



Design Technology

2023-2024

School Drivers						
21st Century Citizens Understanding of the Wider World			Independent Learner Independent Resilient Creative and Curious Able to think Critically		Healthy Living Outdoor Learning	
Reception	Expressive Arts and Design Creating with Materials ELG: Children at the expected level of development will: <ul style="list-style-type: none">Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and functionShare their creations, explaining the process they have used Understanding the World The Natural World ELG: Children at the expected level of development will: <ul style="list-style-type: none">Explore the natural world around them, making observations and drawing pictures of animals and plants; Physical Development Fine Motor Skills ELG: <ul style="list-style-type: none">Use a range of small tools including scissors, paintbrushes and cutlery.					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	Cooking and nutrition: Soup Core learning To explore fruits and vegetables and the	Structures: Junk modelling Core learning To explore and investigate the tools		Seasonal project Easter: Hanging egg decoration Core learning		

	<p>differences between them.</p> <p>To use adjectives to describe how fruits and vegetables look, feel, smell and taste.</p> <p>To listen to and recall elements from the story 'The Best Pumpkin Soup.'</p> <p>To explore a pumpkin and describe it using the five senses.</p> <p>To design a fruit and vegetable soup recipe.</p> <p>To practise cutting with a knife.</p> <p>To learn how to use a knife safely.</p> <p>To observe and help (where appropriate) with the use of tools to prepare ingredients.</p> <p>To describe the finished product and evaluate the process.</p> <p>To design food packaging.</p> <p>Vocabulary</p> <p>Fruit, vegetables, safety, knife, blade, tool, edge, handle, chop,</p>	<p>and materials in the junk modelling area.</p> <p>To develop scissor skills.</p> <p>To investigate cutting different materials.</p> <p>To learn how to plan and select the correct resources needed to make a model.</p> <p>To verbally plan and create a junk model.</p> <p>To share a finished model and talk about the processes in its creation.</p> <p>To explore different ways to temporarily join materials together.</p> <p>Vocabulary join, stick, cut, bend, slot, scissors, measure, materials, fix</p> <p>Seasonal project Christmas: Sliding Santa chimneys</p> <p>Core learning</p> <p>To create a picture with a simple sliding mechanism.</p>		<p>To design and create a hanging Easter egg decoration.</p>		
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	slice, cut, saucepan, blender, chopping Board, hob, boil, blend, mix, packaging, recyclable, metal, plastic, reusable					
Year 1		Textiles: Puppets Core learning To join fabrics together using different methods. To use a template to create my design. To join two fabrics together accurately. To embellish my design using joining methods. Vocabulary Decorate, design, fabric, glue, model, hand puppet, safety pin, staple, stencil, template		Cooking and nutrition: Fruit and vegetables Core learning To identify if a food is a fruit or a vegetable To identify where plants grow and which parts we eat. To taste and compare fruit and vegetables. To make a fruit salad/smoothie. Vocabulary blender, carton, fruit, healthy, ingredients, peel, peeler, recipe, slice, smoothie, fruit salad, stencil, template, vegetable		Structures: Constructing windmills Core learning To include individual preferences and requirements in my design. To make a stable structure. To assemble the components of my structure. To evaluate my project and adapt my design. Vocabulary client, design, evaluation, net, stable, strong, test, weak, windmill
Year 2		Mechanisms: Wheels and Axles Core learning		Structures: Baby Bear's chair Core learning To explore the concept and features		Mechanisms: Making a moving monster Core learning To look at objects and understand how they

		<p>To understand how wheels move. To identify what stops wheels from turning. To design a moving vehicle. To build a moving vehicle.</p> <p>Vocabulary</p> <p>axle, axle holder, chassis, design, evaluation, fix, mechanic, mechanism, model, test, wheel</p>		<p>of structures and the stability of different shapes. To explore strength in different structures. To understand that the shape of the structure affects its strength. To make a structure according to design criteria. To produce a finished structure and evaluate its strength, stiffness and stability.</p> <p>Vocabulary</p> <p>function, man-made, mould, natural, stable, stiff, strong, structure, test, weak</p>		<p>move (pivots, levers and linkages). To look at objects and understand how they move (making linkages). To explore different design options. To make a moving monster.</p> <p>Vocabulary</p> <p>Evaluation, input, lever, linear motion, linkage, mechanical, mechanism, motion, oscillating motion, output, pivot, reciprocating motion, rotary motion, survey</p>
Year 3	<p>Cooking and nutrition: Eating seasonally</p> <p>Core learning</p> <p>To know that climate affects food growth (Japanese fruit skewers). To understand the advantages of eating seasonal foods grown in the UK (fruit crumble).</p>			<p>Digital world: Electronic charm.</p> <p>Core learning</p> <p>To understand the impact of the digital revolution in the world of (D&T) product design. To write a program to initiate a flashing LED panel after button press and/or automatically initiate</p>		<p>Structures: Constructing a Castle</p> <p>Core learning</p> <p>To recognise how multiple shapes (2D and 3D) are combined to form a strong and stable structure. To design a castle. To construct 3D nets. To construct and evaluate my final product.</p>

	<p>To create a recipe that is healthy and nutritious using seasonal vegetables and fruits (savoury tart using UK seasonal vegetables). To safely follow a recipe when cooking. To follow a recipe to make a seasonal tart.</p> <p>Vocabulary Climate, dry climate, exported, imported, Mediterranean climate, nationality, nutrients, Polar climate, recipe, seasonal food, seasons, temperate climate, tropical climate</p>			<p>using the Micro: bit light sensing, as part of an eCharm. To create and decorate a foam pouch for the eCharm, using a template. To design a display badge and/or stand using CAD (computer-aided design) software for an eCharm product.</p> <p>Vocabulary Analogue, badge, CAD, control, design requirements, develop, digital, digital revolution, digital world, display, electronic, electronic products, fasten, feature, function, initiate, key features, layers, loops, micro: bit, monitor, net, point of sale, product, product design, program, sense, simulator, smart, wearables, stand, technology, template, test, user</p>		<p>To evaluate work and the work of others.</p> <p>Vocabulary 2D shapes, 3D shapes, castle, design criteria, evaluate, façade, feature, flag, net, recyclable, scoring, stable, strong, structure, tab, weak</p>
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Year 4		<p>Structure: Pavilions. Core learning To create a range of different shaped frame structures. To know what the structure (pavilion) is used for. To design a structure. To build a frame structure. To add cladding to a frame structure.</p> <p>Vocabulary aesthetic, cladding, design criteria, evaluation, frame structure, function, inspiration, pavilion, reinforce, stable, structure, target audience, target customer, texture, theme</p>		<p>Electrical systems: Torches. Core learning To learn about electrical items and how they work. To analyse and evaluate electrical products. To design a product to fit a set of specific user needs. To make and evaluate a torch.</p> <p>Vocabulary Battery, bulb, buzzer, cell, component, conductor, copper, design criteria, electrical item, electricity, electronic item, function, insulator, series circuit, switch, test, torch, wire</p>		<p>Mechanical Systems: Making a slingshot car. Core learning To build a car chassis. To design a shape that reduces air resistance. To make a model based on a chosen design. To assemble and test my completed product.</p> <p>Vocabulary aesthetic, air resistance, chassis, design, design criteria, function, graphics, kinetic energy, mechanism, net, structure</p>
Year 5		<p>Electrical systems: Doodlers Core learning To understand how motors are used in electrical products. To investigate an existing product to determine the factors</p>		<p>Mechanical systems: Making a pop-up book. Core learning To design a pop up book. To follow a design brief to make a pop up book.</p>		<p>Cooking and nutrition: What could be healthier? Core learning To understand where food comes from. To know that beef is the name of meat from cattle (cows).</p>

		<p>that affect the product's form and function.</p> <p>To put findings from research into practice to develop a unique product.</p> <p>To incorporate an electrical system that uses a motor.</p> <p>To develop a DIY kit for another individual to assemble their product.</p> <p>Vocabulary circuit component, configuration, current, develop, DIY, investigate, motor, motorised, problem solve, product analysis, series circuit, stable, target user</p>		<p>To use layers and spacers to cover the working of mechanisms.</p> <p>To create a high-quality product suitable for a target user.</p> <p>Vocabulary Aesthetic, computer-aided design (CAD), caption, design, design brief, design criteria, exploded-diagram, function, input, linkage, mechanism, motion, output, pivot, prototype, slider, structure, template</p>		<p>To know how beef is reared and processed.</p> <p>To understand the term 'healthy'.</p> <p>To adapt a traditional recipe.</p> <p>To know that the nutritional value of a recipe can change if you remove, substitute or add additional ingredients.</p> <p>To complete a food product.</p> <p>Vocabulary Beef, cross-contamination, diet, ethical issues, farm, healthy, ingredients, method, nutrients, packaging, reared, recipe, research, substitute, supermarket, vegan, vegetarian, welfare</p>
Year 6		<p>Textiles: Waistcoats</p> <p>Core learning To design a waistcoat. To mark and cut fabric according to a design. To assemble a waistcoat. To sew a simple running stitch.</p>		<p>Structure: Playgrounds.</p> <p>Core learning To design a playground with a variety of structures. To improve designs based on peer evaluation.</p>		<p>Digital world: Navigating the world.</p> <p>Core learning To write a design brief and criteria based on a client request. To write a program to include multiple functions as part of a</p>

		<p>To decorate a waistcoat. To attach objects for decoration using thread. To evaluate work according to the design criteria.</p> <p>Vocabulary accurate, adapt, annotate, design, design criteria, detail, fabric, fastening, knot, properties, running-stitch, seam, sew , shape, target audience, target customer, template, thread, unique, waistcoat, waterproof</p>		<p>To build a range of structures. To improve and add detail to structures. To create the surrounding landscape.</p> <p>Vocabulary Adapt, apparatus, bench hook, cladding, coping saw, design, dowel, evaluation, feedback, idea, jelutong, landscape, mark out, measure, modify, natural, materials, plan view, playground, prototype, reinforce, sketch, strong, structure, tenon saw, texture, user, vice, weak</p>		<p>navigation device. To develop a sustainable product concept. To develop 3D CAD skills to produce a virtual model. To present a pitch to 'sell' the product to a specified client.</p> <p>Vocabulary 3D CAD, application (apps), biodegradable, Boolean, cardinal compass, client, compass, concept, convince, corrode, duplicate, environmentally friendly, equipment, feature, finite, function, functional, GPS tracker, If statement, infinite, investment, lightweight, loop, manufacture, materials (wood, metal, plastic etc.), mouldable, navigation, non-recyclable, product lifecycle, product lifespan, program, recyclable, smart , sustainable, sustainable design, unsustainable</p>
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	Curriculum End Points (NC) Designing and making.	Curriculum End Points (NC) Cooking and Nutrition
EYFS End Points	<p>To be able to:</p> <ul style="list-style-type: none"> draw and paint using a range of materials, tools and techniques, experimenting with colour, design, texture, form and function share their creations, explaining the process they have used explore the natural world around them, making observations and drawing pictures of animals and plants Use a range of small tools including scissors, paintbrushes and cutlery. 	
KS1 End Points	<p>To be able to:</p> <ul style="list-style-type: none"> design purposeful, functional, appealing products for themselves and other users based on design criteria generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology select from and use a range of tools and equipment to perform practical tasks select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics 	<p>To be able to:</p> <ul style="list-style-type: none"> use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from

	<ul style="list-style-type: none"> • explore and evaluate a range of existing products • evaluate their ideas and products against design criteria • build structures, exploring how they can be made stronger, stiffer and more stable • explore and use mechanisms in their products. 	
KS2 End Points	<p>To be able to:</p> <ul style="list-style-type: none"> • use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design • select from and use a wider range of tools and equipment to perform practical tasks accurately • select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities • investigate and analyse a range of existing products • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • understand how key events and individuals in design and technology have helped shape the world • apply their understanding of how to strengthen, stiffen and reinforce more complex structures • understand and use mechanical systems in their products • understand and use electrical systems in their products • apply their understanding of computing to program, monitor and control their products 	<p>To be able to:</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

