

DESIGN TECHNOLOGY Year 8 Curriculum End Points and Key Vocabulary

	Rotation 1	Rotation 2	Rotation 3	Rotation 4
Subject	Food and Nutrition	Graphic Products	Textiles	Product Design
	In year 8 students rotate round on a carousel between four subject areas, Food and Nutrition, Graphics Products, Textiles and Product Design. Students study in each area for 10 weeks before moving on to the next specialist area.			
Project	Tastes of Europe	Architectural Drawing	Zip Pouch	Cultural Celebration Box
Ethos Links	<u>Milton Keynes</u> Shop local and make use of local farmers markets. Diverse range of eateries where some students get to experience dishes from different countries and are taught how different cultures make up the hospitality industry in Mk and the different job opportunities available locally <u>STEM</u> learn about the working characteristics of some food ingredients and scientific keywords linked to their characteristics e.g. shortening, gelatinisation, aeration and dextrinization and how different cooking	<u>Milton Keynes</u> - Local architecture study: Explore the grid system, modernist buildings, and planned urban design of Milton Keynes - Real-world context: Investigate how architects design buildings for growing towns and communities - Careers link: Introduction to local roles such as architects, urban planners, and construction designers <u>STEM</u> - Mathematics in design: Applying scale, ratio, and proportion when creating floor plans and models - Geometry and spatial awareness: Understanding	<u>Milton Keynes</u> - Local and industrial links - Students can explore how local designers, artists, or businesses use printing techniques and CAD to develop products <u>STEM</u> - Material properties, dye chemistry, and textile behavior - CAD software, digital printing, and sewing machine mechanics - Product construction, iterative design, and problem-solving <u>Sustainability</u>	<u>Milton Keynes</u> - Diverse community: Reflecting the multicultural population of Milton Keynes through celebration of different cultures - Local relevance: Exploring how cultural identity is represented in local events, festivals, and communities - Careers link: Introduction to design and manufacturing roles in local industries (product design, metalwork, crafts) - Community awareness: Encouraging appreciation of cultural diversity within the local area <u>STEM</u> - Material properties: Understanding

	methods affect's different ingredients. • The use of digital timers and weighing scales and how to use these effectively when cooking to save time and energy. • learn about yeast it is a type of fungus and is used in breadmaking involves the biological process of fermentation. Yeast feeds on sugars in the dough, breaking them down into carbon dioxide and alcohol. The carbon dioxide creates bubbles that make the dough rise, giving bread its fluffy texture. <u>Sustainability</u> • Students are encouraged to bring in exact quantities of ingredients to prevent food waste and to plan carefully during assessments to prevent waste of resources and if any leftovers how to repurpose this at home. Students are also taught about dishes that can be developed by using leftover foods. • They learn about some popular foods eaten in Europe and how some everyday ingredients are grown and manufactured	perspective, isometric projection, and 3D form • Technical drawing skills: Using equipment such as drawing boards, set squares, and compasses accurately • Engineering principles: Considering structure, stability, and function in building design • Problem-solving: Iterative design process—testing, refining, and improving ideas <u>Sustainability</u> • Sustainable architecture: Designing buildings with environmental impact in mind (e.g. energy efficiency, materials) • Design for purpose: Creating buildings that meet long-term needs and reduce waste • Environmental awareness: Considering how buildings affect surroundings and communities • Scale modelling: Encourages efficient material use and minimises waste • ACCESS FM: Evaluating "Environment" and "Function" in building design	• I Awareness: Exploring natural vs. synthetic materials encourages students to consider environmental impact, biodegradability, and ethical sourcing. • Printing Processes: You can discuss the sustainability of different methods—e.g. water usage in screen printing vs. energy consumption in sublimation. • Design for Longevity: Sewing in a zip and constructing durable textile products promotes reuse and reduces fast fashion waste. • ACCESS FM: This framework allows students to evaluate sustainability explicitly under "Environment" and "Cost." <u>Character</u> • Resilience: Students learn to refine designs, solve machine issues, and improve through feedback. • Creativity: From surface dyeing to CAD design, students express individuality and innovation. • Responsibility: Health and safety practices foster accountability and care. • Empathy & Purpose: Designing for others—	characteristics of pine wood and pewter (strength, melting point, durability) • Metal theory: Learning basic principles of casting, including heating, melting, and cooling processes • CAD/CAM: Using CAD software to design coins for accurate casting outcomes • Engineering skills: Constructing boxes with finger joints and adding hinges for functionality • Manufacturing processes: Vacuum forming a tray to fit the product precisely • Problem-solving: Iterative design—refining designs based on testing and outcomes <u>Sustainability</u> • Material awareness: Considering responsible use of wood and metals, including waste reduction • Cultural respect: Promoting sustainable thinking through appreciation and preservation of cultural heritage • Processes impact: Discussing environmental impacts of casting and forming processes • ACCESS FM: Evaluating sustainability under
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	e.g. wheat into flour. Students are also introduced to more plant based foods and are taught how to incorporate this into meals. - As a department we avoid single used plastics and use more environmentally friendly packaging. In summary KS3 Food and Nutrition, sustainability is a core theme that helps students make informed choices. They learn about reducing food waste, choosing locally sourced and seasonal foods, using energy-efficient cooking methods, and understanding the broader impacts of food production on the environment. Through these lessons, students develop a mindset that balances nutrition with sustainability, preparing them to be conscious consumers in the future. <u>Character</u> - Developing cultural appreciation through food. Being able to understand that all culture are unique and some the reasons why they eat what they eat. - To respect each other and be able to communicate in a	<u>Character</u> - Resilience: Developing accuracy in technical drawing and refining work through practice - Creativity: Designing original buildings with aesthetic and functional considerations - Problem-solving: Overcoming challenges in perspective drawing and scale modelling - Reflection: Evaluating work and identifying improvements using design criteria - Responsibility: Safe and correct use of specialist equipment in the workshop setting	whether inspired by artists or responding to a brief— encourages ethical thinking and user-centered design. Reflection: Evaluating work and applying ACCESS FM nurtures self-awareness and growth mindset.	"Environment," "Materials," and "Function" <u>Character</u> - Cultural awareness: Developing respect and understanding of different traditions and beliefs - Creativity: Designing unique celebration coins inspired by research into cultural symbols and patterns - Resilience: Overcoming challenges in practical making processes such as casting and joint construction - Responsibility: Safe handling of tools, machinery, and molten materials - Independence: Managing a multi-step project from research through to final outcome - Reflection: Evaluating designs and outcomes to improve craftsmanship and cultural representation
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	n effective manner when discussing ideas etc. • Develop great organisational skills through planning for practical assessments and being able to execute this within the given time. • Evaluate own work and the work of others giving constructive feedback. • Developing independence and great team working skills.			
Learning End Points	By the end of this topic the students will know and understand: • How process ingredients using a variety of suitable techniques. • Safety and hygiene when handling foods. • How to adapt products. • The sensory and nutritional characteristics of food. • How to prepare a range of meals – becoming a more confident cook. • How micro-organisms multiply under optimum conditions • How bacteria can cause food poisoning categorise low medium and high-risk foods such as cooked rice. • The functions of ingredients used in homemade bread	By the end of this topic, students will be able to: • Draw shapes in one-point perspective • Draw letters in one-point perspective • Understand the principles of technical drawing • Apply shading techniques using a light source and three tones • Enhance the quality of their technical drawings • Understand the purpose and function of packaging • Design with a client brief in mind • Develop logos based on a given specification • Explain the origins of paper and card	By the end of this topic the students will know and understand: • Understand how the work of others can influence their own designs • Identify and describe different printing processes, including sublimation, screen printing, block printing, and transfer • Use CAD software to create and develop design ideas • Use feedback constructively to improve design outcomes • Demonstrate proficiency in using design software such as 2D Design, Photoshop, and Illustrator • Follow health and safety procedures in the workshop • Operate a sewing machine confidently and safely	By the end of this topic the students will know and understand: • Demonstrate knowledge of a chosen culture through design choices, symbols, and decoration • Produce annotated design ideas that respond to a cultural theme • Use CAD software effectively to create a design for a pewter cast coin • Apply the iterative design process to refine ideas • Understand and explain basic metal theory, including how pewter is cast

	and the method of preparation. • How to make informed decisions when purchasing food and ingredients. • A greater awareness of time planning. • Food labelling and the information found on a label. • The cultural differences when producing food and be aware of the significance of ingredients choices for a variety of cultural needs. • The importance of safe food storage (shelf-life and date marks) • About food provenance • About different food eaten in Europe with a focus on bread	• Understand stock forms of materials • Evaluate their own work against success criteria • Develop practical making skills • Identify and describe properties of paper and card • Follow health and safety procedures when using cutting equipment	• Apply problem-solving skills during practical tasks • Sew in a zip as part of a textile product • Deepen their knowledge of natural and synthetic materials • Evaluate their own work and reflect on areas for improvement • Understand and apply ACCESS FM to create a design specification	• Accurately create finger joints in pine wood • Apply appropriate wood finishes to enhance appearance and durability • Fit hinges correctly to create a functional box • Vacuum form a tray that fits the product accurately • Construct a box that is well-measured, aligned, and fit for purpose • Evaluate the success of the final product against the design brief • Identify strengths and areas for improvement • Demonstrate safe working practices when using tools, machinery, and casting materials
Key Vocabulary	Yeast gelatinisation shortening wheat coeliac fibre dough bacteria symptoms weigh measure bake spread micro-organisms sauce shape contaminate manufacture combine prove temperature storage use-by best before etc.	Perspective One-point perspective Two-point perspective Isometric drawing Floor plan Elevation Scale Proportion Vanishing point Horizon line Orthographic drawing Rendering Texture	Natural Fibres Synthetic Materials Sustainable Fabrics Printing Processes Sublimation Screen Printing Block Printing CAD (Computer-Aided Design) Photoshop Illustrator Sewing Machine Health and Safety Zip Insertion	Culture Symbolism CAD (Computer-Aided Design) Pewter Casting Mould Alloy Finger joint Grain (wood grain) Finish (wood finish) Hinge Prototype Vacuum forming

		Drafting (technical drawing) Dimensions Structure Architectural design	ACCESS FM Design Specification	Thermoplastic Annotation Scale Accuracy
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