



Topic name	Rotation	Skills developed (Research, Design, Make, Evaluate)	Link to NC subject content	Prior learning	Next link in curriculum
Safety and hygiene	Food & Nutrition	Personal hygiene Safe practice in the food room	Become competent selecting and using equipment and ingredients.	KS2: Basic knowledge healthy eating and some practical skills.	Link to next rotation: Make: Reinforced through all practical lessons. Food contamination
Balanced diets		Research, analysis and evaluation: Knowledge of Eatwell Guide and healthy eating Nutrient groups and function of nutrients Balance of nutrients in diet Dietary disorders	Understand and apply the principles of nutrition and healthy eating. Cook a repertoire of predominately savoury dishes so that they can feed themselves and others a healthy and varied diet.		Energy balance Understanding ingredients from food/nutrient groups
Sourcing ingredients and food choice		Research and analysis: Understanding the types of ingredients available and where to source them from. Making informed choices, labelling.	Understand and apply the principles of nutrition. Understanding source, seasonality and broad range of ingredients.		Research Feeding through the life stages Farming and seasonality
Multicultural and traditional foods. Where food comes from.		Research, analysis and design: Understanding the influence of culture and environment on foods produced and products made that are traditional to different countries.	Becoming competent in a range of cooking techniques, Using tools and equipment, Awareness of taste, texture and smell. Understand source, culture and cuisine.		Make: Reinforced through practical tasks.
Sensory evaluation		Research and Evaluation: Learn about the function and characteristics of ingredients in food products, how choice of ingredients effect sensory aspects.	Awareness of taste, texture and smell Combining ingredients Adapting recipes Healthy and varied diet		Evaluation: Evaluation of practical tasks.
Skills - various practical activities		Make, Evaluation: Altering of ratio and ingredients Properties of materials Accurate forming and shaping Raising agents	Adapting recipes Cooking for a varied diet Becoming competent in a range of cooking techniques		Make: Practical activities to support theory and promote skills



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Alessi Mobile Phone Holder	Product Design	<p>Research: Research and understand key principles of Alessi.</p> <p>Design: CAD Software Proficiency: Using 2D Design CAD software to create a detailed design of the mobile phone holder, including accurate measurements and dimensions.</p> <p>Aesthetics: Gaining an understanding of aesthetic design principles, such as balance, symmetry, and proportion, which are often associated with Alessi products.</p> <p>Material Knowledge: Acrylic Properties: Learning about the properties of acrylic, including its strength, flexibility, and transparency.</p> <p>Make: Strip Heater Operation: Learning to use a strip heater to bend the acrylic into the desired shape.</p> <p>Problem-Solving Skills: Prototyping: Developing the ability to create prototypes and make iterative improvements.</p> <p>Creativity & Innovation: Encouraging creative thinking to come up with unique and aesthetically pleasing design elements inspired by Alessi's design philosophy.</p> <p>Evaluate (critical thinking): Evaluating the final product for design flaws, usability, and any areas for improvement.</p>	<p>Designing and Making: This project embodies the core principle of the Design and Technology curriculum, which is to encourage students to design and create products.</p> <p>Use of CAD Software: Using 2D Design CAD software corresponds to the digital design and modelling aspect of the curriculum. It enables students to work with digital tools for designing and modelling products.</p> <p>Material Knowledge: Understanding the properties of acrylic and selecting appropriate materials.</p> <p>Manufacturing Techniques: The use of a laser cutter and strip heater represents a hands-on approach to learning about manufacturing processes.</p> <p>Practical Skills: Students will develop practical skills related to operating machinery and tools.</p> <p>Problem-Solving: This project inherently involves problem-solving, both in the design and manufacturing stages.</p> <p>Creativity: Encouraging creative thinking to design an Alessi-inspired product is in line with the curriculum's emphasis on creativity and innovation.</p> <p>Evaluation and Testing: Students will evaluate the final product, which is part of the iterative design process emphasised in the curriculum.</p>	<p>Links from KS2:</p> <p>Understanding Materials and Their Properties: This project introduces acrylic as a material, allowing students to delve deeper into its properties, uses, and working characteristics.</p> <p>Design and Making: KS2 emphasises design and making projects, which include making products with simple materials. This project extends by introducing more advanced tools and processes for designing and creating products.</p> <p>Problem-Solving: This project enhances this skill by presenting more complex design and manufacturing challenges, such as ensuring the acrylic is bent accurately using the strip heater.</p> <p>Practical Skills: KS2 introduces practical skills related to basic hand tools. At KS3, students advance to using digital design tools and operating advanced machinery, enhancing their practical skills.</p> <p>Measurement and Accuracy: At KS2, students learn about measurement and accuracy in basic contexts. At KS3, they apply these skills to create accurate dimensions for their phone holder designs and ensure precision in the manufacturing process.</p> <p>Links from previous Y7 rotation: Food & Nutrition- Balance, symmetry, and proportion. Textiles- Evaluating the final product for design flaws, usability, and any areas for improvement.</p>	<p>Link to next rotation: Research Design Make Evaluate CAM/CAM Material Knowledge Problem Solving Creativity Measuring & Accuracy</p>



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Gadget Bags	Textiles Technology	<p>Research- Students will develop research skills to investigate cotton fibres and the fabric Denim, thinking about presentation and the inclusion of all key facts.</p> <p>Make- Students will learn how to thread and use the sewing machine use the overlocker, This will be achieved through the production of a cloth bag made from Denim and another cotton fabric. Students will learn how to apply fabric decoration in the form of decorative stitches and how to sew buttons and beads. They will also learn how to attach a zip to a product. Students will be introduced to the CAD embroidery machine and apply their initials on to the corner of their bag.</p> <p>Evaluate- Students will complete a basic evaluation, reflecting on what they have learnt and how they have implemented their skills. They will also look at the products that they have made and assess how well they have done.</p>	<p>Designing and Making: This project embodies the core principle of the Design and Technology curriculum, which is to encourage students to design and create products.</p> <p>Use of CAD Software: Using 2D Design CAD software corresponds to the digital design and modelling aspect of the curriculum. It enables students to work with digital tools for designing and modelling products.</p> <p>Material Knowledge: Understanding the properties of cotton and selecting appropriate materials.</p> <p>Manufacturing Techniques: The use of a the sewing machine, overlocker and embroidery machine represents a hands-on approach to learning about manufacturing processes.</p> <p>Practical Skills: Students will develop practical skills related to operating machinery and tools.</p> <p>Problem-Solving: This project inherently involves problem-solving, both in the design and manufacturing stages.</p> <p>Evaluation and Testing: Students will evaluate the final product, which is part of the iterative design process emphasised in the curriculum.</p>	<p>Links from KS2: D & T at KS2 level will all be different</p> <p>Links from previous Y7 rotation:</p> <p>Food & Nutrition- Balance, symmetry, and proportion.</p> <p>Product Design- Material properties and characteristics and CAD.</p>	<p>Link to next rotation: <i>Production of PJ bottoms in year 8 that focus on synthetic fibres, design for others and manufacturing.</i></p>



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<p>Real Life Context- Malaria</p> <p><i>Designing a free-standing frame structure for malaria prevention is a multidisciplinary project that draws on various skills, including design thinking, technical knowledge, problem-solving, and awareness of global health issues.</i></p>	<p>Core Skills</p>	<p>Research: Choosing appropriate materials based on their strength, durability, and availability.</p> <p>Considering the environmental impact of material choices and the manufacturing process, aligning with the principles of sustainable design.</p> <p>Design: Create a concept for the frame structure that is both functional and aesthetically pleasing.</p> <p>Make: Create a scale model to visualise and test the design, allowing for iterative improvements and design refinements.</p> <p>Problem-Solving Skills: Coming up with creative solutions to address challenges, such as making the frame easy to transport and set up.</p> <p>User-Centred Design: Considering the needs of the individuals who will be using the mosquito net.</p> <p>Presentation and Communication Skills: Developing the ability to present and communicate the design choices and the importance of the frame structure for malaria prevention to others.</p> <p>HPL Collaboration and Teamwork: Group Project: Students collaborate and work effectively as a team.</p> <p>Evaluation: Evaluating the model's effectiveness and making improvements based on feedback and testing results.</p>	<p>Problem-Solving and Critical Thinking: Developing a frame structure that effectively supports a mosquito net for malaria prevention involves significant problem-solving and critical thinking skills, aligning with the curriculum's emphasis on these skills.</p> <p>Environmental and Social Context: Understanding the context of malaria prevention adds a valuable dimension to the project, as students learn how their design can have a positive impact on society and the environment.</p> <p>User-Centred Design: Considering the needs of individuals who will use the mosquito net and frame structure reinforces the curriculum's emphasis on user-centred design.</p> <p>Communication and Presentation: Presenting the design choices and the importance of the frame structure for malaria prevention promotes the development of communication and presentation skills.</p> <p>Research and Evaluation: Researching the efficacy of mosquito nets for malaria prevention and evaluating the model's effectiveness align with research and evaluation skills emphasised in the curriculum.</p> <p>Collaboration and Teamwork: Students develop collaboration and teamwork skills, which are vital in D&T projects.</p>	<p>Links from KS2: Basic Design Principles: This project extends student understanding by requiring them to design a functional structure that serves a specific purpose, which is a progression in their design skills.</p> <p>Materials and Their Properties: KS2 introduces students to basic materials and their properties. The project extends their knowledge by having them select materials that need to meet specific criteria, such as strength, durability, and suitability for the context of malaria prevention.</p> <p>Problem-Solving Skills: Problem-solving skills are a central aspect of D&T. At KS3, students encounter more complex problems, such as creating a structure that is effective in preventing the spread of a disease, which is an advancement in problem-solving compared to KS2.</p> <p>Teamwork and Collaboration: Students work on this project collaboratively, further developing their teamwork and communication skills.</p> <p>Environmental Awareness: Building on the concepts of recycling and sustainability introduced in KS2, this project extends the focus on environmental awareness by considering the environmental impact of material choices for the frame structure.</p> <p>Links from previous Y7 rotation: Food & Nutrition- Global issues, User Centred Design, Presentation Skills. Product Design- Polymers, CAD. Textiles- Cotton, Sustainability.</p>	<p>Link to next rotation: Research Design Make Evaluate Environmental Issues User-Centred Design Materials Problem-solving Collaboration/Teamwork</p>