

St Bede's Catholic Voluntary Academy
Curriculum Overview: Technology

KS3 Technology consists of a rotation of 4 projects in year 7 and year 8. The order in which a student does each rotation is dependent on the group they are in. For example a Student in 7P1 will start the year on rotation 1 then move on to rotation 2 and so on depending on the number of classes in the rotation. 7P3 would start with rotation 3

	Rotation 1 – 10 Weeks – 15 Lessons	Rotation 2 - 10 Weeks – 15 Lessons	Rotation 3- 10 Weeks – 15 Lessons	Rotation 3- 10 Weeks – 15 Lessons
Year 7	WOOD Sweet Dispenser Introduction of Health and Safety in the wood workshop. Students gain knowledge of tools, equipment, machinery and woods to create a final product and learn basic technical drawing skills.	METAL Coat Hook Introduction of Health and Safety in the metal workshop. Students gain knowledge of tools, equipment, machinery and metals to create a final product and learn the properties of metals.	TEXTILES Monster Introduction of Health and Safety in the Textiles room. To develop a foundation of knowledge of stitching techniques, properties of materials and textile components to create a final product made of fabric.	FOOD Basic skills Introduction of Health and Safety in the Food room. To develop a foundation of knowledge of hygiene in the food room. To safely use and gain knowledge of utensils and equipment and learn to cook a range of basic dishes.
	Rotation 1 – 10 Weeks – 15 Lessons	Rotation 2 – 10 Weeks – 15 Lessons	Rotation 3 – 10 Weeks – 15 Lessons	Rotation 4 – 10 Weeks – 15 Lessons
Year 8	WOOD Train Students further develop a foundation of subject knowledge and Health and Safety in the wood workshop. Students focus on the design process, to support creativity giving them the subject knowledge of materials, motion; forces; mechanisms and electronic components to support their own design development.	METAL Trowel Students further develop a foundation of subject knowledge and Health and Safety and PPE (Personal Protective Equipment) in the metal workshop. Students focus on the engineering processes and why and how products are designed using Biometrics and Ergonomics. Subject knowledge of Metals, their properties and skills, are used to make a trowel.	TEXTILES Memories Book Students further develop a foundation of subject knowledge and Health and Safety in the Textiles room. Students focus on elements of the design process to support creativity giving them the subject knowledge of materials, equipment and skills to develop their textiles product.	FOOD Multicultural Students further develop knowledge and understanding of health, safety and hygiene in the food room. Students learn about the properties and functions of foods to give a healthy diet and the correct storage of foods to prevent cross contamination.

	Rotation 1 – 10 weeks – 10 lessons	Rotation 2 – 10 weeks – 10 lessons	Rotation 3 – 10 weeks – 10 lessons	Rotation 3 – 10 weeks – 10 lessons
Year 9	ELECTRONICS Mood Light Students will learn about a number of common electronic components which are used in many products today. They will be able to use CAD (2D Design) to create a design, use a virtual circuit programme to build, test and modify circuits. Students will understand the importance of trialling and testing products before a final prototype is made and how the use of Computer programmes can help with this and reduce the need to purchase components which may not be required. Students will understand the difference between protoboards/bread boards, copper boards and PCB's for the use of making a functioning circuit and how CAM can be used to cut out and engrave shapes, plastics and their uses and vacuum forming. This comprehensive POS supports the higher-level elements of the D&T Curriculum	PLASTICS Clock Students will learn about how standard components can be used to help to make a product by reducing the amount of manufacturing processes required by a manufacturing business and reducing costs. Scales of production will be introduced and they will learn about the 2 different categories of plastics and their uses. Students will build knowledge of a range of design movements and be able to identify the characteristics and incorporate those characteristics into a Clock design in the style of a chosen design movement. Students will learn how to use tools and equipment including jigs and templates which support the making of the clock which also include vacuum forming, drilling, Strip heater and use of CAD to produce vinyl stickers for the numbers of the clock. Students will be assessed on their prior learning and key vocabulary, design ideas and practical work.	TEXTILES Cushion Students will develop their sewing skills gained in year 7 and 8 and have more experience using sewing machines to make a cushion. Students will be asked to design a pattern or motif which will then be used to heat press on the fabric of the cushion they have made and then they will use a variety of sewing and embroidery techniques to highlight details of the printed design. The aim of this project is gain more experience and safely use tools and equipment, Consider types of fabrics and standard components for embellishment and Textiles impact on the environment and the use of sustainable materials.	FOOD Sustainability in Food The Year 9 Food rotation is aimed to encourage students to use seasonal ingredients, budget meals by batch cooking and to think about growing their own produce. They will be taught knife skills, use of a hand blender and the use of standard component ingredients to save time and improve consistency and the benefits of using frozen foods. Students will also recap about bacteria and potential hazards which cause food poisoning and learn about common allergies and intolerances to food. We have also considered how the ingredients bought one week can then be used up the following week. We aim to encourage savvy buying to make use of offers, reduced yellow ticket foods, frozen foods and to use up foods that are in the fridge.

Design and Technology

	Advent 1	Advent 2	Lent 1	Lent 2	Pentecost 1	Pentecost 2
Year 10	Materials and their working properties Paper and boards Timbers, Metals, Polymers, Textiles Common specialist technical principles Forces and stresses Improving functionality Ecological and social footprint The 6 Rs Scales of production	Designing principles Investigation, primary and secondary data The work of others – designers The work of others – companies Design strategies Communication of design ideas	Making principles Selection of materials and components Tolerances Material management Tools, equipment, techniques and finishes Surface treatments and finishes Sources, origins and properties Working with specialist materials Commercial manufacturing, surface treatments and finishes	New and emerging technologies Industry and enterprise Sustainability and the environment People, culture and society Production techniques and systems Informing design decisions	Energy, materials, systems and devices Energy generation Energy storage Modern materials Smart materials Composite materials and technical textiles Systems approach to designing Electronic systems processing Mechanical devices	GCSE COURSEWORK 1 Investigating the design possibilities
Year 11	GCSE COURSEWORK 2 Producing a design brief and specification 3 Generating design ideas	GCSE COURSEWORK 4 Developing design ideas	GCSE COURSEWORK 5 Realising design ideas 6 Analysing and Evaluating	GCSE REVISION	GCSE REVISION EXAM 2hours	

Engineering

	Advent 1	Advent 2	Lent 1	Lent 2	Pentecost 1	Pentecost 2
Year 10	Understand engineering disciplines – Engineering Discipline through Projects and Products – The Health and Safety Legislation Governing Engineering	Understand how science and mathematics is applied in engineering – Application of SI Units of Measurements – Equations used to Describe and Calculate Energy, Forces and Motion, Electrical, Geometry	Understand how to read engineering drawings – Reading Engineering Drawings	Understand the properties and characteristics of engineering materials and why specific materials are selected for engineering applications – Properties and Characteristics of Materials	Understand engineering tools, equipment and machines – Tools, Equipment and Machines	Understand engineering tools, equipment and machines -Safe and Correct Use
Year 11	Exploring Engineering Sectors and Design Applications -A Understand engineering sectors, products and organisations, and how they interrelate	Exploring Engineering Sectors and Design Applications -A Understand engineering sectors, products and organisations, and how they interrelate -Exam preparation and Mock exam	RESPONDING TO AN ENGINEERING BRIEF DESIGN IMPROVEMENT Exam Preparation 2 X EXAM 1 X 2 hrs 1 X 1.5hrs	COMP 1 AND 2 ASSIGNMENT IMPROVEMENTS		

Hospitality and Catering

	Advent 1	Advent 2	Lent 1	Lent 2	Pentecost 1	Pentecost 2
	Be able to cook dishes - to include starters, mains and desserts. Developing practical skills.					
Year 10	Know how food can cause ill health -Bacteria and Food poisoning -Allergies and Intolerances	Environmental Health – Roles and Responsibilities -Legislation -Food Premises and Food Handlers -Hygiene	Food Safety Legislation Food Safety Act HACCP Record Keeping -Best before and use by Nutritional Labelling	Understand menu planning	Mock controlled assessment.	Mock controlled assessment, working to an exam board set task. Practical assessment.
	Be able to cook dishes - to include starters, mains and desserts. Continued development of practical techniques and skills.					
Year 11	Practical skills development Completion of theory for written paper.	Mock Exam preparation. Controlled assessment	Controlled Assessment Practical assessment.	Theory Revision and exam practice for June Exam		
	Understand menu planning Be able to cook and present dishes to restaurant standard.					