THE SWEYNE PARK SCHOOL

CURRICULUM INTENT: **D&T Textiles**

At **KS3**, and beyond, the intent of the Design & Technology department is to nurture pupils to develop the skills and knowledge that allow them to become independent learners and discerning consumers. Through the design process pupils develop their creativity, thinking skills, practical abilities and a sense of pride in their own work, in an iterative way. They grow in confidence, working individually and as members of a team, being able to appreciate the technological advancements that have contributed to the way of life they experience today in modern Britain, studying designers, both current and in the past. They also gain an insight into the classification and properties of materials and the sustainability issues that are faced by the planet, our use of the resources we harvest from it and the social, moral, cultural and ethical issues associated with designing and manufacturing for a range of users in a contemporary society

At **KS4**, pupils build upon their basic knowledge of materials and gain a deeper insight into the manufacturing processes involved in the journey from raw material to finished product. They study a common core of technical principles that include sustainability and the ecological and social footprint associated with responsible design. Finite and non-finite resources are researched as well as the technological advances that are being continually developed and incorporated into the products of which we, as consumers, take advantage. Pupils gain awareness and learn from wider influences including historical, social, cultural, environmental and economic factors. Pupils have the opportunity to work creatively when designing and making and apply technical and practical expertise. Pupils experience the use of advanced software packages and CAD/CAM and understand that the equipment they use is a school-based version of industrial manufacturing techniques. In Yr11, pupils demonstrate their knowledge of the design process by carrying out a Non-Exam Assessment within their chosen material area and produce a concise portfolio and working prototype within a contextual challenge set by AQA.

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CURRICULUM MAP: **D&T Textiles**

Year	Knowledge (Topics / contexts) What pupils will 'know'.	Skills acquired What pupils will be able to 'do'.	Concepts developed What pupils will 'understand'.	Assessments (KPI's)
7 **Module 1**	**Core skills/Design & Make Task** ➢ **The wider use of textiles in our society** Investigate technical textiles for specific uses and demonstrate an understanding of the wider use of textiles. Featuring examples from a range of industries to illustrate different uses and applications ➢ **Understanding fibres and fabrics** What the properties of fabrics used today are and why is it important to understand this. ➢ **Learning to look** How to generate and communicate design ideas in textiles >Influence of other cultures on design ➢ **Making** How to construct a decorative and functional cushion using the practical techniques studied this year	➢ Safe practice using textiles equipment and processes ➢ Identify the properties of natural and manmade fibres and know how to identify them ➢ Construct fabric ➢ Decorate and embellish fabrics using dye, print and stitch, both hand and machine ➢ Operate a sewing machine ➢ Research how current textile designers work in the commercial world ➢ Work to a design brief ➢ Sketch concept ideas ➢ Developing ideas using a variety of methods ➢ apply maths to design	➢ Pupils should understand the wider role of textiles in everyday lives, beyond fashion and furnishing ➢ How to add print and stitch to fabrics to make them more interesting and how practising designers achieve this ➢ Understand how to communicate on paper using different methods and how to use annotation effectively ➢ What compromises are needed between form and function to make a product successful ➢ The heritage of some of our textile's techniques	KPI 1: Identifying and understanding how to classify fibres. (class task) KPI 2: Understanding the construction and properties of fabrics (fabric choice) KPI 3: Create annotated designs to communicate design ideas. (design application) KPI 4: Follow procedures for safety and understand the process of risk assessment. (Health and safety conduct)

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8 **Module 1**	**Bags- sustainability** Design and make a simple commercially viable product for a target audience that could be made in small quantities to sell in an independent gift shop. Know how making one product is different from making a number of identical ones ➢ **Design Process** Research possible customers and products and choose appropriate equipment, techniques and materials for their product. They will devise production plans while manufacturing their product. ➢ Know that fabric properties are crucial to maximise performance	➢ Further advanced use of the sewing machine including trouble shooting ➢ Safe and effective use of textiles equipment and processes ➢ Relevant testing of techniques for prototypes ➢ Working with accuracy to a tolerance ➢ Following written instructions accurately and interpreting diagrams ➢ Practical use of a wider range of fabrics ➢ Apply 'new' concepts to their own products ➢ Product analysis and reformulation of existing products	➢ Understand the importance of market research when designing a new product ➢ Generation and development of design ideas for a very simple product ➢ Understand the need for planning before practical work begins ➢ How to visually merchandise a product to promote sales ➢ Creating a corporate image ➢ The relevance of branding related to quality assurance, costing and target market ➢ The importance of ergonomics and anthropometrics when designing	KPI 1: Quality of Design work/research, showing depth, diversity and creativity. (design tasks) KPI 2: Skilfully use a range of textile processes machinery and equipment. (H&S/accuracy) KPI 3: Suitable fabric choice and components(practical) KPI 4: Quality of functional prototype. (prototype)
9 **Module 1**	**Impact of culture capital on merchandise-ugly dolls/monsters**			

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	➢ Concept of designing with the environment in mind, using examples from a range of familiar products, re-thought in keeping with the Six Rs principles ➢ Exploring a product's life cycle and the 'cradle to the grave' concept **Practical skills building** ➢ How to work a range of textile techniques and skills ➢ Follow instructions to create accurate samples of techniques ➢ How to go beyond the instructions and combine and add to the basics **Technology in society -** ➢ **Fashion** ➢ How technology has influenced fashion throughout history leading to current trends **Making activity** ➢ How to combine the skills learned and the knowledge to complete an independent making activity **Mainly Designing** ➢ The points to consider when designing for an inclusive market ➢ Know that fabric properties are crucial to maximise product performance	➢ Pupils will design and make a new, individual product prototype reusing waste items. ➢ Develop advanced hand and machine stitching techniques, printing and dyeing ➢ Advanced manipulation of fabric >use of a wider range of equipment including the embellisher and the needle punch ➢ Investigating different sources of information and assimilating the key points into a presentation to share with others ➢ Applying skills learnt throughout to planning a design and make project ➢ Selecting tools and equipment appropriately to manufacture a successful prototype ➢ Evaluating and testing product and suggesting improvements in relation to developed criteria ➢ To be adaptable and open to new ideas when designing ➢ Choose correct fabrics and textile processes to make their product ➢ Product analysis and reformulation of existing products	➢ Examine our throw-away mentality within the textiles industry ➢ Increase awareness of branding, consumerism and culture capital and how it impacts designing. The environmental issues that have resulted ➢ The importance of exploring alternative solutions ➢ How to follow written instructions in a variety of forms ➢ Selecting tools, materials and equipment appropriately ➢ Aim for high quality work ➢ Use of hand stitching ➢ How developing technologies are transferred to the fashion world to benefit the performance and appearance ➢ The development of a brief and planning of a project ➢ How to adapt designs to make within a given time and within resource constraints ➢ Evaluate prototypes and suggest modifications ➢ Research the health and wellbeing, cultural, religious, well being and socio-economic contexts of their intended users ➢ The advantage of taking creative risks when making design decisions ➢ The importance of ergonomics and anthropometrics when designing	KPI 1: Consider the range of lifestyle factors of different target groups when designing your prototype. (research) KPI 2: Creativity of designs to show the development of your ideas. (designing) KPI 3: Select materials that are suitable for your prototype (Appropriate fabric choice) KPI 4: Link research to the designs of your ugly doll. (suitable for chosen target group)

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10 Term 1	➢ The categorisation of different materials and their working properties. ➢ That the selection of materials and components should consider a variety of factors such as cost and functionality. ➢ The sources and origins of materials and how they are harvested or extracted. ➢ Stock forms, types and sizes of materials in order to calculate and determine the quantities of materials or components required.	Theory folder: ➢ Carry out a variety of research and investigation tasks to build up a theory folder full of case studies to be used for revision and exam question answering. ➢ Complete A3 revision sheets for each topic covered. ➢ Complete practical activities to improve skill levels. ➢ Complete end of topic tests for each of the theory topics covered to ascertain understanding. ➢ Demonstrate the application of KS3 maths in their work and exam answers. ➢ Develop competent practical skills working with a variety of materials, tools and equipment. NEA: ➢ Select a contextual challenge as given by AQA. ➢ Select a client and identify a need for a new or improved product. ➢ Carry out investigations, primary and secondary data to understand client/user needs. ➢ Study the work of past and present designers to inform their own designing. ➢ Study the environmental and social impacts of designing and manufacturing new products.	➢ How energy is generated and stored and how this is used as the basis for selection of products and power systems. ➢ How environmental, social and economic challenges influence design and making, including deforestation, increasing carbon dioxide levels and the need for fair trade. ➢ Developments in new materials ➢ The ecological and social footprint left by designers and the issues in the design and manufacture of products. ➢ That scales of production are dependent on the demand for a product, including one-off, batch, mass and continuous production. ➢ Specialist technical principles of at least one material category ➢ Understand the impact of forces and stresses on materials and how these can be strengthened. ➢ Using and working with materials, understanding their properties, additives that are used to enhance usability ➢ Commercial processes as appropriate to their specialist material area such as offset lithography, weaving, injection moulding and routing. NEA: ➢ The need to carry out research before developing design ideas for a new product.	➢ KPI 10.1: Know and explain why a range of textiles are suitable for specific processes and uses. ➢ KPI 10.2: Know and explain why a range of polymers are suitable for specific processes and uses. ➢ KPI 10.3: Know and explain why a range of natural and manufactured timbers are suitable for specific processes and uses. ➢ KPI 10.4: Know and explain why a range of papers and boards are suitable for specific processes and uses. ➢ KPI 10.5: Know and explain why a range of metals and alloys are suitable for specific processes and uses.
10 Term 2	➢ The impact of new and emerging technologies on contemporary and potential future scenarios. ➢ That a systems approach can be applied to designing including programmable components. ➢ About mechanical devices and the different types of motion.			➢ KPI 10.6: Know and explain the impact of new and emerging technologies including industry, enterprise and sustainability. ➢ KPI 10.7: Know and demonstrate an in-depth knowledge of the common specialist technical principles including ecological and social footprint and the 6Rs. ➢ KPI 10.8: Know and demonstrate knowledge of how energy is generated, developments in new materials, electronic systems and mechanical devices.
10 Term 3	➢ The requirements for their NEA projects. ➢ Deadlines in relation to the completion of each NEA section.			➢ KPI 10.9 Know and explain the designing principles including researching, the work of others and design strategies.

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11 Term 1	➢ How to design and develop design ideas for a client to a written brief. ➢ How to shape and form materials, using cutting, abrasion and addition. ➢ How to use specialist techniques and processes such as jigs, patterns and templates where suitable. ➢ How surface treatments and finishes are applied to enhance aesthetics, functionality and durability of products.	NEA: ➢ Use a range of design strategies to generate imaginative and creative designs. ➢ Develop the use of a range of appropriate techniques to communicate design ideas including 2D and 3D drawings and computer modelling. ➢ Select materials and components appropriate to the task considering cost, functionality and availability. ➢ Work to specific tolerances, cutting, shaping and forming materials. ➢ Material management and the economical use of material. ➢ Work with specialist tools and equipment with precision. ➢ Use specialist techniques and processes. ➢ Design and develop prototypes in response to client needs and wants.	➢ The importance of considering the needs and wants of a client when designing for them. ➢ The need to develop a specification that gives details of the constraints on a design project. ➢ The need to consider a wide range of design ideas and possibilities, avoiding design fixation. ➢ The need to research materials, components, joining and finishing methods before finalising design ideas. ➢ The need for accuracy in manufacture in order to produce a functioning and high-quality prototype. ➢ The need to carry out market research on a finished prototype to gauge opinions on suitability. ➢ The need to test a prototype fully with the client and others. ➢ The need to evaluate the prototype and suggest improvements.	➢ KPI 11.1: Know, explain and demonstrate the making principles of material management, health and safety and manufacturing processes. ➢ KPI 11.2: Section A: Identifying & investigating design possibilities ➢ KPI 11.3: Section B: Producing a design brief & specification ➢ KPI 11.4: Section C: Generating design ideas ➢ KPI 11.5: Section D: Developing design ideas
11 Term 2	➢ How to evaluate their prototypes fully using client feedback and testing to suggest improvements.			➢ KPI 11.6: Section E: Realising design ideas ➢ KPI 11.7: Section F: Analysing & evaluating
11 Term 3	➢ The internally moderated mark for their NEA.			➢ Success with exam style questions during theory revision sessions.