



**St Mary's CE High School Curriculum Map 2023-2024**  
**YR 7 TECHNOLOGY**

Design and Technology is an inspiring, rigorous and practical subject. Technology encourages students to learn to think innovatively to solve problems both as individuals and as members of a team. At SMHS, we encourage students to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. We aim to, wherever possible, link work to other disciplines such as mathematics, science, engineering, computing and art. Students are also given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness and are encouraged to become innovators and risk-takers.

Each rotation may be completed at different times of the year, and not necessarily in the following order.	Autumn 1a	Autumn 1b	Spring 2a	Spring 2b	Summer 3a	Summer 3b
	Rotation 1 weeks 1-10	Rotation 2 weeks 11-20	Rotation 3 weeks 21-30		Rotation 4 weeks 31-40	
<b>CONTENT</b> <i>Declarative / core / powerful Knowledge – 'Know What'</i>	<b>Hospitality and Catering</b>	<b>Textile Design Tapestry</b>	<b>Engineering</b>		<b>CAD/CAM</b>	
<b>Skills</b> <i>Procedural Knowledge – 'Know How'</i>	<p>Students need to be able to:</p> <p>Students are introduced to the Eatwell Guide during Year 7. They will create dishes based on the different sections. They get the opportunity to learn carry out taste testing/sensory evaluations of food (ingredients) from the sections that they not have tried before. Through this they will develop skills in a range of cooking</p>	<p>Students need to be able to:</p> <ul style="list-style-type: none"> <li>Understand the origins and basic construction of fabric</li> <li>Experiment with resist dye methods</li> <li>Develop their sewing machine skills</li> <li>Independently research into artist Jim Dine</li> <li>Use Jim Dine Artist research to develop ideas for a textile product</li> </ul>	<p>Students need to be able to:</p> <ul style="list-style-type: none"> <li>Create a design of a racing car</li> <li>Understand motion, force and aerodynamics. Applying their new knowledge to their design ideas.</li> <li>Develop workshop skills using the hand tools, such as; Tenon Saw, Coping saw, hand drill, files and sandpaper.</li> <li>Ensure a high-quality outcome by applying</li> </ul>		<p>Students need to be able to:</p> <ul style="list-style-type: none"> <li>Understand how to use CAD software</li> <li>To learn how to use both sketch up and 2D Design software</li> <li>To be able to create a drawing of a isometric ruler using CAD</li> <li>To export CAD design to CAM equipment (laser cutter)</li> </ul>	



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	<p>techniques. The knowledge and practical skills include:</p> <p>Health and safety</p> <p>Tools and equipment</p> <p>Washing up</p> <p>Knife skills</p> <p>Using the cooker</p> <p>Planning and preparing balanced meals.</p> <p>Food Provenance and seasonality</p>	<ul style="list-style-type: none"> <li>• Understand and explore basic hand sewing skills</li> <li>• Develop a culture of working as a team and or independently during the practical elements of the design and make process</li> </ul>	regular quality control checks	
<b>Key Questions</b>	<ul style="list-style-type: none"> <li>• How can you safely chop your vegetables?</li> <li>• What equipment do you need for this task?</li> <li>• How would you ensure high quality?</li> <li>• How can you ensure consistent sizes?</li> <li>• What health and safety precautions do you need to ensure?</li> <li>• How do you use this equipment safely?</li> <li>• Which ingredient provides calcium?</li> <li>• Which ingredient is high risk?</li> </ul>	<ul style="list-style-type: none"> <li>• Where do fabrics come from?</li> <li>• What is resist dyeing?</li> <li>• What makes a good design?</li> <li>• How to develop design ideas from an initial design?</li> <li>• Why is it important to keep safe during practical skills task?</li> <li>• What shall help you meet deadlines for making?</li> <li>• How can you improve your ideas further?</li> <li>• What is your opinion about your product?</li> </ul>	<ul style="list-style-type: none"> <li>• How did you test your car? What happened during the test? Why did this happen?</li> <li>• Write a definition for aerodynamics, drag, thrust and weight.</li> <li>• Explain why someone might buy the toy car.</li> <li>• Does this toy car meet the design brief?</li> <li>• Relate the car to current ethical, social and cultural issues</li> <li>• Identified the safety elements of the product</li> </ul>	<ul style="list-style-type: none"> <li>• Identify the best tool to draw a curve</li> <li>• How can you duplicate parts of your drawing?</li> <li>• How can you export your drawing to CAM equipment?</li> <li>• How can you create an isometric cube?</li> </ul>
<b>Assessment</b>		<p>Four assessments are completed for each rotation.</p> <ul style="list-style-type: none"> <li>• Research – where students are expected</li> </ul>	Subject Knowledge - To be able to analyse an existing product, to show an understanding of purpose, form & function.	

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		<p>to find new information independently, draw their ideas and analyse their findings.</p> <ul style="list-style-type: none"><li>• Design – Students plan their thoughts and concepts in order to develop a range of meaningful and purposeful ideas.</li><li>• Manufacturing – Students develop a final end product showing the skills and knowledge of fabric decoration retained</li><li>• Evaluation – Students evaluate their product against their initial brief and state ways to improve.</li></ul>	<p>Design - To be able to analyse your final design, comparing against the design brief</p> <p>Make - To create your model car using a range of tools and techniques</p> <p>Evaluate - Evaluate your cars performance on race day. Identify areas for improvement and adaptations you may make for your car.</p>	
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