

	Design and Technology Long-Term Plan We aim to equip all students with the knowledge, confidence and practical skills to make healthy food choices, prepare meals safely and develop a lifelong understanding of nutrition and wellbeing.		
Key Stage 3 Long-Term Plan	Year 7	Year 8	Year 9
Autumn	This unit aims to develop students' confidence, independence, and understanding of basic food preparation and nutrition. It introduces essential knowledge of hygiene, safety, and food handling to ensure students can work responsibly in a kitchen environment. Throughout the unit, students build practical skills such as knife work, food preparation, and baking, while applying safe and hygienic practices. In addition, the unit develops their understanding of healthy eating, including the Eatwell Guide, food provenance, and the role of fruit and vegetables in a balanced diet. By the end of the unit, students should be able to prepare simple dishes safely, make informed food choices, and demonstrate a clear understanding of how food, nutrition, and safety are linked.	This unit builds on prior learning by deepening students' understanding of nutrition, food science, and cooking skills. Students explore how nutrients function in the body, how food choices affect health, and how to interpret food labels. Practical lessons develop more advanced preparation and cooking skills, including working with dough, sauces, and raw meat. The unit also introduces evaluation and sensory analysis, encouraging students to reflect critically on their work. By the end of the unit, students will have a greater understanding of how diet, health, and food preparation are connected.	This unit develops students' understanding of food safety, dietary needs, and wider issues surrounding food in society. Students explore contamination, allergies, and intolerances to understand how food can impact health. The unit also introduces the role of food professionals and regulations in maintaining safety standards. In addition, students investigate ethical and environmental issues such as Fairtrade, food waste, and sustainability. Practical lessons allow students to apply their knowledge through more advanced cooking techniques. By the end of the unit, students will have a deeper understanding of how food choices affect health, society, and the environment.
Autumn Assessment:	Assessment Point 1 (7/9/26-18/9/26)	<i>Students' progress will be assessed through short retrieval activities, in-class discussion,</i>	Science only (05/10/26-16/10/26)

		<i>and ongoing monitoring of their work in books.</i> Assessment Point 1 (01/09/2026-20/11/26)	
Spring	This unit will focus on the specialist materials area of timbers and will lead to a design and make task. Learning will begin with developing knowledge of wood types, properties and sources. Students will use this knowledge to help understand the importance of material selection by property when designing and making using timbers. This leads onto a design and make activity where students will manufacture a wooden trinket box with a multi material laminated lid that push fits into the box carcass..	Students will learn the basic fundamentals of producing technical drawings by hand using traditional drafting skills that is required learning for GCSE Design Technology. New learning will begin with building a conceptual understanding of 3D form through the layout of Isometric drawing. This will introduce students to a way of communicating in 3 Dimensions using a standard form. Students will practise freehand and develop further onto Isometric grid. This will lead onto learning how to apply render through colour, tone and shading techniques. Students will develop skills converting 3D drawings into working drawings (Orthographic) and building 1 and 2 point perspective drawing.. An understanding of papers and board type, properties and commercial use will be built around the practical skill associated with drawing, scoring, cutting and assembling nets with appropriate links to mathematics.	This unit will introduce students to electricity and electronics. Students will gain knowledge into what electricity is, how it is generated through fossil and alternative energies and the dangers associated with mains electricity. Students will learn the difference between electricity and electronics by exploring a range of discrete components alongside their function and use. Simple series and parallel circuits will be prototyped onto breadboards and simulated virtually on a computer which will also give the opportunity to see how components work in a circuit. This knowledge will be developed further through the assembly of a PCB that uses a 555 integrated circuit to produce a monostable timing device.
Spring Assessment:		Assessment Point 2 (22/03/27- 16/04/27)	Assessment Point 1 (01/02/27-26/02/27)
Summer 1	This unit teaches students how to use CAD/CAM to solve a real design	This unit will focus on the specialist materials area of Metals and will lead to a design and	This unit introduces students to user-centred product design by focusing on creating an

	problem by taking a product from initial idea through research, specification and creative design, into accurate digital modelling using CAD software, and finally into manufacture using CAM processes such as laser cutting, while developing their understanding of user needs, technical drawing skills, and the importance of evaluating and refining designs to ensure they are fit for purpose.	make task. Learning will begin with developing knowledge of metal types, properties and sources. Students will use this knowledge to help understand the importance of material selection by property when designing and making using metals. This leads onto a design and make activity where students will design a small piece of jewelry that would be suitable to casting using pewter. Students will be expected to apply their prior experience of designing by drafting and CAD so that a mould can be laser cut ahead of casting. Once cast, students will learn how to refine and finish metals in the workshop.	accessible controller. It begins by developing an understanding of empathy and ergonomics, helping students consider the needs of different users, particularly those with reduced hand mobility. Students then analyse existing products using structured frameworks to understand what makes designs successful. The unit moves on to human factors, where students learn about anthropometrics and how body measurements are used to design products that are safe, comfortable, and practical. They then define a clear design problem and generate a range of creative ideas to solve it. Students develop their ideas through modelling, both physically and digitally, using materials like plasticine and CAD software such as SolidWorks. They gradually build more advanced skills in 3D modelling and prepare their designs for manufacture using processes like 3D printing. Finally, students test, evaluate, and refine their designs, learning how designers improve products through iteration. Overall, the unit guides students through the complete design process, from understanding user needs to creating and improving a functional product.
Summer Assessment:	Assessment Point 2 (17/05/27-28/05/27)		Assessment Point 2 07/06/27-18/06/27

What will a student know by the end of each year? Why?	By the end of Year 7, students will have developed secure foundations in both Food & Nutrition and Design & Technology, enabling them to work safely, confidently and creatively when designing and making products. Students will understand the importance of food hygiene, health and safety, and safe food handling. They will know the principles of healthy eating, including the Eatwell Guide, food provenance, and the role of fruit and vegetables in a balanced diet. Through practical cooking experiences, they will have developed basic food preparation skills, including knife skills, food preparation techniques and baking methods, allowing them to prepare simple dishes independently and make informed food choices. In Design & Technology, students will understand the characteristics of timber materials, including different wood types, their properties, sources and suitability for particular products. They will understand why designers select materials based on their properties and will apply this knowledge when designing and manufacturing a timber-based product. Through the production of a wooden trinket box, students will gain experience of the design–make–	By the end of Year 8, students will have broadened and deepened their understanding of Food & Nutrition and Design & Technology, building on the foundations established in Year 7. They will be able to apply their knowledge more independently, make informed design decisions, and demonstrate increasing accuracy in practical work. Students will understand the functions of key nutrients in the body and how food choices can affect health and wellbeing. They will know how to interpret food labels and use this information to make healthier dietary choices. Through practical cooking activities, students will develop more advanced preparation and cooking skills, including working with doughs, sauces and raw meat safely. They will also understand the importance of sensory evaluation and be able to assess and improve food products using feedback and testing. In Design & Technology, students will develop an understanding of technical drawing and graphical communication. They will know how designers communicate ideas using isometric drawing, orthographic projection and perspective drawing. Students will understand how colour, tone and shading can be used to communicate form and appearance, and they will develop confidence in producing accurate drawings that convey design intent. Students will also gain knowledge of papers,	By the end of Year 9, students will have developed a deeper understanding of how design, technology and food impact individuals, society and the wider world. They will be able to apply their knowledge independently to solve design problems, evaluate outcomes critically and make informed decisions as designers, makers and consumers. Students will understand the principles of food safety and food-related health issues, including contamination, allergies and intolerances. They will know how food legislation and professional practices help to maintain food safety standards and will understand the role of food professionals within the food industry. Students will also understand wider issues surrounding food production and consumption, including Fairtrade, food waste, sustainability and environmental responsibility. Through practical cooking activities, they will continue to develop their food preparation and cooking skills while applying their theoretical knowledge in meaningful contexts. In Design & Technology, students will develop a secure understanding of electricity and electronics. They will know how electricity is generated, the differences between renewable and non-renewable energy sources, and the dangers associated with mains electricity. Students will understand the difference between electrical and electronic systems and will be able to identify and explain the function of a range of electronic components. They will understand how series and parallel circuits
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	evaluate process and understand how accuracy, quality and craftsmanship contribute to successful outcomes. Students will also understand how Computer Aided Design (CAD) and Computer Aided Manufacture (CAM) are used to solve real-world design problems. They will know how designers research user needs, write specifications, generate ideas, create digital models and manufacture products using technologies such as laser cutting. They will understand that successful products are developed through testing, evaluation and refinement. Across all projects, students will develop an understanding of the design process, including researching, designing, making, testing and evaluating. They will begin to use subject-specific vocabulary confidently and recognise how designers and food professionals make decisions based on function, safety, user needs and purpose. Why? The Year 7 curriculum is designed to establish the essential knowledge, skills and confidence that students need for future success in Design & Technology and Food & Nutrition. It provides the foundations of safe	boards and packaging materials, including their properties, uses and suitability for different applications. They will understand the relationship between design, manufacture and material selection, using practical skills such as scoring, cutting and assembling nets to produce accurate outcomes. Within the specialist materials area of metals, students will understand the different types, properties and sources of metals and how these influence material selection. They will apply this knowledge through the design and manufacture of a cast pewter jewellery product, combining traditional workshop skills with CAD and laser-cut manufacturing processes. Students will understand how digital technologies can support modern manufacturing and improve accuracy and efficiency. Across the year, students will strengthen their understanding of the design–make–evaluate process, developing greater independence when researching, generating ideas, selecting materials, manufacturing products and evaluating outcomes. They will increasingly justify their decisions using technical knowledge and evidence gathered through testing and evaluation. Why? The Year 8 curriculum is designed to build upon the foundational knowledge and skills developed in Year 7, while preparing students for the more complex technical,	operate and apply this knowledge through circuit simulation, breadboarding and the manufacture of a printed circuit board incorporating a 555 timer integrated circuit. Students will also understand the importance of user-centred design, empathy and ergonomics when designing products. They will learn how designers collect and use anthropometric data to create products that are safe, accessible and comfortable for users. Through the design of an accessible controller, students will understand how products can be adapted to meet the needs of specific user groups, particularly those with reduced hand mobility. The year will also develop students' understanding of Computer Aided Design (CAD), modelling and modern manufacturing technologies. They will learn how designers communicate ideas through physical and digital models, develop competence in 3D CAD software and understand how designs can be manufactured using technologies such as 3D printing. Students will appreciate the iterative nature of design, using testing, evaluation and feedback to refine and improve their solutions. Across all projects, students will demonstrate a secure understanding of the design–make–evaluate process, selecting appropriate materials, components and manufacturing methods while considering user needs, functionality, sustainability and product performance. Why? The Year 9 curriculum is designed to prepare
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	practice, material knowledge, nutrition, designing and manufacturing, ensuring students can build progressively towards the more complex nutritional, technical, graphical and engineering concepts studied in Years 8 and 9. By securing these fundamentals early, students become more independent learners, better problem-solvers and more informed designers, makers and consumers.	electronic, and user-centred design concepts encountered in Year 9. Students develop a deeper understanding of nutrition, materials, graphical communication and manufacturing processes, enabling them to make more informed decisions as designers and consumers. By the end of the year, they have the confidence and competence to apply knowledge independently, communicate ideas accurately, and produce high-quality outcomes through increasingly sophisticated design and making activities.	students for the transition to Key Stage 4 by developing a deeper understanding of technical principles, user-centred design and wider social, ethical and environmental issues. Students build on the knowledge and skills gained in Years 7 and 8, applying them to increasingly complex challenges that require critical thinking, independence and creativity. By the end of the year, students have a strong foundation in food, electronics, design thinking and digital manufacturing, ensuring they are well prepared for further study in GCSE Design & Technology and able to understand how technology and design influence the world around them.
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Extra-Curricular Opportunities

Extra curricular opportunities within FAD include textiles, enrichment and STEM opportunities.