

Design Technology Curriculum Overview - Year 9

		Unit	Details
Autumn One	Box Project	Throughout this project pupils will be focusing on being able to identify and categorise man-made boards, softwood and hardwoods, looking at the properties and limitations of using different types of timber within their box designs. Pupils will research independently to create a mood board by selecting inspiring images and existing products. They will demonstrate an understanding of the brief in order to design a working Box by creating a target audience and specification. Initial design ideas will be generated based around the context and client needs, focusing on using oblique projection and timber rendering. Pupils will develop their use of imagination, experimentation and combine ideas when designing their box.	
Autumn Two		Pupils will use a range of CAD/CAM processes to develop and manufacture their boxes. Using hand tools and appropriate machinery safely, pupils will create 4 different wood joints (comb, mitre, butt and lap), before assembling their boxes. Pupils will understand the many processes timber goes through to become a final product, and how these can affect the properties of the wood itself. Pupils will evaluate and test their product developing the skills to critique and refine their own ideas whilst designing and making.	
Spring One	Architecture	Pupils will be introduced to the impact of resource consumption on the planet looking at finite, non-finite and waste disposal. Taking into consideration the ecological and social footprint of materials. Students will also look at how products are designed and made to avoid having a negative impact on others including the design for disabled, elderly and different religious groups. Focusing also on the positive and negative impacts new products have on the environment looking at continuous improvement, efficient working, pollution and global warming. Pupils will use this understanding to develop a sustainable architectural design for their chosen brand headquarters. Pupils will create their designs using 2 point perspective and orthographic drawings which will then lead into 3D prototypes and design mockups.	
Spring Two		Pupils will use a range of materials to create their architectural model and will be encouraged confidently and safely to use a range of CAD/CAM, hand tools, machinery and manufacturing processes. Pupils will present their models and be able to identify the key sustainable features and materials used in their design. Evaluation and testing of the product developing the skills to critique and refine their own ideas whilst designing and making.	
Summer One	Moving Toy	Pupils will research throughout the whole project into mechanical devices and material properties to help further problem solve and to inform design ideas. Independently create a mood board by selecting inspiring images and existing products which are appropriate to their chosen target market. Pupils will demonstrate an understanding of the brief in order to design a moving toy for their chosen target audience and create a design specification.	
Summer Two		Initial design ideas will be generated based around the context and client needs, developed designs and modelling using 2D and 3D forms. Develop design ideas through the use of modelling, 2D design, google sketchup and onshape. Experiment with materials and apply technical knowledge and understanding to aid appropriate material selection. Final design and manufacture of prototype of the product using accurate and safe use of tools, machinery and CAD/CAM processes. Continuous design and prototype evaluation and testing developing the skills to critique and refine their own ideas whilst designing and making. Pupils will develop a further understanding of the iterative design process.	