

Theme/Concept		(KS2)	Year 7	Year 8	Year 9	KS4	Year 10	Year 11	(Post-16)
Product	Resistant Materials		Pewter Keyring	Box Lid	USB Lamp	Resistant Materials	Pewter keyring CAD/CAM clock	Students select and make models and or a final product or prototype.	<i>Carpentry and joinery, bricklaying, plastering, painter and decorator, electrician and plumber.</i>
	Graphics		Board Game	Clock	Magazine cover	Graphics / Creative iMedia	Point of sale display, corporate identity products like posters and packaging. T-shirt design and make.	Students select and make models and or a final product or prototype.	<i>Graphic design, business, advertising, games design, film and television and marketing.</i>
		Engineering					Speaker: 2D design	Camping stove Letter stand Survival tool	<i>Engineer, Physics, Design, Mechanic, Machine operator, draughts person, CAD operative.</i>
Design	Resistant Materials	<i>use research and develop design criteria to inform the design of products generate, develop, model and communicate ideas</i>	Creativity	Design with laser cutter	USB Lamp Finishes Recycled materials	Resistant Materials	Creative modelling - solution based	Independent NEA	<i>Product design, fashion design, architecture, interior design</i>
	Graphics		Use of ICT/PPT to design a product	Graphic clock design	Design	Graphics / Creative iMedia	Visual Identity and digital graphics. Layout and design. Use of typography and colour and its role in graphic design.	Planning in either static and/or moving image Composition Lighting post production techniques.	<i>Product design, fashion design, architecture, interior design Engineering, marketing, concept management...</i>
			Engineering				Engineering	Multi tool part: Sketch up NEA R039: Fusion	R040 - Design evaluation and modelling module.
Make	Resistant Materials	<i>select from and use a wider range of tools and equipment to perform practical tasks accurately select from and use a wider range of materials and components</i>	Mitre joint Vacuum forming Cutting & shaping wood Assembly of products Laser cut mould	Cutting/shaping wood Finger joint Assembly of a product Attaching fittings	Drilling Counter sinking Cutting & shaping Wood finishes	Resistant Materials	mini-skills - wood, metal and polymers.	Independent NEA - Research, develop, design and make, evaluate.	<i>Construction studies - Carpentry and joinery, bricklaying, plastering, painter and decorator, electrician and plumber.</i>
			3-D packaging/product in paper & board Box & plying surface	Presenting designs Developing in CAD 2D design tools graphics software CAD/CAM laser cut clock with paint finish	Photoshop Manipulating graphics and text	Graphics / Creative iMedia	Use of Adobe design suite to create illustrative and vector graphics for a visual identity. Produce digital online and printed advertisements	Independent NEA - Research, develop, design and make, evaluate.	<i>Graphic design, Creative iMedia, business, advertising, games design, film and television and marketing.</i>
	Graphics					Engineering	2D design Sketchup Fusion Laser cutter Manual production of engineering drawings Freehand drawing skills Circuit boards	Lathe Tapping threads Folding and shaping metal Modelling, blue foam	<i>Engineer, Physics, Design, Mechanic, Machine operator, draughts person, CAD operative.</i>
Evaluate	Resistant Materials	<i>investigate and analyse existing products evaluate their ideas and products understand how key events and individuals have helped shape the world</i>	Evaluation of final product. (Keyring)	Evaluation of the final product (wooden box.)	Evaluation of existing lamps (ACCESS FM)	Resistant Materials	Evaluation of mini-skills products: woods, polymers and metals.	NEA: evaluation of existing products and final evaluation of self-made product.	<i>Product inovator, product developer, market researcher,</i>
	Graphics		Evaluation of existing products (board games ACCESS FM)		Evaluation of existing magazine layouts (ACCESS FM)	Graphics / Creative iMedia	Evaluations of existing visual identity and digital graphics	Evaluation and analysis of chosen stimuli for NEA	<i>proof-readers</i>
			Engineering				Engineering	Evaluation and testing of own product: camping stove.	Testing and evaluating models: multitool. Evaluation of existing product: speakers
Technical Knowledge	Resistant Materials	<i>apply their understanding of how to strengthen, stiffen and reinforce understand and use mechanical systems understand and use electrical systems apply their understanding of computing</i>	Adhesives - PVA Wood joints - Mitre Thermo-forming polymers CAD/CAM Pewter casting Alloys	Properties of woods Finger joint	Drilling & countersinking Using a template Soldering	Resistant Materials		Core technical principles Specialist technical principals Design and making principles	<i>Materials science, Environmental science, production, Design, Engineering, CAD engineer</i>
	Graphics		ICT skills inc. PPT Logging on Saving files Organising work folders	Building CAD skills in 2D design tools Understanding of file types and vector graphics CAD/CAM	Developed knowledge of photoshop Use of CAD Understanding use of colour and type	Graphics / Creative iMedia	ICT skills in digital editing. Understanding print and suitability of materials.	Creative iMedia in the media industry. Health and safety Regulation and classification. Legal issues	<i>Materials science, Environmental science, production, Design, Engineering, Software production, business, marketing, radio, film, lighting</i>
			Engineering				Engineering	Microcontrollers Circuits	Engineering drawings Mechanical systems: R040