

YEAR 7 DT CURRICULUM PROGRESSION OVERVIEW

Pupils gain an introduction to the subject of design and technology. Throughout the year they are introduced to different material combinations and begin to gain an understanding of the working properties of each material are (food, textiles and product design). The pupils are also introduced to the different tools and machinery located within the department and are taught the relevant H&S requirements for each machine and process. Throughout the year the pupils are taught how to use different hand tools and start to become proficient with the basic tools. The pupils are introduced to different design processes that can be used to develop a product and are taught how to analyse and evaluate their work. As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

	Carousel System	Carousel System	Carousel System
Topic	Food and Nutrition	Product Design	Textiles
Core Knowledge/ Threshold Concept	Introduction to food miles Introduction to carbon footprint Introduction to the seasonality of food Introduction to nutrition Introduction to modelling and prototyping Introduction to: <ul style="list-style-type: none"> • Slicing • Dicing • Rubbing method • Chopping • Melting method • Combining • Baking • Portioning • Boiling • Simmering • Draining • Grating • Creaming method • Preparing a tin 	Analysing the task Introduction to Design brief and Specifications Introduction to mechanisms Introduced to the properties and uses of Materials; woods, metals and plastics Introduced to Product Analysis using ACCESS FM Introduced to Vacuum Forming as a plastic process Introduced to the design process Introduction to evaluation Health and Safety in the workshop Oblique sketching Designing; creativity, shading and annotating Introduction to: <ul style="list-style-type: none"> • Marking out • Coping saw • File • Glass paper • Soldering • Pillar drill • Jig • Vacuum forming • Hot melt glue gun 	Introduction to Design brief and Specifications Introduced to studying the work of others; Salvador Dali – art movement, surrealism Health and Safety in the classroom Introduction to stitch samples; embroidery and applique Introduction to Product Analysis using ACCESS FM Introduction to toy safety Introduction to: <ul style="list-style-type: none"> • Drafting the pattern pieces • Pin and cut felt • Pinning • Cutting • Hand stitching • Embroidery • Blanket stitch • Applique

		<ul style="list-style-type: none"> • CAD CAM 	
Why this learning now?	Y7 is designed to introduce pupils to food and nutrition. It is designed to introduced pupils to the basic skills through focused practical tasks. This is then built upon through more complex dishes so that practical skills and knowledge and understanding of nutrition is built upon in Y8 and Y9. The theory of food miles, carbon footprint, etc. runs alongside these practical tasks.	Y7 is designed to give the pupils an introduction into basic practical skills helping them to develop their skills with the different hand tools. This project allows the pupils to be introduced to the different machines in the workshop and ensures that they are familiar with the health and safety requirements. The pupils cover the different working properties of the materials used and learn how to analyse products, write specifications, draw design ideas by hand. The pupils are also taught how to evaluate their work against their specifications.	Y7 is designed to give the pupils an introduction into basic practical skills helping them to develop their skills with the different hand tools. This project allows the pupils to be introduced to the different machines in the workshop and ensures that they are familiar with the health and safety requirements. The pupils cover the different working properties of the materials used and learn how to analyse products, write specifications, draw design ideas by hand. The pupils are also taught how to evaluate their work against their specifications.
Assessment Opportunities:	Two home learning tasks are carried out which are assessed according to the school policy. Food and nutrition is marked using the WINS system at the end of the scheme of work. Responsive AFL used in all lessons	Two tests are carried during this project; answers are covered as a starter activity in the next lesson to address gaps in knowledge. Each project is marked using the WINS system where gaps are also identified and the pupils asked to act upon them. Responsive AFL used in all lessons	one test is carried during this project; answers are covered as a starter activity in the next lesson to address gaps in knowledge. Each project is marked using the WINS system where gaps are also identified and the pupils asked to act upon them. Responsive AFL used in all lessons
Learning at Home	Two home learning tasks are set, pupils are required to hand in the home learning activities.	Two home learning tasks are set in the form of a test on Satchel 1	One home learning task is set in the form of a test on Satchel 1 One home learning task is set, pupils are required to hand in the home learning activities.
Key Vocabulary	Claw grip, Bridge hold, Rubbing in, Creaming, Dropping consistency, Food miles, Sustainability, seasonality	Task Analysis, Design Brief, Design Specification, Medium Density Fibreboard, Flat File, Coping Saw, Glass paper, Bench Vice, Aesthetics	Thread, Appliqué, Seam, Needle, Pin, Embroidery, Hazard, Annotation, Task analysis, Design brief, Design specification, Aesthetics, Surrealism

Spiritual, Moral, Social and Cultural concepts covered	<p>Introduction to food miles, carbon footprint and the seasonality of food. Examine the effect our food choices make on the climate. Looking into health and safety. Art movement; surrealism.</p>
Links to careers and the world of work	<p>Referral to industry practices such as the design process, analysing existing products, manufacturing processes such as vacuum forming and CAD CAM and linked to products pupils come into contact with on a regular basis.</p>

YEAR 8 DT CURRICULUM PROGRESSION OVERVIEW

Pupils gain a further insight into the subject of design and technology. Throughout the year they are introduced to different material combinations and begin to further explore and understand the working properties of each material. The pupils are also introduced to the different tools and machinery located within the department and are taught the relevant H&S requirements for each machine and process. Throughout the year the pupils are taught how to use different hand tools and start to become proficient with the basic tools. The pupils are introduced to different design processes that can be used to develop a product and are taught how to analyse and evaluate their work. The pupils are introduced to PIC's and taught to write simple programs. Pupils learn about the importance of the 6R's in designing. As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

	Carousel System	Carousel System	Carousel System
Topic	Food and Nutrition, and Textiles	Electronic Money Box	Amplifier
<p>Core Knowledge/</p> <p>Threshold Concept</p>	<p>Understand the principles of nutrition and healthy balanced diet; obesity, malnutrition, Carbohydrates, Lipids, Proteins, Fibre, Micronutrients (vitamins and minerals)</p> <p>Know how to apply the principles of nutrition and health – to adapt a recipe.</p> <p>Understand the source, and characteristics of ingredients that they use – input and discuss during demonstration lesson.</p> <p>Cook a range of products and main meals using a wider range of cooking and preparing skills.</p> <p>Food safety and hygiene: Can identify the hazards in the kitchen</p> <p>Become competent in a range of cooking techniques / equipment [Kneading, basic adaption, baking, roux sauce, portioning, coating].</p> <p>Textiles – manufacturing on sewing machines.</p>	<p>How to analyse a task</p> <p>Analysing products using ACCESSFM</p> <p>H&S when using the soldering equipment</p> <p>Understanding basic components and how they work.</p> <p>Understanding the term polarity when using electronic components</p> <p>Culture – lucky symbols</p> <p>The 6 R's</p> <p>Investigating the work of famous designers and deriving ideas from them</p> <p>Understanding how to program a simple circuit using PICAXE editor 6.</p> <p>Isometric drawing</p> <p>How to evaluate projects in detail</p> <p>Polarity in circuits</p> <p>What a resistor is used for in an electronic circuit</p> <p>The use of PIC ICs in a circuit</p> <p>Programming electronic circuits</p> <p>Populating PCB's</p> <p><u>Skills covered</u></p> <ul style="list-style-type: none"> • Using the soldering iron correctly and safely • Using a file to shape plastic • Assembling a wooden frame 	<p>How an amplifier works</p> <p>Sustainability</p> <p>Reading schematic diagrams</p> <p>Understanding input, process and output in terms of electronic systems</p> <p>How to analyse a task</p> <p>Analysing products using ACCESSFM</p> <p>Introduced to how a PCB is made</p> <p>Colour and culture</p> <p>H&S when using the soldering equipment</p> <p>Understanding a range of components and how they work.</p> <p>Understanding the term polarity when using electronic components</p> <p>Investigating the work of famous designers and deriving ideas from them</p> <p>Isometric drawing</p> <p>How to evaluate projects in detail</p> <p><u>Skills covered</u></p> <ul style="list-style-type: none"> • Using the soldering iron correctly and safely • Using a file to shape plastic • Use the strip heater safely and accurately • Use a jig accurately • How to analyse similar products effectively

	Block printing; making block and repeat printing.	<ul style="list-style-type: none"> • Be able to program a PIC • How to analyse similar products effectively • How to use tools and machinery safely 	<ul style="list-style-type: none"> • How to use tools and machinery safely
Why this learning now?	There is a focus on practical skills and building on the learning that took place in year 7. Practical input link to nutrients, how to and what ingredients could be used. The textile project in year 8 recaps on the key DT skills learnt in Y7. Critical knowledge and skills are built on from the Y7 building blocks. The project follows a journey where the pupils will complete tasks relating to the critical skills. Making incorporates new skills (sewing machines) and those learnt last year.	Y8 is designed to develop the pupil's practical skills building upon the work in Y7. This project allows the pupils to be introduced to the different machines and develop their understanding from Y7 in the workshop and ensures that they are familiar with the health and safety requirements. The pupils cover how to analyse products in more depth, write specifications that are more detailed, draw design ideas in isometric. The pupils are also taught how to evaluate their work in more detail from Y7, taking into account the different views of clients, users etc.	Y8 is designed to develop the pupil's practical skills building upon the work in Y7. This project allows the pupils to be introduced to the different machines and develop their understanding from Y7 in the workshop and ensures that they are familiar with the health and safety requirements. The pupils cover how to analyse products in more depth, write specifications that are more detailed, draw design ideas in isometric. The pupils are also taught how to evaluate their work in more detail from Y7, taking into account the different views of clients, users etc.
Assessment Opportunities:	Two home learning tasks are carried out which are assessed according to the school policy. Marked using the WINS system at the end of the scheme of work. Responsive AFL used in all lessons	A test is carried during this project; answers are covered as a starter activity in the next lesson to address gaps in knowledge. Each project is marked using the WINS system where gaps are also identified and the pupils asked to act upon them. Responsive AFL used in all lessons	A test is carried during this project; answers are covered as a starter activity in the next lesson to address gaps in knowledge. Each project is marked using the WINS system where gaps are also identified and the pupils asked to act upon them. Responsive AFL used in all lessons
Learning at Home	Two home learning tasks are set, pupils are required to hand in the home learning activities.	Home learning tasks are set in the form of an online test	Home learning tasks are set in the form of an online test
Key Vocabulary	Balanced diet, Adapt, Kneading, Portioning, Coating, micronutrients, macronutrients, eatwell guide, printing, pop art, seam allowance, un-picker, block print	Plywood, Pine, High Impact Polystyrene, Printed Circuit Board, Programming, Piezo, Micro-Switch, Input, Process, Output, Isometric, Aesthetics, Pin Hammer, Flat File, Soldering Iron	High Impact Polystyrene, Printed Circuit Board, Operational Amplifier, Integrated Circuit, Loudspeaker, Component, Capacitor, Light Emitting Diode, Resistor, Stereo socket, Schematic, Etching tank, Strip heater, Jig, Soldering iron

Spiritual, Moral, Social and Cultural concepts covered	Looking into sustainability and issues such as landfill, and how the 6 R's can be used to make products more sustainable, pupils also study colour and culture and culture and lucky symbols. Artist – LGBTQ+, cultural – block printing (India)
Links to careers and the world of work	Regular referral to design and food technology in industry and industrial practices for product design and textiles.

YEAR 9 DT CURRICULUM PROGRESSION OVERVIEW

Throughout the year, pupils are introduced to different material combinations and begin to further explore and understand the working properties of each material. Pupils are also introduced to the different tools and machinery located within the department and are taught the relevant H&S requirements for each machine and process. Throughout the year, pupils are taught how to use different hand tools and become proficient with the basic tools. Pupils are introduced to different design processes that can be used to develop a product, such as mood boards. Pupils learn about structures and use this knowledge to design and make a product. Pupils learn about specific designers and social issues such as Fairtrade. Pupils gain an insight into using the CAD/CAM machines to design and develop products for specific clients/users. As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

	Carousel System	Carousel System	Carousel System
Topic	Food and Nutrition	Product Design	Textiles
Core Knowledge/ Threshold Concept	<p>Understand how to adapt a recipe/ meal that meets the needs of a variety of people with special diets. Special diets are explored in terms of medical (allergies / intolerances), cultural / religious (e.g. Halal), and ethical (e.g. vegan). Pupils will cook a repertoire of products including main meals so that they are able to feed themselves. Pupils have learnt a wide range of skills that can be utilised together to make a wide range of meals. Pupils should become competent and independent in a range of cooking techniques. Make decisions without having to check, follow a recipe. Pupils will be able to combine ingredients; adapting and opportunity to use their own ideas.</p> <p>Practical Skills:</p> <ul style="list-style-type: none"> • Shaping • Layering • Aeration • Modifying & adapting • Safely handling raw meat 	<p>Learning how to select a client, identify needs and wants. Pupils are introduced to structures; solid structures, frame structures and shell structures, and forces; Tension, compression, torsion and shear. Pupils are to write detailed specifications. Pupils look into materials and their properties in greater detail and introduced to different manufacturing methods. Pupils develop their graphical communication through sketching, rendering and 3rd angle projection drawings. Pupils can then transfer the data from working drawings to materials.</p> <p>Practical Skills:</p> <ul style="list-style-type: none"> • Orthographic drawing • Countersink • Battery powered drill • Hole saw / forstner • Staple gun • Wood burning tool • Coping saw • Belt sander • Tin snips 	<p>Pupils can use research and exploration to produce ideas – Make a product for someone in need - needs of others in specific environments, ethical products. Pupils can develop a specification – what the product must do [Use ACCESS FM] and interpreting their research. Pupils know how to communicate their ideas – confident user centred designing, sketches and collaboration. Pupils use research confidently to inform their design ideas. Pupils are required to produce a wide range of ideas suitable for the brief or end user. Pupils develop their communication skills through the use words and sketches to explain ideas and consider how the product would be made.</p> <p>Practical Skills:</p> <ul style="list-style-type: none"> • Lino print design • Properties of fabrics • Lino printing • Sewing machine stitching • Pining • Making a pattern

		<ul style="list-style-type: none"> • Laser cutter 	<ul style="list-style-type: none"> • Cutting the pattern • Stitching seams • Tie-dye • Pockets -double fold hem • Reinforcing • Ironing
Why this learning now?	Focus on practical skills and building on the learning that took place in year 7 and 8. Practical theory input link to skills learnt previously how to and what ingredients could be used. Theory input links to practical for example microorganisms [types, conditions for growth when using yeast]. Year 9 is designed to understand why people follow different diets. They should be able to make suggestions to adapt recipes to suit particular people.	Y9 is designed to develop the pupils practical skills building upon the work in Y7 & 8. The project allows pupils to become proficient with the different machines and develop their understanding from Y7 & 8 in the workshop / classroom and ensures that they are familiar with the health and safety requirements. Pupils cover the different working properties of the materials used and learn how to analyse write specifications that are more detailed, draw design ideas in isometric, draw 3 rd angle projections. Pupils are also taught how to evaluate their work in more detail from Y7 & 8, considering the different views of clients, users etc.	Y9 is designed to develop the pupils practical skills building upon the work in Y7 & 8. The project allows pupils to become proficient with the different techniques covered in Y7 & 8 in the classroom and ensures that they are familiar with the health and safety requirements. Pupils cover the different working properties of the materials used and learn how to analyse write specifications that are more detailed, and generate a range of design ideas. Pupils will make patch pockets, measure items to fit and produce a manufacturing plan. Pupils are also taught how to evaluate their work in more detail from Y7 & 8, considering the different views of clients, users etc.
Assessment Opportunities:	Two home learning tasks are carried out which are assessed according to the school policy. Food and nutrition is marked using the WINS system at the end of the scheme of work. Responsive AFL used in all lessons	Two tests are carried during this project; answers are covered as a starter activity in the next lesson to address gaps in knowledge. Each project is marked using the WINS system where gaps are also identified and the pupils asked to act upon them. Responsive AFL used in all lessons	one test is carried during this project; answers are covered as a starter activity in the next lesson to address gaps in knowledge. Each project is marked using the WINS system where gaps are also identified and the pupils asked to act upon them. Responsive AFL used in all lessons
Learning at Home	Two home learning tasks are set, pupils are required to hand in the home learning activities.	Two home learning tasks are set in the form of a test on Satchel 1	One home learning task is set in the form of a test on Satchel 1 One home learning task is set, pupils are required to hand in the home learning activities.

Key Vocabulary	Food allergen, Food intolerance, Anaphylactic shock, Coeliac disease, Lactose intolerance, Whisking method, ethical diet, religious diet, medical diet.	Plywood, Pine, Dowel, Galvanised Mesh, Countersink, Pilot Hole, Clearance Hole, Pyrography, Philippe Starck, Post modernism, Biomimicry, Orthographic Drawing, Staple Gun, Computer Aided Design (CAD), Computer Aided Manufacture (CAM)	Tolerance, Lino printing, Tie-dye, Wadding, Calico, Seam allowance, Annotation, Task analysis, Design brief, Design specification, Aesthetics, scales of production, polyester, synthetic, natural fibre, fabric painting
Spiritual, Moral, Social and Cultural concepts covered	Looking into dietary requirements including 'lessons learned' from the Pret A Manger legal case. Pupils look into the work of French designer Philippe Starck and the post-modern style. Explore different cultures and differences between diets.		
Links to careers and the world of work	Throughout the different stages of the design process, teachers regularly make the links between content taught and its use in the real world and industry; product analysis, legal requirements for business (Pret A Manger), existing designers, Fairtrade, etc.		