



Year 8 Design Technology	
Rotation	Age Related Expectations (ARE)
Passive Amplifier & Pewter Casting The purpose of this unit is for students to gain knowledge and understanding of the ability to produce a product that is more environmentally friendly and can produce the same effect as a battery/electricity produced product. Students will also learn how to use metal as a form of moulding a design and finishing it by hand to a high level of finish. They will develop the skills they gained in Year 7 through the use of different tools and equipment with increasing complexity. Overview of the knowledge and skills covered in this unit: • Upcycling, recycling, 6Rs, environmental issues. • Market pull, technology push, advances in technology and product evolution using the case study of the Sinclair C5. • Timbers theory, sustainability, categories of timbers, finishes which can be applied. • Plan for manufacture, measuring, health and safety and practical skills/confidence with materials and tools/equipment. • Manufacture of wooden passive amplifier with a painted decorative finish. • Metals theory in terms of categories, processes and products. • Pewter casting process step by step. • Design and manufacture of pewter cast mould. • Introduction to biomimicry within design and how companies such as Alessi use this process. • Completion of a series of design challenges.	Design • Students will use a variety of approaches to generate creative ideas and avoid design fixation. • Students will develop and communicate their design ideas using a variety of methods. This may include annotation, 2d/3d views, detailed plans and prototyping/modelling. Make • Students will select and use correctly and safely specialist tools/equipment/machinery to complete practical tasks. • Students will become competent in a range of practical skills and techniques to produce a successful outcome(s). • Students will select from and use a range of materials/components taking into account their working properties. Evaluate • Students will test, evaluate and refine their ideas against the design brief/specification. • Students will understand developments in technology around society/environmental impacts and the wider impact it has on individuals.



Year 8 Engineering	
Rotation	Age Related Expectations (ARE)
Mechanical Engineering This unit builds on prior knowledge learnt from Year 7 regarding mechanical engineering. The aim is for students to become more confident in what engineering is and to start looking at the manufacturing process within the industry of engineering. Students begin to learn more in depth about plastics as one of the main material areas. Students build on their drawing skills and look at exploded drawing. Overview of the knowledge and skills covered in this unit: • Introduction to biomimicry • Design tasks based around biomimicry and the clock project. • Technical drawing and planning of clock product • Measuring, marking and cutting out the MDF clock • Polymers theory • Vacuum forming theory, industry links, how it is used for the clock front. • Vacuum form clock front and assemble/complete. • Environmental impact that engineering has on both production and disposal of products. • James Dyson challenge cards. Balloon racing cars.	Design • Students will use a variety of approaches to generate creative ideas and avoid design fixation. • Students will develop and communicate their design ideas using a variety of methods. This may include annotation, 2d/3d views, detailed plans and prototyping/modelling. Make • Students will select and use correctly and safely specialist tools/equipment/machinery to complete practical tasks. • Students will become competent in a range of practical skills and techniques to produce a successful outcome(s). • Students will select from and use a range of materials/components taking into account their working properties. Evaluate • Students will test, evaluate and refine their ideas against the design brief/specification. • Students will understand developments in technology around society/environmental impacts and the wider impact it has on individuals.



Year 8 Food	
Rotation	Age Related Expectations (ARE)
Nutrition and the importance of a balanced diet Purpose: To develop and foster an interest in and love of food that equips students with the knowledge, understanding and skills required to cook and apply the principles of food science, nutrition and healthy eating. We aim to encourage students to cook, make informed decisions about food and nutrition, and provide learning opportunities that enable them to acquire knowledge to be able to feed themselves and others affordably and nutritiously, now and later in life. This unit's intent is also to develop medium and complex preparation and cooking skills, this includes knife skills, use of the hob and oven, pastry making skills, weighing and measuring accurately, rolling and shaping (pastry and flatbread). The practical lessons cover a range of savoury and sweet dishes which students should then be able to repeat independently at home. Overview of the knowledge and skills covered in this unit: • Fats and Oils • Toad in the Hole • Health Implications of fat • Knife Skills • Protein • Fajitas • Carbohydrates • Mini quiche • Vitamins and Minerals • Tunnock Teacake – presentation skills • Samosa	1. Hygiene & Safety Students understand the basic principles of food hygiene & safety. 2. Cooking Techniques and Methods Students are becoming competent in a range of cooking techniques and methods 3&4. Preparation skills and use of equipment Students can prepare different ingredients in order to cook a variety of sweet and savoury dishes. Pupils can use a variety of utensils and electrical equipment 5. Understands the basics of nutrition Students have a sound understanding of the nutrients the body needs, their functions & sources.



Year 8: New & Emerging Technologies - E-Textiles

Rotation	Age Related Expectations (ARE)
E-textiles Purpose: Students are to understand how electronics are being used within wearable technology products. Discussion around the advantages and disadvantages of different wearable technologies and product development over time. Overview of the knowledge and skills covered in this unit: • Electronic circuits – series and parallel circuits • E-Textiles and wearable technologies • Sublimation printing and CAD design • Circuit sewing – securing the LEDs, adding layers and final assembly • Importance of packaging and production of packaging for the produced keyring • Crumble – An introduction to coding/programming. • Completion of programming and coding tasks	Design • Students will use a variety of approaches to generate creative ideas and avoid design fixation. • Students will develop and communicate their design ideas using a variety of methods. This may include annotation, 2d/3d views, detailed plans and prototyping/modelling. Make • Students will select and use correctly and safely specialist tools/equipment/machinery to complete practical tasks. • Students will become competent in a range of practical skills and techniques to produce a successful outcome(s). • Students will select from and use a range of materials/components taking into account their working properties. Evaluate • Students will test, evaluate and refine their ideas against the design brief/specification. • Students will understand developments in technology around society/environmental impacts and the wider impact it has on individuals.



Year 8 Textiles	
Rotation	Age Related Expectations (ARE)
Abstract Art Purpose: This unit is designed to encourage students to create a response to a mix of media. • Complex machine applique in felt and denim • Poly fusion • Beading • Finger knitting • Wet felting • More complex construction skills Overview of the knowledge and skills covered in this unit: • Exploring abstract art • Machine recap • Machine practise – introduce reverse stitch • Wet felting process • Recreating an element in paint • Transferring an image on a heat press • Machine couching techniques • Finger knitting • Hand beading • Basic construction – fabric tabs • More complex construction – placing tabs and turning the final product	• Successful wet felting techniques. • Machine stitching demonstrates good control. • Annotations/ references to the work of others in their sketches • Ability to represent an element through the use of shape and line. • Ability to represent an element through the use of colour in textiles.