



# DARWEN VALE HIGH SCHOOL

An Aldridge Community Academy 

## **Year 7: Textiles: Mini Monster**

This learning programme focuses on the development of theoretical knowledge associated with the source and properties of various natural and synthetic fibres. It will cover skills associated with hand embroidery and different types of stitches, template creation and pattern cutting. In this unit of work students will design and make a felt mini monster that focuses on sustainability, students should include recycled textiles such as socks for arms and buttons off old clothing for component decoration.

## **Year 8: Polymers & Programming: Nightlight**

This learning programme focuses on the development of theoretical knowledge associated with polymers, electronics and programming. It will cover skills associated with computer aided design and manufacture, using 2D Design and the laser cutter. In this unit of work, students will design and create a laser ply nightlight that incorporates acrylic inserts. Theoretical learning focuses on categories of polymers, their working properties and impact on the environment, the programming of a crumble kit (knowledge of input, process, output) and how to recognise and correctly draw circuitry symbols. Students will also incorporate their own programmable circuit that will result in different outputs.

## **Year 8: Textiles: Sensory Cushion**

This learning programme focuses on the design, development and creation of a unique sensory cushion inspired by the theme of 'Under the Sea'. Pupils will explore existing examples allowing them to compose an informed design specification for their own product design. They will explore a range of textural & decorative textile techniques and control of the sewing machine. Pupils will draw from their learning to design and make an appropriate product outcome.

## **Year 9: Timbers: Trinket Box**

This learning programme focuses on the design and manufacture of a decorative box using both CAD/CAM and hand making tools. Inspired by the work of a chosen designer, pupils will develop skills associated with the control of 2D Design to produce a lid and handle.

Within the workshop, they will develop skills associated with timber construction to make the body of the box according to given dimensions and develop their skills to create finger and dovetail joints.

Theoretical learning focuses on material properties and categories of timbers and manufactured boards.

## **Year 9: Modelling: Sustainable Architecture**

This learning programme focuses on the design and modelling of a sustainable building. Pupils will learn about how architecture can be sustainable and have minimal impact on the environment through the study of examples across the world, renewable and non-renewable energy sources and water harvesting methods. They will understand how advances in technology are generating new materials that allow buildings to reduce energy consumption and carbon footprints by exploiting natural resources in effective ways. Pupils will explore modelling materials and methods, learn how biomimicry and bio-morphism influence design and engineering and draw from their learning to design and model a sustainable building.