

Design & Technology



Theme/0	Concept	(KS2)	Year 7	Year 8	Year 9	KS4	Year 10	Year 11	(Post-16)
			Pewter Keyring Laser cut mould	Box Lid Laser cut design	USB Lamp Circuits		Pewter keyring CAD/CAM clock	Independent NEA Students select and make models	Carpentry and joinery,
Product	Resistant		Pewter cast	Cut plywood Finishing	Basic electronics Mechanisms	Resistant Materials	CAD/ CAW CIOCK	and or a final product or prototype to a brief	bricklaying, plastering, painter and decorator, electrician and plumber.
	Materials					Graphics	Point of sale display T-shirt design and make.		Graphic design, business, advertising, games design,
	Graphics		Board Game A4 folded board Cardboard net box Graphic design Accompanying cards, spinners, dice, counters	Clock Range of resistant materials combined Graphic design	Magazine cover Graphic design Audience & purpose Use of software	Creative iMedia	Digital practical outcomes that meet a client brief RO95 and RO95		film and television and marketing.
						Engineering Design	Wrench manufacture Acrylic snowflake Injection moulded reindeer Wooden book end Camping stove	Speaker inc. 2D design Survival tool	Engineer, Physics, Design, Mechanic, Machine operator, draughts person, CAD operative.
Design	Resistant Materials	use research and	Creativity Generation of ideas Application to CAD/CAM	Design with laser cutter Further use of CAD/CAM for more complex design	USB Lamp Choice of CAD/CAM or hand tools Finishes Recycled materials User needs Biomimicry	Resistant Materials Graphics	Design theory Creative modelling using a variety of materials to prototype ideas Solution based design	Independent NEA Designing and developing ideas to a brief with a target client in mind Considering user needs and economic and social challenges Biomimicry	Product design, fashion design, architecture, interior design
	Graphics	develop design criteria to inform the design of products generate, develop, model and communicate ideas	Computer Aided Design Use of ICT/PPT to design digital products for a consumer	Graphic design for clock face Using 2-D design tools software		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.	Product design, fashion design, architecture, interior design Engineering, marketing, concept management
						Engineering Design	2D design software 3D modelling using Fusion software - shapes NEA R040: Disassembly and use of Fusion software	R039 - Design of a product including 2D and 3D drawings Use of CAD	Engineer,, draughts person, CAD operative.
Make	Resistant Materials	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	Mitre joint Vacuum forming Cutting & shaping wood Using a tenon and coping saw Assembly of products Laser cut mould	Cutting/shaping wood Use of abrasives and files Finger joint Assembly of a product Use of adhesives Attaching fittings Use of wood finishes - wax	Drilling Counter sinking Nuts and bolts Cutting & shaping Use of abrasives and files Use of wood finishes - wood stain	Resistant Materials	Fundamental skills through small projects Wood, metal and polymers	Independent NEA Working with a range of materials and components Produing prototypes use of specialist tools and equipment	Construction studies - Carpentry and joinery, bricklaying, plastering, painter and decorator, electrician and plumber.
						Graphics	Fundamental skills through small projects Using digital media - photoshop, illustrator	Using handtools and CAD/CAM Shaping, fabrication, construction and assembly	Graphic design, Creative iMedia, business, advertising, games design,
			Use of PPT for design 3-D packaging/product in paper & board Box nets Box & playing surface	Presenting designs Developing in CAD 2D design tools Graphics software CAD/CAM laser cut clock with paint finish	Photoshop Manipulating graphics and text Producing industry standard product	Creative iMedia	Use of Adobe design suite to create illustrative and vector graphics for a visual identity. Produce digital online and printed advertisements		film and television and marketing.
	Graphics					Engineering Design	Key workshop skills Handtools Laser cutter Manual production of engineering drawings Freehand drawing skills Jigs NEA RO40: Independent selection of appropriate tools	Lathe Tapping threads Folding and shaping metal Modelling, blue foam	Engineer, Physics, Design, Mechanic, Machine operator, droughts person, CAD operative.
	Resistant Materials	investigate and analyse existing products evaluate their	Basic evaluation of final product Evaluation of material properties	Evaluation of the final product against the specification	Evaluation of existing lamps ACCESS FM Investigation of new and emerging technologies	Resistant Materials Graphics	Analysing against a brief and specification Evaluating to customer needs	Independent NEA Iterative design process Evaluation of existing products and final evaluation of self-made product.	Product innovator, product developer, market researcher,
Analyse & evaluate	Graphics	ideas and products understand how key events and individuals have helped shape the world	Evaluation of existing products Aesthetics	Evaluation of the final product against the magazine layouts ACCESS pecification FM Analysing against a brief and specification Evaluating to client needs		ication	proof-readers		
			Cost Consumer Environment Size Safety Functions		Evaluation of final product by target market	Engineering Design	Evaluation and testing of own product: camping stove.	Analysing existing products based on product analysis task 1 Forming disassembles Evaluating parts	market research, product innovation.
	Resistant Materials	apply their understanding of how to strengthen, stiffen and	Materials Adhesives - PVA Wood joints - mitre Thermo-forming polymers CAD/CAM Pewter casting Alloys	Properties of woods Finger joint Application of wax Fitting hinges	Drilling & countersinking Using a template Soldering Nuts and bolts	Resistant Materials	Core technical principles e.g. environment, finishes	Core technical principles Specialist technical principals Design and making principles	Materials science, Environmental science, production, Design, Engineering, CAD engineer
						Graphics	ICT skills in digital editing. Understanding print and suitability of materials.		Business, marketing, radio, film, lighting
Technical Knowledge		reinforce understand and use mechanical systems understand and use electrical systems	ICT skills inc. PPT Logging on Saving files Creating and organising work folders	Building CAD skills in 2D design tools Understanding of file types Vector graphics CAM	Developed knowledge of photoshop Use of CAD Understanding use of colour and type Graphic design choices	Creative iMedia	Creative iMedia in the digital age. The media industry. Health and safety Regulation and classification. Legal issues	1	Materials science, Environmental science,

Graphics apply their understanding of computing		Professional finishes Target audience	Engineering Design	Fusion software 2D design software 3D printers	Microcontrollers	production, Design, Engineering, Software production
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