



Year 4

	Key Skills	Key Knowledge	Key Vocabulary
<p>Autumn 2</p> <p>Digital World: Mindfull Moments</p>	<ul style="list-style-type: none"> • Writing design criteria for a programmed timer (Micro:bit). • Exploring different mindfulness strategies and using this research to inform my design criteria. • Developing a prototype case for my mindful moment timer. • Using and manipulating shapes and clipart and using computer-aided design (CAD) to produce a logo. • Following a list of design requirements. • Developing a prototype case for my mindful moment timer. • Creating a 3D structure using a net. • Programming a Micro:bit to time a set number of seconds/minutes upon button press. 	<ul style="list-style-type: none"> • To understand what variables are in programming. • To know some of the features of a Micro:bit. • To know that an algorithm is a set of instructions to be followed by the computer. • To know that it is important to check my code for errors (bugs). • To know that a simulator can be used as a way of checking that your code works before installing it onto an electronic device. 	<ul style="list-style-type: none"> • research • advantage • disadvantage • criteria • design • ergonomic • timer • program • loop • coding • block • variable • pause • bug • debug • instructions • net • template • develop • join • assemble • test • form • function • prototype • process

	<ul style="list-style-type: none"> Analysing a range of timers by comparing their advantages and disadvantages. Evaluating my Micro:bit program against points on my design criteria and amending them to include any changes I made. Documenting and evaluating my project. Understanding what logos are and why they are important in the world of design and business. Testing my program for bugs (errors in the code). Finding and fixing the bugs (debug) in my code. 		<ul style="list-style-type: none"> cheap user
<p>Spring 2</p> <p>Structures: Roman Pavillions</p>	<ul style="list-style-type: none"> Designing a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect. Building frame structures designed to support weight. Creating a range of different shaped frame structures. Making a variety of free-standing frame structures 	<ul style="list-style-type: none"> To understand what a frame structure is. To know that a 'free-standing' structure is one that can stand on its own. To know that a pavilion is a decorative building or structure for leisure activities. To know that cladding can be applied to structures for different effects. 	<ul style="list-style-type: none"> 3d shapes Design criteria Natural Cladding Innovative Reinforce Structure

	<p>of different shapes and sizes.</p> <ul style="list-style-type: none"> • Selecting appropriate materials to build a strong structure and for the cladding. • Reinforcing corners to strengthen a structure. • Creating a design in accordance with a plan. • Learning to create different textural effects with materials. 	<ul style="list-style-type: none"> • To know that aesthetics are how a product looks. 	
<p>Summer 2</p> <p>Electrical Systems: Torches</p>	<ul style="list-style-type: none"> • Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas. • Making a torch with a working electrical circuit and switch. • Using appropriate equipment to cut and attach materials. • Assembling a torch according to the design and success criteria. • Evaluating electrical products. 	<ul style="list-style-type: none"> • To understand that electrical conductors are materials which electricity can pass through. • To understand that electrical insulators are materials which electricity cannot pass through. • To know that a battery contains stored electricity that can be used to power products. • To know that an electrical circuit must be complete for electricity to flow. • To know that a switch can be used to complete and break an electrical circuit. 	<ul style="list-style-type: none"> • battery • bulb • buzzer • conductor • circuit • circuit diagram • electricity • insulator • series circuit • switch • component • design • design criteria • diagram • evaluation • LED • model • shape

	<ul style="list-style-type: none"> • Testing and evaluating the success of a final product. 		<ul style="list-style-type: none"> • target audience • input • recyclable • theme • aesthetics • assemble • equipment • ingredients • packaging • properties
<p>Health Week</p> <p>Adapting a recipe</p>	<ul style="list-style-type: none"> • Designing a biscuit within a given budget, drawing upon previous taste testing. • Following a baking recipe. • Cooking safely, following basic hygiene rules. • Adapting a recipe. • Evaluating a recipe, considering: taste, smell, texture and appearance. • Describing the impact of the budget on the selection of ingredients. • Evaluating and comparing a range of products. • Suggesting modifications. 	<ul style="list-style-type: none"> • To know that the amount of an ingredient in a recipe is known as the 'quantity'. • To know that it is important to use oven gloves when removing hot food from an oven. • To know the following cooking techniques: sieving, creaming, rubbing method, cooling. • To understand the importance of budgeting while planning ingredients for biscuits. 	<ul style="list-style-type: none"> • design criteria • research • texture • innovative • aesthetic • measure • cross-contamination • diet • processed • packaging