Beamont Collegiate Academy Curriculum Map
Year: 7
Subject: Design & Technology

Intent	Implementation	Carousel 1 (9 weeks)	Carousel 2 (9 weeks)	Carousel 3 (9 weeks)	Carousel 4 (9 weeks)
Clarity around knowledge	**Theme / topic**	**Autonomous systems and robots**	**Healthy Eating/ Lifestyles**	**Materials Projects (Product Design): Introduction to Resistant Materials (Wood, Metal & Plastic)**	**Sustainable Cafe**
	Key substantive knowledge	• Identify and solve real and relevant design problems • Develop and communicate design ideas using annotated sketches, detailed plans • Apply computing and use of programmable components (Micro:bits) to produce a prototype.	• To handle different equipment safely and correctly, including cutting techniques. • To develop a range of different cooking skills including using the oven/hob. • Planning and preparing dishes • Create creative ideas to inspire their product/dishes • Literacy skills in using descriptive words to describe a product/dish/menu, etymology of cooking terminology • Numeracy skills in weighing out ingredients	• User-centred approach to design and manufacture • To design and produce usable products made of WOOD, PLASTIC & METAL to a high standard aimed at specific Target Markets • To learn how to use various basic hand tools and equipment safely in the workshop • Introduction to CAD & CAM • To learn and understand the design and manufacturing processes using Resistant Materials • Introduction to using specific hand tools when using a variety of resistant materials – Wood, Metal & Plastic. • Gain an understanding of wood, metal & plastic, their origins, and properties	• To handle different equipment safely and correctly, including cutting techniques. • To develop a range of different cooking skills including using the oven/hob. • Planning and preparing dishes that are sustainable • Create creative ideas to inspire their product/dishes, with an emphasis on sustainability and the 3Rs • Literacy skills in using descriptive words to describe a product/dish/menu, etymology of cooking terminology • Numeracy skills in weighing out ingredients
	Disciplinary knowledge	• Create and communicate a range of ideas that aim to solve problems within an agricultural context. • Learn about the Engineering Design Process, robotics and autonomous systems. • Learn how to program Micro:bits with python • Learn about servos and actuators • Learn how to work collaboratively with peers to solve technical problems	• To create a range of ideas, which will inspire the products they decide to make. • To learn about '8 tips to a healthy diet'. To learn about different nutrients and vitamins our body needs. • To learn how to make healthy nutritious meals and snacks, including, fajitas, sweet and sour chicken, soup, cheesecake and chocolate muffins and fairy cakes. • To learn how to make pizza, including making the bread.	• To design packaging considering typography and layout • To learn and understand Plastic Forming processes. • To Learn how Blister Packaging can enhance products for Point of Sale • To fully understand the differences between Vector and Bitmap graphical images	• cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet • become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes]

		• Learn how to create effective prototypes	• To learn about food labelling; traffic light code, use by and best before date and what is required by law. • To learn about seasonal and local produce.		• describe the source, seasonality and characteristics of a broad range of ingredients. • Be able to identify how the production, preparation, cooking and consumption of food can be more sustainable and how personal choice impacts our futures.
Clarity around sequencing	Main links across the curriculum	Solve real and relevant problems and communicate design ideas. Investigate new and emerging technologies and understand the physical and working properties of materials. Apply computing and use programmable components.	Basic messages around healthy eating will lead onto further depth about what makes food healthy (nutrients) and then eventually how to plan and prepare for healthy living.	Production processes, use of tools, machines and CAD/CAM are all interlinked through focussed practical tasks: Year 7 - Materials Project, Year 8 – Hold It Project.	Basic messages around healthy eating with an emphasis on the environment and getting students to understand the choices around health also need to consider choices around our futures and the health of the planet. This will lead onto further depth about what makes food healthy (nutrients) and then eventually how to plan and prepare for healthy living.
	Authentic cross curricular links	Science, English, Computer Science	Science, PE, Citizenship/PSHE,	Enterprise, Business Studies & ICT	Geography, Science, RE, Citizenship
Vocabulary	Key words	Automation Computation Algorithms Systems Actuators Python Stability	Balanced diet Variety Nutrition	Aesthetics, Jelutong, Target Market, Filing, Sanding, typography, Vacuum Forming, Blister Packaging, Point of Sale, Vector, Bitmap, Pixilation, Co-ordinates, Plastic (Polymers), Thermoplastic Thermosets, Elastomers	Sustainability 3 Rs
Assessment	Summative assessment	**Formative assessment throughout** Peer review and WCF. **Summative Assessment** 1 x end of unit test.	**Formative Assessment Throughout:** Practical lessons will be assessed throughout the project with feedback being largely on the spot, reactive and instant. **Summative Assessment:** 1 x end of project test/assessment	**Focussed Practical Task:** **Formative Assessment Throughout:** Making/Manufacturing Outcome **Summative Assessment:** 1 x end of project test/assessment	**Formative Assessment Throughout:** Practical lessons will be assessed throughout the project with feedback being largely on the spot, reactive and instant. **Summative Assessment:** 1 x end of project test/assessment
Links to the real world / careers / PD		Engineering, robotics, autonomous systems, mechatronics	Healthy eating and healthy lifestyles Hospitality industry Food and retail industry	Industrial design and manufacturing processes discovered and practiced using real time design briefs.	Environmental and sustainability awareness Healthy eating and healthy lifestyles Hospitality industry Food and retail industry