D&T Overview - Spring

Key Stage	Year Grp	Topic	Design	Make	Evaluate	Knowledge	Where does this fit into the National Curriculum?
Lower KS2	Year 3	Spring Structures – Constructing a Castle	• Designing a castle with key features to appeal to a specific person/purpose. • Drawing and labelling a castle design using 2D shapes, labelling: -the 3D shapes that will create the features - materials needed and colours.	• Constructing a range of 3D geometric shapes using nets. • Creating special features for individual designs. • Making facades from a range of recycled materials.	• Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison to the original design. • Suggesting points for modification of the individual designs.	• To understand that wide and flat based objects are more stable. • To understand the importance of strength and stiffness in structures. • To know the following features of a castle: flags, towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse – and their purpose. • To know that a façade is the front of a structure. • To understand that a castle needed to be strong and stable to withstand enemy attack. • To know that a paper net is a flat 2D shape that can become a 3D shape once assembled. • To know that a design specification is a list of success criteria for a product.	use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams. select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities evaluate their ideas and products against their own design criteria and consider the views of others to improve their work apply their understanding of how to strengthen, stiffen and reinforce more complex structures

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Lower KS2	Year 4	Spring We are Lighting Designers	• Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas.	• Making a torch with a working electrical circuit and switch. • Using appropriate equipment to cut and attach materials. • Assembling a torch according to the design and success criteria	• Evaluating electrical products. • Testing and evaluating the success of a final product.	• To understand that electrical conductors are materials which electricity can pass through. • To understand that electrical insulators are materials which electricity cannot pass through. • To know that a battery contains stored electricity that can be used to power products. • To know that an electrical circuit must be complete for electricity to flow. • To know that a switch can be used to complete and break an electrical circuit.	• use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design • select from and use a wider range of tools and equipment to perform practical tasks • select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities • understand and use electrical systems in their

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Upper KS2	Year 5	Spring Electronic Greeting Cards	• I can draw a series circuit diagram and symbols. • I can generate ideas inspired by research • I can identify the negative and positive leg of an LED. • I can draw my series circuit as a diagram. •	• I can construct a series circuit. • I can compile a moodboard relevant to my chosen theme, purpose and recipient	• I can explain how a series circuit will work in my card. • I can annotate design ideas to include key information • I can review design ideas against design criteria • I can evaluate my final greeting card design.	• To understand that an electrical system is a group of parts (components) that work together to transport electricity around a circuit. • To understand common features of an electric product (switch, battery or plug, dials, buttons etc.). • To understand that an electric product uses an electrical system to work (function). • To know the name and appearance of electrical components	•Understand how key events and individuals in design and technology have helped shape the world •Investigate and analyse a range of existing products •Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work •Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] •Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups •Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design