

Design and Technology

Key Stage 3 Design and Technology Overview

Our students will spend an average of 19 weeks (on a rotation basis) in each area covering two main disciplines which include: Food and nutrition and Engineering.

Year 7

Engineering

The focus of the year 7 engineering project is to explore and investigate mechanisms to help you to manufacture a cam car. During this process you will have to follow engineering guidelines for accuracy and problem solve issues that could arise during the manufacturing process.

During the theory lessons of engineering, you will be given a brief in which you will have to use a range of skills to help you develop an outcome. The skills will include research, analysis, problem solving, teamwork, design, annotation and evaluating. For the practical element you will learn a range of basic skills, including health and safety within the workshop, how to select and work with materials, and the use of a range of different tools and machinery.

Food and nutrition

Within your food and nutrition module you will learn about nutrition, food provenance and sustainability, cooking techniques, careers in the industry and food science. The practical lessons will build upon the theory whilst learning about basic cooking skills such as hygiene and safety, the rubbing in method, knife skills, cooking methods, weighing and measuring.

Year 8

Engineering

During the theory lessons of engineering, you will be given a brief in which you will have to develop a deeper understanding of a range of skills to help you manufacture a final outcome. The skills will include research, analysis, problem solving, teamwork, design, annotation and evaluating.

For the practical element you will build upon the range of basic skills learned in year 7. This will include a more in depth understanding of health and safety within the workshop, how to select and work with materials and a range of different tools and machinery.

The focus of the year 8 engineering project is to explore and investigate electronics and CAD/CAM to help you to manufacture a hand steady game. During this process you will have to follow

engineering guidelines for accuracy and problem solve issues that could arise during the manufacturing process.

Food and nutrition

Your food and nutrition module will teach you about the fats, properties of ingredients used in sauces and pastry, careers in the industry and cooking techniques. The practical lessons will build upon the theory whilst learning how to make main meal dishes using limited ingredients.

Year 9

Engineering

The focus of engineering in Year 9 is to look at metal as a material to produce a key holder. To do this our students will investigate, explore, research and make the product using a range of different design skills and practical techniques. These practical techniques will include marking and measuring, bending and shaping, as well as joining methods. Students will also learn how to adapt and model new ideas from existing products to meet customer requirements.

Food and nutrition

In this module you will explore the macronutrients in more depth focussing on carbohydrates and proteins. We will also be investigating menu planning and dietary requirements. The practical lessons will build upon the theory whilst learning about high risk products, multicultural main meals and how to modify recipes for dietary requirements.