

Year 6 - Progression of Knowledge and Skills DT

Term	Knowledge	Skills
Autumn Textiles : Bags Creating a bag for a specific user using pattern piece templates. Pupils select and sew functional and decorative features, including pockets and fastenings, to meet the needs of their design brief.	To know: • Different materials have different costs. • Original and innovative ideas are different from what has been made before. • Drawings and diagrams can be communicated in 3D. • Improving on prototypes can help to improve the final design. • Materials and equipment lists help to plan better. • Aesthetics are the way something looks. • Research can help decide which materials are best for both aesthetics and functional properties. • Risks are things that might go wrong. • Different measuring tools can be useful depending on what is being measured. • The shape of an object can affect both its aesthetics and function. • Aesthetics is how something looks. • Nets can be folded to create 3D shapes. • Texture can provide functional properties as well as aesthetic.	To know: • Creating more complex design criteria that require considering detailed user needs, environmental impact, materials and cost. • Developing more independence in generating ideas. • Coming up with a broader range of ideas and deeper innovation, requiring pupils to think critically about their ideas' practicality and originality. • Beginning to use more complex annotated sketches, such as cross-sectional and exploded diagrams and pattern pieces in design. • Beginning to select methods to communicate their ideas, justifying their choices. (eg. prototypes, cross-sectional, exploded diagrams, CAD etc).

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Autumn Textiles : Bags Creating a bag for a specific user using pattern piece templates. Pupils select and sew functional and decorative features, including pockets and fastenings, to meet the needs of their design brief.	• To know: Sustainability means thinking about the materials that were used to make a product and how the product was made. • Looking at other designers' work can help inform designs. • Their final product can still be improved by using different materials or techniques. • Evaluating their designs in detail will help them understand its successful and less successful parts. • Explaining how they used feedback to improve their design can help them create better products in the future. • To know: Using a template (or clothing pattern) helps to accurately mark out a design on fabric. • Complete products are sometimes made in parts that are sewn together. • Consistently sized stitches improve the aesthetic of a product.	• Assessing risks associated with different tools and equipment. • Understanding and explaining the importance of each safety rule. • Consistently apply safety instructions. • Using a ruler to accurately measure and draw lines and marks. • Select appropriate scissors to handle delicate cutting tasks and challenging materials. • Cutting patterns and drawings accurately. • Choosing PVA glue over hot glue for safety when joining materials in less intensive projects. • Balancing aesthetics and functionality when creating parts of a design. • Using nets to create 3D objects. • Considering when best to apply finishing effects.

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Autumn Textiles: Bags Creating a bag for a specific user using pattern piece templates. Pupils select and sew functional and decorative features, including pockets and fastenings, to meet the needs of their design brief.	N/A	- Reflecting on the usability, aesthetics, innovation and sustainability of products and discussing how design choices impact these aspects. - Evaluating the work of a range of designers to help inform their designs. - Assessing their designs against a more complex set of design criteria that includes functionality, aesthetics, user experience, sustainability and cost. - Considering alternative materials, tools or techniques that could enhance the product. - Threading needles independently. - Beginning to follow simple patterns or templates that require accurate cutting or measuring. - Using pins effectively to secure a template to fabric without creases or bulges. - Attaching objects like buttons using thread.

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Spring Come Dine with Me Developing food preparation and evaluation skills by researching and preparing a three-course meal. Investigate the journey of a main ingredient from 'farm to fork', taste-test and score their dishes, and write a recipe for a favourite meal.	• To know that 'flavour' is how a food or drink tastes. • To know that many countries have 'national dishes' which are recipes associated with that country. • To know that 'processed food' means food that has been put through multiple changes in a factory. • To understand that it is important to wash fruit and vegetables before eating to remove any dirt and insecticides. • To understand what happens to a certain food before it appears on the supermarket shelf (Farm to Fork).	• Writing a recipe, explaining the key steps, method and ingredients. • Including facts and drawings from research undertaken. • Following a recipe, including using the correct quantities of each ingredient. • Adapting a recipe based on research. • Working to a given timescale. • Working safely and hygienically with independence. • Evaluating a recipe, : taste, smell, texture and origin of the food group. • Taste testing and scoring final products. • Suggesting and writing up points of improvements when scoring others' dishes, and when evaluating their own throughout the planning, preparation and cooking process. • Evaluating health and safety in production to minimise cross contamination.

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Summer Digital Navigating the World Designing a product and programming it to function as a compass and a pedometer.	• To know that accelerometers can detect movement. • To understand that sensors can be useful in products as they mean the product can function without human input. • To know that designers write design briefs and develop design criteria to enable them to fulfil a client's request. • To know that 'multifunctional' means an object or product has more than one function. • To know that magnetometers are devices that measure the Earth's magnetic field to determine which direction you are facing	• Writing a design brief from information submitted by a client. • Developing design criteria to fulfil the client's request. • Considering and suggesting additional functions for my navigation tool. • Developing a product idea through annotated sketches. • Placing and manoeuvring 3D objects, using CAD. • Changing the properties of, or combining one or more 3D objects, using CAD • Considering materials and their functional properties, especially those that are sustainable and recyclable (for example, cork and bamboo). • Explaining material choices and why they were chosen as part of a product concept. • Programming an N,E, S, W cardinal compass.

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Summer Digital Navigating the World Designing a product and programming it to function as a compass and a pedometer.	• N/A	• Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool. • • Developing an awareness of sustainable design. • • Identifying key industries that utilise 3D CAD modelling and explaining why. • Describing how the product concept fits the client’s request and how it will benefit the customers. • • Explaining the key functions in my program, including any additions. • Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool. • • Explaining the key functions and features of my navigation tool to the client as part of a product concept pitch. • • Demonstrating a functional program as part of a product concept pitch.