



# Design and Technology - Progress Map

AO1: Design									
Shows initial ideas through sketching or simplistic drawings with little or no development.	Shows imagination when producing a range of designs with little development.	Shows creativity and imagination when producing a design with little or no development.	Shows creativity and imagination when producing one or more designs with little or no development.	Shows creativity and imagination when producing a small range of designs with little or no development.	None obvious ideas with more outside the box thinking for initial ideas.	Avoided stereotypical responses.	Detailed specification produced that links to research conducted.	Creative and innovative ideas considering functionality and aesthetics.	Produce creative ideas that are able to be viable.
Uses colour to show forward planning.	Uses colour and simple lines to show the material properties.	Uses colour and lines/mark making to show the material properties and finish.	Developed design ideas with consideration of the clients needs and on going research.	Develops design ideas using on going research and others opinions.	Taken ongoing research into consideration when designing.	Taken into account the clients needs and wants and justified these.	Shows great creativity in designs and presentation.	Plan for manufacture.	Demonstrated further research.
Label designs with key information. Designs are shown in 2D only.	Annotate designs with key information.	Annotate designs with thoughts and key information.	Considered function, aesthetics and innovation when developing ideas through visual or annotated evidence.	Final solution designed and annotated.	Measuring and accuracy applied to technical drawings.	Mathematical modelling using oral and digital presentations and computer-based tools.	Development is done accurately and from ongoing research conducted.	Apply computing and use electronics to embed intelligence in products that respond to inputs [for example, sensors], and control outputs [for example, actuators], using programmable components [for example, microcontrollers].	Use CAD independently where appropriate.
	Designs are shown in 2D sketches and attempted in 3D.	Designs are shown in 2D and 3D.	Designs are shown using different 2D and 3D techniques.	Forward planning shown for manufacture.	Some evidence of experimented in 2D and 3D techniques.	Considered the cost of materials and components.	Evidence of experimenting and or modelling.	At least one model is fit for purpose.	Show clear forward planning for manufacture with QA/QC and safety tests build in.
	CAD used with considerable assistance and supervision.	CAD used if appropriate with resilience to trail new tools.	CAD used if appropriate with resilience to trail new tools.	Use technical language in annotation.	Development shown in drawing and modelling.	investigate new and emerging technologies.			Create a manufacturing specification.
	Limited or no consideration of materials that could be used.	Limited consideration of materials that could be used.	CAD used if appropriate with resilience to trail new tools.	Evidence of modelling the final solution.	Selected material and components with reference to their properties.	Planned for combining materials.			Create a cutting list with quantities, cost and size.
					CAD has been used confidentially if appropriate.				Shows scale/working drawings.
									Develops ideas through modelling a number of ideas.
									Further small scale experimenting evident through a wide range of 2D and 3D techniques.
									Selected appropriate and challenging materials and components.
E3/3c	1/F/3	2/E/4	3/D/5	4/C-	5/C+	6/B	7/A	8/A*	9/A**

AO2: Make									
Needs assistance or guidance to solve problems.	Needs assistance to solve problems. On going testing when making to ensure a quality outcome is produced.	Needs some guidance to solve problems.	Independent decision making and problem solving.	Basic manufacturing specification is produced.	Good level of finishing skills that are appropriate for the outcome.	Trialled a wide range of techniques that are suitable for chosen outcome.	Trialled a wide range of techniques that are suitable for chosen outcome.	Consider costing and availability of materials and components.	Detailed manufacturing specification.
Supported during the manufacturing process.	Chronological evidence of making through a diary or photos.	Used some guidance and supervision during the manufacturing process.	Produces models of work in fabric, paper/card or rough material or programming (breadboard) to ensure the outcome is feasible.	Produces models of work in fabric, paper/card, rough material or programming (breadboard) to ensure the outcome is feasible.	Appropriate use of CAM.	Transferred skills to final outcome independently.	Transferred skills to final outcome independently.	Can explain Scale of production and production systems.	Exceptional high standard of outcome and finish.
Superficial testing when making to ensure the outcome will work.	Successful pleasing appearance and well finished.	On going testing and QC is minimal.	Inconsistent QC in making.	Can design and assemble nets accurately.	Tools and equipment are used safely, accurately and confidently.	Combines a range of materials and techniques in final outcome/s.	Combines a range of materials and techniques in final outcome/s.	Demonstrate manipulation of materials.	Meets the specification fully.
Working outcome with little consideration of finish.	Little evidence of making through a diary or photos.	Basic evidence of making through a diary or photos.	A mostly successful appearance, working outcome and some consideration of finish.	Demonstrates marking and measuring out onto materials with correct equipment and cut/saw accurately.	Good level of QC through the project.	Have inserted or combined premade components accurately.	Have inserted or combined premade components accurately.	Use Jigs, pattern blocks, templates, reference points.	Use and/or explain the industrial practice used to manufacture the outcome.
Safely used equipment and machinery with support.	Successful working outcome with little consideration of finish.	A mostly successful appearance, working outcome and some consideration of finish.	Basic, well ordered evidence of making through a diary or photos.	Explain the process of manufacture and justify actions.	Shown consideration of industrial practice through making.	Understand material properties and use this to make informed decisions.	Understand material properties and use this to make informed decisions.	QA and QC conducted.	Use CAM independently where appropriate.
	Select correct equipment.	Accurately and safely used equipment and machinery.		Can explain and demonstrate inputs, processes and outputs.	Chronological evidence of making through a diary, photos or flowchart.	Take risks and show resilience during manufacture.	Take risks and show resilience during manufacture.	Considered ergonomics and anthropometrics when making.	Consistently adapting outcome where needed to meet clients, needs and wants.
	Safely used equipment and machinery.			Chronological evidence of making through a diary or photos.	Most of the specification points have been met.	Built in tolerance when making and conduct QA/QC.	Built in tolerance when making and conduct QA/QC.	Demonstrated further research.	Apply appropriate finishes to materials used.
						Demonstrated computer-aided manufacture.	Demonstrated computer-aided manufacture.	Consider different mechanisms to make the outcome move.	Commercially viable outcome.
						Selected from and use a wider, more complex range of materials and components, taking into account their properties.	Selected from and use a wider, more complex range of materials and components, taking into account their properties.	Use CAD independently where appropriate.	Large body of detailed evidence of making the outcome.
						Most of the specification points have been met.	Most of the specification points have been met.	Create a cutting list with quantities, cost and size.	
								Shows scale/working drawings	
								Develops ideas through modelling a number of ideas.	
								Further small scale experimenting evident through a wide range of 2D and 3D techniques.	
E3/3c	1/F/3	2/E/4	3/D/5	4/C-	5/C+	6/B	7/A	8/A*	9/A**

AO3: Evaluate									
Uses advice and feedback to close the gap.	Uses advice and feedback to close the gap.	Uses advice and feedback to close the gap.	Uses advice and feedback to close the gap.	Evaluated skills throughout the project.	Justify the need for modifications when evaluating.	Justify the need for modifications when evaluating.	Justify the need for modifications when evaluating.	Redesign and suggest areas for development and modifications.	Redesign and suggest areas for development and modifications.
Evaluated final outcome showing realistic strengths and areas to develop.	Evaluated final outcome showing clear strengths and areas to develop.	Evaluated final outcome showing clear strengths and areas to develop.	Evaluated final outcome showing clear strengths and areas to develop.	Evaluated strengths and stated areas to develop.	Some parts of the outcome have been tested against the specification/s.	Some parts of the outcome have been tested against the specification/s.	Some parts of the outcome have been tested against the specification/s.	Show third party opinions when evaluating throughout.	Show third party opinions when evaluating throughout.
	Tested and evaluated final outcome to see if it works.	Basic testing, evaluation and refining their ideas and products against a specification, taking into account the views of intended users and other interested groups.	Some aspects of the final product have been tested, evaluated and refined to improve ideas and the final product against a specification, taking into account the views of intended users and other interested groups.	Most aspects of the final product have been tested, evaluated and refined to improve ideas and the final product against a specification, taking into account the views of intended users and other interested groups.	Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists when identifying areas to modify and improve.	Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists when identifying areas to modify and improve.	Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists when identifying areas to modify and improve.	A variety of testing throughout as well as the final product and recorded with a clear understanding and justification of results.	A variety of testing throughout as well as the final product and recorded with a clear understanding and justification of results.
							Ongoing evaluation shown throughout.	Tested designs and final product against the specifications and function such as strength, appearance, durability and safety.	Tested designs and final product against the specifications.
E3/3c	1/F/3	2/E/4	3/D/5	4/C-	5/C+	6/B	7/A	8/A*	9/A**

AO4: Knowledge									
Responds to a brief or specification superficially.	Responds to a brief or specification.	Creates and responds to a specification.	Basic analysis of the task/brief showing areas to consider when designing and making.	Analyse the task/brief in detail showing areas to consider when designing and making.	Detailed brief and analysis.	Analysed existing products to influence designs in depth.	Detailed design brief and Analysis is evident with justified conclusion.	Understand and display knowledge of materials and properties with original source and process of manufacturing.	Use Primary and Secondary sources for research of others.
Can search for specific images to help build knowledge and inspire ideas.	Produce secondary research showing an understanding of the theme set or basic understanding of work of others.	Produce secondary research that aids the design process and identifies work of others that could be inspirational.	Understands and can state limited information on a clients needs and wants.	Produced a client profile suited to the outcome that can mostly be used to address a clients needs and wants.	Investigated existing products.	Shown an understanding and consideration of SMSC with limited understanding of the impact.	Investigated potential client and explained their needs and wants.	Can explain a range of appropriate material finishes.	Written an appropriate and detailed brief.
Can name and demonstrate different types of movement and force.	Can name, describe and demonstrate basic types of movement and forces.	Impact on society has been vaguely considered.	Can investigate and use information gathered on iconic designers/movements to inform ideas.	Understood pattern and shape and how they can be used within a design.	Understand what a client wants and needs and investigates this through an interview or profile.	Understand what a client wants and needs and investigates this through an interview or profile.	All research conducted is relevant and concise.	State how materials are commercially sold.	Consider new and emerging technologies through research.
		Profiles who the product could be designed and made for.	Understands how society can change/impact on design.	Displayed research from eras, design movements or work of others.	A mostly accurate and appropriate design and manufacturing specification.	Understand how more advanced electrical and electronic systems can be powered and used in their products. [for example, circuits with heat, light, sound and movement as inputs and outputs]	Have analysed work of others in a range of styles to aid inspiration.	Understand how market research can effect the design process.	Show knowledge of Modern and smart materials.
		Understands how more advanced mechanical systems used in their products enable changes in movement and force.		Show an understanding of traditional and industrial processes.			Shows an understanding of SMSC in general.	Demonstrate industrial skills.	Display Systems for designing and making that could be used.
				Identify and solve design problems and understand how to reformulate problems.			Appropriate written, drawn or practical investigations conducted.	Display clients wants and needs through a questionnaire or survey and analyse results.	Look at market place focusing on current and changing trends.
				Basic research evident into materials and their properties to make an informed decision in making.				Create and differentiate between a design and manufacturing specification.	Profiled and investigated a relevant target market.
								Researched and shown an understanding for SMSC.	Researched and shown an understanding for SMSC with a specific focus on the project.
E3/3c	1/F/3	2/E/4	3/D/5	4/C-	5/C+	6/B	7/A	8/A*	9/A**