

St Cuthbert Mayne School Curriculum Map 2023-2024



Department: Design & Technology

Year 9

Design and Technology - KS3

- Design and Technology is an inspiring, rigorous, engaging and practical subject. Using creativity and imagination, students design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire and use a broad range of subject knowledge, skills, and understanding to prepare them to live and work in the designed and made world. They incorporate knowledge and understanding of different materials and manufacturing processes in order to design and make, with confidence and demonstrate safe working practices. They learn how to take design risks, helping them to become resourceful, innovative and enterprising citizens, and develop the skills to critique and refine their own ideas whilst designing and making. They communicate their design ideas and decisions using different media and techniques and develop decision making skills, including the planning and organisation of time and resources when managing their work. They are encouraged to consider the costs, commercial viability and marketing of products. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. It provides opportunities for students to apply knowledge from other disciplines, including mathematics, science, art & design, computing & humanities. High quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Food Preparation, Cooking and Nutrition - KS3

- Food preparation, cooking and nutrition is an inspiring, rigorous and engaging practical subject where students use a broad range of knowledge, skills, and understanding when buying, storing, preparing and cooking different ingredients to make healthy and nutritious dishes and meals. Students experience exciting and creative lessons which focus on practical cooking skills to ensure students develop a thorough understanding of Nutrition and health, Food science, Food safety, Food choice, Food provenance and the working characteristics of food materials/ingredients. The focus is on nurturing students' practical cookery skills and encourages them to demonstrate effective and safe cooking skills by planning, preparing and cooking using a variety of food commodities, cooking techniques and equipment. They acquire a knowledge and understanding of the relationship between diet, nutrition and health, including the physiological and psychological effects of poor diet and health and the economic, environmental, ethical, and socio-cultural influences on food.

Key Stage 3 Curriculum Summary

St Cuthbert Mayne Design & Technology Department follows the Key Stage 3 National Curriculum. At KS3 all students in Year 7, 8 and 9 study Design and Technology and it is delivered through enjoyable, accessible and challenging lessons for all students using a rotating carousel system. Every D&T group has one double lesson (1 hour 50 mins). Every term the students move to a new material area and specialist classroom with a specialist teacher. They design and make products developing their design skills through researching, analysing and evaluating and sketching. They develop their practical skills by using a wide variety of processes, tools and equipment, working safely and hygienically. They are given opportunities to work independently, in pairs and in teams. They have a context and design brief to follow in all units of work. Future job opportunities and careers are promoted throughout KS3 D&T lessons and activities. All lessons include Social, Moral, Spiritual, Cultural issues and identify the importance and relevance of British Values in the UK.

Students study 3 Units in the following material areas:

1. Electronics & Resistant Materials - wood & plastics
2. Food (Cooking & Nutrition)
3. Textiles

Year 9 Units:

Electronics & Resistant Materials

Context: A light manufacturer wants to design and make a light for young children or teenagers using an electronic circuit. The light will improve the restful and relaxing atmosphere of the room and look attractive as an interior design product.

Design brief: Design and make a light circuit using a PCB board and electronic components, that can then be used to create a light for the bedroom. The light needs to be aesthetically pleasing, eye-catching and appealing to children or teenagers.

Food:

Context: Family lifestyles are now very busy and sometimes it is difficult for family members to sit down and eat a healthy, nutritious meal together. Convenience foods are sometimes used too frequently, there may be different dietary needs within the family, and a lack of practical cooking skills can be a problem.

Design brief: Design and make a range of healthy and nutritious meals for different family members, which are suitable for their life stage. Consider the special dietary needs and requirements that each family member may have including coeliac disease, lactose intolerance and specific food diets like vegetarianism.

Textiles:

Context: Today's busy lifestyles mean that people need to be more organised. A local company has decided to produce a small bag to promote 'All things British'

Design brief: Design and make a small bag that could be used to help tidy and keep people more organised. It must be secure, look eye-catching and demonstrate an original and creative design.

Academic Year September 2023 - July 2024

Topic/Unit	Electronics & Resistant Materials	Food (Cooking & Nutrition)	Textiles
Knowledge (Content covered)	Design briefs & Specifications, Hazard analysis, Health & Safety, Risk assessment, Tools & Equipment, Circuit kit, Soldering, Electronics & Components, PCB Properties & types of timber and plastics, Recycling, Laser cutter Sustainability, Joining techniques Vacuum forming, CAD, CAM	Design briefs & Specifications, Hazard analysis, Food Safety & Hygiene, Health & Safety, Risk assessment, Tools & Equipment, Eatwell Guide, Nutrition, Food choices, Energy balance, Special dietary needs: children, teenagers, adults, elderly, special dietary needs including coeliac disease, lactose intolerance & vegetarianism, Raising agents, Coagulation,	Design briefs & Specifications, Hazard analysis, Health & Safety, Risk Assessment, Tools & Equipment, Sewing machine, Sewing processes: Pinning, cutting, tacking, Applique, Embellishing, Natural & manmade fibres, Colour wheel, Care labels, Recycling, Sustainability
Skills	Researching, Investigating, Analysing, Designing, Sketching, Planning, Making & Creating, Measuring Soldering, Laser cutting, Vacuum forming, Sawing, Sanding, Drilling, Testing & Evaluating	Researching, Explaining, Investigating, Planning, Weighing and measuring Chopping, Dry frying, Boiling, Simmering, Grilling, Baking, Meat/Veg prep, Creaming method, Sauce making, Testing & Evaluating	Researching, Investigating, Analysing, Designing, Sketching, Planning, Making & Creating, Measuring, Pattern making Pinning, Tacking, Cutting, Machine & hand sewing, Embellishing, Testing and Evaluating
Assessment	Teacher assessment Self assessment, Peer assessment Verbal assessment, Testing End of unit assessment	Teacher assessment Self assessment, Peer assessment Verbal assessment, Testing End of unit assessment	Teacher assessment Self assessment, Peer assessment Verbal assessment, Testing End of unit assessment

<p>Gatsby 4 (Linking curriculum learning to careers) GATSBY BENCHMARK 4</p>	<p>Architect, CAD technician, CAD engineer, Design engineer, Illustrator, App developer, Games designer, Software engineer, Website designer, Digital media designer, Electronics engineer, Civil engineer, Electrician, Automotive engineer, Mechanical engineer, Furniture designer, Maintenance engineer, Vehicle mechanic, Shop fitter, Carpenter, Builder, Structural engineer, Production controller</p>	<p>Agricultural engineer, Hotel & Catering jobs Chef/cook, Restaurant staff/manager, Nutritionist, Dietician Food technologist, Food scientist, Food production, Food journalist, Product developer, Microbiologist,</p>	<p>Fashion designer, Costume, designer, Dressmaker, Print designer Fashion buyer, Fashion stylist, Machinist, Textile Technologist, Interior designer, Dyer/colourist, Fabric developer, Retail</p>
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