

Year 10- Unit 1 - Design and Technology: Textiles

Rationale and Context of Unit:	Core curriculum content:	Tier 2 & Tier 3 vocabulary explicitly taught:
<p>Part of GCSE Design and technology, students must cover the core materials: Metal, Paper and board, Textiles, Polymers and Timbers. The first term we will cover Textiles and Paper and Board, mainly through practical tasks.</p> <p>1.11 The categorisation of the types, properties, and structure of natural, synthetic, blended and mixed fibres, and woven, non-woven and knitted textiles.</p> <p>1.11.1 Natural</p> <p>a) Animal – wool</p> <p>b) Vegetable - cotton</p> <p>1.11.2 Synthetic</p> <p>a) Polyester</p> <p>b) Acrylic</p> <p>1.11.3 Woven</p> <p>a) Plain – calico</p> <p>b) Twill – denim</p> <p>6.2.3</p> <p>Satin – jacquard</p> <p>Pile – velvet</p> <p>1.11.4 Non-woven</p> <p>a) Felted wool fabric</p> <p>b) Bonded fibres/webs</p>	<p>This is the first unit of GCSE Design and Technology Textiles. The main focus is to introduce the Design and Technology GCSE and for all students to gain confidence with using the materials and equipment available.</p> <p>The first half term is full of focus tasks. This helps with the theory and gain confidence using difference materials. Once students have gained confidence, students will design and make a bag. The end product can vary depending on the cohort and their interests.</p> <ul style="list-style-type: none"> • Working independently • Experience new equipment which they would have not used at KS3 <p>Focus Tasks</p> <ul style="list-style-type: none"> • Seams – plain, French, felled • Finishing seams – overlocker, pinking shears, zig-zag stitch • Shaping – adding and reducing fullness - pleats, gathers, darts shirring, tucks • CAD/CAM – embroidery machine, Vinyl sticker • Woven, non-woven and knitted fabrics • Paper and board – creating models • Bonded fibres – creating felt 	<ul style="list-style-type: none"> • Pattern • Templates • Overlocker • Woven • Non-Woven • Natural • Wool • Cotton • Synthetic • Polyester • Acrylic • Plain, Twill and Satin Weave • Bonded • Jacquard • Pile • CAM – Computer Aided Manufacture • CAD – Computer Aided Design • Interfacing • Flexibility • Printability • Biodegradability • Trend forecasting

<p>1.11.6 Properties, including:</p> <ul style="list-style-type: none"> a) Elasticity b) Resilience c) durability <p>1.7.1 How to make use of flowcharts</p> <p>1.9 The categorisation of the types, properties and structure of paper and board.</p> <p>1.9.1 Paper, including:</p> <ul style="list-style-type: none"> a) copier paper b) cartridge paper c) tracing paper <p>1.9.1 Board, including:</p> <ul style="list-style-type: none"> a) folding boxboard b) corrugated board c) solid white board <p>1.9.3 Properties, including:</p> <ul style="list-style-type: none"> a) flexibility b) printability c) biodegradability <p>1.15 Investigate and analyse the work of past and present professionals and companies in order to inform design.</p> <p>Strategies, techniques, and approaches employed when investigating and analysing the work of others.</p> <p>1.15.1 Analysing a product to the following specification criteria:</p> <ul style="list-style-type: none"> a) form b) function c) client and user requirements 	<ul style="list-style-type: none"> • Interfacing – adding structure • Patchwork • Quilting • Piping • Components – buttons, zips, other fastenings <p>Bag</p> <ul style="list-style-type: none"> • Research - Product Analysis • Research - Trend forecasting • Designing • Working Drawing • Modelling – creating their own pattern and template • Flowcharts • Logo – decoration (variety of techniques available – recap of KS3) • Manufacturer – Bag <p>All these skills will allow students to understand the manufacturing of textile products. This will allow students to gain independence, take creative risks and solve their own design problems which they need in Year 11.</p>	<ul style="list-style-type: none"> • Patchwork • Quilting • Piping • Seams – Plain, French, Felled • Shaping – pleats, gathers, darts, shirring, tucks • Components, fastenings
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<p>d) performance requirements e) materials and components f) cost g) sustainability h) aesthetics i) marketability j) consideration of innovation</p> <p>1.15.2 The work of past and present designers and companies:</p> <p>a) Alessa b) Apple c) Heatherwick Studio d) Joe Casely-Hayford e) Pixar f) Raymond Loewy g) Tesla h) Zaha Hadid</p> <p>6.7 Specialist techniques, tools, equipment and processes that can be used on natural, synthetic, woven and non-woven, knitted, blended and mixed-fibre textiles shape, fabricate, construct and assemble a high-quality prototype.</p> <p>6.7.1 Tools and equipment</p> <p>a) Hand tools b) Machinery</p> <p>6.7.2 shaping</p> <p>a) Adding and reducing fullness – pleats, gather, dart, tucks, shirring b) Adding structure – interfacing, boning</p>		
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<p>6.7.3 Fabricating/constructing/assembling</p> <ol style="list-style-type: none"> a) Draping b) Seams – plain, felled, French, double-stitching, top stitching c) Finishing raw edges – zig-zagged, pinking shears, overlocking d) Wastage <p>6.8 Appropriate surface treatments and finishes that can be applied to natural, synthetic, woven and non-woven, knitted, blended and mixed fibre textiles for functional and aesthetic purposes.</p> <p>6.8.1 Surface finishes and treatments</p> <ol style="list-style-type: none"> a) Patchwork b) Quilting 		
Challenge and Support:	World wide learning/ links to 21 st century:	Cultural capital/ Industry/ Enrichment:
<p>Examples of projects are provided. Step by steps and writing frames can be provided for SEND/PP students. Keywords clearly visible in classroom.</p> <p>Fabric provided free to PP students. Students can either purchase their own fabric or off the school.</p> <p>Technician support available in some lessons to support students and the help with the equipment.</p>	<ul style="list-style-type: none"> • Cognitive skills - problem solving, creativity • Self-management and self-development • Relationship-building skills – teamwork • Systems thinking – decision making and reasoning. 	<ul style="list-style-type: none"> • East Norfolk College Trip – an opportunity for students to experience textiles at 6th Form. • Students learn to be imaginative and creative, are able to problem solve, learn to take risks and becoming resourceful. • Students learn about health and safety within industries and how

<p>Students are stretched and challenged with their design ideas and practical pieces. Students will be encouraged to think and express for themselves in original ways, generate and develop ideas, define problems, push the boundaries for textiles techniques to exploit the potential of their individual product. Students will be challenged to make their own bag whether they use an existing pattern or create their own one using their paper model.</p> <p>Extension tasks available during the lessons and for all homework tasks set. Exam questions.</p> <p>Scholarly directed reading – Research tasks allow students to be directed to websites and textbooks. Opportunities for students to read allow in class and provide oral feedback and contribute to class discussions.</p>		<p>clothing are manufactured in industry.</p>
Historical, Social, Moral, Spiritual, Cultural context:	Cross curricular links/ literacy/numeracy:	Common misconceptions:
<ul style="list-style-type: none"> We look at the global and social impact with the production of natural and synthetic fibres. 	<ul style="list-style-type: none"> Students will have opportunities to engage in speaking and listening activities through reading and writing. (e.g. class discussions, questioning, verbal feedback – self and peer, share research through presentations, annotate and comment upon the work of peers through reading, writing and listening, exercise books used for extended writing tasks) Numeracy – measuring- producing working drawings, seam allowance.. Costings materials. 	<ul style="list-style-type: none"> Every material has the same properties. Where fabric comes from? Unknown differences between natural and synthetics fibres. Different properties for each fabric. Products only take a lesson to make! Students unaware on how production works, the need for accuracy and time.

	<ul style="list-style-type: none"> • Homework – opportunities for students to produce extended writing pieces • Cross curricular – science, maths and geography. • Oracy – Students will be working in groups to prepare presentations on the 8 past and present designers listed in the specification. Everyone in the group will be have a chance to present by the end of the term. • Define their ideas as work progresses through experimenting with media, materials, techniques and processes. 	
<p>Assessment timeline:</p>		
<p>All groups of lessons will have a success criteria using EDSM and WAGOLL's. Feedback4 is used to assess current progress with students designs and practical skills. End of unit test (summative assessment) is performed using the google classroom platform. A01 – Investigate A02 – Design A03 – Manufacture A04 – Testing and Evaluate</p>		
<p>Home learning</p>		
<p>Students will complete research tasks for each of the 8 past and present designers. This will fit in with Oracy tasks within the lesson. Students are given 2 weeks to research each designer and present their work in their sketchbook. Students can get very creative presenting their research.</p>		
<p>Feedback</p>		
<p>Self and peer assessment used to mark the formative tests/exam questions. Self and peer assessment on design ideas and practical work using WWW/EBI. Homework marked using the star system. Feedback4 used to assess designs, practical pieces, and presentation of work. End of unit assessment</p>		

Length of unit (duration indicated in lessons)

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
<ul style="list-style-type: none"> • Intro to GCSE Design and Technology • Past and Present designers • Seams • Finishing seams • CAD/CAM – embroidery machine, vinyl machine • Shaping techniques • Surface finishes 	<ul style="list-style-type: none"> • Natural and Synthetic fibres • Woven, non-woven and knitted fabrics • Bonded Fibres • Interfacing 	<ul style="list-style-type: none"> • Research – trend forecasting • Research – product analysis • Freehand sketches • Modelling design ideas • Working drawing 	<ul style="list-style-type: none"> • Manufacturing a bag • Evaluation 	<ul style="list-style-type: none"> • End of unit assessment