

DT Unit Overview Year 7

Product Design lessons are taught once per week, usually in a dedicated workshop. However, in light of the ongoing situation caused by the Coronavirus pandemic, practical elements of the project will unfortunately be delayed until it is safe to do so. Students will focus on all other stages of the design process up to the practical element. At the start of term, we will complete a design audit task to set a base line for students as they have had various experiences of Design and Technology in their primary schools. Whole class discussion around previous experiences will also help to identify gaps in their learning. We will investigate the properties of different materials and manufacturing techniques. We will explore different design strategies in order to generate design ideas with an emphasis on the iterative design process; an essential approach to developing a product. In order to check understanding we will be creating quizzes, using plenaries as well as obtaining feedback from students to ensure effective learning is taking place. We will provide information on Health and Safety and workshop use, through videos and interactive learning, so that students feel safe and confident in a workshop environment when we are able to return.

Product Design - Year 7 Unit 1 Pen Project				
What are we learning?	What knowledge, understanding and skills will we gain?	What does mastery look like?	How does this build on prior learning?	What additional resources are available?
Research to inform designs	<p>Knowledge - Research existing products. Properties of plastics. Key words will be provided.</p> <p>Understanding - analyse products, knowing how/ why made and the wider impact on design choice. Additional focus on how to analyse products.</p> <p>Skills - using understanding to implement design strategies (squiggle sketch, mood board) to inform creative design ideas. Additional focus on design strategies to generate ideas.</p>	<p>Students are able to analyse a range of existing products through our handling collection.</p> <p>Students are able to produce accurate sketches that show creativity having been introduced to two design strategies.</p>	<p>At KS2 students investigate and analyse a range of existing products. They use these criteria to inform creating designs that are functional and appealing aimed at individuals or groups.</p> <p>They generate, and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams.</p>	<p>Teacher demo.</p> <p>Existing examples of sketches</p> <p>Existing products</p>
Developing, modelling and communicating ideas	<p>Knowledge - units of measure. Scale, proportion. Anthropometric data</p> <p>Understanding - importance of modelling, testing and development of prototype. Design for human use.</p> <p>Skills - Modelling using card and paper, Measuring and marking out of material. Additional focus on testing and refining ideas</p>	<p>Creative models developed from drawings.</p> <p>Accurate in size and colour. Students test their models, acting on feedback to improve.</p>	<p>They generate, develop and model and their ideas through discussion and prototypes.</p>	<p>Peer reviews</p> <p>Creative critique.</p>

<p>Health and safety for manufacture.</p>	<p>Knowledge – introduce tech room H&S. H&S of hand tools and solvents. Understanding - safe use of acrylic solvent. Safe use of a coping saw to cut acrylic. Clear demonstrations provided and H+S requirements. Skills - Assembling acrylic and safe use of acrylic solvent. Filing and finishing of acrylic using different grades of abrasive papers and polish. Identifying what information is included on packaged products. Safe use of vacuum former and line bender. Assume minimal workshop experience and teach at introductory level.</p>	<p>Students follow procedures for H+S and understand associated risks</p>	<p>Some use of different materials and equipment depending on school. Not always available at primary so teach all at introductory level.</p>	<p>H&S Ppts. Markings around the room Signage and poster warnings. technician assistance where needed.</p>
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