Design & Technology Curriculum Milestones

Connecting Stone	Big Idea (NC links)	Year R	Years 1 & 2	Years 3 & 4	Years 5 & 6
Engineers 	To be able to name, investigate and be inspired by engineers.	Understand what an engineer does.	Name a variety of engineers and what they do or were famous for.	Talk about and investigate engineers and learn from their designs.	Be inspired by engineers and utilise their ideas in their products.
Design 	Design, make and evaluate.	Design a product. Be able to talk about a product they have made.	Design suitable products based on design criteria. Explore and evaluate existing products against design criteria.	Use research to develop relevant design criteria for products. Begin to generate, develop, model and communicate ideas	Use research effectively to develop design criteria for a specific purpose.

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		Select tools and techniques for own designs.	Evaluate own ideas and products against a design criteria.	through discussion and annotations. Investigate and analyse a range of existing products. Evaluate own ideas and products against your own design criteria.	Using a variety of effective methods generate, develop, and model ideas. Investigate and analyse a range of existing products. Evaluate ideas against your own design criteria while considering the views of others to improve work.

Tools 	Use a range of appropriate tools and equipment to perform practical tasks.	Select tools and equipment to make a product. Begin to use correct tools appropriately.	Select the appropriate tools for a task and explain their choice.	Select from and use a wider range of tools and equipment to perform practical tasks.	Select from and use effectively and confidently a wider range of tools and equipment to perform practical tasks accurately.
Materials 	Investigate and select a wide range of appropriate materials and components.	Investigate materials for purpose.	Select suitable materials for purpose. Prepare materials safely using tools provided. Measure and mark materials to the	Select best suited material with some reason for purpose. Prepare materials accurately and safely. Measure and mark out accurately	Select best suited material for purpose and be able to discuss reasons for choice. Prepare materials with

			nearest appropriate measure. Demonstrate a range of basic techniques when working with materials.	materials to the nearest appropriate measure. Apply appropriate techniques when working with a range of materials.	precision and refine the finish. Measure accurately and calculate ratios to scale up or down. Show an understanding of the materials used in order to choose appropriate techniques to work with.

Mechanisms 	Investigate, select, and understand the effect of mechanisms.	Explore toys with different mechanisms.	Discuss ideas that involve types of axels. Create products using levers, wheels, and winding mechanisms.	Investigate and analyse different mechanisms. Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys, and gears).	Convert rotary motion to linear using cams. Use innovative combinations of electronics (or computing) and mechanics in product designs.