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| **Design and Technology Strand: Design** | | |
| **Key Stage One** | **As designers Y1 pupils are able to:**  To begin to explore how products have been created.    To design products that have a clear purpose and an intended user with support.  To make simple diagrams to show my design.  To develop design criteria with a group. | **As designers Y2 pupils are able to:**  To explore how products have been created.  To design products that have a clear purpose and an intended user.  To use software to design.  To make diagrams to show my design.  To develop my own design criteria. |
| **Lower Key Stage One** | **As designers Y3 pupils are able to:**  Show that their design meets a range of requirements.  Put together a plan which shows the equipment and tools they need.  Describe a design using an accurately labelled diagram. | **As designers Y4 pupils are able to:**  Design with purpose by identifying opportunities to design.  Create cross-sectional diagrams to demonstrate my design. |
| **Upper Key Stage Two** | **As designers Y5 pupils are able to:**  Come up with a range of ideas after they have collected information.  To take a user’s view into account when designing.  To produce a detailed step-by-step plan.  To use cross sectional planning to show their design.  To produce prototypes to show their ideas. | **As designers Y6 pupils are able to:**    To design with the user in mind, motivated by the service a product will offer (rather than simply for profit).  To use prototypes, cross-sectional diagrams and computer aided designs to represent designs.  To create innovative designs that improve upon existing products. |

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| **Strand: Make** | | |
| **Key Stage One** | **As designers Y1 pupils are able to:**  To cut safely using tools provided.  To begin to demonstrate a range of cutting and shaping techniques such as tearing, cutting and folding.  To begin to demonstrate a range of joining techniques such as gluing and combining materials to strengthen.  To begin to join textiles using running stitch.  To colour and decorate textiles using techniques such as dying or adding sequins.  To begin to use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products.  To begin to create products using levers, wheels and winding mechanisms.  To begin to refine the design as their work progresses.  To begin to choose the right materials for making a product according to the properties needed. | **As designers Y2 pupils are able to:**    To cut materials safely using tools provided.  To measure and mark out to the nearest centimetre.  To demonstrate a range of cutting and shaping techniques such as tearing, cutting and folding.  To demonstrate a range of joining techniques such as gluing, hinges, or combining materials to strengthen.  To join textiles using running stitch.  To colour and decorate textiles using a number of techniques such as dying, adding sequins or printing.  To use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products.  To create products using levers, wheels and winding mechanisms.  To make products, refining the design as their work progresses.  To choose the right materials for making a product according to the properties needed. |
| **Lower Key Stage Two** | **As designers Y3 pupils are able to:**  To use a range of tools and equipment accurately.  To measure, mark out, assemble and join materials and components with some accuracy. | **As designers Y4 pupils are able to:**  To cut materials accurately and safely by selecting appropriate tools.  To measure and mark out to the nearest millimetre.  To understand the need for a seam allowance.  To join textiles with appropriate stitching.  To make products by working efficiently (e.g. by carefully selecting materials). |
| **Upper Key Stage Two** | **As designers Y5 pupils are able to:**  To cut materials more accurately.  To measure and mark out accurately to the nearest millimetre.  To ensure their product has a seam allowance.  To join textiles efficiently using a simple stitch.  To use a range of tools and equipment expertly. | **As designers Y6 pupils are able to:**  To cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape).  To create objects that need a seam allowance.  To join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decorations). |

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| **Strand: Evaluate** | | |
| **Key Stage One** | **As designers Y1 pupils are able to:**  To begin to explore objects to identify likes and dislikes of the designs.  To begin to suggest improvements to existing designs.  To evaluate their design or product against given design criteria.  To begin to show an understanding of how historical events or people have helped shape the technological world today. | **As designers Y2 pupils are able to:**  To explore objects to identify likes and dislikes of the designs.  To suggest improvements to existing designs.  To evaluate their design or product against their own design criteria.  To talk about how historical events or people have helped shape the technological world today. |
| **Lower Key Stage Two** | **As designers Y3 pupils are able to:**  To look at products and talk about how they work.  To practise their evaluation skills by evaluating existing products.  To evaluate their own products.  To suggest a change that could be made to improve a product. | **As designers Y4 pupils are able to:**    To disassemble products to understand how they work.  To refine work and techniques as my work progresses, continually evaluating their product design.  To improve upon existing designs, giving reasons for choices.  To identify some of the great designers in all of the areas of study to generate ideas for designs. |
| **Upper Key Stage Two** | **As designers Y5 pupils are able to:**    Test and evaluate their final product.  To evaluate the design to suggest improvements, considering the materials and methods that have been used.  To evaluate the appearance and function against the original criteria.  To practise their evaluation skills by evaluating existing products against criteria which they have set.  To explain why their finished product is going to be of good quality.  To explain how their product will appeal to the audience.  To think about the aesthetic qualities of their work.  To think about the functionality of their work. | **As designers Y6 pupils are able to:**  To make products through stages of prototypes, making continual refinements.  To ensure products have a high quality finish, using art skills where appropriate.  To evaluate the design of products so as to suggest improvements to the user experience.  To combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. |

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| **Strand: Technical Knowledge.** | | |
| **Key Stage One** | **As designers Y1 pupils are able to:**  To begin to use their understanding of materials and their properties to strengthen, stiffen or reinforce products.  To develop an understanding of how to use mechanical systems like gears, pulleys, levers and linkages in my designs and products.  To develop an understanding of how use simple electrical circuits that include switches and bulbs.  To begin to develop their knowledge of computing to program, monitor or control their product. | **As designers Y2 pupils are able to:**  To use their understanding of materials and their properties to strengthen, stiffen or reinforce products.  To understand and use mechanical systems like gears, pulleys, levers and linkages in their designs and products.  To understand and use simple electrical circuits that include switches, bulbs, buzzers or motors in their products.  The use their knowledge of computing to program, monitor or control my product.  To model designs using software. |
| **Lower Key Stage Two** | **As designers Y3 pupils are able to:**  To choose textiles for a purpose.  To join textiles of different types in a different ways.  To explain how to join things in a different way.  To think about how to make their product strong.  To devise a template. | **As designers Y4 pupils are able to:**  To choose suitable techniques to construct products.  To strengthen materials using suitable techniques.  To apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut-outs).  To select appropriate joining techniques.  To select the most appropriate techniques to decorate textiles.  To create series and parallel circuits.  To use scientific knowledge of the transferences of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).  To control and monitor models using software designed for this purpose.  To use software to design and represent product designs. |
| **Upper Key Stage Two** | **As designers Y5 pupils are able to:**    To choose appropriate tools to cut and shape and justify choices with their knowledge (such as the nature of fabric may require sharper scissors than would be used to cut paper).  To begin to use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles.  To begin to create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips).  To begin to develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding).  To begin to use innovative combinations of electronics (or computing) and mechanics in product designs.  To write code to control and monitor models or products. | **As designers Y6 pupils are able to:**  To show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper).  To use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles.  To create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips).  To develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding).  To convert rotary motion to linear using cams.  To use innovative combinations of electronics (or computing) and mechanics in product designs.  To write code to control and monitor models or products. |

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| **Strand: Cooking and Nutrition.** | | |
| **Key Stage One** | **As designers Y1 pupils are able to:**  To begin to talk about how to be healthy.  To begin to show understanding of a varied diet.  To show some understanding about where different foods come from.  To cut, peel or grate ingredients safely and hygienically with some support.  To begin to measure or weigh using measuring cups or electronic scales.  To begin to assemble or cook ingredients.  To show some understanding of safety when cooking ingredients. | **As designers Y2 pupils are able to:**  To talk about how to be healthy.  To show understanding of a varied diet.  To talk about where different foods come from.  To cut, peel or grate ingredients safely and hygienically.  To measure or weigh using measuring cups or electronic scales.  To assemble or cook ingredients.  To show understanding of safety when cooking ingredients. |
| **Lower Key Stage Two** | **As designers Y3 pupils are able to:**  To choose the right ingredients for a product.  To say what to do to be hygienic and safe.  To use equipment safely.  To make sure that their product looks attractive.  To describe how their combined ingredients come together. | **As designers Y4 pupils are able to:**    To prepare ingredients hygienically using appropriate utensils.  To measure ingredients to the nearest gram accurately.  To follow a recipe.  To assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking). |
| **Upper Key Stage Two** | **As designers Y5 pupils are able to:**    To understand the importance of correct storage and handling of ingredients.  To begin to measure accurately and calculate ratios of ingredients to scale up or down from a recipe.  To begin to demonstrate a range of baking and cooking techniques.  To begin to create and refine recipes, including ingredients, methods, cooking times and temperatures. | **As designers Y6 pupils are able to:**  To understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms).  To measure accurately and calculate ratios of ingredients to scale up or down from a recipe.  To demonstrate a range of baking and cooking techniques.  To create and refine recipes, including ingredients, methods, cooking times and temperatures. |