

Design and Technology



At St. Saviour's & St. Olave's we aim to induct students into the department, gaining confidence in using tools and equipment from the very first lesson in Year 7. Students engage in projects which cover a broad range of skills and materials, developing a varied understanding of many different areas within the subject. Projects are engaging and challenging, introducing students to industrial practices and the ever-changing developments in technology. Our aim is to develop independent and creative individuals who can go on to study GCSE's in either Design Technology or Nutrition and Food Preparation. Beyond GCSE we run a successful A Level Product Design 3D Design course. In all Key Stages we work hard on raising awareness of social, moral and ethical issues which impact on all of us and will help us develop responsible designers and chefs who can go on to shape products, technology and materials for generations to come.

We strongly believe in creative exploration and envisage that our students will experience designers & makers from across the world, thus learning and gaining inspiration from the broad range of cultures and ideas available to better enrich their own ideas.

KS3 Curriculum for Design and Technology

At Key Stage 3 all students experience a mix of Food Technology, Graphics and Resistant Materials. Students have a double lesson each week in which they work through a series of projects which look to develop their understanding of materials and processes. Projects are delivered in contexts which are engaging and easy for students to relate to. We look at the world around us and the products we use every day and link this to commercial and industrial practice. As a practical subject much of the work is hands on as we feel the students learn so much more from getting involved in design and make projects which develop their skills and understanding. All of the projects we deliver look to foster progression and introduce new concepts. Each year we try to vary the range of projects we offer so that individual skills are focused on at different points in the Key Stage. Design development is obviously a crucial element of our subject and to support this we focus on students' communications skills by using a wide range of methodology. Sketching, annotation, modelling, design development, photography, and Computer Aided Design (CAD) are some of the ways in which students present their work.

	Half-term 1	Half-term 2	Half-term 3	Half-term 4	Half-term 5	Half-term 6
Year 7	Resistant Materials Health and Safety Phone Holders Project Understanding wood-based materials -		Resistant Materials Keyring project Computer Aided Design / Computer Aided Manufacturing	Resistant Materials Sustainable Bag Project Environmental concerns within design	Resistant Materials Chocolate Bar Project Plastics, industrial processes and scale of production –	
Year 8	Resistant Materials Desk Tidy Sketching design ideas, technical drawings, nets, calculating dimensions, joints	Resistant Materials Desk Tidy/ Architecture Project Forces, structures,	Resistant Materials Architecture Project Plans, orthographic drawings, sections, isometric drawings, designers.	Food Technology Food safety & Hygiene Nutrients & their functions Eatwell guide	Food Technology Pasta project Wonderful world of bread Bread food science	Food Technology Celebration cakes challenge Function of ingredients in cake making
Year 9	Food Technology Food poisoning and harmful pathogens Micro & macro nutrients High proteins and carbohydrates practical sessions	Food Technology Fair trade muffins project Jamaican jerk chicken wraps challenge for BHM.	Food Technology Cooking methods and heat transfer Multicultural breads project Garden Focaccia Bake off Challenge	Resistant Materials USB Project Computer Aided Design / Computer Aided Manufacturing, plastics, plastics manufacturing processes,	Resistant Materials USB Project/ Jewellery Holder Project	Resistant Materials Jewellery Holder Project Scale of manufacture, jigs, moulds, templates, CNC manufacturing

KS4 Curriculum for Food Preparation and Nutrition

In KS4 our students have the opportunity to extend their understanding of processes and techniques. In Year 10 students experiment with more complicated dishes whilst embedding a deeper understanding of the nutrition of food. During this year students will also start their NEA 1 which will continue over into Year 11. Year 11 will also involve the completion of the NEA 2 project, consolidating all that as been learnt throughout KS4.

	Half-term 1	Half-term 2	Half-term 3	Half-term 4	Half-term 5	Half-term 6
Year 10	Macro & micro nutrients Nutritional needs and health Energy needs Diet related illnesses	Cooking methods Heat transfer Chemical, functional and physical properties of ingredients	Food safety Food spoilage & contamination Buying and storing foods Safe preparation, cooking and serving of foods Food choice	British and international cuisines Sensory evaluation Mini Mock NEA2 project to prepare for year 11 NEA	Food provenance Environmental issues linked to foods Sustainability Ethical foods	Processing and production Mini mock NEA 1 project to prepare for year 11NEA
Year 11	NEA 1 Food Science project: Task analysis Research	NEA 1 Food Science project: I Investigative food science work Recording results	NEA 2 Food preparation project: Task analysis Research	NEA 2 Food Preparation project: Trial dishes and evaluations	Final practical exam Revision preparation for exam	Revision preparation for exam

KS4 Curriculum for Resistant Materials

In KS4 our students have the opportunity to extend their understanding of a range of materials and processes. We focus on encouraging creative problem solving as a solution of best preparing students for their NEA task which makes up 50% of their overall GCSE grade. Whilst Year 10 is made up of multiple projects, Year 11 focusses on a single project. This project runs alongside theoretical topics which help support students understanding.

	Half-term 1	Half-term 2	Half-term 3	Half-term 4	Half-term 5	Half-term 6
Year 10	Stool Project	Stool Project	Clock Project	Clock Project	Mini NEA	NEA Task
	Woods-source, stock forms, hardwoods and softwoods, sustainability, finishes, applications, processes.	Metals-source, stock forms, sustainability, finishes applications, processes.	Plastics-source, thermoplastics, thermosetting plastics, stock forms, sustainability, applications, processes.	Composite materials, smart materials, modern materials	Designed to better prepare students for the start of their NEA.	Non Exam Assessment (NEA) – Research (summer holidays used to create initial ideas) Theory in line with AQA specifications.
Year 11	NEA Task	NEA Task	NEA Task			
	Non Exam Assessment (NEA) – Developing and testing designs Theory in line with AQA specifications.	Non Exam Assessment (NEA) – Making and Testing Theory in line with AQA specifications.	Non Exam Assessment (NEA) – Making and Evaluating Theory in line with AQA specifications.	Theory in line with AQA specifications.	Revision preparation for exams	Revision preparation for exams

KS5 Curriculum for Product Design

Product Design is exceptionally exciting at KS5. Class sizes are kept relatively small to ensure that each student is able to meet their full creative potential as well as ensuring that machinery is available when required. Year 12 focusses on further developing the understanding of materials and students are encouraged to work with a range of materials to fully understand their characteristics. Towards the end of Year 12 students will start their NEA which will carry them through most of Year 13. Here you will demonstrate your ability to creative problem solving, planning skills and ability to manufacture.

Exam board: AQA

	Half-term 1	Half-term 2	Half-term 3	Half-term 4	Half-term 5	Half-term 6
Year 12	Seat design Woods and Metals – Sources, stock forms, finishes, applications and processes.	Seat design/Supporting Nature Plastics- Social, Moral and Ethical issues, Sustainability life cycle.	Supporting Nature Composite materials, smart materials, modern materials	Light Design CAD/CAM, Robotics, production types.	Light Design Designed to better prepare students for the start of their NEA.	NEA Task Non Exam Assessment (NEA) – Research (summer holidays used to create initial ideas) Theory in line with AQA specifications
Year 13	NEA Task Non Exam Assessment (NEA) – Developing and testing designs Theory in line with AQA specifications.	NEA Task Non Exam Assessment (NEA) – Making and Testing Theory in line with AQA specifications.	NEA Task Non Exam Assessment (NEA) – Making and Evaluating Theory in line with AQA specifications	Theory in line with AQA specifications	Revision preparation for exams	Revision preparation for exams