

Design Technology Key Learning Grid – Year 4



	Autumn	Spring	Summer
	Year 4 NC objectives	Year 4 NC objectives	Year 4 NC objectives
DT – Year 4	NC Statement <u>Design</u> ♣ 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 <u>Make</u> ♣ 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 <u>Evaluate</u> ♣ 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 how key events and individuals in design and technology have helped shape the world <u>Technical knowledge</u> ♣ apply their understanding of how to strengthen, stiffen and reinforce more complex structures ♣ understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]	NC Statement <u>Design</u> ♣ 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 <u>Make</u> ♣ 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 <u>Evaluate</u> ♣ 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 how key events and individuals in design and technology have helped shape the world <u>Technical knowledge</u> ♣ apply their understanding of how to strengthen, stiffen and reinforce more complex structures - Understand and apply the principles of a healthy and varied diet ♣ prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques	NC Statement <u>Design</u> ♣ 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 <u>Make</u> ♣ 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 <u>Evaluate</u> ♣ 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 how key events and individuals in design and technology have helped shape the world <u>Technical knowledge</u> ♣ apply their understanding of how to strengthen, stiffen and reinforce more complex structures ♣ understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]

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	♣ apply their understanding of computing to program, monitor and control their products.	♣ understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.	
	Year 4 'Key Learning'	Year 4 'Key Learning'	Year 4 'Key Learning'
	<u>Electrical systems</u> <u>Electric Poster – The Romans</u> <u>Design</u> • Carry out research based on a given topic (e.g. The Romans) to develop a range of initial ideas. • Generate a final design for the electric poster with consideration to the client's needs and design criteria. • Design an electric poster that fits the requirements of a given brief. • Plan the positioning of the bulb (circuit component) and its purpose. <u>Make</u> • Create a final design for the electric poster. • Mount the poster onto corrugated card to improve its strength and allow it to withstand the weight of the circuit on the rear. • Measure and mark materials out using a template or ruler. • Fit an electrical component (bulb). • Learn ways to give the final product a higher quality finish (e.g. framing to conceal a roughly cut edge). <u>Evaluate</u>	<u>Mechanisms</u> <u>Structures - Rainforest Shelter</u> <u>Design</u> • Designing a stable structure, selecting materials to create a desired effect. • Building frame structures designed to support weight. <u>Make</u> • Creating a range of different shaped frame structures. • Making a variety of free-standing frame structures of different shapes and sizes. • Selecting appropriate materials to build a strong structure and cladding. • Reinforcing corners to strengthen a structure. • Creating a design in accordance with a plan. • Learning to create different textural effects with materials. <u>Evaluate</u> • Evaluating structures made by the class. • Describing what characteristics of a design and construction made it the most effective. • Considering effective and ineffective designs. <u>Knowledge</u> • To understand what a frame structure is. • To know that a 'free-standing' structure is one which can stand on its own.	<u>Cooking and nutrition</u> <u>Adapting a recipe</u> <u>Design</u> • Designing a biscuit within a given budget. • Conducting market research. <u>Make</u> • Following a baking recipe. • Understanding safety and hygiene rules. • Adapting a recipe. <u>Evaluate</u> • Evaluating an adapted recipe. • Evaluating and comparing a range of products. • Suggesting modifications.

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	• Learning to give and accept constructive criticism on own work and the work of others. • Testing the success of initial ideas against the design criteria and justifying opinions. • Revisiting the requirements of the client to review developing design ideas and check that they fulfil their needs. <u>Knowledge</u> • 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 list examples of common electric products (kettle, remote control etc.). • To understand that an electric product uses an electrical system to work (function). • To know the name and appearance of a bulb, battery, battery holder and crocodile wire to build simple circuits.		
Vocabulary	electrical system, electric product, circuit, circuit component, bulb, battery, crocodile wires, public	adapt, addition, appearance, budget, butterfly, combine, comment, compare, construct, cream, crunchy, cuboid, evaluate, fold, hygiene, ingredients, layout, market research, modify, target audience, sift	3D shapes, aesthetic, innovative, shelter, stable, natural, reinforce, structure