

Class: Year 4

Unit		
<p>Aut 1/2 Unit title: Structures – Pavilions</p>	<p><u>National Curriculum coverage</u></p> <ul style="list-style-type: none"> - Produce a range of free-standing frame structures of different shapes and sizes - Design a pavilion that is strong, stable and aesthetically pleasing - Select appropriate materials and construction techniques to create a stable, free-standing frame structure - Select appropriate materials and techniques to add cladding to their pavilion 	<p><u>Key designing skills</u></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 of different shapes and sizes - 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
<p>Spr 1/2 Unit title: Electrical systems – Torches</p>	<p><u>National Curriculum coverage</u></p> <ul style="list-style-type: none"> - Identify electrical products and explain why they are useful. - Help to make a working switch. - Identify the features of a torch and how it works. - Describe what makes a torch successful. - Create suitable designs that fit the success criteria and their own design criteria. - Create a functioning torch with a switch according to their design criteria. 	<p><u>Key designing skills</u></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. - Testing and evaluating the success of a final product.
<p>Sum 1/2 Unit title: Mechanical Systems – Mechanical Cars</p>	<p><u>National Curriculum coverage</u></p> <ul style="list-style-type: none"> - Describe key design improvements in the history of the automobile. - Measure and compare the distance travelled by different mechanical cars. - Choose and use appropriate tools and materials to make mechanical cars. - Draw exploded diagrams and annotated sketches of my different mechanical cars. - Use a problem statement to identify the design criteria. - Assess the product against the design criteria. - Conduct market research into existing products. - Provide specific feedback and adjust my design to incorporate customer feedback. 	<p><u>Key designing skills</u></p> <p>Design</p> <ul style="list-style-type: none"> - Taking part in structured idea generation sessions. - Developing drawing and sketching skills with a focus on clarity and simplicity. - Beginning to recognise the benefit of a range of diagram types or prototypes to communicate ideas. (e.g. sketches, cross-sectional diagrams, thumbnail sketches and exploded diagrams). - Creating prototypes using materials with similar properties to their final design. - Creating simple design criteria that outline basic functionality and appeal to individual users or target audiences. - Developing designs by adding details and justifications about materials, tools and methods. <p>Make</p> <ul style="list-style-type: none"> - Following detailed safety instructions. - Using a ruler as a measuring tool with increasing accuracy by creating spaced marks using millimetres and measuring lengths of objects. - Handle different sizes and types of scissors with confidence. - With close supervision, using a hot glue gun to join wooden materials (e.g. lolly sticks). - Selecting equipment required for a series of tasks based on the plan and explaining why each piece is suitable for each stage. <p>Evaluate</p> <ul style="list-style-type: none"> - Explaining why they think certain aspects of a peer’s design are effective or why they suggested specific improvements. - Reflecting on feedback to decide if and how it could be used to improve future iterations. - Investigating and analysing a range of existing products by looking at their functionality and appeal. - Analysing why specific products, designers or inventors are successful.

		<ul style="list-style-type: none">- Evaluating their designs by comparing them against design criteria and considering feedback from peers to suggest improvements.- Evaluating how effective their chosen materials and tools were in fulfilling the design brief.
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