



LIMITLESS POTENTIAL

IGNITE PASSION

EMBRACE DIFFERENCE

Design and Technology Curriculum Overview 2020/ 21

Master practical skills

This concept involves developing the skills needed to make high quality products.

Design, make, evaluate and improve

This concept involves developing the process of design thinking and seeing design as a process.

Take inspiration from design throughout history

This concept involves appreciating the design process that has influenced the products we use in everyday life.

Year Group	Autumn Term		Spring Term		Summer Term	
Year 1/2	Autumn 1 Focus: Food Learning Objectives: <ul style="list-style-type: none"> • use the basic principles of a healthy and varied diet to prepare dishes. • understand where food comes from. 	Autumn 2 Focus: Materials Learning Objectives: <ul style="list-style-type: none"> • design purposeful, functional, appealing products for themselves and other users based on design criteria. 	Spring 1 Focus: Electricals and Electronics Learning Objectives: <ul style="list-style-type: none"> • explore and evaluate a range of existing products. • evaluate their ideas and products against design criteria. 	Spring 2 Focus: Construction and Mechanics Learning Objectives: <ul style="list-style-type: none"> • build structures, exploring how they can be made stronger, stiffer and more stable. 	Summer 1 Focus: Textiles Learning Objectives: <ul style="list-style-type: none"> • Design products that have a clear purpose and an intended user. • Make products, refining the design as work progresses. 	Summer 2 Focus: Computing Learning Objectives: <ul style="list-style-type: none"> • Model designs using software.

	<p>Cut, peel or grate ingredients safely and hygienically.</p> <ul style="list-style-type: none"> • Measure or weigh using measuring cups or electronic scales. • Assemble or cook ingredients. 	<ul style="list-style-type: none"> • generate develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. <p>Make</p> <ul style="list-style-type: none"> • select from and use a range of tools and equipment to perform practical tasks such as cutting, shaping, joining and finishing. • select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. <p>Evaluate</p> <ul style="list-style-type: none"> • explore and evaluate a range of existing products. • evaluate their ideas and products against design criteria. • Cut materials safely using tools provided. 	<ul style="list-style-type: none"> • Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage) 	<ul style="list-style-type: none"> • explore and use mechanisms, such as levers, sliders, wheels and axles, in their products • Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs. • Explore how products have been created. • Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products. • Create products using levers, wheels and winding mechanisms. 	<ul style="list-style-type: none"> • Use software to design • 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). 	
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		<ul style="list-style-type: none">• 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).				
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Year 1/2	Educational Visits/ Enrichment opportunities Newcastle Centre for Life	National Initiatives	APP's to support topics Sphero Swift Playgrounds	School Resources available Cookery resources including hot plates	Resources to loan	Links to Websites https://www.stem.org.uk/resources/collection/2891/nuffield-primary-design-and-technology
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Year Group	Autumn Term		Spring Term		Summer Term	
Year 3/4	Autumn 1 Focus: Food Learning Objectives: <ul style="list-style-type: none"> • understand and apply the principles of 	Autumn 2 Focus: Materials Learning Objectives: <ul style="list-style-type: none"> • Cut materials accurately and safely 	Spring 1 Focus: Electricals and Electronics Learning Objectives: <ul style="list-style-type: none"> • Create series and parallel circuits 	Spring 2 Focus: Construction and Mechanics Learning Objectives: <ul style="list-style-type: none"> • Choose suitable techniques to 	Summer 1 Focus: Textiles Learning Objectives: <ul style="list-style-type: none"> • Understand the need for a seam allowance. 	Summer 2 Focus: Computing Learning Objectives: <ul style="list-style-type: none"> • Control and monitor models using

	<p>a healthy and varied diet.</p> <ul style="list-style-type: none"> • prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. • understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. 	<p>by selecting appropriate tools.</p> <ul style="list-style-type: none"> • 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 		<p>construct products or to repair items.</p> <ul style="list-style-type: none"> • Strengthen materials using suitable techniques. 	<ul style="list-style-type: none"> • Join textiles with appropriate stitching. • Select the most appropriate techniques to decorate textiles 	<p>software designed for this purpose.</p>
Year 3/4	<p>Educational Visits/ Enrichment opportunities</p> <p>Newcastle Centre for Life</p> <p>Discovery Museum</p>	<p>National Initiatives</p>	<p>APP's to support topics</p> <p>Sphero</p> <p>Swift Playgrounds</p>	<p>School Resources available</p> <p>Cookery resources including hot plates</p>	<p>Resources to loan</p>	<p>Links to Websites</p> <p>https://www.stem.org.uk/resources/collection/2891/uffield-primary-design-and-technology</p>

Year Group	Autumn Term		Spring Term		Summer Term	
Year 5/6	<p>Autumn 1 Focus: Food</p> <p>Learning Objectives:</p> <ul style="list-style-type: none"> • understand and apply the principles of a healthy and varied diet. • prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. • understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. 	<p>Autumn 2 Focus: Materials</p> <p>Learning Objectives:</p> <ul style="list-style-type: none"> • 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 	<p>Spring 1 Focus: Electricals and Electronics</p> <p>Learning Objectives:</p> <ul style="list-style-type: none"> • Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips) 	<p>Spring 2 Focus: Construction and Mechanics</p> <p>Learning Objectives:</p> <ul style="list-style-type: none"> • Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding). 	<p>Summer 1 Focus: Textiles</p> <p>Learning Objectives:</p> <ul style="list-style-type: none"> • 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 	<p>Summer 2 Focus: Computing</p> <p>Learning Objectives:</p> <ul style="list-style-type: none"> • Write code to control and monitor models or products.

		would be used to cut paper).			decoration for comfort on a cushion)	
Year 5/6	Educational Visits/ Enrichment opportunities Newcastle Centre for Life Discovery Museum Nissan Sunderland Beacon of Light	National Initiatives	APP's to support topics Sphero Swift Playgrounds	School Resources available Cookery resources including hot plates	Resources to loan	Links to Websites https://www.stem.org.uk/resources/collection/2891/nuffield-primary-design-and-technology