

**Overview:**

KS3 pupils are taught the different material areas through a carousel system. Years 7 and 8 projects are seven week blocks. Year 9 pupils choose two material areas they would like to study during the academic year; these projects are sixteen week blocks. They are planned and delivered to prepare pupils for the GCSE courses.

**All KS3 projects include:**

- Identifying a need and designing for a user group
- Focused research
- Justified specifications
- Problem solving
- Using a range of tools and equipment including CAD/CAM
- Testing and evaluating the product in use

## Design and Technology KS3 Curriculum Map

Year	Resistant Materials	Textiles	Graphics	Food
7 9 week projects	<b>Content:</b> Design and make a hand held maze game using wood and plastic.	<b>Content:</b> Design and make a shopper bag using recycled materials.	<b>Content:</b> Design and make confectionary packaging using CAD.	<b>Content:</b> Design and make nutritional and healthy foods.
	<b>Skill:</b> Identify and solve their own design problems and understand how to reformulate problems given to them. Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions.	<b>Skill:</b> Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists (SMEC- Social, moral, environmental and cultural issues).	<b>Skill:</b> Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools.	<b>Skill:</b> Understand and apply the principles of nutrition and health. Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet. Become competent in a range of cooking techniques [for example, selecting and

				<p>preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes]. Understand the source, seasonality and characteristics of a broad range of ingredients.</p>
8 9 week projects	<p><b>Content:</b> Design and make photo frame with an LED lamp.</p>	<p><b>Content:</b> Design and make a pencil case with a fastening and embellishments.</p>	<p><b>Content:</b> Design and make a new concept for a board game.</p>	<p><b>Content:</b> Design and make a repertoire of predominantly savoury dishes so that pupils are able to feed themselves and others a healthy and varied diet.</p>
	<p><b>Skill:</b> Use a variety of approaches [for example, bio mimicry and user-centred design], to generate creative ideas and avoid stereotypical responses. Understand how more advanced electrical and electronic systems can be powered and used in their products [for example, circuits with heat, light, sound and movement as inputs and outputs]. Select from and use</p>	<p><b>Skill:</b> Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties. Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture. Test, evaluate and refine their ideas and products against a specification, taking into</p>	<p><b>Skill:</b> Analyse the work of past and present professionals and others to develop and broaden their understanding. Test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups. Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including</p>	<p><b>Skill:</b> Understand the functions of ingredients. Use research and exploration, such as the study of different cultures and specialist diets to identify and understand user needs. Understand and apply the principles of nutrition and health. Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet.</p>

	specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture.	account the views of intended users and other interested groups	computer-aided manufacture.	Become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes]. Understand the source, seasonality and characteristics of a broad range of ingredients.
9 12 week projects	<b>Content:</b> Mini GCSE project Storage solution Focus practical tasks using Wood & Plastic followed by creative design.	<b>Content:</b> Mini GCSE project Design and Make a toddlers outfit.	<b>Content:</b> Mini GCSE project Design and Make merchandise for a charity.	<b>Content:</b> Mini GCSE project 'Change for Life' project. Design and make a two course meal suitable for a specialist diet.
	<b>Skill:</b> Use research and exploration, such as the study of different cultures including SMEC, to identify and understand user needs. Identify and solve their own design problems and understand how to reformulate problems given to them. Develop specifications to inform the	<b>Skill:</b> Use research and exploration, such as the study of different cultures including SMEC, to identify and understand user needs. Identify and solve their own design problems and understand how to reformulate problems given to them. Develop specifications to inform the	<b>Skill:</b> Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists (SMEC- Social, moral, environmental and cultural issues). Develop specifications to inform the design of	<b>Skill:</b> Understand and apply the principles of nutrition and health. Use research and exploration, such as the study of different cultures and specialist diets to identify and understand user needs. Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves

	<p>design of innovative, functional, appealing products that respond to needs in a variety of situations. Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools.</p> <p>Apply computing and use electronics to embed intelligence in products that respond to inputs [for example, sensors], and control outputs [for example, actuators], using programmable components [for example, microcontrollers]. Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture.</p> <p>Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions.</p>	<p>design of innovative, functional, appealing products that respond to needs in a variety of situations. Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools.</p> <p>Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture.</p> <p>Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions.</p>	<p>innovative, functional, appealing products that respond to needs in a variety of situations. Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools. Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture.</p> <p>Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions.</p>	<p>and others a healthy and varied diet. Become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes].</p> <p>Understand the source, seasonality and characteristics of a broad range of ingredients.</p>
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**Course Text Books/Websites:**

<http://www.technologystudent.com/>  
<http://www.jamesdysonfoundation.co.uk/students/secondary/>  
<http://www.123dapp.com/create>  
<http://www.sketchup.com/>  
<https://www.sumopaint.com>

**Additional Materials/Equipment required:**

In Food Technology practical lessons all pupils are expected to bring in ingredients in advance in a plastic container which they can then take their finished products home in at the end of the school day.

**Home Support:**

Homework and research is very important as a developmental tool in Technology. Please encourage your daughter to complete her homework thoroughly and hand it in by the due date. We recommend pupils begin their homework the night it is set. Having home internet access or belonging to a local library is important as some homework tasks involve research.

**Head of Department:**

Mr Green & Ms Febbrari