



## Our Curriculum Aims:

1. To stimulate and maintain student interest, enjoyment, curiosity and concern about technological aspects of the environment, both local and international in Design and Technology.
2. To enable students to become familiar with the knowledge, principles, skills and vocabulary of Design and Technology along with a developed knowledge of different categories of materials (smart) and their properties.
3. To enable students to be confident and competent in “design for purpose” and making quality products which are “fit for purpose”.
4. To enable students to evaluate and improve upon a design or product as well as considering the needs of the user and evaluating it against specification criteria.
5. To develop an awareness of the role of Design and Technology in the development of the modern world and emerging new technologies and their impact upon the planet and the human race.
6. To develop an enjoyment in risk-taking, creativity, innovation and problem solving of technological problems.
7. To develop the skills which enable students to make reasoned decisions about the implications of technological advances and to apply principles of nutrition and health to improve their lifestyles?
8. To develop through Design and Technology a range of desirable personal qualities that will enable students to become confident, committed and co-operative members of society.
9. To reflect and draw upon the work of past and present designers and design movements along with gaining inspiration from other sources such as nature.
10. To develop a wide technical vocabulary whilst promoting good literacy skills

## Key Stage Three Curriculum Overview

Pupils will follow a rotation where they will study the following topics alongside Food and Nutrition for approximately 1/3 of the year which covers HT 1 and 2, HT 3 and 4 and HT 5 and 6 respectively.

### Year 7

	Name of topic	Key Content of the Topic	Assessment points
HT 1	An introduction to electronics:	<ul style="list-style-type: none"> <li>• Soldering</li> <li>• PCB Construction</li> <li>• Simple transistor circuits</li> <li>• Vacuum Forming</li> </ul>	FEDS
HT 2			
HT 3	An introduction to mechanisms:	<ul style="list-style-type: none"> <li>• Materials and Processes</li> <li>• Manufacturing Techniques</li> <li>• Industrial batch production</li> <li>• Quality control</li> </ul>	FEDS
HT 4			
HT 5	Product Design:	<ul style="list-style-type: none"> <li>• Materials and Processes</li> <li>• Project Management</li> <li>• Iterative Design</li> <li>• Modelling</li> </ul>	FEDS
HT 6			

## Year 8

	Name of topic	Key Content of the Topic	Assessment points
HT 1	Graphics and presentation techniques:	<ul style="list-style-type: none"> <li>Pencil crayon rendering</li> <li>Packaging</li> <li>Labelling and Advertising</li> <li>Quality Control</li> </ul>	FEDS
HT 2			
HT 3	Innovation and Product Design:	<ul style="list-style-type: none"> <li>Creativity techniques</li> <li>Innovative products</li> <li>Smart materials</li> <li>Iconic designers</li> </ul>	FEDS
HT 4			
HT 5	Structures – Medieval Siege Warfare:	<ul style="list-style-type: none"> <li>Forces</li> <li>Triangulation</li> <li>Historical manufacturing techniques</li> <li>Siege engine design</li> </ul>	FEDS
HT 6			

## Year 9

	Name of topic	Key Content of the Topic	Assessment points
HT 1	Electronic Systems:	<ul style="list-style-type: none"> <li>Microcontrollers</li> <li>Software engineering</li> <li>Embedded systems</li> <li>Programming</li> <li>Flowcharts</li> <li>User Centred Design</li> <li>Electronic Products</li> </ul>	1-9
HT 2			
HT 3			
HT 4	Product Design:	<ul style="list-style-type: none"> <li>Trigonometry</li> <li>Research techniques</li> <li>Modelling and Iterative Design</li> <li>Development techniques</li> <li>Manufacturing processes</li> <li>Product testing and evaluation</li> </ul>	1-9
HT 5			
HT 6			

### What can parents do to support their sons?

There is a valuable web resource at [www.technologystudent.com](http://www.technologystudent.com) that provides animations and explanations of the things that are covered in lessons. Updated and useful links can be found on the Design and Technology section of O365.

More specifically in:

#### Year 7:

You can use [www.printfreegraphpaper.com](http://www.printfreegraphpaper.com) to generate isometric grid paper to aid your sketching

#### Year 8:

Visit [www.technologystudent.com](http://www.technologystudent.com) to assist in the research of structures.

#### Year 9:

Download the PICAXE editor from <https://picaxe.com/getting-started/software-selection/> as this will allow your son to work on his software design at home.

Any code that is generated can be uploaded to O365 and tested in class.

Monitor the work of your son during the Product Design tasks to ensure that work is being completed. These projects are designed to run like GCSE courses so that your son can make informed choices at options time. This means that they will be responsible for many of the deadlines and target setting. Please reinforce the importance of meeting deadlines set via Show My Homework.