



Design Technology Department Curriculum and Assessment Map

N.B. Unit taught on rotation

Year 8	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Unit - Plastics	Sustainability and the 6 R's Plastics	Plastics in Society Smart and Modern materials	Existing designers Design Brief and user profile	Product Analysis Design Specification	Design ideas 2D Design development	Practical making Soldering Process	Practical making	Practical Making Product Evaluation
Fundamental Knowledge	6 R's and definitions Environmental sustainability – resource conservation. Efficient resource use. Innovation and green technologies Pollution reduction Biodiversity protection.	What plastics are Types of plastics – Thermosetting Thermoplastics. Application of plastics Environmental impact. Non-biodegradable pollution. Microplastics. Landfill issues Types of smart materials and uses	Study designers that use recycled plastic. Research the cultural, religious and socio-economic contexts of their intended users Understand what a design brief is. Being able to write a design brief Understanding user profiles, user wants and needs.	Research existing products using ACCESS FM Be able to develop design specifications that include a wider range of requirements, such as environmental, aesthetic, cost, quality and safety	Use 3D CAD to model, develop and present their ideas Use CAD and related software packages to validate their designs in advance of manufacture products considering life cycle analysis	Understand the H & S rules of the workshop and adhere to workshop routines Demonstrating understanding of Health and Safety when using the soldering iron – wear safety goggles, return soldering iron to holder. Being able to prepare parts for soldering, wire stripping, tinning, positioning and securing parts.	Practical skills – how to select and safely use specialist tools techniques and processes Know how to make adjustments to the settings of equipment and machinery, such as drilling machines	Select appropriate methods to evaluate their products in use and modify them to improve performance Produce short reports, making suggestions for improvements

Learning Checkpoint Tasks	LC1 – To be able to recall R R's and definitions	LC1 – Definition of Thermoforming Thermosetting	LC1 – To be able to identify non-negotiable features a product must have	LC2 – Know the acronym ACCESS FM	LC2 – Know the advantages and disadvantages of using CAD / CAM	LC2 – Identify safe working practices	LC3 – End of unit assessment	LC3 – Endo of unit assessment
Common Assessment Task	Correctly defined 6 R's Common misconception – Reuse and Recycle Categorised plastic types	Waste timeline Learning Check point 1	Correctly defined smart materials Detailed Design Brief	Response to challenge questions	Creative ideas proposed. Production of multiple annotated sketches Avoiding design fixation	Assess practical skills Complete a product using hand and machine tools Evaluate / modify approach as work progresses - competency, accuracy, safety and craftsmanship.	Test performance. Get user feedback. Evaluate success against the design brief and specification Demonstrate critical reflection and propose modifications	
Interleaved Knowledge	Be able to identify plastic products. Ability to discuss the advantages /disadvantages of plastics. Suggest uses for smart material		To recognise different consumer groups. To recognise different use needs.		Working properties of materials. CAD skills. Structural / construction understanding. Aesthetics and functionality. Ergonomics and anthropometrics. Process constraints.			