Milestones for Design Technology
September 2021

		Personal, Social and Emotional Development Managing Self ELG Children at the expected level of development will: • Be confident to try new activities and show independence, resilience and perseverance in the face of challenge; • Explain the reasons for rules, know right from wrong and try to behave accordingly; • Understanding the importance of healthy food choices. **Physical Development** Fine Motor Skills ELG Children at the expected level of development will: • Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all cases; • Use a range of small tools, including scissors, paint brushes and cutlery; • Begin to show accuracy and care when drawing. **Understanding the World** Past and Present ELG Children at the expected level of development will: • Talk about the lives of the people around them and their roles in society; The Natural World ELG Children at the expected level of development will: • Explore the natural world around them, making observations and drawing pictures of animals and plants; • Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.		

Milestones for Design Technology
September 2021

		Autumn	Spring	Summer
Key Stage 1	**Year 1**	**Materials** To master practical skills • Cut materials safely using tools provided. • Measure and mark out to the nearest centimetre. • Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). • Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). To design, make, evaluate and improve • Design products that have a clear purpose and an intended user. To take inspiration from design throughout history • Explore objects and designs to identify likes and dislikes of the designs.	**Construction** To master practical skills • Cut, peel or grate ingredients safely and hygienically. • Measure or weigh using measuring cups or electronic scales. • Assemble or cook ingredients. To design, make, evaluate and improve • Design products that have a clear purpose and an intended user. To take inspiration from design throughout history • Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs.	**Food** To master practical skills • Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products. To design, make, evaluate and improve • Design products that have a clear purpose and an intended user. • Make products, refining the design as work progresses. To take inspiration from design throughout history • Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs.

Milestones for Design Technology
September 2021

		Autumn	Spring	Summer
Key Stage 1	**Year 2**	**Textiles** To master practical skills • Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage). To design, make, evaluate and improve • Design products that have a clear purpose and an intended user. • Make products, refining the design as work progresses. • Use software to design. To take inspiration from design throughout history • Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs. • Explore how products have been created.	**Electronics** To master practical skills • Shape textiles using templates. • Join textiles using running stitch. • Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing). To design, make, evaluate and improve • Design products that have a clear purpose and an intended user. • Make products, refining the design as work progresses. • Use software to design. To take inspiration from design throughout history • Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs. • Explore how products have been created	**Mechanics** To master practical skills • Create products using levers, wheels and winding mechanisms. To design, make, evaluate and improve • Design products that have a clear purpose and an intended user. • Make products, refining the design as work progresses. • Use software to design. To take inspiration from design throughout history • Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs. • Explore how products have been created.

Milestones for Design Technology
September 2021

		Autumn	Spring	Summer
Lower Key Stage 2	**Year 3**		**Food** To master practical skills • Understand the need for a seam allowance. • Join textiles with appropriate stitching. • Select the most appropriate techniques to decorate textiles. To design, make, evaluate and improve • Design with purpose by identifying opportunities to design. • Make products by working efficiently (such as by carefully selecting materials). To take inspiration from design throughout history • Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. • Improve upon existing designs, giving reasons for choices.	**Textiles** To master practical skills • Prepare ingredients hygienically using appropriate utensils. • Measure ingredients to the nearest gram accurately. • Follow a recipe. • Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking). To design, make, evaluate and improve • Design with purpose by identifying opportunities to design. • Make products by working efficiently (such as by carefully selecting materials). • Refine work and techniques as work progresses, continually evaluating the product design. To take inspiration from design throughout history • Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. • Improve upon existing designs, giving reasons for choices.

Milestones for Design Technology
September 2021

		Autumn	Spring	Summer
	Year 3 Cont.			**Construction** To master practical skills • Choose suitable techniques to construct products or to repair items. • Strengthen materials using suitable techniques. To design, make, evaluate and improve • Design with purpose by identifying opportunities to design. • Make products by working efficiently (such as by carefully selecting materials). To take inspiration from design throughout history • Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. • Improve upon existing designs, giving reasons for choices.

Milestones for Design Technology
September 2021

		Autumn	Spring	Summer
	Year 4	**Mechanics** To master practical skills • Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, gears winding mechanisms and pulleys. To design, make, evaluate and improve • Design with purpose by identifying opportunities to design. • Make products by working efficiently (such as by carefully selecting materials). • Refine work and techniques as work progresses, continually evaluating the product design. To take inspiration from design throughout history • Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. • Improve upon existing designs, giving reasons for choices. • Disassemble products to understand how they work.	**Materials** To master practical skills • Cut materials accurately and safely by selecting appropriate tools. • Measure and mark out to the nearest millimetre. • Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). • Select appropriate joining techniques. To design, make, evaluate and improve • Design with purpose by identifying opportunities to design. • Make products by working efficiently (such as by carefully selecting materials). • Refine work and techniques as work progresses, continually evaluating the product design. • Use software to design and represent product designs. To take inspiration from design throughout history • Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. • Improve upon existing designs, giving reasons for choices. • Disassemble products to understand how they work.	**Electronics** To master practical skills • Create series and parallel circuits To design, make, evaluate and improve • Design with purpose by identifying opportunities to design. • Make products by working efficiently (such as by carefully selecting materials). • Refine work and techniques as work progresses, continually evaluating the product design. • Use software to design and represent product designs. To take inspiration from design throughout history • Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. • Improve upon existing designs, giving reasons for choices. • Disassemble products to understand how they work.

Milestones for Design Technology
September 2021

		Autumn	Spring	Summer
Upper Key Stage 2	**Year 5**	**Materials** To master practical skills • 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). • 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 design, make, evaluate and improve • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). • Make products through stages of prototypes, making continual refinements. • Ensure products have a high quality finish, using art skills where appropriate. To take inspiration from design throughout history • Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. • Create innovative designs that improve upon existing products. • Evaluate the design of products so as to suggest improvements to the user experience.	**Construction** . To master practical skills • Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding). To design, make, evaluate and improve • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). • Make products through stages of prototypes, making continual refinements. • Ensure products have a high quality finish, using art skills where appropriate. To take inspiration from design throughout history • Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. • Create innovative designs that improve upon existing products. • Evaluate the design of products so as to suggest improvements to the user experience.	**Food** To master practical skills • Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms). • Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. • Demonstrate a range of baking and cooking techniques. • Create and refine recipes, including ingredients, methods, cooking times and temperatures To design, make, evaluate and improve . • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). • Make products through stages of prototypes, making continual refinements. To take inspiration from design throughout history • Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. • Create innovative designs that improve upon existing products. • Evaluate the design of products so as to suggest improvements to the user experience.

Milestones for Design Technology
September 2021

		Autumn	Spring	Summer
	Year 6	**Textiles** To master practical skills • Create objects (such as a cushion) that employ a seam allowance. • Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration). • Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion). To design, make, evaluate and improve • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). • Make products through stages of prototypes, making continual refinements. • Ensure products have a high quality finish, using art skills where appropriate. • Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. To take inspiration from design throughout history • Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. • Create innovative designs that improve upon existing products. • Evaluate the design of products so as to suggest improvements to the user experience		**Mechanics** To master practical skills • Convert rotary motion to linear using cams. • Use innovative combinations of electronics (or computing) and mechanics in product designs. To design, make, evaluate and improve • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). • Make products through stages of prototypes, making continual refinements. • Ensure products have a high-quality finish, using art skills where appropriate. • Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. To take inspiration from design throughout history • Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. • Create innovative designs that improve upon existing products. • Evaluate the design of products so as to suggest improvements to the user experience.

Milestones for Design Technology
September 2021

		Autumn	Spring	Summer
	Year 6 Cont.			**Electrical** To master practical skills • Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips). To design, make, evaluate and improve • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). • Make products through stages of prototypes, making continual refinements. • Ensure products have a high-quality finish, using art skills where appropriate. • Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. To take inspiration from design throughout history • Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. • Create innovative designs that improve upon existing products. • Evaluate the design of products so as to suggest improvements to the user experience.