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, explain what they do and investigate why they were famous.	Recognise and summarise the designs of engineers and appraise their designs.	Utilise, explain, and investigate the ideas of engineers.
Design 	Design, make and evaluate.	Select, follow instructions and build a product.	Explore, design, and evaluate against a criteria.	Research, investigate and analyse a range of existing products. Generate, develop, and evaluate own ideas and products against your own design criteria.	Recognise, make predictions, and approve for a purpose of existing products. Retrieve concepts, define, and debate against a design criteria to improve work, whilst considering the views of others.

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Tools 	Use a range of appropriate tools and equipment to perform practical tasks.	Select and use correct tools and equipment appropriately for a product.	Recognise, utilise, and explain the appropriate tools for a task. Name, use and explain safety concepts when preparing materials.	Describe, utilise, and explain from a wider range of tools and equipment to perform practical tasks. Name, accurately use and explain safety concepts when preparing materials.	Determine, utilise, and explain effectively and confidently a wider range of tools and equipment to perform practical tasks accurately. Describe, explain, and refine preparation of materials with precision.
Materials 	Investigate and select a wide range of appropriate materials and components.	Name and explore materials for purpose.	Select, compare, and investigate suitable materials for a purpose. Explore, understand, and explain how structures can be made stronger, stiffer, and more stable.	Identify, predict, and investigate the best suited materials for a purpose. Select, apply and reason how to strengthen, stiffen and reinforce structures.	Describe, explain and hypothesis the best suited material for a purpose. Retrieve, predict and illustrate how to strengthen, stiffen, and reinforce more complex structures.

Mechanism 	Investigate, select, and understand the effect of mechanisms.	Name and explore objects with different mechanisms.	Explore, discuss, and create products with different mechanical system.	Select, explain, and investigate different mechanical system. Recognise, explore, and implement electrical systems in their products. Use, explain and investigate the use of computing to program, monitor and control their products.	Identify, debate, and evaluate different mechanical system. Use, understand and assess electrical systems in their products. Describe, apply, and appraise the use of computing to program, monitor and control their products.