Design & Technology

Curriculum Map 2019-2020

D&T is taught in blocks during enterprise week. Each class choose a product to design, make and evaluate.

	Autumn 1	Autumn 2	Summer 1	Summer 2
3	Enterprise- Christmas Fayre **Design, make, evaluate and improve** • Investigate existing products, including drawing them to analyse and understand how they are made. • Develop more than one design. • Develop prototypes. • Generate designs with annotated sketches and computer-aided design (CAD) where appropriate. • Identify strengths and weaknesses of their design ideas. • Talk about how closely their finished product meets their design criteria and meets the need of the user. **Textiles** • Understand the need for a seam allowance. • Join textiles with appropriate stitching. • Select the most appropriate techniques to decorate textiles. **Materials** • Measure and mark out accurately. **Cooking and nutrition** • Know that a healthy diet is made up from a variety of different food and drink, as depicted in The Eatwell Plate. • Follow a recipe.		**Design, make, evaluate and improve** • Plan a sequence of actions to make a product. Design with purpose • Refine work and techniques as work progresses, continually evaluating the product design. **Materials** • Cut materials accurately and safely by selecting appropriate tools. • Cut slots. **Construction, mechanics and electronics** • Create series circuits. • Strengthen frames using diagonal struts. Begin to repair items, • Begin to use mechanical systems in their products e.g. gears, pulleys and levers. **Cooking and nutrition** • Cut materials accurately and safely by selecting appropriate tools. • With support, measure and weigh ingredients appropriately. **To take inspiration from design throughout history** • Disassemble products to understand how they work. • Improve on existing designs, giving reasons for choices. • Identify some of the great designers in different areas of study to generate ideas from their designs.	
	Enquiry / coverage in connected subject			

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	Maths-tally charts , bar charts **Careers link**		
	Vocabulary (tier 3)		

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	Autumn 1	Autumn 2	Summer 1	Summer 2
4	Enterprise- Christmas Fayre **Design, make, evaluate and improve** • Investigate existing products, including drawing them to analyse and understand how they are made. • Plan a sequence of actions to make a product. Design with purpose • Develop more than one design. • Generate designs with annotated sketches and computer-aided design Refine work and techniques as work progresses, continually evaluating the product design. • Identify strengths and weaknesses of their design ideas. • Talk about how closely their finished product meets their design criteria and meets the need of the user. **Materials** • Cut slots **Cooking and nutrition** • Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). • Measure ingredients using scales. • Prepare ingredients hygienically and using the appropriate utensils by following a recipe. **To take inspiration from design throughout history** • Improve on existing designs, giving reasons for choices.		**Design, make, evaluate and improve** • Develop prototypes. • Generate designs with annotated sketches and computer-aided design (CAD) where appropriate. **Textiles** • Understand the need for a seam allowance. • Join textiles with appropriate stitching. • Select the most appropriate techniques to decorate textiles. **Materials** • Measure and mark out to the nearest mm. • Use and explore complex popups. • Create nets **Construction, mechanics and electronics** • Create series and parallel circuits. • Investigate how to make structures more stable e.g. by widening the base or to repair items. • Understand and use mechanical structures in their products e.g. gears, pulleys, levers and gears. **To take inspiration from design throughout history** Disassemble products to understand how they work. • Identify some of the great designers in different areas of study to generate ideas from their designs.	
	Enquiry / coverage in connected subject			
	English- Letter writing to parents Maths-Measuring Market research- questionnaires Careers links.			

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	Key Vocabulary (tier 3)	

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	Autumn 1	Autumn 2	Summer 1	Summer 2
5	Enterprise- Christmas Fayre **Design, make, evaluate and improve** • Undertake research to inform design process. This may include surveys and interviews. • Consider the views of others when evaluating their own work. • Ensure products have a high quality finish, using art skills where appropriate. • Justify their decisions about materials and methods of construction. • Make suggestions on how their design/product could be improved. **Cooking and nutrition** • Assemble or cook ingredients, controlling the temperature of the oven or hob if cooking. • Measure accurately using different equipment. • Create recipes, including ingredients, methods, cooking times and temperatures. • Understand the importance of correct storage and handling of ingredient (using knowledge of micro-organisms).		**Design, make, evaluate and improve** Use prototypes, cross-sectional diagrams, exploded diagrams and CAD software to represent designs. •Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). **Textiles** • 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). **Materials** • Cut materials with precision. • Cut accurately and safely to a marked line. • Join/combine materials with temporary, fixed or moving joints. **Construction, mechanics and electronics** • Control a model using an ICT control model. • Use a glue gun with close supervision. • Join materials using appropriate methods. Use a hand drill to drill tight and loose fit holes. **To take inspiration from design throughout history** • Use and combine knowledge of inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products to create their own innovative designs. • Evaluate the design of products so as to suggest improvements to the user experience	
	Enquiry / coverage in connected subject			
	Maths- cost of items, measures, graphs **Product branding** **Careers links**			
	Key Vocabulary (tier 3)			

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Curriculum Map 2019-2020

Design & Technology

Curriculum Map 2019-2020

	Autumn 1	Autumn 2	Summer 1	Summer 2
6	Enterprise- Christmas Fayre **Design, make, evaluate and improve** • Undertake research to inform design process. This may include surveys and interviews. •Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). • Consider the views of others when evaluating their own work. • Ensure products have a high quality finish, using art skills where appropriate. • Justify their decisions about materials and methods of construction. • Make suggestions on how their design/product could be improved. **Textiles** • Join textiles with a combination of stitching techniques • 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). **Materials** • Cut materials with precision. • Cut accurately and safely to a marked line. **Construction, mechanics and electronics** • Join materials using appropriate methods. Use a hand drill to drill tight and loose fit holes. **To take inspiration from design throughout history** • Evaluate the design of products so as to suggest improvements to the user experience.		**Design, make, evaluate and improve** • Use prototypes, cross-sectional diagrams, exploded diagrams and CAD software to represent designs **Textiles** • Create objects (such as a cushion) that employ a seam allowance. **Materials** • Cut materials with precision and refine the finish with appropriate tools (such as sanding wood). • Show an understanding of the qualities of materials to choose appropriate tools to cut and shape **Construction, mechanics and electronics** • To number of components (such as LEDs, resistors and transistors). • Cut wood accurately to 1mm. • Build frameworks using a range of materials e.g. wood, card and corrugated plastic. • Use a can to make an up and down mechanism. **Cooking and nutrition** • Combine ingredients appropriately e.g. beating or rubbing. • Measure ingredients to the nearest gram and millilitre and calculate ratios of ingredients to scale up or down from a recipe. • Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. • Create and refine recipes, including ingredients, methods, cooking times and temperatures. **To take inspiration from design throughout history** • Use and combine knowledge of inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products to create their own innovative designs	
	Enquiry / coverage in connected subject			

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	Market research- questionnaires Maths- costing, measuring. Careers links.	
	Key Vocabulary (tier 3)	