

Curriculum Overview

Design and Technology (inc GSCE Food)

Subject Intent

At Greenfield Academy we strive for ambition for all in DT. Students will develop their knowledge and understanding of nutrition, food preparation, materials and techniques in a range of materials, whilst developing their skills practically.

Curriculum aims:

- To foster all students' design and technology aspirations through positive, memorable, and diverse cultural experiences both in and outside of the classroom
- To give all students the opportunity to become experts in a wide range of practical disciplines; graphics, textiles, resistant materials and food
- To develop all students' theoretical knowledge of historical and contemporary contextual references; using technological language to discuss, analyse, evaluate, and judge design movements
- To ensure that all students are confident and curious enough to ask questions, critique and test their ideas, are brave in their experimentations and have ambition to design and make high quality prototypes for a wide range of users
- To ensure all students to be able to understand and apply the principles of nutrition and learn how to cook
- To support students across the curriculum with their digital literacy

Year 7 – Rotation						
	HT1	HT2	HT3	HT4	HT5	HT6
Enquiry Question	Food What does a healthy diet look like? How can we be safe and hygienic? How can we use simple skills to make a healthy dish?	Food Why is measuring important in baked goods? Where does our food come from? How can we use the rubbing in method to create crumbly textures?	Graphic Design How do designers visually communicate ideas? How can I present my ideas?	Graphic Design How is colour used in design? How can 3D structures be used to present ideas? Why should we test products?	Textiles How can nature be used to inspire design? How can material be manipulated? Why is sustainability important?	Textiles How can culture influence pattern? Why do properties of materials matter?
Subject Content	Eatwell Guide and nutrition Safety and hygiene – risk assessment Knife Skills – fruit and veg Carbohydrates – pizza toast	Weighing and measuring Baked goods – breakfast muffins Local / seasonal foods – fruit crumble Rubbing in method – doughs – scones and shortbread Adapting recipes	Line, shape, colour and texture Cultural pattern design – Indian Typography Logo design challenge Design development and annotation Digital graphics – photoshop	Colour theory Structural thinking – net development Perspective and 3D drawing User centred design Testing and feedback Designers and impact	Biomimicry Surface manipulation Upcycling – deconstruction and reconstruction	Cultural pattern and prints – African Layering / quilting Decorative stitching Structural stitching Fabric properties and testing
Disciplinary Knowledge/Skills	Understand and apply the importance of food hygiene, safety and nutrition. Understand how recipes are followed to create successful outcomes. Evaluate the quality of a finished product.	Measure ingredients accurately to achieve successful baking outcomes. Apply baking methods, including rubbing-in, to create specific textures. Adapt and evaluate recipes to improve products.	Use visual elements to communicate ideas effectively. Create digital graphics using typography and branding principles. Develop and present design ideas for a specific audience.	Apply colour theory and 3D drawing techniques in design work. Test and refine designs using feedback and evaluation. Analyse the influence and impact of designers and products.	Use nature as inspiration to generate design ideas. Apply sustainable practices, including upcycling and reconstruction. Evaluate textile outcomes for function and sustainability.	Explore cultural influences within textile design. Select and use fabrics and construction techniques appropriately. Test and evaluate materials and products against requirements.
Theme (if applicable)	Food and nutrition Food safety	Food science Food provenance Food choice	Research Design ideas Make	Design ideas Test and evaluate Product analysis	Research Design ideas Make Evaluation	Design ideas Make Test and evaluate
SMSC	Social: Working safely and cooperatively in a kitchen environment. Moral: Making informed choices about healthy eating and personal wellbeing.	Moral: Reducing food waste through recipe adaptation. Social: Sharing and evaluating food products collaboratively. Cultural: Exploring foods and dishes from different cultures and communities.	Spiritual: Expressing creativity and individuality through design. Social: Designing to communicate ideas and messages to different audiences. Cultural: Exploring how branding and visual communication reflect society and culture.	Spiritual: Developing creativity and originality in design solutions. Social: Responding to user needs through testing and feedback. Moral: Considering the impact and purpose of designed products.	Moral: Understanding environmental responsibility and sustainable design. Spiritual: Appreciating nature as a source of inspiration. Social: Considering the impact of consumer choices on society and the environment	Cultural: Exploring textile traditions and patterns from different cultures. Social: Respecting and valuing diverse artistic traditions. Moral: Making informed choices about materials and sustainability
Careers	Nutritionist / Dietitian	Baker Quality Assurance Technician	Graphic Designer Brand Designer	Product Designer	Textile Designer Sustainable Design Consultant	Materials Technologist

Year 8 – Rotation						
	HT1	HT2	HT3	HT4	HT5 (26/27 ONLY)	HT6 (26/27 ONLY)
Enquiry Question	Food How do we ensure food is safe to eat? How is cuisine different around the world?	Food How is our food choice affected? What if I am vegetarian or vegan? How are cakes made?	Graphics / RM How and why do products evolve? What is iterative design?	Graphics / RM How can CAD and CAM be used in product design? What is the life cycle of a product?	Textiles How can nature be used to inspire design? How can material be manipulated?	Textiles How can culture influence pattern? Why do properties of materials matter?

			How do design movements inspire my ideas?		Why is sustainability important?	
Subject Content	Bacteria and contamination Working with high-risk foods - Burgers / Chicken Goujon British and international foods - Curry / Mac n Cheese	Factors affecting food choice Budgeting - Savoury rice Meat alternatives - Bolognese Cake making methods – creaming (bun cake), whisking (Swiss roll)	Clock design – products over time Card modelling Iterative design process Design movements – art nouveau, cubism, art deco, pop art, Memphis Design development	CAD – 2D design CAM – laser cutter Product life cycle Production methods Sustainability 6 R's Testing and evaluation	Biomimicry Surface manipulation Upcycling – deconstruction and reconstruction	Cultural pattern and prints – African Layering / quilting Decorative stitching Structural stitching Fabric properties and testing
Disciplinary Knowledge/Skills	Understand and apply knowledge of the causes of food contamination to prepare food safely. Explain how food safety regulations reduce risks during storage, preparation, and cooking. Use safe food handling techniques when producing dishes from different cultures.	Explain the factors that influence food choice. Investigate how ingredients and methods affect the quality of baked products. Select and use appropriate baking techniques to produce and evaluate cakes	Understand the characteristics of key design movements and apply them to design work. Analyse existing products to identify successful design features and influences. Use iterative design processes to develop, refine, and communicate ideas effectively.	Explain how CAD and CAM technologies are used in modern product design and manufacture. Investigate the product life cycle and evaluate sustainability considerations. Create, test, and refine design solutions using digital modelling and evaluation techniques.	Use nature as inspiration to generate design ideas. Apply sustainable practices, including upcycling and reconstruction. Evaluate textile outcomes for function and sustainability.	Explore cultural influences within textile design. Select and use fabrics and construction techniques appropriately. Test and evaluate materials and products against requirements.
Theme (if applicable)	Food safety Food provenance	Food choice Food safety Food and nutrition	Research Product analysis Design ideas	Manufacturing Sustainability Testing and evaluation	Research Design ideas Make Evaluation	Design ideas Make Test and evaluate
SMSC	Moral: Understand personal responsibility for food safety and hygiene. Cultural: Explore foods and food preparation methods from different cultures.	Moral: Consider how dietary choices affect health and wellbeing. Cultural: Explore how food choices vary between cultures and communities.	Spiritual: Appreciate creativity and innovation in design. Cultural: Explore how historical design movements have influenced society. Social: Develop communication skills through presenting and reviewing designs.	Moral: Evaluate the environmental impact of product manufacture. Social: Critique and improve designs through peer evaluation. Cultural: Consider how products meet the needs of different users and communities.	Moral: Understanding environmental responsibility and sustainable design. Spiritual: Appreciating nature as a source of inspiration. Social: Considering the impact of consumer choices on society and the environment	Cultural: Exploring textile traditions and patterns from different cultures. Social: Respecting and valuing diverse artistic traditions. Moral: Making informed choices about materials and sustainability
Careers	Environmental Health Officer Food Safety Inspector Chef	Baker Nutritionist/ Dietitian	Graphic Designer Product Designer	CAD Technician Design Engineer Manufacturing Engineer Product Designer	Textile Designer Sustainable Design Consultant	Materials Technologist

Year 9						
	HT1	HT2	HT3	HT4	HT5	HT6
Enquiry Question	Food How can we ensure dishes meet nutritional need of the life stage? What can happen if nutrition is not balanced?		Food and graphics What is afternoon tea? How do I design an afternoon tea menu? How can existing products influence my decisions?	Food What can we remember about bread, cakes and pastry? How can we create stretchy, light or crumbly textures in food?	Food and graphics Why is food labelling important? How can I design and food package?	Food What effects can different fats, sugars or raising agents have on mixtures?
Subject Content	Nutrition over life stages Diet related health problems Designing dishes for life stages Practical activities – soup, cottage pie, sweet and sour, tuna and broccoli pasta, fruity flapjack. Nutrition and skill reviews		Brief – afternoon tea task Research and mood boards Menu design – graphics, logo and image Product analysis Design ideas	Revisit skills and knowledge - Pastry / bread / cake Practical activities - sweet and savoury dishes linked to the brief e.g. sausage rolls, bread sushi rolls, pineapple upside down cake	Packaging design – sushi rolls – graphics, logo, image, laws, allergy advice and nutritional labels Nutritional reviews	Investigation work: Fats Raising agents Sugars
Disciplinary Knowledge/Skills	Explain how nutritional needs change across life stages and apply this knowledge to meal choices. Identify nutrients and analyse their functions in maintaining health. Use practical food preparation skills safely to produce dishes.		Understand and investigate the role of afternoon tea. Analyse existing products to inform design decisions. Generate and communicate design ideas.	Explain how food processing affects nutritional value and consumer choice. Understand and apply the science of raising agents in baked products. Demonstrate accurate baking techniques. Evaluate finished products against quality criteria.	Explain the functions and importance of packaging. Analyse packaging design features. Design packaging solutions that meet user and product requirements.	Understand how ingredients interact in mixtures and predict the effects of changes. Investigate the role of fats and raising agents in food products. Use practical experimentation and evaluation skills to improve product outcomes.
Theme (if applicable)	Nutrition over life stages		Afternoon tea	Baked goods	Packaging and labelling	Investigating ingredients
SMSC	Spiritual: Reflect on personal food choices and their impact on wellbeing. Moral: Consider responsibilities for making healthy dietary choices.		Spiritual: Appreciate British food traditions and cultural influences. Social: Develop teamwork and communication through design discussions.	Spiritual: Build confidence and resilience through practical problem-solving. Moral: Demonstrate responsibility for food safety and hygiene.	Moral: Consider ethical packaging choices and sustainability issues. Social: Present and justify design ideas to others. Cultural: Explore how packaging appeals to	Spiritual: Develop curiosity about the science behind food products. Moral: Understand the importance of accurate testing and fair evaluation.

		Cultural: Explore the history and significance of afternoon tea in British culture.	Social: Support peers and provide constructive feedback during practical work	different audiences and markets.	Social: Collaborate effectively when conducting investigations and practical tasks.
Careers	Nutritionist/Dietitian	Graphic Designer Product Designer Hospitality	Baker Pastry Chef Food Scientist	Packaging Designer Brand Manager	Food Scientist Quality Assurance Technician Research and Development Technologist

Year 10 – Food Preparation and Nutrition						
	HT1	HT2	HT3	HT4	HT5	HT6
Enquiry Question	Why cook food? How is food cooked?	What makes international cuisine?	How and why are carbohydrates and proteins used in food?	How and why are fats used in food?	How does food rise? How can micro-organisms be used in food production?	How and why are vitamins and minerals used in food? How can we plan meals for life stage and dietary needs?
Subject Content	Buying and storing food Bacterial contamination Cooking methods Heat transfer – English Breakfast British Cuisine – Soup, fruit flan, muffin Caramelisation, dextrinization, gelatinisation Local and seasonal foods	International cuisine – pasta ravioli (Italian), Stir fry (China), falafel (Middle east) Sensory testing methods Food miles Primary processing Faults and causes Religion and food	Carbohydrates Fibre Coeliac Disease Fortification Bread making – focaccia, cinnamon bun Biological raising agents Secondary processing Faults and causes Protein – lemon flan, meringue Denaturation, coagulation, foam formation Milk processing	Fats – shortcrust pastry, lemon meringue pie, chocolate orange cake, fishcakes, mayonnaise, scone, butter, puff pastry (puff) Shortening, plasticity, aeration, emulsification Diet related health conditions Faults and causes Processing, cheese, butter	Micro-organisms in food Raising agents (chemical and mechanical) – ginger sponge, Swiss roll (jam making), choux pasty Faults and causes Intensive v organic farming Sustainable fishing	Vitamins – fat and water soluble – smoothies Minerals Excess and deficiencies Diet related health conditions Planning meals for life stages – joint chicken Factors affecting food choices
Disciplinary Knowledge/Skills	Understand and apply food safety, storage, heat transfer and cooking methods when preparing British and seasonal dishes.	Understand and apply knowledge of international cuisines, sensory testing, provenance and sustainability when planning and making dishes.	Understand and apply the functions of carbohydrates and proteins, fermentation and biological raising agents in bread and baked products.	Understand and apply the functions of fats, including shortening, aeration and emulsification, when producing pastry and baked goods.	Understand and apply the role of micro-organisms and fermentation in food production while evaluating sustainable food systems.	Understand and apply nutritional knowledge of vitamins, minerals and life-stage dietary needs to plan balanced diets and meals.
Theme (if applicable)	Food and nutrition Food safety Food science Food choice Food provenance	Food and nutrition Food safety Food choice Food provenance	Food and nutrition Food safety Food science Food choice Food provenance	Food and nutrition Food safety Food science Food choice Food provenance	Food and nutrition Food safety Food science Food choice Food provenance	Food and nutrition Food safety Food science Food choice Food provenance
SMSC	Moral: responsibility for food safety and reducing waste; Cultural: understanding of British food traditions.	Cultural: appreciation of global cuisines and religions; Moral: consideration of food miles and sourcing.	Moral: understanding of healthy food choices; Social: collaboration through practical work.	Moral: awareness of diet-related health issues and balanced eating	Moral: understanding of sustainability and ethical food production; Cultural: appreciation of traditional food processes.	Moral: responsibility for health and wellbeing; Social: understanding of diverse dietary needs.
Careers	Chef Environmental Health Officer Food Retail	Chef Food Buyer Hospitality Manager Product Developer	Baker Food Technologist Nutritionist Food Scientist.	Pastry Chef Nutritionist Food Scientist	Microbiologist Food Technologist Sustainability Officer	Dietitian Nutritionist Public Health Practitioner Healthcare Professional

Year 11						
	HT1	HT2	HT3	HT4	HT5	HT6
Enquiry Question	How can I be successful in NEA 1?	How can I produce a piece of independent investigation work?	How can I be successful and independent in my research task?		How do I revise?	
Subject Content	Sensory testing Mock NEA 1 skills – research, investigation, analysis and evaluation	NEA 1 (10 hours) 30 marks Research (6 marks) Practical Investigation (15 marks) Analysis and evaluation (9 marks)	NEA 2 (20 hours) 70 marks Research (6 marks) Demonstrating technical skills (18 marks) Planning for final menu (8 marks) Final menu (30 marks) PRACTICAL EXAM Final Evaluation (8 marks)		Revision	
Disciplinary Knowledge/Skills	Understand and apply sensory testing methods to investigate, analyse and evaluate food products as part of the NEA1 food investigation task.	Understand and apply food science principles and practical skills to independently research, prepare, make and evaluate food products for NEA1 and NEA2.	Understand and apply technical food preparation skills, research methods and menu planning to produce and evaluate a final menu for NEA2.		Understand and apply exam knowledge across food nutrition, food science, food safety, food choice and food provenance to answer AQA examination questions.	
Theme (if applicable)	Food and nutrition Food safety Food science Food choice Food provenance	Food and nutrition Food science	Food and nutrition Food safety Food choice		Food and nutrition Food safety Food science Food choice Food provenance	

SMSC	Moral: understanding of food quality and consumer choice; Social: development through evidence-based decision-making and evaluation.	Moral: responsibility for food safety and accuracy; Social: development through independent learning and problem-solving.	Social: development through organisation and project management. Moral: responsibility for meeting nutritional and food safety requirements. Cultural: appreciation of food choice and provenance.	Moral: understanding of healthy and informed food choices. Cultural awareness of factors influencing food habits and traditions.	
Careers	Food Technologist Product Developer Food Scientist	Chef Food Technologist Development Chef Food Production Manager	Chef Catering Manager Nutritionist	Dietitian Nutritionist Food Scientist Environmental Health Officer	