

## Curriculum Map KS3 - Design Technology

In Design and Technology students combine practical and technological skills with creative thinking to design and make products that meet human needs. They learn to use current technologies and to think creatively to solve problems, working as individuals and as members of a team. Students develop confidence in using practical skills and become discriminating users of products. They apply their creative thinking and learn to innovate.

### **Year 7**

Students complete 3 Design Technology projects:-

#### **Resistant Materials and Electronics Project**

Students gain experience of using a range of hand tools, scroll saws, pillar drills and strip heaters and apply this knowledge to design and make an **acrylic handy stand**. Students learn about basic electronic components and use a 2D design package, vacuum forming and Camm machine to design and make a **mini light key ring**. Using light gathering acrylic and the laser cutter students produce a decorative '**twizzler**'.

#### **Food Project**

Students learn about the importance of a balanced diet, healthy eating and basic food hygiene. Students use the hob, oven and grill to investigate how heat is transferred through conduction, convection and radiation. Students use a range of equipment and processes to produce a variety of food products; including fruit salad, sweet and savoury crumbles, soups and pizza.

#### **Textiles Project**

Students learn how to set up and operate an electric sewing machine, demonstrating these skills to achieve their 'Sewing Machine Driving Licence'. Students develop their design and making skills by producing a fleece hat.

### **Year 8**

#### **Resistant Materials and Graphics**

Students learn how to work with metal, developing skills of shaping, forming, annealing and brazing through designing and making a candle holder. In the graphics project students explore pop-up mechanisms to produce a greetings card.

## Food Project

Students learn about the nutrients and how these may be incorporated into a balanced diet. Investigating the different dietary needs of various groups, including teenagers, vegetarians and athletes; student design, plan and make food products to suit individual's needs. Practical work includes making meat sauce, curry, carrot cake and pasta dishes.

## Textiles Project

Using CAD/CAM and dye sublimation students design and print their own fabric. Students go on to use this fabric to design, and make a creative and innovative bag for an identified target group.

## **Year 9**

### Resistant Materials and Graphics

Working with a variety of resistant materials and CAD/CAM students design and make a **clock** based on an artistic movement and a given specification. Students use a variety of computer graphics and work with GIMP to design, print and package a jigsaw puzzle for an identified audience.

### Food

Through a series of focussed practical tasks and supporting theory work students learn about food safety and hygiene, and work towards achieving the Level 2 Food Safety Award. Topics include pests control, cross contamination, danger zone temperatures, cooking and chilling of foods.

### Design and Technology Homework projects

In year 7 students will be set a homework project dependent on the area of DT they are currently studying.

- Food - 'Healthy Living'
- Resistant Materials- 'Mechanisms'
- Textiles- 'Recycling'

In year 8 students will study the same homework project at the same time as other students regardless of the subject area they are currently working in. The first project is 'Nutrients'. Others will include: 'Design futures', 'Product development' and 'Trends'.

In year 9 students studying Product design will be set the 'Sustainable Design' project. When working in Textiles they will complete the 'Designers' project. During the food rotation there will be individual homework's set.