

Year 8 ~ Curriculum Map for Design and Technology (dept.)

What are the intended aims for this year's curriculum?

Students follow a half yearly rotation of Food and DT

Food – To build upon skills learnt in year 7 with more complex dishes in the practical element of the subject. To further investigate the role of the Eatwell guide in ensuring that healthy eating habits are adopted. Students will identify the role and function of ingredients through food experiments and class investigations.

DT – To build upon workshop skills that were introduced in year 7; This will introduce students to cross curricular subjects such as forces and levers. Further understanding of structures, CAD/CAM, electronics and textiles.

	Term 1 or 4	Term 2 or 5	Term 3 or 6	Term 1 or 4	Term 2 or 5	Term 3 or 6	
	<p>Topic(s): DT</p> <p>To introduce how levers and linkages work alongside cams.</p> <p>To identify how structures are used in real life situations.</p> <p>To create a scissor creature using card.</p>	<p>Topic(s): DT</p> <p>To introduce the fundamentals of electronics and safe soldering.</p> <p>To be able to identify different groups of timber and metals.</p> <p>To research CAD/CAM techniques.</p>	<p>Topic(s): DT</p> <p>To identify different fabric sources.</p> <p>Use the 6 R'S to show responsibility as a designer.</p> <p>To be able to apply different decorative techniques for your fashion project.</p> <p>To introduce smart materials.</p> <p>To learn different printing techniques.</p> <p>Use different graphic techniques such as sketching when completing your costume designs for lights, camera action!</p>	<p>Topic(s): Food</p> <p>To recap on the Eatwell Guide and the nutritional key messages.</p> <p>Use of proteins for practical work and understanding the scientific principles of different forms of heat transfer.</p> <p>Identification of the danger zone.</p>	<p>Topic(s): Food</p> <p>To identify high risk foods and be able to explain the different methods of cross contamination.</p> <p>Principles of binary fission and the danger zone.</p>	<p>Topic(s): Food</p> <p>To identify factors that affect food choice.</p> <p>Identification of common allergens.</p> <p>To identify the sources of protein and be able to explain the function of these on the body.</p> <p>To identify the different types of vegetarianism.</p> <p>To understand different forms of farming with a focus on organic, extensive etc.</p>	Aim of EoY exam
'Big idea(s)' / fundamental concepts	<p>Introduction to mechanisms such as levers, linkages, cams and gears.</p> <p>Creating a Scissor creature to embed levers.</p>	<p>To create an Electronics circuit.</p> <p>To watch and learn video clip about textile techniques.</p> <p>Understand the safe working practice of timber and metals.</p> <p>To understand the difference between CAD and CAM.</p>	<p>Natural and synthetic fibres.</p> <p>6 R's of recycling and what they mean.</p> <p>Embroidery techniques.</p> <p>Identify how smart and new fibres are used in specific careers.</p> <p>To understand various papers and fabric printing techniques.</p>	<p>Heat transfer methods.</p> <p>Identify the different methods of heat transfer for a range of common cooking methods.</p> <p>Using high risk foods in the kitchen</p> <p>Danger zone and key temperatures for food storage.</p>	<p>What are the common bacteria and how do they affect food safety?</p> <p>To identify main features of cross contamination.</p> <p>Practice making a dish of own choice and be able to evaluate it.</p> <p>To identify a range of careers within the hospitality industry and research these.</p>	<p>Ethical, religious and ethical reasons that affect food choice.</p> <p>Identification of common allergens.</p> <p>Be able to explain the effect of an excess and deficiency of protein.</p> <p>Introduction to the different forms of vegetarianism.</p> <p>To identify the different forms of farming and the choices that the consumer has with regards to organic, eggs from caged hens etc.</p>	<p>To assess and review topics from term 1</p> <p>To assess and review topics from term 2</p> <p>To assess practical skills that have been developed over the course of the rotation.</p> <p>To assess and review topics from term 4</p> <p>To assess practical skills that have been developed over the course of the rotation.</p> <p>To assess and review a combination of topics from the food and DT rotation.</p>

Knowledge to be learnt	To gain knowledge of 1 st , 2 nd and 3 rd class levers. To be able to write a design brief using various context. To be able to write a specification. To gain knowledge of structures and forces.	To understand the difference between parallel and series circuits. To watch the youtube clip on embroidery techniques and create a document that explains them. To gain knowledge of different timbers and metals. To understand the hardware for CAD/CAM such as 3D printers and laser cutters	To understand why different fabrics are used for different purposes. To understand where the materials go at the end of life and the 6R's To learn the various joining techniques and how they finish or create patterns on products. To gain knowledge on smart materials and identify how they are added to clothing and cars for safety. To know the different between Screen printing and block printing.	To identify and judge different methods of heat transfer. To recognise that some foods are high risk and appropriate procedures need to be in place to prevent cross contamination. How to safely check that proteins are fully cooked to prevent food poisoning – evidence in practical session. To recap on micro and macro nutrients. To be able to use practical skills to make a dish of own choice.	To understand the principles of binary fission. To identify safe storage and preservation of foods. To explain the features of high-risk foods. To understand the conditions required for bacterial growth. To identify the key temperatures in relation to safe storage of foods. To be able to use practical skills to make a dish of own choice and clearly explain the steps required to make this. To identify a career within the hospitality and catering industry and research the skills required.	To identify the factors that can affect food choice – types of vegetarians, religious restrictions and medical reasons. To identify the 14 most common food allergens. To understand the difference between an allergy and intolerance. To investigate protein and identify the main sources. To research the different types of vegetarians and identify different sources of protein. To understand the different forms of farming
Key vocabulary	Lever 1 st , 2 nd , 3 rd , linkages. Fulcrum, effort, load, input, output.	Design, soldering, softwood, hardwoods, manufactured boards, ferrous, non-ferrous, alloys	Embroidery, thread, Cotton, silk, wool, polyester, nylon, elastane, Kevlar, thermochromic pigment, heat resistant fabrics.	Conduction, convection, radiation, cross contamination, Eatwell Guide	Danger zone, binary fission, bacteria,	Allergy, intolerance, gluten, ethical vegetarianism Extensive, organic farming. Free range, caged hens etc.
The role of reading and comprehension	Written instructions Identifications of keywords.	Written instructions Identifications of keywords.	<i>Written instructions</i> <i>Identifications of keywords.</i>	Use of key words Following steps of a recipe	Use of key words Following steps of a recipe.	Internet research on different food allergies and intolerances. Internet research to create a mind map on protein
The role of independent extended writing	Exam questions in the summative assessments	Create a report on a specific designer / influence.	To write about how your carbon footprint could be reduced to help save the planets plastic and pollution crisis. Evaluation writing at the end of the project.	Practice exam questions Careers investigation Evaluating a food science experiment.	Nando's challenge task Food spoilage comprehension task. Create an information sheet on vegetarianism – to identify the different forms and list what they eat. Explain the role of an environmental health officer.	Create an information sheet on allergies and intolerances.
The role of maths/ numeracy	cm-mm, percentages	Measurements, lay-plan, shapes in isometric.	Stock forms, sizes and shapes, tessellation	Weighing, measuring, recording data	Understanding binary fission	Weighing, measuring, sensory analysis
Links to careers/ aspirations	Engineering definitions	Tailor, Electrician, Designer	Computer programmer, software engineer, firefighter.	Understanding the scientific element involved in food production.	Careers investigation – chef, nutritionist, food technologist	Food writer
Core skills	To be able to use: CAD Hand tools knowledge Safe working practice.	To be able to: Solder Stitch Sketch to appropriate standards Safe working practice of machines	To be able to: Make and design Understand nets Tessellation	To be able to: Work in a hygienic manner Knife skills – increasing complexity of tasks throughout the project. Working safely in the kitchen. Understanding the scientific principles of heat transfer.	To be able to: Applying knowledge of cross contamination. Safe and hygienic working practice in the kitchen.	To be able to: Safe and hygienic working practice in the kitchen.
Dept. enrichment activities	CAD/CAM club Tuesday lunch	CAD/CAM club Tuesday lunch	CAD/CAM club Tuesday lunch		Plate presentation techniques	Competition with local food writer and chef
Home learning opportunities	https://www.youtube.com/watch?v=eTa2EFd3JF0 Levers in the human body	https://www.youtube.com/watch?v=js7Q-r7G9ug Electrical circuits explained	https://www.youtube.com/watch?v=VTfgNFz1DBM Climate change.	https://www.youtube.com/watch?v=U3ee3rSg7xs Heat Transfer	https://www.youtube.com/watch?v=Xm_X5LJmrbw Cross Contamination of food	https://www.youtube.com/watch?v=UyDqrhQLOHM Food Allergen