

Design Technology at Range High School

	Learning Phase 1	Learning Phase 2	Learning Phase 3	Learning Phase 4
Year 7 (Carousel)	Foundation Foods and Skills (Food)	Key skills and construction in Textiles		
	Foundation Materials and Design	Systems 01 Simple electronics	CAD/CAM skills 01 (Short unit to be delivered during phase 1 or 2)	
Year 8	Nutrition 'Staple Foods'	Assessment task 'Bread Product'	Design and construction 'Pencil Case'	
	Mechanisms 01 Cams/gears	Graphic Products	Mechanisms 02 Levers	Systems 02 Control Microbit
Year 9	'World foods' Savoury Meals	'World foods' Savoury Meals	'Food Investigation'	
	Mechanisms 03 Linkages	Systems 03	CAD/CAM skills 02 (Short unit to be delivered during phase 1 or 2)	
Year 10 & 11	CAMBRIDGE NATIONAL LEVELS 1&2 Child Development Exam Topics covered Topic Area1: Preconception and Reproduction Topic Area 4: Safety only Coursework moderated unit: Year 10 R058: Create a safe environment and understand the nutritional needs of children from birth to five years Year 11 R059: Understand the development of a child from one to five years	Topic Area 2: Antenatal care & preparation for birth Coursework moderated unit: Year 10 R058: Create a safe environment and understand the nutritional needs of children from birth to five years Year 11 R059: Understand the development of a child from one to five years Exam practice	Topic Area 3: Postnatal checks, postnatal provision and the conditions for development Coursework moderated unit: Year 10 R058: Create a safe environment and understand the nutritional needs of children from birth to five years Exam practice	Topic Area 4: Childhood illnesses and a child safe environment. Coursework moderated unit: Year 10 R059: Understand the development of a child from one to five years, starts June for Year 11 completion Exam practice
	Food Preparation and Nutrition Exam topics covered: Students must be able to make the connections between theory and practice to apply their understanding of food and nutrition to practical preparation.	Topics and themes have been grouped to help teach the students. The topics are: - Food, nutrition and health - Food science - Food safety - Food choice - Food provenance	The range of food and ingredients studied will reflect the recommended guidelines for a healthy diet based on the main food commodity groups. Food groups include: - bread, cereals, flour, oats, rice, potatoes and pasta - fruit and vegetables (fresh, frozen, dried, canned and juiced)	Food preparation skills Twelve skill groups have been integrated throughout the GCSE course and students will demonstrate how and when these food preparation skills can be applied and combined to achieve specific outcomes.

			• milk, cheese and yogurt • meat, fish, eggs, soya, tofu, beans, nuts and seeds • butter, oil, margarine, sugar and syrup	
Y10 D&T	NEA Skills 01 • Wood Joints • Sketching for making • Lighting / Polymers	NEA Skills 02 • Manufacturing Specifications • Passive Amplifier	NEA Launch • Analysing a brief • Primary/secondary research	
	• Exam practice questions CGP/Exampro	• Exam practice questions CGP/Exampro • Seneca / GCSE POD independent reading	• Exam practice questions CGP/Exampro • Seneca / GCSE POD independent reading • Exam paper walk through 1	
Y11 D&T	NEA • Generating Ideas • Sketch Modelling	NEA • Developing ideas /Manufacturing Spec • Making Prototype	NEA • Evaluating the prototype	
	• Exam practice questions CGP/Exampro • Seneca / GCSE POD independent reading • Exam paper walk through 2 • Mock revision	• Exam practice questions CGP/Exampro • Seneca / GCSE POD independent reading •	• Exam practice questions CGP/Exampro • Seneca / GCSE POD independent reading • Exam paper walk through 3 • Exam revision	
Y10 Engineering.	R038: Designing processes; stages and strategies, cyclic approach R038: Sketching and drawing, CAD R039: Sketching design ideas activity Skills: Manual production of freehand sketches •manual production of engineering drawings •use of computer aided design (CAD).	R038: Sketching and drawing, CAD R039: Drawing design ideas activity R039: NEA Assessment Skills: Use of computer aided design (CAD) • Produce a 3D CAD model of a design proposal to include compound 3D shapes	R038: Influences on engineering product design	

Y11 Engineering.	R038: Design requirements; user needs, manufacturing considerations, and influences on engineering product design R038: Communicating design outcomes; Types of drawings, working drawings & using CAD software R040: Product analysis and disassembly activity R040: Virtual CAD modelling activity Key Skills: Students will be able to perform an ACCESSFM analysis on a product. Students will be able to use primary and secondary research to identify the strengths and weaknesses of existing products Students are required to perform a product disassembly to investigate assembly methods and production methods (along with other factors)	R038 Communicating design outcomes; evaluating design ideas R038: Revision of topic areas/exam revision R040: Physical modelling activity Skills: Students are required to use an appropriate engineering matrix to compare strengths and weaknesses of existing products Students are required to make a physical prototype Students are required produce an evaluation of a prototype outcome against the product specification	R040: NEA Assessment (submit for moderation)	
Y12/13 Product Design	• NEA Skills (Y12) • NEA (Y13) • Foundation Exam vocab/ materials/ processes (Y12) • Common Exam questions walk throughs – Paper 1 (Y12/13)	• NEA (Y12/13) • Common Exam questions walk throughs – Paper 1 /2 (Y12/13)	• NEA (Y12/13) • Exam questions walk throughs – paper 2(Y12/13)	• NEA (Y12) • Exam questions review – (Y12)