

This term in Textiles we will be learning about various textile materials, methods, and techniques to develop prototypes.

	Grade 7-9	Grade 5-6	Grade 4	Grade 1-3
KNOWLEDGE	<p>Students will be introduced to textile materials, construction methods, fabric manipulation and decorative techniques to then develop their own prototype for an apron.</p> <p>Focus:</p> <ul style="list-style-type: none"> <li>• Textile material knowledge and origin: natural materials [cotton, silk and wool] and synthetic materials [polyester, nylon and rayon].</li> <li>• Basic construction: straight stitch, straight stitch finished and doubled turned.</li> <li>• Fabric manipulation: patch work, pleating – box pleat and inverted box pleat.</li> <li>• Decorative techniques: piping, binding, applique and reverse applique.</li> <li>• Pattern construction: using anthropometric data to create a suitable pattern for an apron.</li> <li>• Garment construction: making a pocket, adding interfacing and sewing in a zip.</li> <li>• Methods of production: one-off, batch, mass and continuous.</li> </ul>			
SKILLS & APPLICATION	<p>Comprehensive understanding of all the focused knowledge topics.</p> <p>Confidently selecting and using specialist techniques and processes that are appropriate for the material and/or task and use them to the required level of accuracy to complete quality outcomes.</p> <p>Reflects critically, responding to feedback when evaluating their own prototypes, assessing if they are fit for purpose, as well as various possible improvements.</p>	<p>Good understanding of all the focused knowledge topics.</p> <p>Correct selection and use of specialist techniques and processes that are mostly appropriate for the material and/or task and use them to a decent level of accuracy to complete good outcomes.</p> <p>Detailed reflection, responding to feedback when evaluating their own prototypes, assessing if they are fit for purpose, as well as possible improvements.</p>	<p>Adequate understanding of all the focused knowledge topics.</p> <p>Acceptable selection and use of specialist techniques and processes that are mostly appropriate for the material and/or task and use them to a satisfactory level of accuracy to complete sufficient outcomes.</p> <p>Satisfactory reflection, some response to feedback when evaluating their own prototypes, lacking in some justification for the fit for purpose as well as possible improvements.</p>	<p>Basic understanding of all the focused knowledge topics.</p> <p>Limited selection and use of specialist techniques and processes that are not always appropriate for the material and/or task, with very little accuracy shown to attempt the necessary outcomes.</p> <p>Insufficient reflection, little to no response to feedback when evaluating their own prototypes, lacking in consideration for the product and possible improvements.</p>

**This term in Textiles we will be learning about new and emerging technologies and ecological and social footprint**

	Grade 7-9	Grade 5-6	Grade 4	Grade 1-3
<b>K N O W L E D G E</b>	<p>Knowledge of the principles of: Sustainability and the environment, Critical knowledge on new and emerging technologies, Design for maintenance, Ethics, The six Rs, Ecological issues in design and manufacture</p> <p>Design decisions and outcomes.</p> <p>Mathematical skills and scientific knowledge..</p>	<p>Knowledge and understanding of: Sustainability and the environment, Critical knowledge on new and emerging, technologies, Design for maintenance, Ethics, The six Rs, Ecological issues in design and manufacture</p> <p>Design decisions and outcomes to draw some evidenced conclusions.</p> <p>Mathematical skills and scientific knowledge.</p>	<p>Some knowledge and understanding: Sustainability and the environment, new and emerging technologies, Design for maintenance, Ethics,, Ecological issues in design and manufacture</p> <p>Design decisions</p> <p>use some mathematical skills and scientific knowledge</p>	<p>Basic knowledge and understanding: Sustainability and the environment, technologies, Design for maintenance, Ethics .</p> <p>Level of communication lacks detail and visual communication is basic. .</p> <p>Mathematical skills and science knowledge are accurate but only for basic calculations.</p>
<b>S K I L L S &amp; A P P L I C A T I O N</b>	<p>Demonstrate and effectively apply comprehensive understanding of the principles of design and technology in a range of situations.</p> <p>Effectively employ sophisticated technical language and a range of communication methods.</p> <p>Critically analyse and evaluate decisions to draw well-evidenced conclusions.</p>	<p>Demonstrate and effectively apply understanding of the principles of design and technology in a range of situations.</p> <p>Accurately and effectively apply technical language.</p> <p>Critically analyse and evaluate design decisions and outcomes to draw some evidenced conclusions.</p> <p>Use a range of mathematical skills and scientific knowledge to make accurate calculations and inform choices.</p>	<p>Demonstrate and apply mostly accurate and appropriate knowledge and understanding of the principles of design and technology in some situations.</p> <p>Use some appropriate technical language and methods of communication.</p> <p>Analyse and evaluate design decisions and outcomes to draw some conclusions. . use some mathematical skills and scientific knowledge to make mostly accurate calculations and inform some choices.</p>	<p>Basic knowledge and understanding of the principles of design and technology in some situations.</p> <p>Level of communication lacks detail and visual communication is basic. .</p> <p>Mathematical skills and science knowledge are accurate but only for basic calculations.</p>

This term in SUBJECT we will be learning about materials and their working properties

	Grade 7-9	Grade 5-6	Grade 4	Grade 1-3
KNOWLEDGE	<p>Knowledge on the selection of materials or components for a wide range of DT situations, Excellent knowledge of sources and origins, stock forms, types and sizes of materials</p> <p>Design decisions and outcomes relating to materials.</p>	<p>Knowledge and understanding of materials or components for range of DT situations, Good knowledge of sources and origins, stock forms, types and sizes of materials</p> <p>Design decisions and outcomes to draw some evidenced relating to materials.</p>	<p>Some knowledge and understanding of materials or components for a wide range of DT situations, Sources and origins, stock forms, types and sizes of materials</p> <p>Some appropriate technical language relating to materials and choices.</p>	<p>Basic knowledge and understanding of materials or components, sources and origins, stock formss</p> <p>Level of communication lacks detail and visual communication is basic.</p>
SKILLS & APPLICATION	<p>Demonstrate and effectively apply comprehensive understanding materials or components for a wide range of DT situations, Evaluate sources and origins, stock forms, types and sizes of materials</p> <p>Effectively employ sophisticated technical language and a range of communication methods.</p> <p>Critically analyse and evaluate decisions to use materials</p>	<p>Demonstrate and effectively apply understanding materials or components for a range of DT situations, Justify sources and origins, stock forms, types and sizes of materials</p> <p>Accurately and effectively apply technical language and a range of communication methods.</p> <p>Critically analyse and evaluate design decisions and outcomes to draw some evidenced conclusions.</p>	<p>Demonstrate and apply mostly accurate and appropriate understanding materials or components, Explain sources and origins, stock forms, types and sizes of materials</p> <p>use some appropriate technical language and methods of communication, such as drawings and annotated sketches.</p> <p>Analyse and evaluate design decisions and outcomes to draw some conclusion</p>	<p>Basic knowledge and understanding of the principles of materials or components, sources and origins, stock forms,</p> <p>Level of communication lacks detail and visual communication is basic.</p>

This term in SUBJECT we will be learning about specialist techniques and processes				
	Grade 7-9	Grade 5-6	Grade 4	Grade 1-3
KNOWLEDGE	Mastery knowledge of the principles of specialist techniques and process relating to Textiles.	Knowledge and understanding of specialist techniques and process relating to Textiles.	Some knowledge and understanding of specialist techniques and process relating to Textiles.	Basic knowledge and understanding of specialist techniques and process relating to Textiles.
	Extensive knowledge of the specialist textiles treatments	Clear understanding of the specialist textiles treatments	Some knowledge of the specialist textiles treatments	Some knowledge of the specialist textiles treatments
SKILLS & APPLICATION	Comprehensive knowledge on a range of production methods.	Mathematical skills and scientific knowledge.	Some appropriate technical language and methods of communication.	Level of communication lacks detail and visual communication is basic. .
	Demonstrate and effectively apply comprehensive understanding of the specialist techniques and process relating to Textiles.	Demonstrate and effectively apply understanding of specialist techniques and process relating to Textiles.	Demonstrate and apply mostly accurate and appropriate knowledge and understanding specialist techniques and process relating to Textiles.	Basic knowledge and understanding of specialist techniques and process relating to Textiles.
SKILLS & APPLICATION	Effectively employ sophisticated technical language and a range of communication methods.	Accurately and effectively apply technical language and a range of communication methods.	Use some appropriate technical language and methods of communication, such as drawings and annotated sketches.	Level of communication lacks detail and visual communication is basic. .
	Critically analyse and evaluate decisions to draw well-evidenced conclusions.	Critically analyse and evaluate design decisions and outcomes to draw some evidenced conclusions.		

This term in SUBJECT we will be learning about Producing a design brief & specification				
	Grade 7-9	Grade 5-6	Grade 4	Grade 1-3
<b>K N O W L E D G E</b>	Based on conclusions from their investigations students will outline design possibilities by producing a design brief and design specification. Students should review both throughout the project.			
<b>S K I L L S &amp; A P P L I C A T I O N</b>	<p>Comprehensive design brief which clearly justifies how they have considered their user/client's needs and wants and links directly to the context selected.</p> <p>Comprehensive design specification with very high level of justification linking to the needs and wants of the client/user.</p> <p>Fully informs subsequent design stages.</p>	<p>Good design brief with an attempt to justify how they have considered most of their client's needs and wants and has clear links to the context selected.</p> <p>Detailed design specification with good justification linking to the needs and wants of the client/user.</p> <p>Largely informs subsequent design stages.</p>	<p>Adequate design brief with some consideration of their client's needs and wants is evident, as is the relevance to the context selected.</p> <p>Adequate design specification lacking some detail. Some justification linking to the needs and wants of the client/user.</p> <p>Informs subsequent design stages to some extent.</p>	<p>Basic design brief that contains only limited consideration of their client's needs and wants and has little or no relevance to the context selected.</p> <p>Basic design specification has minimal detail. Limited justification linking to the needs and wants of the client/user.</p> <p>Very little influence on subsequent design stages.</p>

This term in SUBJECT we will be learning about <span style="float: right;">Generating design ideas</span>				
	Grade 7-9	Grade 5-6	Grade 4	Grade 1-3
<b>K N O W L E D G E</b>	<p>Students should explore a range of possible ideas linking to the contextual challenge selected. These design ideas should demonstrate flair and originality and students are encouraged to take risks with their designs. Students may wish to use a variety of techniques to communicate. Students will not be awarded for the quantity of design ideas but how well their ideas address the contextual challenge selected. Students are encouraged to be imaginative in their approach by experimenting with different ideas and possibilities that avoid design fixation. In the highest band students are expected to show some innovation by generating ideas that are different to the work of the majority of their peers or demonstrate new ways of improving existing solutions.</p>			
<b>S K I L L S &amp; A P P L I C A T I O N</b>	<p>Imaginative, creative and innovative ideas have been generated, fully avoiding design fixation and with full consideration of functionality, aesthetics and innovation. Ideas have been generated, that take full account of on-going investigation that is both fully relevant and focused.</p> <p>Extensive experimentation and excellent communication is evident, using a wide range of techniques.</p> <p>Imaginative use of different design strategies for different purposes and as part of a fully integrated approach to designing.</p>	<p>Imaginative and creative ideas have been generated which mainly avoid design fixation and have adequate consideration of functionality, aesthetics and innovation. Ideas have been generated, taking into account on-going investigation that is relevant and focused. Good experimentation and communication is evident, using a wide range of techniques. Effective use of different design strategies for different purposes as an approach to designing.</p>	<p>Imaginative ideas have been generated with a degree of design fixation and having some consideration of functionality, aesthetics and innovation. Ideas have been generated that take some account of investigations carried out but may lack relevance and/or focus. Experimentation is sufficient to generate a range of ideas. Communication is evident, using a range of techniques. Different design strategies explored but only at a superficial level with the approach tending to be fairly narrow.</p>	<p>Basic ideas have been generated with clear design fixation and limited consideration of functionality, aesthetics and innovation. Ideas generated taking little or no account of investigations carried out. Basic experimentation and communication is evident, using a limited number of techniques. Basic use of a single design strategy.</p>

This term in Textiles we will be learning about <span style="float: right;">Developing design ideas</span>				
	Grade 7-9	Grade 5-6	Grade 4	Grade 1-3
<b>K N O W L E D G E</b>	<p>Students will develop and refine design ideas. This may include, formal and informal 2D/3D drawing including CAD, systems and schematic diagrams, models and schedules. Students will develop at least one model, however marks will be awarded for the suitability of the model(s) and not the quantity produced. Students will also select suitable materials and components communicating their decisions throughout the development process. Students are encouraged to reflect on their developed ideas by looking at their requirements; including how their designs meet the design specification. Part of this work will then feed into the development of a manufacturing specification providing sufficient accurate information for third party manufacture, using a range of appropriate methods, such as measured drawings, control programs, circuit diagrams, patterns, cutting or parts lists.</p>			
<b>S K I L L S &amp; A P P L I C A T I O N</b>	<p>Very detailed development work is evident, using a wide range of 2D/3D techniques (including CAD where appropriate) in order to develop a prototype.</p> <p>Excellent modelling, using a wide variety of methods to test their design ideas, fully meeting all requirements.</p> <p>Fully appropriate materials/components selected with extensive research into their working properties and availability.</p> <p>Fully detailed manufacturing specification is produced with comprehensive justification to inform manufacture.</p>	<p>Good development work is evident, using a range of 2D/3D techniques (including CAD where appropriate) in order to develop a prototype.</p> <p>Good modelling which uses a variety of methods to test their design ideas, largely meeting requirements.</p> <p>Materials/components selected are mostly appropriate with good research into their working properties and availability.</p> <p>Largely detailed manufacturing specification is produced with good justification to inform manufacture.</p>	<p>Development work is sufficient, using some 2D/3D techniques (including CAD where appropriate) in order to develop a prototype.</p> <p>Modelling is sufficient, using a variety of methods to test their design ideas, meeting some requirements.</p> <p>Materials/components selected with some research into their working properties and availability. Some of these may not be fully appropriate for purpose.</p> <p>Adequate manufacturing specification contains sufficient detail with some justification to inform manufacture.</p>	<p>Basic development work is evident, using a limited range of 2D/3D techniques (including CAD where appropriate) in order to develop a prototype. Modelling is basic, using a limited number of methods to test their design ideas meeting requirements only superficially. Materials/components selected with minimal research into their working properties or availability and may not be fully fit for purpose.</p> <p>Basic manufacturing specification that lacks detail and has minimal justification to inform manufacture.</p>

This term in SUBJECT we will be learning about Realising design ideas

	Grade 7-9	Grade 5-6	Grade 4	Grade 1-3
KNOWLEDGE	<p>Students will work with a range of appropriate materials/components to produce prototypes that are accurate and within close tolerances. This will involve using specialist tools and equipment, which may include hand tools, machines or CAM/CNC. The prototypes will be constructed through a range of techniques, which may involve shaping, fabrication, construction and assembly. The prototypes will have suitable finish with functional and aesthetic qualities, where appropriate. Students will be awarded marks for the quality of their prototype(s) and how it addresses the design brief and design specification based on a contextual challenge.</p>			
SKILLS & APPLICATION	<p>The correct tools, materials and equipment (including CAM where appropriate) have been consistently used or operated safely with an exceptionally high level of skill. A high level of quality control is evident to ensure the prototype is accurate by consistently applying very close tolerances. Prototype shows an exceptionally high level of making/finishing skills that are fully consistent and appropriate to the desired outcome. An exceptionally high quality prototype that has the potential to be commercially viable has been produced and fully meets the needs of the client/user.</p>	<p>The correct tools, materials and equipment (including CAM where appropriate) have been used or operated safely with a good level, of skill. Detailed quality control is evident to ensure the prototype is mostly accurate through partial application of tolerances. Prototype shows a good level of making/finishing skills that are largely consistent and appropriate to the desired outcome. A good quality prototype that may have potential to be commercially viable has been produced which mostly meets the needs of the client/user.</p>	<p>The correct tools, materials and equipment (including CAM where appropriate) have been used or operated safely with an adequate level of skill. Some quality control is evident through measurement and testing. Prototype shows an adequate level of making/finishing skills that are mostly appropriate to the desired outcome. A prototype of sufficient quality has been produced that may have potential to be commercially viable, although further developments would be required, and only partially meets the needs of the client/user.</p>	<p>Tools, materials and equipment (including CAM where appropriate) have been used or operated safely at a basic level. Basic quality control is evident through measurement only. Prototype shows a basic level of making/finishing skills which may not be appropriate for the desired outcome. A prototype of basic quality has been produced with little or no potential to be commercially viable and does not meet the needs of the client/user.</p>



This term in SUBJECT we will be learning about <b>Analysing &amp; evaluating</b>				
	Grade 7-9	Grade 5-6	Grade 4	Grade 1-3
<b>K N O W L E D G E</b>	<p>Within this iterative design process students are expected to continuously analyse and evaluate their work, using their decisions to improve outcomes. This should include defining requirements, analysing the design brief and specifications along with the testing and evaluating of ideas produced during the generation and development stages. Their final prototype(s) will also undergo a range of tests on which the final evaluation will be formulated. This should include market testing and a detailed analysis of the prototype(s).</p>			
<b>S K I L L S &amp; A P P L I C A T I O N</b>	<p>Extensive evidence that various iterations are as a direct result of considerations linked to testing, analysis and evaluation of the prototype, including well considered feedback from third parties.</p> <p>Comprehensive testing of all aspects of the final prototype against the design brief and specification. Fully detailed and justified reference is made to any modifications both proposed and undertaken.</p> <p>Excellent ongoing analysis and evaluation evident throughout the project that clearly influences the design brief and the design and manufacturing specifications.</p>	<p>Good evidence that various iterations are as a result of considerations linked to testing, analysis and evaluation of the prototype, including some consideration of feedback from third parties.</p> <p>Good testing of most aspects of the final prototype against the design brief and specification. Detailed reference is made to any modifications either proposed or undertaken.</p> <p>Good analysis and evaluation at most stages of the project that influences the design brief and the design and manufacturing specifications.</p>	<p>Some evidence that various iterations are as a result of considerations linked to testing, analysis and evaluation of the prototype, including basic consideration of feedback from third parties.</p> <p>Adequate testing of some aspects of the final prototype against the design brief and specification. Some reference is made to modifications either proposed or undertaken.</p> <p>Adequate analysis and evaluation is present at some stages of the project but does not have sufficient influence on the design brief and the design and manufacturing specifications.</p>	<p>Limited evidence that various iterations are as a result of considerations linked to testing, analysis and evaluation of the prototype.</p> <p>Basic testing of some aspects of the final prototype against the design brief and specification. Little reference is made to any modifications either proposed or undertaken.</p> <p>Superficial analysis and evaluation. Little influence on the design brief and the design and manufacturing specifications.</p>

This term in Textiles we will be learning the processes used to make and finish materials, followed by introducing the NEA

	Grade 7-9	Grade 5-6	Grade 4	Grade 1-3
<b>KNOWLEDGE</b>	<p>Theory focus :</p> <ul style="list-style-type: none"> <li><b>Textile sources, origins and properties:</b> animal, vegetable and chemical sources, processing fibres into yarn and other stock forms</li> <li><b>Commercial manufacturing, surface treatments and finishes:</b> weaving, dyeing, screen printing, water proofing and flame retardancy</li> <li><b>Smart materials and technical textiles:</b> photochromic pigments, thermo-chromic pigments, microfibres, Gore-tex fabric and Kevlar fibre</li> <li><b>Specialist technical principles:</b> knowing the above to be able to fully explain the process used for the textile product given</li> </ul> <p><i>Students will be introduced to their GCSE NEA following the release of the contextual challenges from the exam board.</i></p> <p>NEA focus :</p> <ul style="list-style-type: none"> <li><b>Selecting the contextual challenge:</b> using subject knowledge to analyse the challenges, choosing one focus for the task for the NEA</li> <li><b>Client investigation:</b> knowing how to identify a relevant client for the task, carrying out an investigation of their needs and wants</li> <li><b>Market research:</b> understanding the best methods of primary and secondary research to assist the development of the design brief and specification</li> </ul>			
<b>SKILLS &amp; APPLICATION</b>	<p>Comprehensive understanding of commercial manufacturing, surface treatments and finishes, full knowledge of how they affect the functional and aesthetic properties of textile products.</p> <p>Successfully using sketches and notes to explain a possible process used in the manufacture of a textile product given.</p> <p>Design possibilities identified and thoroughly explored, directly linked to a contextual challenge demonstrating excellent understanding of the problems.</p> <p>A client has been clearly identified and is entirely relevant in all aspects to the contextual challenge and student has undertaken a comprehensive investigation of their needs and wants, with a clear explanation and justification of all aspects of these.</p> <p>Comprehensive investigation into the work of others that clearly informs ideas.</p> <p>Excellent design focus and full understanding of the impact on society including; economic and social effects.</p>	<p>Good understanding of commercial manufacturing, surface treatments and finishes, knowing how they affect the functional and aesthetic properties of textile products.</p> <p>Correct use of sketches and notes to explain a possible process used in the manufacture of a textile product given.</p> <p>Design possibilities identified and explored, linked to a contextual challenge demonstrating a good understanding of the problems.</p> <p>A client has been identified that is mostly relevant to the contextual challenge and student has undertaken an investigation of their needs and wants, with a good explanation and justification of most aspects of these.</p> <p>Detailed investigation into the work of others that has influenced ideas.</p> <p>Good design focus and understanding of the impact on society including; economic and social effects.</p>	<p>Some understanding of commercial manufacturing, surface treatments and finishes, basic knowledge of how they affect the functional and aesthetic properties of textile products.</p> <p>Adequate use of sketches and/or basic notes to explain a possible process used in the manufacture of a textile product given.</p> <p>Design possibilities identified and explored with some link to a contextual challenge demonstrating adequate understanding of the problems.</p> <p>A client has been identified that is partially relevant to the contextual challenge. Student has undertaken an investigation of their needs and wants, with some explanation and justification of some aspects of these.</p> <p>Some investigation into the work of others that has had some influence on their ideas.</p> <p>Some design focus and understanding of the impact on society including; economic and social effects.</p>	<p>Very limited understanding of commercial manufacturing, surface treatments and finishes, lacking knowledge of how they affect the functional and aesthetic properties of textile products.</p> <p>Insufficient use of sketches or basic notes to explain a process that might be used in the manufacture of a textile product given.</p> <p>Basic design possibilities identified. Link to a contextual challenge is unclear and student demonstrates only a limited understanding of the problems.</p> <p>An attempt has been made to identify a client but is not be relevant to the contextual challenge. Student has undertaken a basic investigation of their needs, but given little explanation and justification of these.</p> <p>Basic investigation into the work of others that has not been used to inform their ideas.</p> <p>Limited design focus and understanding of the impact on society including; economic and social effects.</p>

**Key vocabulary :** pigments, Gore-tex, Kevlar, flame retardancy, thermo-chromic, photochromic, microfibre, primary data source, anthropometrics, user-centred design, design fixation, specification  
**Assessment :** Y10 Mock exam – Wednesday 22<sup>nd</sup> June