Design and Technology Curriculum 2022-23

	Term 1	Term 2	Term 3
DT YEAR 7	**Design Technology Engineering Drawing** • Perspective Drawing and Design Skills • One and two point perspective. • Produce accurate drawings. • Sketching and annotation techniques • Use subject specific vocabulary • Use a design brief successfully. • Primary research • Properties of paper and card • Mechanisms **Business marketing and promotion**	**Design Technology Product Design** **Wooden car/boat** • subject specific vocabulary • Write a specification • An understanding of the properties of different types of natural and man-made wood. • Cut and mark out effectively **Use machinery and equipment safely**	**Design Technology Textiles Tote Bag** • Understanding of sustainability • Joining and combining techniques using the sewing machine to create straight seams. • printing techniques **To use CAD CAM to create a stencil**
DT YEAR 8	**Design Technology Engineering Drawing** Recapping engineering drawing covered in year 7 • Understand dimension • Recognise nets of 2D shapes • Net design • Secondary Research: Inspirational designers. • Women in engineering • Sketching techniques and annotation • Analysis of products • Prototypes and models • Iterative design	**Design Technology: Product Design** • Use subject specific knowledge successfully when analysing work • Properties of different plastics • Electronic components and circuits	**Product Design Textiles.** • E textiles • Join curves successfully. • Working circuit with conductive threads. • Applique techniques • Secure embellishments using hand stitch techniques
DT YEAR 9	**Design Technology Engineering Drawing:** • Orthographic projection • Effective use of drawing boards	**Design Technology Product Design:** • Primary and secondary research • Analysis skills • Sketching techniques.	**Product Design Textiles:** • Tie Dye • Printing • Batik

	• Mechanisms • English Lakes	• Vacuum forming • Range of joints. • Jewellery design	• Heat transfer • Repeat pattern • Interiors • Fabric manipulation • Applique and reverse applique • Prototypes/modelling • quilting
DT YEAR 10	**New and Emerging Technology** Design practice 1: Alessi inspired CAD CAM Key Fob **Core Knowledge and understanding** D&T and our world CAD CAM Emerging technology Electronics Materials / Polymers 3D printing PLA **Core Designing & Making Principles** D&T Practice User needs Brief / Specification Iterative design development Work of others Prototyping Decision making **Work of others Presentation** Research, Product Analysis Evaluation Study on designers Professionals Their style Products/USP Their impact **Core Designing & Making Principles** Users Sketching	**Energy – Eco design** Design Practice 2: Solar powered novelty **Core Knowledge and understanding** Sustainability Energy – solar – wind Greener design Ecological footprint Generating clean energy Life cycle analysis Cradle to cradle **Core Designing & Making Principles** Material areas may vary Group activities Different mechanical systems / outputs Iterative designing Modern and SMART Materials Product Study Focused study Thermos Photos SMA and nitinol Polymorph QTC pills Fibres **Focused study**	**In-depth Knowledge and understanding** **Fashion & Textiles Product Design** **In depth Knowledge and understanding** Further study specialist area Narrower/deeper coverage Focussed tasks • Disassembly/evaluation Pushing iteration forwards **In depth Designing & Making** Mini tasks Specialist processes Specific practical skills Examination practice Challenge / advanced content Preparation for NEA in Yr11 NEA – 3 Contexts Released by WJEC Context analysis – multiple starting points NEA tasks begins – 35 hours Sketchbook analysis Formal Portfolio

	Ideas/concepts Prototypes Evaluation User trials		
DT YEAR 11	**Contextual challenge investigation** Preliminary ideas Evaluation and design movement research Primary research Existing product analysis Specification Design development Modelling Cad Development Final design and orthographic projection	**Contextual challenge investigation** Cutting list Manufacturing specification Manufacturing evidence Final product Does the product meet the Specification? Testing Evaluation Exam Revision	**Exam Revision**