

# DESIGN & TECHNOLOGY-FOOD PREPARATION & NUTRITION-ART & DESIGN: TEXTILES

In key stage 3 students are introduced to a number of new experiences in a range of subject areas that are not covered in depth at key stage 2. Music, Art (Fine and Textile), Food Preparation and Nutrition and Design and Technology allow students to engage with and develop knowledge and skills in the creative subjects within the school curriculum. Students will learn about health and safety in various environments, enabling them to work safely with a variety of materials/tools/media and instruments when responding to set tasks. They will gain an awareness of different art and design movements, as well as cultural and historical music, to aid their responses. In Food, students will gain an understanding of Food hygiene, the science behind food and nutrition. Learning of key skills are taught explicitly within each project. The curriculum in key stage 3 has been specifically developed to engage students in new subject areas and build knowledge and skills, year on year, in preparation for key stage 4.

## **Design & Technology Rationale-KS3**

To prepare KS3 students in the best possible way for KS4 students create a foundation based on renewable and non-renewable sources. These sources are covered through practical learning during a physical outcome. Students will become competent in using tools and machines to prepare for the making element involved for the GCSE Non-Exam Assessment. All projects in KS3 are planned to entail and prepare them for all 6 stages involved for the NEA and cover theory knowledge required for the GCSE Exam.

## **Food Preparation and Nutrition Rationale-KS3**

In preparation for KS4, in KS3 students will study 3 of the 5 elements of the GCSE course as a foundation for further study. Within the KS3 programme, students will understand and apply the principles of nutrition and health. They will cook a repertoire of 12 predominantly savoury dishes, so that they are able to feed themselves and others a healthy and varied diet. They will become competent in a range of cooking techniques and understand the characteristics of a broad range of ingredients.

They will understand the principles of nutrition and health in relation to energy, nutrients, water and fibre, diet and health and nutritional needs throughout life. The 12 dishes are in line with the principles of The Eatwell guide and use a range of food commodities, e.g. cereals, fruit, vegetables, meat, fish, eggs, fats/oils, milk/dairy food products.

## **Art & Design-Textile Design Rationale-KS3**

In preparation for KS4, in KS3 students will be taught to develop their creativity and ideas, and increase proficiency in their execution. They will be taught to develop a critical understanding of artists, architects and designers, expressing reasoned judgements that can inform their own work. They will be taught to use a range of techniques to record their observations as a basis for exploring their ideas. They will be taught to use a range of techniques and media, to increase their proficiency in the handling of different materials. They will learn to analyse and evaluate their own work, and that of others, in order to strengthen the visual impact or applications of their work. They will also learn about the history of art, craft, design and architecture, including periods, styles and major movements from ancient times up to the present day.

	<b>Autumn term: Design &amp; Technology</b>		
<b>Term 1</b>	<p><b>Passive Amplifier Project</b></p> <p>Student's are to understand the key concepts of CAD and CAM which is a large proportion of the GCSE Specification. Students will recognise CAD and CAM processes and identify how CAD and CAM is used in the industry. Students are encouraged to use CAD during designing and making in their GCSE and this project will enable students to learn skills using Solidworks, the laser cutter and the 3D printer. Students will be able to understand and read a variation of working drawings and create their own BI-PLANE using Solidworks.</p>		
	<p><b>Important vocabulary:</b></p> <table border="0"> <tr> <td style="background-color: #e6eaf2;"> <ul style="list-style-type: none"> <li>• Communicate</li> <li>• Specification</li> <li>• Properties</li> <li>• Identify</li> <li>• Justified</li> <li>• Investigate</li> <li>• Brief</li> <li>• Technique</li> <li>• Demonstrate</li> <li>• Dimension</li> </ul> </td><td style="background-color: #e6eaf2;"> <ul style="list-style-type: none"> <li>• Sustainable Design</li> <li>• Sustainable Forest</li> <li>• Medium Density Fibreboard</li> <li>• Corrugated Cardboard</li> <li>• File</li> <li>• Pillar Drill</li> <li>• Hole Saw</li> <li>• Laser Cutter</li> <li>• Coping Saw</li> <li>• Junior Hacksaw</li> </ul> </td></tr> </table>		<ul style="list-style-type: none"> <li>• Communicate</li> <li>• Specification</li> <li>• Properties</li> <li>• Identify</li> <li>• Justified</li> <li>• Investigate</li> <li>• Brief</li> <li>• Technique</li> <li>• Demonstrate</li> <li>• Dimension</li> </ul>
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	<b>Key knowledge students will learn:</b>	<b>Key practical skills students will learn:</b>	
	<ul style="list-style-type: none"> <li>• How to work safely in the Resistant Materials workshop when using tools and looking out for other students during a practical lesson.</li> <li>• How to create a mood board to GCSE standard</li> <li>• The outline principles of the design process</li> <li>• How to reflect on work during evaluation</li> <li>• About past Design Movements and how they influence current designs.</li> </ul>	<ul style="list-style-type: none"> <li>• How to develop understanding of task analysis and design specifications to focus thinking.</li> <li>• Learn how to trial materials and techniques, test and experiment and record what you have learnt.</li> <li>• Learn how to use specialist tools and equipment to make your passive amplifier.</li> <li>• How to select and use simple hand tools such as: coping saw, junior hacksaw, hole saw, forstner drill bit, twisted drill bit and center punch.</li> <li>• How to select and use specialist machinery such as the pillar drill, engraver, belt sander and the laser cutter using 2D Design.</li> </ul>	
	<b>Spring term: Food Preparation &amp; Nutrition</b>		
<b>Term 2</b>	<p><b>The Food Nutrition and Health Project</b></p> <p>During this scheme of work, students will focus on food choices. We will revise previous learning about Macronutrients and will learn then move on learn about Micronutrients. Students will study the functions and requirements of nutrients in the body and the effect of an excess or deficiency in them. Students will revise previous learning about the Eatwell guide and build upon this knowledge, focusing on planning balanced meals, portion size and nutritional analysis, whilst considering costs. We will study the different requirements of specific groups of people, including different life stages and energy needs and those with dietary requirements.</p>		
	<p><b>Important vocabulary:</b></p> <table border="0"> <tr> <td style="background-color: #e6eaf2;"> <ul style="list-style-type: none"> <li>• Macronutrient</li> <li>• Micronutrient</li> <li>• Protein</li> <li>• Fat</li> <li>• Carbohydrate</li> <li>• Protein complementation</li> <li>• Transparent</li> </ul> </td><td style="background-color: #e6eaf2;"> <ul style="list-style-type: none"> <li>• Opaque</li> <li>• Syneresis</li> <li>• Biological value</li> <li>• Anaemia</li> <li>• Rickets</li> <li>• Broccoli</li> <li>• Yogurt</li> </ul> </td></tr> </table>		<ul style="list-style-type: none"> <li>• Macronutrient</li> <li>• Micronutrient</li> <li>• Protein</li> <li>• Fat</li> <li>• Carbohydrate</li> <li>• Protein complementation</li> <li>• Transparent</li> </ul>
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	<b>Key knowledge students will learn:</b>	<b>Key practical skills students will learn:</b>	
	<ul style="list-style-type: none"> <li>• The functions and requirements of nutrients in the body and the effect of an excess or deficiency in them.</li> <li>• The Eatwell Guide</li> <li>• Meal planning</li> <li>• Balanced meals</li> <li>• Portion size</li> <li>• Costs.</li> <li>• The nutritional requirements of specific groups of people.</li> </ul>	Skill 1: General practical skills Skill 2: Knife skills Skill 4: Use of the cooker Skill 6: Cooking methods Skill 7: Prepare, combine and shape Skill 10: Dough Skill 11: Raising agents	

	<ul style="list-style-type: none"> <li>• Life stages:</li> <li>• Pre-school children (1-4 year olds)</li> <li>• Children aged 5-12 years</li> <li>• Adolescents (teenagers)</li> <li>• Adults</li> <li>• Elderly adults</li> <li>• Dietary requirements</li> <li>• Vegetarians</li> <li>• Coeliac</li> <li>• Lactose Intolerance</li> <li>• A high-fibre diet</li> <li>• A low-sugar diet</li> <li>• A fat-reduced diet</li> <li>• A low-sodium/salt diet</li> <li>• Energy needs</li> <li>• Nutritional analysis</li> </ul> <p>1.</p>			
	<b>Summer term: Art &amp; Design-Textiles</b>			
	<b>The Contemporary Project</b> <p>During this scheme of work, students will build upon their previous learning from Year 7 and Year 8, moving on to look at both Modern and Contemporary art, whilst using their theory knowledge of art movements to place them into art periods. Students will recap their knowledge of the elements of art., with a focus this year on Tone, Form and Pattern. They will learn to develop their creativity and ideas using this knowledge and move into textiles work, based on the artist Yumi Okita. Students will develop their rendering skills using oil pastels and water colour. This work will form the foundation of further experimental work explore and students will develop ideas and skills, creating a 3D Moth or Butterfly, which will be their final piece. This unit is designed to engage, inspire and challenge pupils, equipping them with the knowledge and skills to experiment, invent and create their own works of textile art, whilst teaching them to think critically and develop a more rigorous understanding of art and design as a whole.</p>			
<b>Term 3</b>	<b>Important vocabulary:</b> <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <ul style="list-style-type: none"> <li>• Refine</li> <li>• Compile</li> <li>• Adjacent</li> <li>• Theme</li> <li>• Differentiate</li> <li>• Expand</li> <li>• Abstract</li> <li>• Demonstrate</li> <li>• Achieve</li> <li>• Integrate</li> </ul> </td><td style="vertical-align: top; width: 50%;"> <ul style="list-style-type: none"> <li>• Sustainable designs</li> <li>• Ethical</li> <li>• Mordant</li> <li>• Wadding</li> <li>• Risk assessment</li> <li>• Ergonomics</li> <li>• Bio diversity</li> <li>• Organic</li> <li>• Recycle</li> <li>• Yarn dyeing</li> </ul> </td></tr> </table>		<ul style="list-style-type: none"> <li>• Refine</li> <li>• Compile</li> <li>• Adjacent</li> <li>• Theme</li> <li>• Differentiate</li> <li>• Expand</li> <li>• Abstract</li> <li>• Demonstrate</li> <li>• Achieve</li> <li>• Integrate</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainable designs</li> <li>• Ethical</li> <li>• Mordant</li> <li>• Wadding</li> <li>• Risk assessment</li> <li>• Ergonomics</li> <li>• Bio diversity</li> <li>• Organic</li> <li>• Recycle</li> <li>• Yarn dyeing</li> </ul>
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	<b>Key knowledge students will learn:</b> <ul style="list-style-type: none"> <li>• Health &amp; Safety in the Textiles room</li> <li>• The elements of art</li> <li>• Art period's 4000BC- to present day.</li> <li>• Modern and contemporary art movements</li> <li>• Develop ideas through investigations, demonstrating critical understanding of sources (AO1)</li> <li>• Record ideas, observations and insights relevant to intentions as work progresses (AO3)</li> <li>• Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes (AO2)</li> <li>• Hand and machine stitch</li> <li>• Colour into cloth dying and fabric crayon</li> </ul>	<b>Key practical skills students will learn:</b> <ul style="list-style-type: none"> <li>• How to create examples of colour harmonies, including blending watercolour/acrylic paint</li> <li>• How to mix and apply colour</li> <li>• How to use technology to research and produce artist response sheets</li> <li>• How to control various media to respond to an artists works.</li> <li>• How to communicate ideas using             <ol style="list-style-type: none"> <li>1. Line</li> <li>2. Shape</li> <li>3. Colour</li> <li>4. Texture</li> <li>5. Pattern</li> </ol> </li> <li>• How to control various tools, including fabric shears, pins, hand embroidery needles and sewing machines, to produce the required results</li> <li>• How to produce a variety of hand embroidery stitches</li> </ul>		

		<ul style="list-style-type: none"> <li>• How to create and manufacture a product from 2D materials to a 3D finished product</li> </ul>
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## How can I help my child be successful in Design & Technology?

- Support your child when undertaking homework research tasks
- Use the grade descriptors at the front of the work booklets to ensure quality in work produced
- Enable your child to complete tasks successfully, by ensuring they have the resources required or communicating with teachers for further support
- Explore the key vocabulary often with your child to help them transfer it to long term memory
- Encouraging your child to be organised and plan ahead to ensure smooth progress through the rotation
- Practise tricky spellings together.

## How will you assess my child's progress?

Assessment of learning takes many forms. We assess how your child is learning through their written, visual, practical and verbal responses.

In the creative arts we value the importance of providing students with feedback that enables them to progress. We therefore provide formative feedback that requires a response from our students, through a number of comparative marking sessions. All formative assessment is logged by students as a reference point for continual improvement. Lower attaining work will be required to be improved, using the logged feedback, to ensure individual progress. Written corrections require students to work in green pen, to highlight errors. They are then able to reflect clearly on where they have made progress.

Students appreciate the importance of the comparative marking sessions. We give feedback on work regularly, to enable students to track their progress in various disciplines, whether it be a research, design or practical tasks.

Each rotational subject will allow for students to produce one or a number of practical outcomes, based on sound research and design work. The projects are marked summatively at the end of each rotation to provide a 'snap shot' of the knowledge and skills the students have gained and those which still require work. This is used, along with their classwork and feedback, to inform the reports you receive home.