DT Framework - Milestone 2

Intent		
• Significant levels of originality and the willingness to take creative risks to produce innovative ideas and prototypes. • An excellent attitude to learning, resilence and independent working. • The ability to use time efficiently and work constructively and productively with others. • The ability to carry out thorough research, show initiative and ask questions to develop an exceptionally detailed knowledge of users' needs. • The ability to act as responsible designers and makers, working ethically, using finite materials carefully and working safely. • A thorough knowledge of which tools, equipment and materials to use to make their products. • The ability to apply art, mathematical, science and computing knowledge as well as other skills gained across the curriculum. • The ability to manage risks exceptionally well to manufacture products safely and hygienically. • A passion for the subject and knowledge of, up-to-date technological innovations in materials, products and systems.		
Threshold Concepts	**Skills**	
Master practical skills This concept involves developing the skills needed to make high quality products (we have highlighted a range of skills but they may be added to or changed	Food	• Prepare ingredients hygienically using appropriate utensils. • Measure ingredients to the nearest gram accurately. • Follow a recipe. • Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking).
	Materials	• Cut materials accurately and safely by selecting appropriate tools. • Measure and mark out to the nearest millimetre. • Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). • Select appropriate joining techniques.

	Textiles	• Understand the need for a seam allowance. • Join textiles with appropriate stitching. • Select the most appropriate techniques to decorate textiles.
	Electricals and electronics	• Create series and parallel circuits
	Computing	• Control and monitor models using software designed for this purpose.
	Construction	• Choose suitable techniques to construct products or to repair items. • Strengthen materials using suitable techniques.
	Mechanics	• Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).
Design, make, evaluate and improve This concept involves developing the process of design thinking and seeing design as a process.		• Design with purpose by identifying opportunities to design. • Make products by working efficiently (such as by carefully selecting materials). • Refine work and techniques as work progresses, continually evaluating the product design. • Use software to design and represent product designs.
Take inspiration from design throughout history This concept involves appreciating the design process that has influenced the products we use in everyday life.		• Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. • Improve upon existing designs, giving reasons for choices. • Disassemble products to understand how they work.