Curriculum Progression Maps

TECHNOLOGY – KS3 Textiles

Why is the study of textiles important as part of the KS3 Design and Technology rotations?

As part of the Design & Technology world, Textiles allows students to explore the world of fibres, fabrics, decoration and fashion. It is a long journey from realising how many Textiles items there are around us, to making the first steps in using a needle and thread, learning how to use a sewing machine in order to join and later to decorate fabrics, to designing and making their own completed products.

Textiles is an ideal subject for students who enjoy practical work such as drawing and designing and physically making things. While some written, critical and analytical skills are required, there is an emphasis on practical work and building practical skills.

Textiles as a subject, lies under the umbrella of Design and Technology which consists of many other areas such as Engineering, Food and Graphics. Design and Technology is part of the STEM subjects. STEM is an acronym for science, technology, engineering and maths which are all taught as part of academic learning in schools. Science, technology, engineering and maths are the foundations of our technological society. Industries and the economy in general are dependent on skills that are ultimately taught in STEM subjects. STEM subjects provide the intellectual foundations and tools for future scientists, inventors, engineers, designers and manufacturers.

STEM subjects offer the chance for people to continue to change the world as they solve problems both locally and globally. This country has been at the cutting edge of innovation for centuries, with STEM subjects coming together to create and deliver products that have shaped the way we live.

Students who study D&T textiles learn a wide range of textiles skills. Some are traditional skills, such as learning hand sewing techniques to the use of sewing machines. Other skills learnt link to new technology with using a variety of machines such as embroidery machines and computer linked systems (use of CAD/CAM). Students also learn decorative techniques such as using fabric dyes, printing and embellishing. They learn about and use, a wide range of textiles materials, including modern and smart materials that have been engineered to react to changes in the environment and have high tech properties. Students use a range of different equipment in D&T textiles. Where possible they use equipment and machines similar to or the same as those used in industry as well as learning about those that are difficult to access in a school situation. They also design and make products which might include, footwear, fashion items, interior products or pretty much any other product that is made out of textiles materials. There is a big focus on designing functional products for real people, with a real purpose, that solve real problems, as well as a strong focus on how the modern textiles industry works. This links to careers in textiles where designers would work closely with a client to design a product to suit their needs. D&T textiles has strong links to Art Textiles with the skills learned, so there are lots of opportunities for creativity and development, and for progression into this subject in KS4.

Even if students do not wish to pursue this subject further beyond KS3, this subject still provides students with a range of employability skills to help in the workplace, which potential employers would look for in potential employees, as well as skills that can be used in general life.

Experiencing textiles as part of the curriculum in our school offers students the opportunity to develop both technical skills and knowledge in this subject area, as well as developing employability skills that are transferable to other subject areas and careers. This also links to developing employability skills needed to be successful in STEM industries. Students are also given the opportunity to learn hands on as well as being encouraged to raise their aspirations from the highlighting of careers as well as increasing awareness of possible study routes.

What skills will the study of textiles teach you?

Students who study KS3 textiles as part of the technology rotations will develop skills in the following areas:

- Creativity and problem solving skills when producing and developing ideas.
- Using initiative, independence and being self-motivated to research, plan and produce designs that meet a brief and clients needs.
- Ability to learn and adapt eg adapt from successes and failures and considering how to do things better with design solutions.
- Drawing skills through drawing ideas/plans by hand.
- Numeracy and ICT skills (measurements linking to material needs and CAD/CAM software)
- Methods for constructing templates and samples.
- Learning about the design process and all of the steps involved. This includes researching the needs for products,

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researching and analysing others work for inspiration, creating design plans and ideas leading to further development, producing samples/models and prototypes and evaluating their success to produce designs that suit intended users.
• Development of materials and manufacturing knowledge / skills linking to industrial methods including the use of computer aided manufacture (CAM).
• communication and interpersonal skills
• Planning for and ensuring health and safety standards are met during projects.

These skills above, will not only prepare you for progression into KS4 Art Textiles if students select this as an KS4 option, but also gives students transferable skills that can be used in STEM subject areas that employers value as well as general life skills.

What will you know and understand from your study of textiles in KS3?

• To be able to identify market opportunities and solve problems which contribute to the development of new products and systems.
• To understand how market requirements and opportunities inform client briefs.
• The importance of being able to communicate and consult with a client to develop a viable and innovative product.
• To understand the processes involved in designing products and the requirements of a design specification.
• To be able to develop and use a range of practical skills linking to hand and machinery techniques for fabrics.
• To understand the importance of modelling and testing design ideas to inform further product development through the use of sampling.
• Through reflection, the importance of being able to evaluate the prototype, making a comparable outcome against specification points, and assess possible, practical solutions and improvements to their prototype design.
• How the scale of production can affect the design of a product and manufacturing processes selected linking to industrial manufacturing methods.
• How CAD/CAM and automation are used to design and manufacture products linking to industry.
• The importance of safe working practices linking to industry (work place) standards.
• Career paths/ further education choices available locally and nationally linking to textile based careers through learning about possible career choices.

How does your study of textiles support your expertise in other subjects?

Textiles is essentially concerned with communication and problem solving linking to intentions and ideas, whether it is in written, spoken or drawn form, and developing those communication skills supports all other curricular subjects. This process is also client based where you have to consider others needs and wants when solving problems and designing solutions to suit your clients needs. For example, students will need to listen to others, consider alternative view points and perspectives, negotiate and use their own judgement to reach viable outcomes. Students will also need to base solutions, intentions or conclusions on research and evidence collected during the design process. Having respect for other people's views, and contributions, as part of design projects develops self-discipline and empathy for others. These are transferable skills that impact on all other subjects. Research and analysis as part of the design process links to expertise in developing analytical skills through being able to analyse strengths, weaknesses and improvements needed to help inform ideas and suitable solutions. This can be through analysing others' work to inform ideas or through analysing your own work produced to inform further steps in your project. Students learn to develop their creativity through understanding the importance of being able to generate a range of different, creative and innovative ideas for their client, and the brief generated with links to a design problem. This can be applied to creativity required in other creative subjects. Students develop skills to communicate ideas through the use of drawing by hand. This again links to Art Textiles, Art and Design, Graphics and ICT with developing skills in these areas.

As part of planning for manufacture and during the manufacturing process students rely on mathematical skills linking to measurements for not only planning the design but also deciding on material sizes and limiting the amount of waste material produced. There are strong links to science with students learning and developing their understanding about the properties of the materials they are using to help select suitable materials for manufacture as well as studying the environmental impacts of material choices made. This helps students understand that their design choices can have

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a larger impact on the environment and enables students to think about how they can lower this with products that have been designed. Students also develop an understanding of the social impact their designs can have on other users and the importance of producing inclusive designs to suit a wider range of users. As a result, textiles can be seen as important for social, moral, cultural and spiritual development of students.

How can you become an expert in textiles?

• Be willing to work with others on projects. As part of the design cycle when designing and manufacturing products you will have a client whose needs you will have to meet and follow.
•Be willing to listen to others and follow advice and feedback given to help develop ideas and also as part of testing and evaluation.
•Be willing to learn from problems identified and mistakes and not giving up easily when solving them.
•Be willing to be creative with ideas and produce a range which you can then explore and develop further to meet your clients needs.
•Be willing to be flexible and continually update your knowledge on designing and manufacturing methods used eg by drawing ideas by hand, modelling ideas through sampling, learning a wide range of tools and machines that can be used to manufacture products with.
•Understand that designs can have social and environmental impacts and that it is our job as designers to try and minimise this where possible.

What opportunities are there to experience textiles beyond the classroom?

• Careers information to give ideas about possible pathways and careers linking to textiles.
• After school club focusing on developing a wider range of making skills linking to making a variety of different products to further build students skills, experience and enjoyment within the subject area.

How will you develop your character through your Spiritual, Moral, Social & Cultural experiences in textiles?

Examples Include -

•**Spiritual** – Developing an understanding human feelings and emotions through designing products that need to suit a clients or user needs as well as considering their values and beliefs. Using imagination and creativity when learning the importance of producing a range of ideas to suit a clients or user needs and demonstrating this in learning. Students explore different cultural celebrations as part of the postcard project in year 8.
•**Social** – Developing personal qualities such as an understanding of safe working practices and the importance of risk assessment during practical activities. Using social skills through working with a client to meet a design brief and user/third person opinions as part of testing and evaluating outcomes.
•**Moral** – Recognising right and wrong and applying it through safe working practices and risk assessment during practical activities. Students also investigate moral values and ethical issues when exploring material choices and their environmental impact linking to lifecycle assessments.
This also links to learning about appropriate uses of materials and finite resources and the impact this could have on the environment, and the safe and responsible use of sustainable products.
•**Cultural** – Understanding and appreciating personal influences linking to user centred designs. Preparing for life in modern Britain through learning about safe working practices when manufacturing products. Exploring, understanding and respecting diversity through understanding user needs as part of inclusive design. Students explore different cultural celebrations as part of the postcard project in year 8.
•**Ethical issues -** learning about the ethical implications of unregulated labour markets and fair-trade suppliers through material choices eg fair trade cotton.
•**Economic Issues** - learning how to make informed decisions about the choice, implementation, and use of materials in products depending upon cost for example.
•**Fundamental British Values –**Promoting mutual respect through safe working practices as part of designing and making.

Key Assessment Objectives and opportunities

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Year 7 and 8 – over 9/10 lessons students will complete mini in class assessments linking to practical and theory tasks. Part of this will be mini tests linking to key words to embed literacy skills.

Teacher Assessment: questions for starter activities linking to previous learning, questioning during demos and throughout lessons to assess progress.

Peer and self assessments from students: Use of progress trackers in folders to help identify progress made and areas of improvement linking to specific vocabulary/key words. Use of AMAP skills to help achieve this and referral to outcomes of the lesson shared with students so they can identify where they are and what they need to do in order to improve.

Retrieval practice: through starter activities and questioning during demonstrations to check prior knowledge has been retained and to help embed.

Differentiation strategies: By pairings/groups on tables. Teacher to encourage weaker students/disadvantaged/sen to become involved in discussions and targeted questioning. By resources. Targeted support planned from technician (if available in lesson).

How can the study of textiles support students beyond school?

Textiles provides a strong foundation for any job or profession that involves communication, designing or manufacturing skills. These include the many different sectors linking to textile, fashion, art and stem careers.

If students wish to study textiles beyond school there are a range of courses on offer linking to textiles fashion, design, engineering and management. There are also apprenticeships in textiles, fashion and design across the country.

Possible careers include: fashion designer working freelance or for a fashion house, fashion/retail buyer, textiles (fabric) designer, interior designer, pattern cutter, fibre technologist, fabric technologist, textiles colourist, cutting room manager, warehouse manager, production manager, fashion journalist, costumer designer and so on.

Even if students do not pursue further education in textiles, this subject still provides students with a range of employability skills to help in the workplace, which potential employers would look for in potential employees, as well as in skills they can use in general life.

The Six Principles of Nurture linking to the Textiles curriculum.

- **The Importance of Nurture for the Development of Wellbeing**

The principles of Nurture are important in supporting a student to feel that they are safe, their basic needs are met (pastoral support - food, drink, emotional, physical support) . Therefore, the student is ready to learn (Maslow's Hierarchy of Need).
scheme of learning links that focus on student wellbeing - **Year 7 – 11**– opportunities given to discuss design ideas/practical outcomes during designing, making and evaluating stage to identify areas of success and areas for improvement (developing personal qualities, social skills, expressing personal views). There is also focus on considering and understanding user needs when designing the product linking to emotions and feelings. Plus, the development of the individual's practical skills, and broadening their experience with equipment and materials in order to prepare them for the wider world.

- **All Behaviour is Communication**

As part of Scalby School behaviour policy C3's and C4's are recorded. This information is monitored and followed up via the Pastoral Protocol. In the classroom teaching staff and assistant teachers are aware of the wellbeing of students. Teachers understand that behaviour can be an indicator that a student is in need of additional support. Behaviours which are a cause for concern are raised with Pastoral or SEND teams so the correct intervention and support can be put in place. These include learning concerns which are raised as an SEN short note which trigger investigation into the need for exam access arrangements.

- **The Importance of Transitions in Children's Lives**

The Technology department supports student transitions in to y7 by holding year 6 transition days where year 6 students spend 3 hours working in one particular area of technology creating a small design and make project. This is to get them used to workshop/practical environments which they will not have experienced fully at primary school. This is usually in Engineering and Textiles.
Y8 - KS4 transitions are supported by the offer of attending options evening to discuss course choices in detail. Also, career links/wider world links are highlighted as part of SOL throughout years 7 and 8.
Post 16 transitions are supported by the opportunity to attend the Scarborough Engineering week annually where

students can speak to various course providers, apprenticeship providers and employers from not only the local area but also nationally. Again, career opportunities and links are highlighted as part of teaching throughout SOL in year 9-11.
Transition from one set to another (set move) is not applicable in DT classes as they are mixed ability.

- **Language is a vital form of communication**

Whole school focus on vocab - in **Technology** we teach topic specific keywords throughout topics to help develop students understanding. . Key vocabulary is also explored through creative techniques -ie, Textiles – 'Smart Material' – a material which reacts to its environment, such as U V reactive beads.
This is done either through questioning, class discussion, homework tasks as well as use of the Frayer Model in lessons for starter activities to develop vocabulary skills. Each quadrant will have a task in. This could be: - Definition - Word in a sentence - Synonyms - Antonyms - Draw it - Examples - Non-examples" (this guidance is taken form pedagogy platform)

- **The classroom offers a safe base**

In the **Technology** department we have high level of expectations with regards to behaviour and engagement in lessons. We follow the Scalby school behaviour for learning system (outlined on P8 of student planner), have a recognised Matrix and seek support from Active Patrol SLT. Pupils feel safe in the predictability of whole school standards being upheld by all staff across the department.

- **Children's Learning is understood developmentally**

Teachers have completed SEN Provision Maps for each class that they teach. This is saved on Pedagogy platform for all teachers in the department to access. Links to SEN register, My Profiles. Examples of differentiation used in the department –

- Use of wait time linking to questioning
- Level of questioning used to check understanding
- Use of writing frames where appropriate