



KS3 Design Technology

	Content
Year 7 HT 1	Students will complete an 11-hour course in each rotation
Year 7 HT 2	<p>Resistant Materials. During this topic, they will focus on some basic wood joints, health and safety in a workshop and the correct safe use of woodworking tools. They will develop their skills to create a wooden money box using half lap joints.</p> <p>Structures: Students will be looking at different types of structures and be experimenting with materials to design and develop a structure that can hold a weight over a given span. Students will be working both individually and as part of a team to complete different challenges.</p> <p>Food and Nutrition: Learn about hygiene and safety, knife skills, healthy eating, the safe use of equipment and will complete 3 practical tasks and a science investigation. Students will plan, prepare and cook pizza toast, an eat-well salad, kebabs and focaccia.</p> <p>Electronics. During this topic, students will learn about a basic lighting based product. They will be introduced to simple electronic components, series and parallel circuits, which they will use to calculate electrical quantities. Students will construct an LED lighting circuit on a PCB using soft soldering techniques.</p> <p>Graphics: the students are introduced to the specialism, they consider what the term 'Graphic Design' means and through an investigation of different drawing techniques they consider the advantages and disadvantages of Computer Aided Design and Manufacture. The work carries a Street Art theme.</p>
Year 7 HT 3	
Year 7 HT 4	
Year 7 HT 5	
Year 7 HT 6	
Year 8 HT 1	
Year 8 HT 2	<p>Food and nutrition. We will concentrate on introducing some of the GCSE knowledge and skills, we revisit knife safety and look at provenance of ingredients, costing and adapting recipes and carry out food investigations to help understand the science behind the food. Students will make meat ragu, pizza, pasta and cheese sauce.</p> <p>Resistant Materials. During this topic, they will build on their knowledge of wood joints, health and safety in a workshop and the correct safe use of woodworking tools. They will develop their designing skills to create a pull along toy.</p> <p>Systems and Control. Students will learn about the four types of motion, linkages, gear trains and cams. They will apply their knowledge to understand how mechanical advantage is created. Students will produce a prototype model of an automata.</p> <p>Electronics. During this topic, students will be introduced to Programmable Micro Controller (PIC) and they will control these using flow charts to detect changes in digital and analogue sensors. They will activate output devices for a security design situation.</p> <p>Graphics: Students explore the necessary criteria for effective branding, with a focus on sports manufacturers. They conceptualise and develop a logo/brand of their own as they look to implement it upon a trainer.</p>
Year 8 HT 3	
Year 8 HT 4	
Year 8 HT 5	
Year 8 HT 6	
Year 9 HT 1	
Year 9 HT 2	<p>Food and nutrition. We will concentrate on introducing some of the GCSE knowledge and skills, looking at seasonality, cultural foods and sustainability alongside three practicals to help develop skills in food preparation. We also introduce students to food science investigation work which links into the GCSE Non exam Assessments (NEA), to give students an understanding of the GCSE food and nutrition course. Students will make apple pie, Moroccan meatballs and fish cakes with a tomato salsa.</p> <p>Resistant Materials. During this topic, they will investigate the use of pewter in the manufacture of jewellery. Students will manufacture a mould and will cast their own piece of pewter. Student will then use knowledge of shaping tools to file and smooth the final piece before polishing.</p> <p>Contextual Design Challenge: Student will be given a choice of three brief to choose from. They will then identify a client and design a solution for a problem they have researched. Students will then model their design using both cardboard and CAD.</p> <p>Electronics: Students will be researching the development of the portable music player from the transistor radio to MP3/MP4 technology embedded in the smartphone. They will look at the electronic processing of AC audio signals, circuit diagram interpretation and planning leading to the manufacture of a wireless bluetooth MP3 music player.</p> <p>Graphics: Students ascertain a greater understanding of the term Graphic Design. The project theme is Negative Space - they employ this technique as they conceptualise and develop a graphic of their own.</p>
Year 9 HT 3	
Year 9 HT 4	
Year 9 HT 5	
Year 9 HT 6	