectively applying appropriate technical skills.</p> <p>*) Use mathematical skills and scientific knowledge to make accurate calculations and inform choices.</p> <p>*) Select and use hand tools, techniques, processes, equipment and machinery, including CAM.</p> <p>*) Select from and use a limited range of materials, components and ingredients, considering their properties.</p> <p>*) Understand and use mechanisms in products to enable changes in force and movement.</p> <p>*) Understand how electronic and electrical components and can be used in products.</p> <p>*) Use input, process and output within an electronic product.</p>	<p>*) Analyse and evaluate design decisions and outcomes to draw plausible conclusions supported by some evidence.</p> <p>*) Analyse and evaluate the work of others</p> <p>*) Analyse new and emerging technologies.</p> <p>*) Test their designs against a specification.</p> <p>*) Consider the impact design & technology has on society and the environment.</p> <p>*) Is aware of the job role of designers and engineers.</p>
1-3	EM	EM	EM	<p>*) Apply basic knowledge and understanding of the principles of design & technology in familiar situations.</p> <p>*) Use research to understand user needs and problems.</p> <p>*) Read and add to specifications for a given user.</p> <p>*) Use some technical terminology when communicating ideas through diagrams and text.</p>	<p>*) Work safely applying straightforward technical skills in the production of a prototype.</p> <p>*) Use some simple mathematical skills and scientific knowledge to make basic calculations.</p> <p>*) Use hand tools, and machinery.</p> <p>*) Use different materials, based on their properties.</p> <p>*) Use simple mechanisms in products.</p> <p>*) Understand the difference between electrical and electronic, using input, process and output.</p>	<p>*) Make straightforward comments about their work and the work of others.</p> <p>*) Make comments about new and emerging technologies.</p> <p>*) Test their designs.</p> <p>*) Make comments about the impact design & technology has on the environment.</p>