DESIGN AND TECHNOLOGY
Course Overview for Years 7, 8 & 9

Year	TERM 1	TERM 2	TERM 3	Home learning
7	**Grab Toy project:** Students design and make a grab toy using levers, isometric sketching, and workshop tools. They explore mechanical movement, develop prototypes, and build a functional product, refining their work through testing and evaluation. Skills include sketching, tool use, and understanding mechanisms through practical, hands-on learning.	Catapult Project: Students safely use hand tools and machinery to construct a working model of a Roman onager catapult. They explore ancient engineering, apply practical making skills, and reflect on ethical design principles through historical and modern lenses	**STEM: electricity and structures project:** Students investigate electricity by building simple circuits and experimenting with heat, light, and magnetism. They then explore structural engineering by designing, building, and testing bridge models, learning how different forces affect performance and stability. The project emphasizes hands-on STEM learning, problem-solving, and scientific inquiry	Homework projects are set throughout KS3. One homework project is completed by students per term. Year 7 Term 1) Branding Project Term 2) Pop slot toy design project Term 3) Futuristic cities project Year 8 Term 1) Biomimicry project Term 2) Egg container design project Term 3) Bird feeder design project Year 9 Term 1) Robin Day project Term 2) William Morris project Term 3) Bauhaus Project
8	**Bottle opener and packaging design and make:** Students design an ergonomic bottle opener and packaging, applying user-centred design, ergonomics, and anthropometrics. They produce third angle orthographic drawings and consider manufacturing processes. The project emphasizes designing for	**Money box project:** Students construct a wooden money box using cutting, shaping, and finishing tools, focusing on wood joint design and fabrication techniques. As they build, they learn about the properties of different timbers and how material characteristics influence design	**Chocolate bar project:** Students design and develop a chocolate bar and packaging, focusing on graphic design, branding, and net construction. Using CAD software, they create visual identities and apply them to 3D packaging nets. They explore the purpose of packaging in protecting	

	comfort, function, and user needs while developing skills in technical drawing and product evaluation.	choices. They also develop confidence using various machines, understanding their functions, safety protocols, and how to achieve precision in shaping and finishing processes. Typeface design is introduced to inspire custom decorative finishes, blending craftsmanship with thoughtful, creative expression.	products, attracting consumers, and communicating brand values.	
9	**Flat pack furniture design and make:** Students design and develop a concept for flat pack furniture, focusing on user-centred and democratic design principles. They explore typical materials like manufactured boards and consider components used in industry. Through modelling and prototyping, students investigate how flat pack design balances functionality, sustainability, and ease of assembly for a wide audience.	**Mackintosh tealight holder project:** Students explore the influence of source material by studying Charles Rennie Mackintosh and Japonisme to inspire their tealight holder designs. They translate conceptual ideas into working drawings using exploded isometric techniques, then manufacture their designs using workshop tools—emphasizing creative interpretation, technical precision, and design realisation.	**Bauhaus architecture project:** Students study Bauhaus design principles and their global impact, using them to inspire a modern family home. They learn architectural drawing techniques including 2-point perspective and develop models using appropriate tools and materials. The project emphasizes functional aesthetics, purposeful simplicity, and translating abstract ideas into built form.	