

Design & Technology – Key Stage 3 overview (Year 8)

Materials - Polymer	Materials - Fabric	Food and Nutrition	Materials - Pewter	Materials - Polymer and wood
<i>Systems and control</i>	<i>Sustainable Wall Hanging</i>	<i>Real Meals</i>	<i>Celtic Pendant</i>	<i>Pencil case-plastics and batch production</i>
In this project students learn about systems and control by designing and producing a sophisticated LED sequence for a bike light.	In this project students gain a better understanding of sustainable design. They will learn how to weave and will create a wall hanging which reuses waste material.	Students learn knowledge linked to nutrition and food as well as develop their practical skills, culminating in preparing a range of predominantly savoury main meal components.	This will be the students first 'Complete Product' project as they will be designing and making the product and its packaging.	For the first time, students will experience the batch production of identical products and complete a detailed evaluation of the product made.
<ul style="list-style-type: none"> Learn about what Systems and Control is and how it is used in modern design. How to use Picaxe software to create a sophisticated LED sequenced program. Learn how to use line benders in order to make the casing for the circuit board. Learn about different electronic components and their function within the circuit board. Learn how to solder safely and how to identify risks within a workshop environment. 	<ul style="list-style-type: none"> Learn about how synthetic materials, particularly plastics are affecting the environment. Understand another type of fabric construction with a focus on weaving. How to use materials creatively to create an effective outcome. Look at cultural references to find inspirational techniques. 	<ul style="list-style-type: none"> Demonstrate sound knowledge of the Eatwell plate and make links with the foods that they eat Understand the principles of nutrition, macro nutrients and micro nutrients and their function within the body Seasonal produce and food miles and the impact on the environment To be able to identify wants and needs of shoppers and understand the provenance of food How to adapt recipes to take in to consideration needs. 	<ul style="list-style-type: none"> Research techniques that include an analysis of the Design Brief. Product Analysis of existing products. How and why social, moral and cultural issues are researched before designing. An in-depth look at the properties of the materials to be used. The reasons for packaging. 	<ul style="list-style-type: none"> Where polymers come from and how they are made The importance of making identical products Batch production The use of jigs and templates Critical evaluation of the product made Modifications suggested based on the testing and evaluation.