Curriculum Overview

Curriculum Area: Design Technology Year: 8

Year 8 Curriculum: Timbers

All pupils will learn how to design, create, make and evaluate a box tidy and a pewter casted jewellery piece. Pupils will build on prior safety knowledge and expand their safety knowledge to include being able to safely use a cool pewter caster machine.

All pupils will learn how to construct a perspective drawing knowing key terminology surrounding perspective drawings: light construction lines, horizontal, vertical, feint, over draw, enhance and shading.

Pupils will learn how to make a construction flow chart helping them to document their make processes and allowing them to remake the project. Pupils will learn the method of pewter casting, looking at the work of other pewter casting designers to inspire their own pewter design work.

They will also earn how to pewter cast, cut and shaper pewter and how to laser cut to produce labelling and packaging to make a complete gift item.

Pupils will build on their fine motor skills and accuracy to enable pupils to mark out accurately complete a tolerance box.

Links to the KS3 National Curriculum

Design: Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations, and computer-based tools.

Make: Select from and use specialist tools, techniques, processes, equipment, and machinery precisely, including computer-aided manufacture. **S**elect from and use a wider, more complex range of materials, components, and ingredients, considering their properties.

Evaluate

Technical knowledge: Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions.

Assessment Opportunities

Core knowledge of this unit will be regularly tested and revisited during this unit with a knowledge quiz completed at the end.

Critical and summative evaluation of own product designed and made.

Formative assessments of product design and completion throughout the unit.

A photo of the finished product should also be included.

Cultural Capital

Design and Technology is an inspiring, rigorous, and practical subject which prepares all young people to live and work in the designed and made world. Pupils explore different drawing techniques and who would use them in life allowing them to explore job opportunities within DT.

Year 8 Curriculum: Polymers

All pupils will learn how to design, create, make and evaluate a laser cut and 3D printed USB mood lamp. They will learn how to use CAD packages in more detail such as 2D design to render bitmap images to produce a unique laser cute lamp.

Pupils will learn to use google sketch up to design and personalise a 3D printed lamp base. They will learn how to solder a circuit using solder, PCB boar, LED's, resistors, USB cable and switches. This will allow the lamp to work when plugged into a power source.

Pupils will reinforce their drawing skills using 2D sketching and isometric drawing.

Pupils will also learn to maintain workshop safety at all times when operating hand tools such as soldering irons, solder wire, craft knifes, needle files and sand paper.

Links to the KS3 National Curriculum

Design: Identify and solve their own design problems and understand how to reformulate problems given to them. **D**evelop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations. Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations, and computer-based tools.

Make: Select from and use specialist tools, techniques, processes, equipment, and machinery precisely, including computer-aided manufacture. Select from and use a wider, more complex range of materials, components, and ingredients, considering their properties.

Evaluate: test, evaluate and refine their ideas and products against a specification, considering the views of intended users and other interested groups.

Technical knowledge: Understand how more advanced electrical and electronic systems can be powered and used in their products [for example, circuits with heat, light, sound and movement as inputs and outputs].

Assessment Opportunities

Core knowledge of this unit will be regularly tested and revisited during this unit with a knowledge quiz completed at the end.

Critical and summative evaluation of own product designed and made.

Formative assessments of product design and completion throughout the unit.

A photo of the finished product should also be included.

Cultural Capital

Design and Technology is an inspiring, rigorous, and practical subject which prepares all young people to live and work in the designed and made world. Pupils build on their polymers knowledge by exploring where polymers came from and looking into the history of plastics links her to the war and bio plastics production.