



***‘Good Design is making something intelligible and memorable.
Great design is making something memorable and meaningful’ (Dieter Rams)***

The Design and Technology department at Little Heath are committed to delivering a curriculum accessible to all which provides the broadest possible range of opportunities for students. One which will allow students to become self-motivated and confident learners, who can work independently and as part of a team. We aim to ensure that learners develop technical and practical competencies as well as the wider skills valued by employers. Our main priority is for students to be problem solvers who are not afraid of making mistakes. We hope our students will become responsible citizens who make a positive contribution to society.

The department firmly believes that students learn best by ‘doing’ and by allowing them to experiment and take risks, in a safe and positive learning environment. This is achieved through imaginative teaching that embraces new technologies and resembles modern industrial processes, whilst retaining the best of traditional practices. At the heart of this, is the desire to deliver a curriculum in which students produce high quality outcomes. Students must learn about the social and ethical responsibilities of designers and engineers and the importance of managing finite resources with care.

Students work in a range of stimulating contexts including, Food, Textiles, Resistant Materials and Electronics that provide a range of opportunities and draw on the local ethos, community and wider world, students identify needs and opportunities. They respond with ideas, products and systems, challenging expectations where appropriate and considering aesthetic, technical, cultural, health, social, emotional, economic, industrial and environmental issues. As they do so, they evaluate present and past design and technology, and its uses and effects.

Through design and technology, students develop confidence in using practical skills and become discriminating users of products. They apply their creative thinking and learn to innovate and communicate.

We are extremely excited that during the academic year 2020-2021 our department will move into a brand new building. This will include a new state of the art Design and Technology Suite comprising of Two Food and Nutrition Practical rooms, Two purpose built high spec Resistant Materials Workshops, one Textiles classroom and a computer suite. Cutting edge Technology in our new facilities will enable us to develop and expand our curriculum.

Through a study of Technology we aim to:

- Establish a safe learning environment which is conducive to learning, is stimulating, imaginative and relaxed where students feel supported and secure.
- Link to a number of different curriculum areas in order to develop a set of transferable skills they can enjoy in school and use in their future working lives.
- Enable students to combine their designing and making skills with knowledge and understanding, in order to design, make, analyse and evaluate products of high quality.
- Value the work of all students, using assessment as a means to monitor student progress, provide information in relation to attainment on a national scale and to form a basis for individual action plans.
- Enjoy turning ideas into reality
- Identify and analyse problems in order to become creative 21st century thinkers



- Plan and use relevant research
- Work independently and develop self esteem
- Think creatively about a number of possible solutions
- Investigate and evaluate products, systems and ideas identifying a “best fit” for purpose
- Investigate a range of manufacturing systems and material areas.
- Encourage students to consider the environmental implications when designing solutions
- Have high expectations of all our students and lead by example. Design Technology is delivered through a consistent and co-ordinated approach

Technology will be taught throughout the year, with students receiving 3 hours of lesson time a fortnight in KS3. All students will have the chance to work in specialist rooms and material areas each year.

At the end of Year 8 students have the opportunity to choose a Technology subject to study at GCSE, these being Resistant Materials, Food and Nutrition or Art Textiles. At KS4 students will be exploring a wide range of materials and processes throughout their GCSE. Students will develop their investigative and problem solving skills in order to prepare them for their non-examined assessment (NEA).

KS3 Design & Technology Curriculum Overview (Year 7 & 8)

YEAR 7

Students arrive at Little Heath with a very mixed range of experience of Design and Technology from Primary school therefore this year provides them with an introduction to the subject whilst giving them plenty of opportunity for fun and exciting practical work. Students are provided with the appropriate and necessary skills in the three areas to equip them for future learning. They will study lessons in Food and Nutrition, Resistant Materials which includes working with plastics, electronics, timber and CAD and Textiles. At Little Heath school their teacher stays with them for the year to teach across all areas of Design and Technology.

	TEXTILES	FOOD & NUTRITION	RESISTENT MATERIALS
KEY CONCEPTS	<p>Reusable Bag</p> <p>Students design and make a fabric reusable bag with a shape and design of their choice, this allows them to learn the basics of designing, understand how to use hand tools and sewing machines safely and enables them to understand the importance of being environmentally aware in todays society.</p>	<p>Students are introduced to the specific nutrients we require to live a healthy life. They will learn their functions, which foods we can find them in and what happens if we have too little or too much. Alongside this they will learn to create a range of practical dishes that enable them to develop their skills appropriately.</p>	<p>Night Light</p> <p>Students will have the opportunity to design and make a night light. This will incorporate a wide range of skills, they will learn to design on the computer and see their design a reality with our laser cutter, they will develop the basic skills in timber to create their own wooden casing and will be taught how to create a simple electronic circuit which will allow their light to function.</p>



YEAR 8

Students have the opportunity to build upon the skills and techniques they learnt in year 7 and develop these to become competent across the range of subjects in Design and Technology which puts them in a prime position to choose one of the subjects as a GCSE.

	TEXTILES	FOOD & NUTRITION	RESISTENT MATERIALS
KEY CONCEPTS	<p>Kitchen Safety Product</p> <p>Students are able to design and make their own kitchen safety product ranging from hats, to aprons to oven gloves. They are taught to solve a problem by creating a product that satisfies this. They will use hand and machine techniques during this project and develop a wide range of skills.</p>	<p>During this project we look at seasonality and foods from around the world. Trying to identify how we can lesson our carbon footprint by cooking with products that are in season in the UK. Students will also build upon their nutritional knowledge formed in Year 7 and will develop a range of practical dishes to learn new skills and to be enjoyed at home.</p>	<p>Marble Run</p> <p>In this project we introduce students to working with a range of materials but predominantly wood and they will have the opportunity to create a marble run. We are able to show students how to create different joints for the frame and then use a range of tools to shape and create the run inside. A great end product providing hours of entertainment for all.</p>



KS4 Design & Technology Curriculum Overview (Year 9, 10 & 11)

At Little Heath School we currently offer three subjects at GCSE. Food and Nutrition, Art Textiles and Resistant Materials. All three are full GCSE courses.

	ART & DESIGN: TEXTILES
KEY CONCEPTS	<p>Students will experiment with a wide range of materials and techniques ranging from more traditional processes such as; dyeing, printing, fabric manipulation and embroidery to the use of new Technologies like the laser cutter and experimental techniques such as trapping and fusing the heat press.</p> <p>How sources relate to cultural, social, historical, contemporary, environmental and creative contexts which might be determined or influenced by functional or non-functional considerations how ideas, feelings, forms, and purposes can generate responses that address personal needs or meet external requirements, such as client expectations and any associated constraints.</p> <p>They will learn about creating work in exciting and expressive ways as well as learning how to effectively record their ideas and observations. They will develop their understanding of line, tone, colour, texture, pattern and shape using a range of media and techniques.</p> <p>They will be introduced to a wide range of artists and designers, looking at the History of Textiles and more contemporary work. They will be expected, once they have gained confidence in their skills, to develop their own work in the style of artists and designers appropriate to their chosen area to study.</p> <p>Students will produce creative final outcomes which have a clear link to the artist and Designers they have studied.</p> <p>Students will produce a portfolio of coursework that contains a series of smaller projects working in 2D and 3D, as well as two larger projects that will be open to individual interpretation.</p>
ASSESSMENT	<p>Coursework is worth 60% of the final grade</p> <p>They will also produce an exam project, worth 40% of the overall grade, which is set by the exam board (AQA).</p> <p>The exam paper will be handed out in January of Year 11, and they will need to create a practical project based on one of several starting points. This ends with a 10 hour exam in May in which students will create a final piece for the project.</p> <p>They will be assessed within four different areas:</p> <ul style="list-style-type: none"> • Recording of ideas and observations. • Refinement and exploration of ideas. • Development of ideas through investigations • Personal response based on the artist they choose to study



	FOOD PREPARATION & NUTRITION
KEY CONCEPTS	<p>Students will learn to:</p> <ul style="list-style-type: none">• Demonstrate effective and safe cooking skills by planning, preparing and cooking using a variety of food commodities, cooking techniques and equipment• Develop knowledge and understanding of the science of food• Understand the relationship between diet, nutrition and health• Demonstrate knowledge of the principles of nutrition including the role of the main nutrients in the diet, sources, function, deficiency diseases and sensory qualities• Understand the importance of microbiological food safety considerations when preparing, processing, storing, cooking and serving food• Explore where food comes from including foods from around the world <p>GCSE Food and Nutrition is an interesting and stimulating course for students. The delivery of the course material will vary: group based activities, practical and theory based learning, independent based learning in order to produce project style and research based work.</p>
ASSESSMENT	<p>Component 1: Principles of Food Preparation and Nutrition (50%) Written examination comprising of short and extended answers</p> <p>Component 2: Food Preparation and Nutrition in action NEA 1 (15%) and NEA 2 (35%) to be completed and submitted in Year 11</p> <ul style="list-style-type: none">• NEA 1 Investigation on food science• NEA 2 Food preparation assessment - plan, prepare, cook and evaluate 3 dishes



	DESIGN & TECHNOLOGY: TIMBER
KEY CONCEPTS	<p>Resistant Materials is a new GCSE course, which is similar to the previous Resistant Materials course but includes more Science and Mathematics knowledge and is assessed at a different percentage weighting. The students are given the opportunity to learn, then demonstrate their understanding of a number of key skills, working with woods, metals and polymers.</p>
ASSESSMENT	<p>The exam content is broken down into three subject contents; technical principles and designing and making principles.</p> <p>The NEA (non-examined assessment) is a practical element that incorporates the core, specialist and designing and making principles in a practical setting.</p> <p>Core technical principles – 20 marks This is a mixture of multiple choice and short answer questions.</p> <p>Specialist technical principles – 30 marks There are several short answer questions and one extended response to assess a more in depth understanding of technical principles.</p> <p>Designing and making Principles – 50 marks This is a mixture of short and extended answer questions.</p> <p>NON EXAMINED ASSESSMENT (NEA) There is a coursework element of the subject, which brings all aspects of the theory into a practical making product. This is worth 100 marks and is 50% of the GCSE</p>



KS5 Design & Technology Curriculum Overview (Year 12 & 13)

At Little Heath we currently offer two course at KS5, one in Art Textiles and one in Food, Science and Nutrition.

	A LEVEL ART: TEXTILES
KEY CONCEPTS	<p>Textiles offers you the opportunity to begin to explore in more depth the exciting world of Fashion Design, Styling, Marketing and a wide range of other Fashion and Textiles careers, where creativity, imagination and a willingness to take risks will get you far. You will have the opportunity to go to Graduate Fashion Week and see where studying this subject could take you in the future.</p> <p>As part of the course you will learn and build upon skills including:</p> <ul style="list-style-type: none"> • To develop your own core design skills • About fibres, fabrics and components • How to be creative and how designers get inspiration for design ideas • Investigating methods to colour, decorate and stitch fabrics
ASSESSMENT	<p>YEAR 12 Cultures Sampling project – internally assessed</p> <p>During this unit students will select a Culture of the their own choice and use this as the inspiration for developing and learning about a wide range of modern and tradition decorative Textile techniques. By the end of the unit they will have experimented with over 20 techniques, giving them the opportunity to discover the ways they like working and equipping them with greater independence for use in Unit 1: Personal investigation</p> <p>YEAR 12 – Continuing into YEAR 13</p> <p>Unit 1: Personal investigation – Internally and external assessed</p> <p>Students with the support of the class teacher, decide on a context they would like to explore inside of the Textiles syllabus. During this extended project they will carry out a range of research activities to explore their context including; museum visits, photography, trend analysis, designer/artist analysis and other 1st and secondary research as appropriate to their own projects. Students select to work in decorative techniques of their own choice and use these to enable them to develop, refine, record, realise their ideas. Their work is presented of their ideas through a portfolio and development of an outcome/s to demonstrate. Students are also required to create an in depth study into the work of a Designer or Artist whose work will compliments and influence their own projects. They will be required to submit a 1000-3000 word essay to present their findings</p>



LEVEL 3 DIPLOMA IN FOOD SCIENCE & NUTRITION

KEY CONCEPTS

Food Science and Nutrition is relevant to many industries and job roles. Care providers and nutritionist in hospitals use this knowledge, as do sports coaches, food manufacturers and government agencies.

This course explores the relationship between food, nutrition and health and offers the opportunity for creative, investigative and analytical study.

Course Outline:

Unit 1: meeting nutritional needs of specific groups

Unit 2: Ensuring food is safe to eat

Unit 3: Experimenting to solve food production problems

Unit 4: Current issues in food science and nutrition

ASSESSMENT

Certificate (Year 12) comprises of Unit 1

Diploma (Year 13) comprises the Unit 1 in Year 12 plus mandatory unit 2 with an optional unit being unit 3 or 4.

Studying one of the two optional units will allow learners the opportunity to study subjects of particular interest or relevance to them, building on previous learning and experience

Unit 1 **Meeting Nutritional Needs of Specific Groups** completed in Year 12 50% coursework one exam which is worth 50%

Unit 2 **Ensuring food is Safe to Eat** is an eight hour timed assignment over three weeks that is externally assessed.

Unit 3 **Experimenting to Solve Food Production Problems**. Internally assessed. The aim of this unit is to use understand the properties of food in order to plan and carry out experiments.

Unit 4 **Current Issues in Food Science and Nutrition**. This unit students will carry out research on current issues relating to food science and nutrition