



“Good buildings come from good people, and all problems are solved by good design.” Stephen Gardiner

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Design & Technology at Farmor's is a fundamental subject that underpins the curriculum of other subjects such as Maths, Science, Engineering and Art. Design and Technology education makes an essential contribution to the creativity culture, wealth and well-being of the nation. We cover a range of theory and practical skills to enable students to have an inclusive experience that is informative of the world around us focussing on current real-life issues such as the environment as well as user centred design.

We feel it important that students experience not only practical skills but also understand the 'why' in what we are teaching and how it is important. This is supported by theory such as researching, problem solving and studying the work of others as well as analysis. We encourage creativity and imagination so students have autonomy of their outcomes. Design and Technology students stay with their teacher all year round and experience all specialist areas that are involved in the subject this includes CAD/CAM, electronics as well as wood, plastic and metal, we encourage sustainability in line with the wider world needs and sometimes use recyclable materials to make products.



Farmor's School Design and Technology Department



<div>Year 7</div> <div>Unit 1: Interactive book</div> <div>Unit 2: Autometer toys</div> <div>Unit 3: Passive speaker</div>	Term 1		Term 2		Term 3		Term 4		Term 5		Term 6	
	Technical knowledge 3D and tonal shading Tools & equipment Paper sizes uses and working properties Sources & origins Interactive mechanisms Motions Sustainability	Research Children’s Animated films Haruki Nakamura Specification Survey	Design Prototyping Drawing techniques Rendering/fine liner Design selection of mechanisms Planning and preparation of making	Make Health & Safety Craft knife Suitable material choices Quality of outcome, working mechanisms and properties	Evaluate Testing and evaluating Testing against the specification.	Technical knowledge Isometric drawing Drawing to scale How components in a sensor circuit work Tolerance Thermoforming and Thermosetting Polymers (HIP’s) Vacuum forming Modelling Techniques Freehand Sketching	Research Pixar animated films Questionnaire for user group feedback Applications for sensor circuits	Design Designing a layout to scale Drawing electrical circuits using correct symbols Using Isometric drawing to communicate in 3D	Make Soldering a simple circuit Soldering Iron Vacuum Former Make a wooden/plastici ne former that can be vacuum formed	Evaluate Testing of fina product thinking about: Tolerance LDR circuit Success with following theme		



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Year 8 Unit 4: HDPE keyrings Unit 5: Kitronik torch Unit 6: Phone stand	Term 1		Term 2		Term 3		Term 4		Term 5		Term 6	
	Technical knowledge Sustainability 6R’s The role of the designer Renewable and non-renewable resources Greenhouse effect Life Cycle Assessment Polymers	Research Plastics in oceans Boyan Slat 4 Oceans Packaging symbols Environmental impacts FSC	Design 3D & tonal shading Isometric drawing Fonts & typography Colour context	Make H&S of equipment Quality control Communication & planning	Evaluate ACCESSFMM Evaluating the work of others	Technical knowledge Biodiversity Monoculture Natural Timbers Tools & Equipment Polyculture Production methods	Research The decline of Bumble Bees. David Attenborough Fairford Town Bee scheme Existing products	Design Generate design ideas 1pt & 2pt perspective drawing Exploded views Annotation & Labelling	Make Making a nature house from natural resources Butt joints Cardboard modelling	Evaluate Evaluating the work of others Evaluation of modelling		



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<div>Year 9</div> <div>Unit 7: Pewter pendant</div> <div>Unit 8: Ergonomic Toothbrush</div> <div>Unit 9: Wooden picture frames</div>	Term 1		Term 2		Term 3		Term 4		Term 5		Term 6	
	Technical knowledge 3D & Tonal shading Ergonomics & anthropometrics Simulating the constraints of the user Iterative design ACCESSFM Design brief and specification Production methods	Research Consumer research Existing products on the market Sustainable packaging companies	Design SCAMPER Iterative design Isometric drawing Orthographic drawing SOAR Annotation Exploded views	Make Prototyping Modelling foam Tools & equipment	Evaluate Evaluate against user centred design specification	Technical knowledge Overpopulation (housing, pollution, global warming, extreme weather conditions) Fossil fuels versus renewable energy Timber & metal (properties and finishes) Biomimetics Smart technology	Research Multi-functional furniture Microalgae building exteriors Farms of the future Plastic roads	Design Designing to scale Orthographic drawing	Make 3D modelling (card prototype) Modelling using suitable material choices for given situation	Evaluate Peer evaluation of ideas Group presentation of final product to class		



Farmor's School Design and Technology Department



	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 10	New and emerging technologies People, culture and society Production techniques and systems Sustainability and environmental issues Renewable and non renewable energy Box project	Smart materials Composite materials Technical textiles Box project	Electronic control systems Programmable components End of Box project Lamp project	Papers and boards Natural and manufactured timber Ferrous and non ferrous metals Thermo and thermosetting plastics Natural and synthetic textiles Lamp project	Motions and mechanical systems Levers, linkages, Cams Gears, belt drive, rack and pinion Lamp project	Start of NEA Design and make task Context analysis Primary and secondary research
Year 11	.NEA Section C - generating design ideas Section D - developing ideas	NEA Section E - realising design ideas	NEA Section E - realising design ideas	Revision Units 1, 2 & 3	Revision Units 4,5,6 & 7	



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	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 12	Sellotape dispenser: Design skills Properties of materials Ergonomics Anthropometrics Safe working practices Risk assessment Polymers Non-ferrous metals and alloys 2D Design/ laser cutter Heat manipulation of plastics Centre lathe Third Angle Orthographic Isometric 2 point perspective	Marshmallow prong Copper bowl Heat treatment of metals Annealing Wrought ironwork Ferrous metals Plastic dip coating 2D design Sketch up 20th C design movements Scales of Production	Mini NEA Exploring a brief Writing a specification Circular economy Sustainability Timber products Stock forms User centred design Iterative design process Modelling Quality assurance & Control TQM/ Lean production JiT manufacturing	Mini NEA cont.. Planning for quality Cutting lists Gantt Charts Flow charts Independent manufacture Qualitative and quantitative Testing evaluation	Maths for Product design Creating materials with specific properties Modern and smart materials Intellectual property Product life cycle Technology push- Market pull Understanding Target Audience The 4 P's of selling	Exploration towards NEA context & brief Research techniques Identifying & analysing a problem Summer homework: research towards NEA brief
Year 13	NEA	NEA	NEA	Revision		

A level exam board: Eduqas