

St Michael's Church of England High School – Scheme of Learning Overview

Subject: Design & Technology		Year group: 7	(1 term)
Unit: Textiles rotation - The puppet project			
Overview (including links to Big Ideas)			
<p>The national curriculum for design and technology at St. Michael’s high school, aims to ensure that all pupils:</p> <ul style="list-style-type: none">• Develop the creative, technical, and practical expertise need to perform everyday tasks confidently and to participate successfully in an increasingly technological world.• Build and apply a repertoire of knowledge, understanding and skills to design and make high quality prototypes and products for a wide range of users.• Critique, evaluate and test their ideas and products and the work of others.• Understand and apply the principles of nutrition and learn how to cook. <p>Our big ideas are sequenced across all three rotations in year 7, allowing students to investigate, explore and build upon their knowledge across three subject specialist areas through a combination of theory based and practical lessons and regular homework tasks. Our big ideas include:</p>			
Designing	Research, product analysis, design brief, specification and iterative approach.		
Problem solving	Design ideas, design development, modelling, materials, analysing and evaluating, environmental considerations.		
Manufacturing techniques and processes	Hand techniques including use of tools and equipment, use of machines, equipment, appliances, CAD/CAM, measuring, dimensions, quantities, and scales of production.		
CAD/CAM	Design development, pros and cons compared to traditional methods.		
User needs	Products in society, impact on culture, specifications, target users, cultural and religious values.		
Tools & equipment	Understanding and applying health and safety rules in each specialist room (RM, TX and FD), hand tools, equipment, machinery and appliances.		
Links to Prior and Future learning (Why this? Why now?)			
<p>Prior to year 7, students will have had varying experiences of Deign Technology during their time at Primary school. Here at St. Michael’s high school, we provide the opportunity for primary school students to experience Design and Technology during our year 6 transition days and as early on in year 5 WOW sessions to give all attenders the opportunity to see how exciting our department is, meet staff, break down initial nerves and experience some of our big ideas in the specialist rooms/workshop.</p> <p>Our year 7 students experience all three specialist areas of Design and technology, one rotation per term. Our big ideas are explored across all three projects, allowing students to build up a foundation of knowledge, skills and expertise by the end of year 7.</p>			
Knowledge/Skill Goals		Lesson sequence	
Tools & equipment <ul style="list-style-type: none">• Be able to work safely in the Textile workshop• Be able to name subject specific equipment• Demonstrate using a sewing machine safely		<u>Week 1-2</u> <ul style="list-style-type: none">• Introduction to Textiles• Aims and knowledge/skill goals• Expectations & routines• Health and safety in a textiles room• Introduction to textiles tools/equipment• Research discussion (History of puppets)	

Designing & manufacturing skills

- Be able to name and demonstrate various ways to decorate fabric
 - transfer printing
 - Tie dye
 - Hand stitching
 - Hand embroidery
 - Machine stitching
- Be able to measure and cut fabric accurately
- following production systems
- be able to plan the production for manufacture

User needs/problem solving

- Understand how to use research tools to find the origin of traditional glove puppets and use secondary research for design inspiration
- Understand how not to waste fabrics (consider the 6Rs of sustainability)
- Be able to evaluate my own and my peers work and identify improvements

Class theory (Silver CGP books) and Knowledge organiser homework topics

1. Natural fibres, synthetic fibres, and world materials (p,40-41)
2. Analysing products, research, and the internet (p,1, 4-5)
3. Textiles techniques, CAD/CAM, tools & equipment (p,46-48)
4. Understanding user needs, cultural and religious values (p,6-7))
5. Environmental considerations (p,28-29)
6. Keywords and definitions

- Textiles technique: transfer printing – demo and focused practical task
- **KO topic 1:** Natural fibres, synthetic fibres, and world materials

Week 3-4

- KO1 quiz
- Textiles technique: Tie Dye – demo and practical
- Textiles technique: Hand embroidery – demo and focused practical task
- **KO topic 2:** Analysing products, research, and the internet

Week 5-6

- KO2 quiz
- Textiles technique: Sewing machine introduction, demo and focused practical task
- Sewing machine test
- Textiles technique: Hand embroidery – Continuation of focused practical task
- Design ideas - ergonomic shape/ user needs
- **KO topic 3:** Textiles techniques, CAD/CAM, tools and equipment

Week 7-8

- KO3 quiz
- Design development, final design
- Understanding 2D flat patterns
- Plan of production
- Sustainability – avoiding waste
- Manufacturing the outcome
- **KO topic 4:** Understanding user needs, cultural and religious values

Week 9-10

- KO4 quiz
- Manufacturing the outcome
- Iterative design development
- **KO topic 5:** Environmental considerations

Week 11-12

- KO5 quiz
- Manufacturing the outcome
- Evaluation
- Identifying improvements
- D&T summative assessment 1
- **KO topic 6:** Keywords and definitions

Key vocabulary (Tier 2 and 3)	Reading/Writing/Numeracy development
<p>Iterative design Transfer techniques Hand embroidery Applique Decorative Self-assessment Modifications Evaluate Annotate Tessellation Seam textile Presser foot Applique Transfer print Embroidery Tie dye Target user Criteria Annotation Pick/un pick Computer aided manufacture</p>	<ul style="list-style-type: none"> • Warm up/cool down routines – reading tasks • Reading textbook in lessons • Reading knowledge organisers as part of home learning • Access to textiles based publications and magazines • Technical vocabulary word banks displayed on PowerPoint slides and wall displays • Understanding the purpose and measurement for seam allowances • Annotation of designs using tier 2/3 words
Teaching strategies	
<p><u>Quality First Teaching strategies (QFT)</u></p> <ul style="list-style-type: none"> • Annotated seating plans, access to pupil passports and SEN requirements to inform of QFT strategies • Task organisers given for 1:1 direct instruction – also tasks on PowerPoint or the board. • green and red cards • Mini whiteboards • 1:1 guidance and support via TEAMS • Directed TA support if allocated to a student/class. • Visual guides/resources, step by step plans <p><u>Stretch and Challenge</u></p> <ul style="list-style-type: none"> • Higher level technique tasks set to pitch up the expectations and challenges. • No opt out questioning 	

Assessment	
<p>KO quiz, self/peer assessment using checklists and success criteria. Teacher assessment of practical outcomes including feedback for improvements.</p> <p><u>Formative assessments:</u></p> <ul style="list-style-type: none"> • Self and peer assessments • Teacher whole class verbal feedback • Teacher written feedback <p><u>Summative assessments:</u></p> <ul style="list-style-type: none"> • Formal assessments in student assessment book with opportunity for improvements • Summative assessment 1 (Spring term) • Summative assessment 2 (Summer term) 	
Homework	
<ul style="list-style-type: none"> • Fortnightly knowledge organiser topics to compliment class theory and preparation for fortnightly class quizzes. • Independent home learning tasks to compliment classwork. 	
Cultural/Social/Economic Development	Subject specific information (e.g. scientific enquiry/historical enquiry/key practicals)
<p>Where did hand puppets originate from?</p> <p>Students consider target users and audiences, relating their design/product to meet specific requirements. Students also research similar existing products and investigate user criteria through product analysis.</p> <p>Sustainability considerations – reducing materials and fabric waste, reusing fabrics, repairing, rethinking designs.</p>	<p>Threading up a sewing machine safely.</p> <p>Traditional textiles skills and modern textiles techniques.</p> <p>Where do natural fibres come from?</p>