

Design Year 8 Curriculum Map

This unit of work is the first unit of year 8 so pupils will be reminded of the Health and Safety procedures and expectations. This unit is aimed at developing pupils' hand tool skills as well as introducing them to the fret saw. This will enable them to cut more complex forms from thicker material. They will also use a new type of fixing for them and will learn the important of pilot holes and how to use cordless hand tools in their making. Pupils will also learn about different types of screws and their application. Scales of production i.e. Batch production is looked at and pupils are introduced to formal drawing using isometric projection.

Unit 5	I am learning	I will be able to do
Headphone stand	<ul style="list-style-type: none"> • How to use templates in batch production • How flow charts can improve quality • How to join materials using temporary fixings • The properties of hard woods and soft woods • The application of spray painted finishes on wood • The different types of wood screws and fixings • How to select the correct type of file for concave surfaces 	<ul style="list-style-type: none"> • Use a template accurately to batch produce a product • Produce a flow chart to make a headphone stand • Follow a work schedule made from a flow chart • Use the fret saw to cut out complex curved shapes from softwood • Accurately measure, mark out and drill components that I have made independently • Assemble my stand using cordless electric hand tools • Sketch my headphone stand using isometric projection and render it

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In this unit the pupils will produce their own template of their design for a mobile phone stand. They will have to work out the size and shape by 3D modelling and testing to see whether it is a viable design. This unit is popular as it relates to mobile phones and the students are manufacturing a product that they can all use. They need to consider mathematical tessellations in relation to the materials they will be given. The pupils will learn the importance of producing a highly polished edge before forming their acrylic stand as this is very difficult once the material has been formed. Pupils learn how to deform acrylic sheet to create 3D shapes. Pupils will also have to produce an orthographic projection of their design idea.

Unit 6	I am learning	I will be able to do
Mobile phone stand	<ul style="list-style-type: none"> • How to draw in Orthographic projection • How to create a highly polished edge on acrylic sheet • How to use models to test and evaluate design ideas • CAD design • How to apply mathematical tessellations when manufacturing • How to use the strip heater 	<ul style="list-style-type: none"> • Develop my ideas through CAD, modelling and prototyping • Test my design ideas against a specification • Use a variety of finishing techniques to produce a high-quality finish on acrylic sheet including the polishing machine • Mark out work using a scribe • Use the strip heater safely and accurately, independently <p>Ensure that I make best use of the material available and make sure that it is cost effective</p>

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Unit 7	I am learning	I will be able to do
Pop up card	<ul style="list-style-type: none"> • How pop up card mechanisms work • How to analyse existing products • How to make a variety of card mechanisms • The different types of levers • The different types of motion 	<ul style="list-style-type: none"> • Make mock ups of different types of mechanisms to help develop design ideas • Look at products and analyse how they work in order to inform my own design ideas • Produce a personalised pop up card • Cut material safely and independently • Consider health and safety whilst making graphic products in the workshop

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In this unit pupils use recycled cardboard to make a small container that could be used on a desk at home. The main aim of this unit is to show pupils that so-called waste materials can be recycled and made into useful objects that have a new purpose and use. There is a big emphasis on safety as the pupils will be using craft knives and hot glue independently. This builds on the skills they learned in units 2 and 3. They also learn about other materials that are used in a similar way such as plastic bottles to make fleece material and rubber tyres to make playground tactile flooring.

Unit 8	I am learning	I will be able to
Recycled container	<ul style="list-style-type: none"> • How waste materials can be repurposed and reused • How artists like Mike King use recycled packaging in their artwork • The importance of recycling waste materials • How to shape flat board to create curved 3D forms 	<ul style="list-style-type: none"> • Manipulate recycled, flat corrugated cardboard into curved shapes • How to use craft knives and hot melt glue guns safely, accurately and independently • Manufacture a small container with a well-fitting lid • Produce a good quality finish by sealing all exposed edges with gum strip paper