

KS3 Design and Technology Curriculum outline

Introduction

Designing and making is a fundamental and essential part of every-day and wider society. It has never been more current and valuable to 21st Century Learners. The D&T department is committed to teaching pupils the value and importance of quality designing and making and the impact of their decisions as designers and consumers.

The Design and Technology Department are passionate about developing and encouraging creativity, teamwork, determination and resilience in all our pupils. We firmly believe that all pupils should be risk takers and problem solvers and that they should always be encouraged to have a go, and not to be afraid of making mistakes.

KS3 Curriculum

Throughout KS3 pupils study Design and Technology for 2 hours per fortnight. During each year pupils will have the opportunity to study at least two of the three material areas within Design and Technology. These include food preparation and nutrition, resistant materials and electronics.

Due to the practical nature of the subject, lessons are taught with a very 'hands-on' approach. This allows the pupils to gain confidence using a wide range of tools, equipment, materials and machinery, to make products which they are encouraged to take home. The pupils will be taught about "The Design Process", and they will have the opportunity to design for themselves, clients and markets. Wherever possible creativity is encouraged to allow pupils to design their own solutions to practical problems.

Y7 Design and Technology

| Material Area | Project Title | Project outline |
|---------------------------------------|-------------------------|--|
| Food preparation and Nutrition | Licensed to Cook | Pupils will explore the basics of nutrition and begin to understand the principles of good food hygiene and safety in the kitchen. They will learn how to use a variety of kitchen equipment in order to produce a range of different food products. Teaching is through a mix of theory, demonstration and practical lessons. (Pupils are provided with a recipe book and they are expected to bring ingredients for practical lessons) |
| Resistant Materials | Licensed to Make | Pupils are introduced to workshop safety and working with a variety of timber based materials. They are taught a range of basic skills such as measuring, marking out, cutting and shaping, preparation and finishing. The pupils use these skills to produce models of a Tenon saw and a Try square that are joined temporarily to a Softwood base. They begin gaining knowledge and understanding of designing using the design process by designing for a pencil holder for themselves. |
| Electronics | Night Light | Pupils are taught about electronic components and tools and equipment. They go onto produce a small night light that not only senses darkness, but changes colour. They will also have the opportunity to carry out the vacuum forming process to make a plastic case for their night light electronics. Pupils will also have the opportunity to use computers to develop their C.A.D skills. |

Y8 Design and Technology

| Material Area | Project Title | Project outline |
|---------------------------------------|-----------------------|---|
| Food preparation and Nutrition | Healthy eating | Pupils will build upon the skills and knowledge that they learned in Year 7. They will look in greater detail about healthy eating and the importance of good nutrition in the diet. Pupils are given the opportunity to make a range of food products and evaluate the nutritional value of them. Teaching is through a mix of theory, demonstration and practical lessons. (Pupils are provided with a recipe book and they are expected to bring ingredients for practical lessons) |
| Resistant Materials | Picture this | Pupils build upon the skills, knowledge and understanding learned in Year 7. Workshop safety is reinforced and they continue working with various timber based materials. However this project has a more traditional approach and includes working with plastic. They build upon the range of basic skills learned in year seven with an increasing focus on working with increased care and accuracy. They continue gaining knowledge and understanding of designing using the design process by designing a photograph frame for a client. |
| Electronics | Stylophone | Pupils will build upon skills and knowledge learned in Year 7. Pupils will extend their knowledge about electronics components and tools and equipment. They will be expected to make a Stylophone music box that can be developed and enhanced using their creativity skills. Pupils will also have the opportunity to use computers to develop their CAD skills in programming. |

Y9 Design and Technology

| Material Area | Project Title | Project outline |
|--------------------------------|-----------------------|---|
| Food preparation and Nutrition | Food Around the world | This project has been developed as a foundation course to prepare Year 9 students for the new GCSE Food Preparation and Nutrition. It is intended to be a practical and creative course which focuses on providing students with the necessary practical skills and nutritional knowledge they will need before commencing GCSE study. Teaching is through a mix of theory, demonstration and practical lessons. (Pupils are provided with a recipe book and they are expected to bring ingredients for practical lessons) |
| Resistant Materials | Gumball rally | Pupils build upon the skills, knowledge and understanding learned in Year 7 and Year 8. Workshop safety is again reinforced and students work with timber based materials and plastic. This project outcome has a more interactive approach and includes a screw based assembly system. Students build upon the range of skills learned in years seven and eight with an increasing focus on the quality needed to create a marketable product. They continue gaining knowledge and understanding of designing using the design process. However in this year a strong element of creativity is introduced into students designing and making a Gumball Machine for a teenage market. |
| Electronics | Steady Hand Game | This project builds on the skills learned in Year 7 and Year 8 and aims to extend pupils' knowledge of product design by enhancing their drawing and CAD skills to help them access GCSE criteria. Teaching is through a mix of theory and practical lessons allowing pupils to show their creativity in a variety of ways. |

Assessment and feedback

Pupils are given assessment criteria at the beginning of each project and should aim to achieve or improve upon their minimum end of year GCSE target. In Design and Technology, verbal feedback is recognised as having the greatest impact on pupil progress and it will be at the core of every-day teaching and learning. We encourage parents to ask their children about the feedback they receive. As well as the provision of high quality verbal feedback, formal marking is completed at the end of each project, where pupils will be given the opportunity to act upon teacher feedback in order to make further progress.

Homework

Homework for KS3 students consists of a variety of tasks to further develop their skills within the area in which they are working.