

# Art, Design and Computer Technology Key Stage 3 Programme of Study



	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<b>Year 7</b>	<b>D&amp;T – 3 x double lessons a fortnight</b> <b>Computing (6 week unit)</b> Students are introduced to the principles of programming using Scratch, a visual programming language that uses blocks and a ‘drag and drop’ method. Students build up basic programming skills and knowledge using Scratch online with the ultimate goal of designing and coding their own game. During the unit, students will create some classic games such as Pong and learn key terminology associated with programming as well as realising the important of creativity, planning, designing, testing and evaluating in programming.	<b>D&amp;T – 3 x double lessons a fortnight</b> <b>Electronics (6 week unit)</b> Students are introduced to principles of electronic circuits and challenged to design and build their own Jitterbug. This fun project teaches students how to solder components together while developing their experience working with plastics, hand tools and simple mechanical components. During this project students will learn how to make and use a mood board to inspire a wide range of creative design ideas. We’ll also look at how to plan and evaluate.	<b>D&amp;T – 3 x double lessons a fortnight</b> <b>Food (6 week unit)</b> Within this rotation students are introduced to the health and safety of the food room. They learn the key skills needed to work safely and effectively. These skills include Weighing and measuring, knife skills, presentation skills, cooking and preparing food. Each practical is planned and designed before the practical takes place. Students are also introduced to theoretical content including the Eat well guide and how to eat a balanced diet, food provenance and Food Miles and how to analyse Food using our senses.	<b>D&amp;T – 3 x double lessons a fortnight</b> <b>Graphics (6 week unit)</b> Students will be introduced to computer aided design and computer aided manufacture (CAD CAM). They will each produce their own laser cut head phone wrap and matching packaging. Throughout this unit they will learn how to model and test ideas to ensure they produce a highly functional and professional looking final product. They will enhance their IT skills when producing their packaging using PowerPoint and Publisher.	<b>D&amp;T – 3 x double lessons a fortnight</b> <b>Resistant Materials (6 week unit)</b> Students learn about the property of materials, specifically woods, and their associated sustainability issues. They develop their designing and drawing skills to then produce a T-light holder from pine to match their design. Within the project students are introduced to a range of hand and machine tools. The focus of this project is to develop their confidence in using a range of tools from tri-squares, saws, rasps, surfomers and drills through to achieving a quality finish using glass paper, oil, wax, varnish or paint.	<b>D&amp;T – 3 x double lessons a fortnight</b> <b>Textiles (6 week unit)</b> Within the project students are introduced to hand and machine sewing. They build confidence and skills through a range of focused practical tasks. These newly acquired techniques are then fully utilised within their final product; a Pop Art inspired cushion. Through the rotation students also enquire knowledge of design movements which enable them to produce a personalised design brief. They then work at meeting this brief through the development of a range of design ideas which are developed to form a workable final solution.
	<b>Art – 1 x double lesson a fortnight</b> <b>Intro to Art</b> Students will undertake baseline assessments for both Art and DT, learn how to draw from direct observation, understand the colour wheel, experiment with mark making and be introduced to perspective and 3D drawing. They will be introduced to a range of artists and the concept of analysing art works.				<b>Art – 1 x double lesson a fortnight</b> <b>Art and Architecture</b> Students will use photography, drawing from direct observation, 3D modelling and printmaking to develop abstraction through their explorations and experiments. Students will respond to different stimuli in order to produce a final abstract image.	
<b>Year 8</b>	<b>D&amp;T – 3 x double lessons a fortnight</b> <b>Computing (6 week unit)</b> Students further develop their programming skills using Kodu, a visual programming language that uses more advanced blocks and an ‘when....do...’ approach. Students build up more advanced programming skills and knowledge with the ultimate goal of designing and coding their own 3D adventure game. During the unit, students will learn additional key terminology associated with programming as well as embedding the important of planning, designing, testing and evaluating in programming.	<b>D&amp;T – 3 x double lessons a fortnight</b> <b>Electronics (6 week unit)</b> Students develop their electronics skills further while building their first circuit board to make a colour changing night light. Their soldering and assembly skills will be reinforced and put to the test. To house the circuit students experience using CAD/CAM and plastic line bending while designing and making their own casing. During this project students will reinforce their ability to model a design as part of the planning and development process.	<b>D&amp;T – 3 x double lessons a fortnight</b> <b>Food (6 week unit)</b> Within this rotation students are introduced to a wider range of foods. Students learn about specific dietary requirements and how to make a dish suitable for a vegetarian. The topic of seasonality is introduced and how this effects our modern day shopping habits. They are introduced to how meat is manufactured and produced and how labelling informs the consumer. Building on the knowledge learnt in year 7 focusing on the Eatwell guide in Year 8 we look more in detail at fats and sugars and the positive and negative effects of these on the body.	<b>D&amp;T – 3 x double lessons a fortnight</b> <b>Graphics (6 week unit)</b> Throughout the project students will enhance their CAD CAM skills. They will use 2D Design and the laser cutter to produce a mould that they will then cast in Pewter. They will also learn a range of metal working skills to enable them to finish their pewter to a high quality final outcome. Once complete students will produce blister packaging for their product. They will focus on the 2D element of the packaging design and use a range of different software.	<b>D&amp;T – 3 x double lessons a fortnight</b> <b>Resistant Materials (6 week unit) ]</b> Students identify a target consumer to focus their research and designing on. They conduct first hand research to help influence the design of their Banksy inspired box. Their practical work teaches students carpentry joints using a chisel and designing a stencil. They are also introduced to Computer Aided Design as they develop a 3D model of their finished product.	<b>D&amp;T – 3 x double lessons a fortnight</b> <b>Textiles (6 week unit)</b> Through the research of patterns students learn about the influences of different cultures on design. Coupled with mathematical techniques students develop their own unique patterns which are developed through sampling in Batik. Students use their bespoke fabric to then construct a range of juggling balls and storage bag. The manufacture of this product allows students to build upon their machine sewing skills and learn about basic pattern cutting. They also manage their own projects using Gantt charts and individual plans of manufacture.
	<b>Art – 1 x double lesson a fortnight</b> <b>Portraiture</b> Students explore the human figure in art through investigations of their own knowledge, the work of others and experimentation with a range of media and techniques: thumbnail sketching from life, developing imaginative large scale graphite images and wire, paper and mod-roc sculptures. Students analyse artists’ work, responding to different stimuli to produce practical outcomes.				<b>Art – 1 x double lesson a fortnight</b> <b>Human Form</b> Students are introduced to facial proportions through the rule of halves. Emphasis is initially on identifying correct proportions, positions, shapes and detail. Students will develop their skills in observation whilst using new drawing techniques. They will explore African masks and the cubist work of Picasso. Students respond to their research by producing a 3D mask.	

Year 9	<b>D&amp;T – 2 x double lessons a fortnight</b>		<b>D&amp;T – 2 x double lessons a fortnight</b>		<b>D&amp;T – 2 x double lessons a fortnight</b>	
	<b>Electronics (12 week unit)</b> Students begin by doing research into electronic components before moving on to design a mini speaker. As part of the design process students will learn about the 6Rs of waste reduction before designing and developing a casing. Part of this process involves making a range of development models to test and improve their design further. Once fully developed they will use a range of hand tools, machinery and CAD/CAM to manufacture their mini speaker circuit and casing. Once complete they will learn how to test and evaluate their electronic products using digital multimeters and a range of performance tests.		<b>Resistant Materials (12 week unit)</b> Students start this unit by investigating biomimicry and the influence of nature on novel design and technologies. They present their findings to the class. They also draw inspiration from nature in the design of a range of practical pieces. These focus on metal working and students learn a range of techniques for shaping, forming, joining and finishing metals including brazing, scrolling, enamelling, shearing, punching, drilling, filing and polishing.		<b>Textiles (12 week unit)</b> Students start this unit by completing a detail product analysis to gain understating of the product they are to produce; a drawstring or shopper bag. They are then introduced to a range of new techniques such as fabric dyeing, CAD CAM, screen printing, embellishing and overlocking. Sampling each technique allows them to then produce a fully detailed, workable final design idea. In this textiles rotation students are particularly encouraged to experiment and test ideas, enabling them to produce very individual outcomes. To help them manage their own projects students are also required to complete detailed manufacturing plans to aid time management. Once complete students bags are then tested for function and evaluated using 3 <sup>rd</sup> party feedback.	
	<b>Graphics element</b> Students will research and then design an element of the packaging for the mini speaker. During this part of the project students will learn about the basic functions of packaging such as protect, inform, contain, transport, preserve and display. They will explore the use of proper product labelling relevant		<b>Graphics element</b> Students develop card models and test these for ergonomics. They develop their design drawings taking inspiration from natural forms.		<b>Graphics element</b> Students acquire knowledge in colour theory, typography and the use of imagery in branding. They analyse exciting fashion branding and produce their own in Photoshop for a professional outcome.	
	<b>Food (1 x double lesson a fortnight)</b> Students are introduced to the design brief, to design package and manufacture their own lasagne. Students carry out details market research analysing their chosen market. They will determine their markets customer base by creating a customer profile. Skills are developed in marketing and Photoshop software to market and brand their lasagne. Packaging and advertisements are produced. During the year the students will gain practical skills and knowledge including kneading, how to cook meat safely, how to make a white sauce, how to prepare and make a bread dough. They will extend their skills learn in year 7 and 8 to work safely in the food room, modifying recipes where appropriate to extend their skill set. <b>Graphics element</b> – Students acquire knowledge on packaging branding, manufacture and production. Students will learn how to use Photoshop and 2D design software to design and manufacture their own lasagne brand.					
	<b>Art – 1 x double lesson a fortnight</b>		<b>Art – 1 x double lesson a fortnight</b>		<b>Art – 1 x double lesson a fortnight</b>	
	<b>The Importance of Drawing</b>  Students think about identity and represent this in a variety of ways; drawing, collage, writing and in constructing their own zine. Students learn about Betty Edwards and her theories on understanding the left and right mode of the brain.		<b>The importance of Drawing</b>  Students learn how to create a range of marks using pencil and other drawing implements. They will analyse a range of artworks thinking about how emotion is expressed through the use if mark making.		<b>The importance of drawing</b>  Students learn about different shading techniques such as cross-hatching and stippling. Students practise drawing from direct observation, using a range of techniques such as non- dominant hand and blind contour drawing. Students create a mini final piece using pen and ink, oil pastels and craft knives.	
<b>Art – 1 x double lesson a fortnight</b>		<b>Art – 1 x double lesson a fortnight</b>		<b>Art – 1 x double lesson a fortnight</b>		
<b>Letters</b>  Students begin to look at how they can develop the use of typography in their work. Combining this with the study of traditional and contemporary artists and crafts people they will develop their own 3D letter designs. Students analyse an artists’ work in-depth and respond by creating a 3D letter design in their chosen artists’ style.		<b>Letters</b>  Students will learn a range of cardboard construction methods. Relief decoration processes are employed to build their sculptural work using a range of materials. Students analyse artists’ work that work with similar materials to consolidate their learning. Students will explore acrylic painting techniques that develop their ability to accurately mix and blend tones of dark and light to enhance their 3D work.		<b>Letters</b>  <b>Wish you were here</b>  Students are introduced to a range of artists who use mixed media in their work. They will analyse the work and respond by producing pastiches. Students will then develop their own idea, thinking about composition, scale and appropriate materials. They will produce a final outcome in their chosen medium and scale.		
<b>Computing – 1 x double lesson a fortnight</b>		<b>Computing – 1 x double lesson a fortnight</b>		<b>Computing – 1 x double lesson a fortnight</b>		
<b>Hardware and Software</b> In this unit, students are introduced to the fundamentals concepts of computing. Students will gain an understanding of the hardware components used in computer systems, including the internal components and peripherals. Students will also gain an understanding of the functions of an operating system, application software, system software and utility software and their purposes.		<b>Binary</b> This unit focuses on logic and students will gain an understanding about how computers communicate and process information. Students will be able to convert binary numbers between 0 and 15, understand sequencing of instructions and logic gates.		<b>Programming</b> In this unit, students will be introduced to text based programming language, Python. Throughout the unit, students will further develop their planning and designing skills to plan an adventure game and develop the program in Python, using their testing skills to debug the program. Students will provide evidence of the code and the program running and of testing conducted and ending with an evaluation. This unit will enable students to demonstrate their ability to think ahead, think creatively as well as use problem solving, literacy and organisation skills to produce a written report which shows the progress through a project including how errors and obstacles were solved.		
				<b>Technology Investigation</b> This unit requires students to look at changes in computing technology, how it has been used and the impact it has had on society. They will choose and research a computing technology and then present their findings as a presentation. Students will be looking at an area where changes have occurred in a computing technology as well as think about future changes that could be developed and need to show what they have found out using appropriate key terms in your final presentation. Students will demonstrate their ability to find information from different sources, summarise their findings, understand the terms ethical, social and legal and reference any sources used in a bibliography.		