DT Long Term Plan 2022-2023 **Kennington Academy** **S.Hoti**

At Kennington Academy we believe that Design Technology prepares children to take part in the development of tomorrow's rapidly changing world. Creative thinking encourages children to make positive changes to their quality of life. The subject encourages children to become autonomous and creative problem-solvers, both as individuals and as part of a team. It enables them to identify needs and opportunities and to respond by developing ideas and making products and systems.

Please ensure your plans follow the structure: review (evaluate an existing product), do market research (x curricular maths), design, make and evaluate. All work to be done in the DT books and all making/end products to be documented using photos. Try to get each child in photos to record their individual journey as much as possible.

Year 3	Year 3	Year 3	Year 3 Other Skills
Moving Mechanisms - Pneutmatics *https://www.youtube.com/watch?v=rxw-KcXj8ys&ab_channel=JamesWindle* Ctesibius of Alexandria Identify some of the great designers in all of the areas of study to generate ideas for designs. Improve upon existing designs, giving reasons for choices. Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pneumatics, pulleys and gears). 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, evaluating the end product design.	**Sewing** *e.g. Quilt square history:* https://en.wikipedia.org/wiki/Patchwork#:~:text=Earliest%20preserved%20pieces%20have%20been,made%20into%20simpler%20fashion. **Faith Ringgold, Nettie Young, Michael James** Identify some of the great designers in all of the areas of study to generate ideas for designs. Improve upon existing designs, giving reasons for choices. 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, evaluating the end product design. Understand the need for a seam allowance.	**Food Technology** *e.g. pizzas, pasta salad* **Raffaele Esposito** **https://en.wikipedia.org/wiki/History_of_pizza** **https://www.history.com/news/a-slice-of-history-pizza-through-the-ages** **https://homemadepizzaschool.com/7-fantastic-pizza-chefs-to-follow-online/** Identify some of the great designers in all of the areas of study to generate ideas for designs. Improve upon existing designs, giving reasons for choices. 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, evaluating the end product design. Prepare ingredients hygienically using appropriate utensils. Measure accurately.	*Could be covered cross curricular or during theme weeks* **Electricals and electronics:** Create series circuits. **Computing:** Control and monitor models using software designed for this purpose. **Construction:** Choose suitable techniques to construct products or to repair items.

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Cut materials accurately and safely by selecting appropriate tools. Select appropriate joining techniques.	Join textiles with appropriate stitching. Cut materials accurately and safely by selecting appropriate tools. Select appropriate joining techniques.	Follow a recipe. Assemble or cook ingredients	
Year 4	**Year 4**	**Year 4**	**Year 4 Other Skills**
Food Technology *e.g. Mayan chocolate brownies* https://www.history.com/topics/ancient-americas/history-of-chocolate https://www.sponge.co.uk/blog/2020/07/the-history-of-brownies https://www.loveandlemons.com/brownies-recipe/ https://www.bbcgoodfood.com/recipes/best-ever-chocolate-brownies-recipe https://cafedelites.com/worlds-best-fudgiest-brownies/#recipe https://www.redonline.co.uk/food/recipes/a500160/hummingbird-bakery-s-traditional-brownie/ https://www.goodto.com/recipes/the-hummingbird-bakery-frosted-brownie Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. Disassemble products to understand how they work. Design with purpose by identifying opportunities to design. Make products by working efficiently	**Construction** *e.g.* Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. Disassemble products to understand how they work. Design with purpose by identifying opportunities to design. Make products by working efficiently	**Sewing** *e.g. design and sew a stuffed animal* https://www.history.com/news/who-invented-the-teddy-bear Margarete Steiff https://corporate.steiff.com/en/steiff-teddy/history/ **Bring in teddies and soft toys to evaluate – Mrs Hoti has a handmade Teddy Bear.** Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. Disassemble products to understand how they work.	*Could be incorporated into other units, covered cross curricular or during theme weeks* **Mechanics:** • Use scientific knowledge to choose appropriate mechanisms for a product. **Computing:** • Control and monitor models using

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Please ensure your plans follow the structure: review (evaluate an existing product), do market research (x curricular maths), design, make and evaluate. All work to be done in the DT books and all making/end products to be documented using photos. Try to get each child in photos to record their individual journey as much as possible.

Refine work and techniques as work progresses, continually evaluating the product design. Use software to design and represent product designs. Understand the importance of correct storage and handling of ingredients (knowledge of micro-organisms). Demonstrate a range of baking and cooking techniques.	Refine work and techniques as work progresses, continually evaluating the product design. Use software to design and represent product designs. Develop a range of practical skills to create products (e.g cutting, drilling and screwing, nailing, gluing, filling and sanding). Cut materials accurately and safely by selecting appropriate tools. Select appropriate joining techniques.	Design with purpose by identifying opportunities to design. Make products by working efficiently Refine work and techniques as work progresses, continually evaluating the product design. Use software to design and represent product designs. Select the most appropriate techniques to decorate textiles Cut materials accurately and safely by selecting appropriate tools. Select appropriate joining techniques.	software designed for this purpose. Electricals and electronics: Create parallel circuits. **Electricals and electronics:** Create series circuits.
Year 5	**Year 5**	**Year 5**	**Year 5 Other Skills**
Construction e.g. Pencil pots Lother Von Faber https://www.britannica.com/biography/Lothar-von-Faber Design with the user in mind, motivated by the service a product will offer.	**Moving Mechanisms** *e.g. Bridges* **https://www.britannica.com/technology/movable-bridge** **http://www.historyofbridges.com/facts-about-bridges/movable-bridge/** **Sir Horace Jones and Sir John Wolfe Barry** **John Alexander Low Waddell,**	**Food Technology** *e.g. Victoria Sponges* https://grantsbakery.co.uk/blogs/posts/thehistoryofthevictoriaspongecake https://www.angesdesucre.com/blogs/anges-de-sucre/the-history-of-the-victoria-sponge https://www.bbcgoodfood.com/recipes/classic-victoria-sandwich-recipe https://www.bbc.co.uk/food/recipes/mary_berrys_perfect_34317 https://www.nigella.com/recipes/victoria-sponge Design with the user in mind, motivated by the service a product will offer.	*Could be covered cross curricular or during theme weeks* **Textiles:** • Create objects (such as a cushion)

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Please ensure your plans follow the structure: review (evaluate an existing product), do market research (x curricular maths), design, make and evaluate. All work to be done in the DT books and all making/end products to be documented using photos. Try to get each child in photos to record their individual journey as much as possible.

Make products through stages of prototypes, making continual refinements. Ensure products have a high quality finish, using art skills where appropriate. Combine elements of design from a range of inspirational designers throughout history. Create innovative designs that improve upon existing products. Develop a range of practical skills to create products (e.g cutting, drilling and screwing, nailing, gluing, filling and sanding). 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).	Design with the user in mind, motivated by the service a product will offer. Make products through stages of prototypes, making continual refinements. Ensure products have a high quality finish, using art skills where appropriate. Combine elements of design from a range of inspirational designers throughout history. Create innovative designs that improve upon existing products. Convert rotary motion to linear using cams. 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).	Make products through stages of prototypes, making continual refinements. Ensure products have a high quality finish, using art skills where appropriate. Combine elements of design from a range of inspirational designers throughout history. Create innovative designs that improve upon existing products. Understand the importance of correct storage and handling of ingredients (knowledge of micro-organisms). Demonstrate a range of baking and cooking techniques.	that employ a seam allowance. • Join textiles with a combination of stitching techniques (e.g. back stitch for seams and running stitch to attach decoration). **Electricals and electronics:** • Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips). **Computing:** Write code to control and monitor models or products.

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Year 6	Year 6	Year 6	Year 6 Other Skills
Electricals and electronics: *e.g. design and make a mini vacuum cleaner, Traffic Lights* https://www.stem.org.uk/elibrary/resource/35625 https://www.sciencemuseum.org.uk/objects-and-stories/everyday-wonders/invention-vacuum-cleaner https://www.inclusivecitymaker.com/1868-2019-a-brief-history-of-traffic-lights/#:~:text=December%2010%2C%201868%3A%20the%20official,lit%20semaphore%20to%20ensure%20visibility. https://www.youtube.com/watch?v=xurwx7--rGg&ab_channel=HistoryofStuff Lester Wire, James Hope, Garrett Morgan Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. Measure accurately and calculate ratios of ingredients to scale up or down from recipe. Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.	**Construction:** *e.g. TBC* Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. Evaluate the design of products to suggest improvements to the user experience.	**Food Technology** *e.g. food from around the world – lasagne, tortilla lasagne and Moussaka* https://www.nationalgeographic.co.uk/travel/2021/09/lasagne-the-history-and-countless-variations-of-a-true-italian-classic https://www.nigella.com/recipes/tortilla-lasagne https://www.nosta.ie/moussaka/#:~:text=Although%20moussaka%20is%20famous%20as,published%20around%20the%2013th%20century. Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. Measure accurately and calculate ratios of ingredients to scale up or down from recipe. Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. Evaluate the design of products to suggest improvements to the user experience.	*Could be covered cross curricular or during theme weeks* Textiles: • 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). Mechanics: • Use innovative combinations of electronics (or

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Evaluate the design of products to suggest improvements to the user experience. Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (e.g. the nature of fabric may require sharper scissors than would be used to cut paper). Create circuits using electronics kits that employ a number of components with increasing confidence. Write code to control and monitor models or products.	Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (e.g. the nature of fabric may require sharper scissors than would be used to cut paper). Develop a range of practical skills to create products.	Create and refine recipes, including ingredients, methods, cooking times and temperatures.	computing) and mechanics in product designs