Design and Technology NC progression from KS1 – KS3

	KS1	KS2	KS3
Design	• design purposeful, functional, appealing products for themselves and other users based on design criteria • generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology	• 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	• use research and exploration, such as the study of different cultures, to identify and understand user needs • identify and solve their own design problems and understand how to reformulate problems given to them • develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations • use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses • develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools
Make	• select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] • select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics	• 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	• select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture • select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties
Evaluate	• explore and evaluate a range of existing products • evaluate their ideas and products against design criteria	• 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	• analyse the work of past and present professionals and others to develop and broaden their understanding • investigate new and emerging technologies test, evaluate and refine

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		• understand how key events and individuals in design and technology have helped shape the world	their ideas and products against a specification, taking into account the views of intended users and other interested groups • understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists
Technical Knowledge	• build structures, exploring how they can be made stronger, stiffer and more stable • explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.	• 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] • understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] • apply their understanding of computing to program, monitor and control their products.	• understand and use the properties of materials and the performance of structural elements to achieve functioning solutions • understand how more advanced mechanical systems used in their products enable changes in movement and force • understand how more advanced electrical and electronic systems can be powered and used in their products [for example, circuits with heat, light, sound and movement as inputs and outputs] • apply computing and use electronics to embed intelligence in products that respond to inputs [for example, sensors], and control outputs [for example, actuators], using programmable components [for example, microcontrollers].
Cooking and nutrition	• use the basic principles of a healthy and varied diet to prepare dishes • understand where food comes from	• 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	• understand and apply the principles of nutrition and health • cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet

Design and Technology NC progression from KS1 – KS3

		• understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	• become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes] • understand the source, seasonality and characteristics of a broad range of ingredients.