



DT at Shotley Bridge Primary School

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Theme		Marvellous Me	Celebrating Diversity	Polar Regions	People Who Help Us	The Farm	Our Wonderful World
Reception	Learning Intentions	<p>Cutting using scissors.</p> <p>Hold pencil beyond whole hand pencil grip</p> <p>Use a paint brush skilfully.</p> <p>Regular dough disco to develop fine motor skills including rolling, squeezing, poking and pinching the dough.</p> <p>Threading beads onto string.</p> <p>Outdoors: Mark making using large movements using paint brushes, rollers and sweeping brushes.</p> <p>Mark making with pencils, crayons, chalk and felt tip pens.</p> <p>Create with playdough.</p> <p>Paint a self-portrait.</p> <p>Use powder paint and water to create a faded background to stick self-portraits onto.</p> <p>Draw pictures of the people in their family.</p> <p>Explore and name colours.</p> <p>Create colourful repeating patterns with paint brushes and sponges.</p> <p>Make transient art using natural autumnal resources such as autumnal leaves and conkers to explore different textures.</p>	<p>Use scissors to create paper snowflakes.</p> <p><u>Link to Diwali (PCC)</u> Create rangoli patterns using different materials including pens, pencils, large crayons outdoors and colourful rice.</p> <p><u>Link to Christmas (PP/PCC)</u> Use paint, glue, and sequins to decorate a Christmas card.</p> <p>Use a hole punch and string to make a hanging Christmas decoration.</p> <p>Use scissors, glue and sequins to create a party hat to wear for Christmas dinner.</p>	<p>Use drawings to create story maps together.</p> <p>Use masking tape to join materials such as cardboard boxes and tubes to create models.</p> <p>Paint Kandinsky circles using paintbrushes of different thicknesses.</p> <p>Cut and stick Kandinsky circles using scissors and glue sticks.</p>	<p>Create simple symmetrical patterns using transient art.</p> <p><u>Link to Spring (NW)</u> Use pencils, pens or paints to create observational drawings/paintings of spring flowers.</p> <p>Use water pallet paints.</p> <p><u>Link to Easter (PCC)</u> Use collage to create a stained-glass window.</p> <p>Tie wool, string, or ribbon to create a hanging Easter decoration.</p> <p>Use wooden and acrylic blocks in the block area to create a church.</p>	<p>Use collage to create farm animals and landscape scenery out of different materials.</p> <p>Fold paper to create leaflets.</p> <p>Use PVA glue to stick.</p> <p>Find out about of Stephen Fowler who uses objects to print.</p> <p>Use fruit and vegetables to print.</p> <p>Use natural found objects to print.</p> <p>Plan and follow and recipe to make vegetable soup, safely using a knife to chop.</p> <p>Use masking tape to join materials to create models.</p>	<p>Use wax crayons to create leaf rubbings.</p> <p>Use treasury tags to join paper to create books.</p> <p>Use a stapler to join paper to create books.</p> <p>Plan and create models using a variety of tools and techniques they have already been taught.</p> <p>Explore colour mixing with paints.</p> <p>Safely use a knife to cut and spread to make and taste cress sandwiches.</p> <p>Find out about Richard Long, the sculptor who uses natural materials to create artwork in circles and lines.</p> <p>Use natural found objects to create artwork in the form of Richard Long.</p>

Yea r 1	Autumn	Spring	Summer
Topic	Structures: Constructing Windmills	Textiles: Puppets	Food: Fruit and Vegetables

	National Curriculum Links	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> design purposeful, functional, appealing products for themselves and other users based on design criteria select from and use a range of tools and equipment to perform practical tasks [for example, 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 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 [for example, levers, sliders, wheels and axles], in their products 	<p>Pupils should be taught to:</p> <p>design purposeful, functional, appealing products for themselves and other users based on design criteria</p> <p>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</p> <p>select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p> <p>evaluate their ideas and products against design criteria</p>	<p>Pupils should be taught 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 design purposeful, functional, appealing products for themselves and other users based on design criteria select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] explore and evaluate a range of existing products
	Key Vocabulary	Axle, bridge, design, design criteria, model, net, packaging, structure, template, unstable, stable, strong, weak	Equipment, glue, inspiration, safety pin, technique, decorate, design criteria	Fruit, vegetable, seed, leaf, root, stem, smoothie, healthy, carton, design, flavour, peel, slice
	Learning Intentions	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 and vegetable smoothie

	Year 2		
	Autumn	Spring	Summer
Topic	Structures: Baby bear's chair	Cooking and Nutrition: A Balanced Diet	Mechanisms: Making a moving monster
National Curriculum Links	<p>Pupils should be taught 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 [for example, 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. Evaluate their ideas and products against design criteria. Build structures, exploring how they can be made stronger, stiffer and more stable. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> Design purposeful, functional, appealing products for themselves and other users based on design criteria. Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria. Use basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from. 	<p>Pupils should be taught 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 [for example, 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 Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products
Prior Learning	Y1 Structures: Constructing Windmills	Reception: Our Wonderful World Y1: Fruit and Vegetables	
Key Vocabulary	Man-made, natural, properties, structure, stable, shape, stiffness, model, test,	Balanced diet, carbohydrate, dairy, fruits and vegetables, oils, sugar, protein, alternatives, design criteria, ingredients, food safety, evaluation	Axle, input, linkage, output, pivot, wheel,
Learning Intentions	<p>To explore the concept and features of structures and the stability of different shapes</p> <p>To make a structure according to design criteria</p> <p>To produce a finished structure and evaluate its strength, stiffness and stability</p> <p>To explore strength in different structures</p>	<p>To Know what makes a balanced diet</p> <p>To taste test food combinations</p> <p>To design a healthy wrap</p> <p>To make a healthy wrap</p>	<p>To look at objects and understand how they move</p> <p>To look at objects and understand how they move</p> <p>To explore different design options</p> <p>To make a Moving Monster</p>

Y 2	Autumn	Spring	Summer
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Topic	Food: Eating Seasonally	Digital World: Electronic Charm	Structures: Constructing a castle
National Curriculum Links	Pupils should be taught to: <ul style="list-style-type: none"> Understand and apply principles of a healthy and varied diet. Prepare and cook 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. 	Pupils should be taught to: <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. 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 computing to program, monitor and control their products. 	Pupils should be taught to: <ul style="list-style-type: none"> Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. 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. 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. Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
Prior Learning	Reception The Farm & Our Wonderful World Y1 Food: Fruit and Vegetables		Y1 Constructing Windmills
Key Vocabulary	Climate, fruits (lychees, watermelon, strawberries), countries, weather, seasons, seasonal, sugar, export, import, ingredients, natural, vegetable, evaluate, recipe	Smart wearables, digital revolution, analogue, digital, micro:bit, program, loops, initiative, electronics, simulator, control, monitor, sense, template, develop, fasten, user, key features, CAD (computer-aided design), point of sale, display, badge, stand, net, layers	Castle, strong, stiff, stable, 3D, 2D, structure, net, shape, design, tab, scoring
Learning Intentions	<ul style="list-style-type: none"> To know that climate affects food growth To understand the advantages of eating seasonal foods grown in the UK To create a recipe that is healthy and nutritious using seasonal vegetables and fruits To safely follow a recipe when cooking 	<ul style="list-style-type: none"> 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 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 	<ul style="list-style-type: none"> 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

	<u>Autumn</u>	<u>Spring</u>	<u>Summer</u>
Topic	Structures: Pavilions	Mechanical Systems: Making a slingshot car	Electrical Systems: Torches
National Curriculum Links	Pupils should be taught to: <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 [for example, cutting, shaping, joining and finishing], accurately. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. 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 Apply their understanding of how to strengthen, stiffen and reinforce more complex structures 	Pupils should be taught to: <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 [for example, cutting, shaping, joining and finishing], accurately. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. 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. Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. 	Pupils should be taught to: <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 [for example, cutting, shaping, joining and finishing], accurately. * Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. * 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. * Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]

Year 4

	Prior Learning	Y1 Constructing Windmills Y2 Baby Bears Chair Y3 Constructing Castles	Y2 Mechanisms: Moving Monsters	
	Sticky Vocabulary	Design criteria, natural, structure, innovative, 3D shape, reinforce, cladding	Chassis, energy, kinetic, mechanism, air resistance, design, structure, graphics, research, model, template	Battery, bulb, buzzer, conductor, circuit, switch, component, LED, model, series circuit, shape, input, switch, theme, electricity, insulator
	Learning Intentions	<ul style="list-style-type: none"> To create a range of different shaped frame structures To design a structure To build a frame structure To add cladding to a frame structure 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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

Year 5		Autumn	Spring	Summer
	Topic	Electrical systems: Doodlers	Mechanical systems: Making a pop-up book	Food: What could be healthier?
	National Curriculum Links	Pupils should be taught to: <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 individuals or groups. Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. 	Pupils should be taught to: <ul style="list-style-type: none"> 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. 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 [for example, cutting, shaping, joining and finishing], accurately. 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 and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. 	Pupils should be taught to: <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 design diagrams, prototypes, pattern pieces and computer- aided design Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. 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 computing to program, monitor and control their products Understand and apply principles of a healthy and varied diet Prepare and cook 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.
	Prior Learning	Y4 Torches	Y4 Making a slingshot car	Reception The Farm & Our Wonderful World Y1 Fruit and Vegetables Y2 A Balanced Diet Y3 Eating Seasonally
	Sticky Vocabulary	Motor, motorised, series circuit, circuit component, current, investigate, product analysis, problem solve, configuration, develop, stable, target user, DIY, hobby	Input, motion, mechanism, reinforce, model	Beef, reared, diet, supermarket, farm, ingredients, balanced,
Learning Intentions	<ul style="list-style-type: none"> To understand how motors are used in electrical products To investigate an existing product to determine the factors that affect the product's form and function To put findings from research into practice to develop a unique product To develop a DIY kit for another individual to assemble their product 	<ul style="list-style-type: none"> To design a pop-up book To follow my design brief to make my pop-up book To use layers and spacers to cover the working of mechanisms To create a high-quality product suitable for a target user 	<ul style="list-style-type: none"> To understand where food comes from To understand the term 'healthy' To adapt a traditional recipe To complete a food product 	

Year 6		Autumn	Spring	Summer
	Topic	Textiles: Waistcoats	Structures: Playground	Digital world: Navigating the world
National Curriculum Links	Pupils should be taught to: <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. 	Pupils should be taught to: <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. 	Pupils should be taught to: <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. 	

		<ul style="list-style-type: none"> • Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], 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. 	<p>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.</p> <p>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.</p> <p>Investigate and analyse a range of existing products.</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</p>	<p>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>Apply their understanding of computing to program, monitor and control their products.</p>
Prior Learning	Y1 Textiles: Puppets	Y1 Structures: Windmills Y2 Structures: Baby Bears Chair Y3 Structures: Castles Y4 Structures: Pavilions	Y3 Digital World: Electronic Charm	
Sticky Vocabulary	Decorate, fabric, target customer, waistcoat, waterproof	Appartus, design criteria, equipment, playground, landscape features	Compass, pedometer, GPS tracker, navigation, application (apps), cardinal compass, program, loop, variable, boolean, corrode, mouldable, sustainable, biodegradable, recyclable, virtual, 3D model, consumables, CGI, Tinkercade, workplane	
Learning Intentions	<ul style="list-style-type: none"> • To design a waistcoat • To mark and cut fabric according to a design • To assemble a waistcoat • To decorate your waistcoat 	<ul style="list-style-type: none"> • To design a playground with a variety of structures • To build a range of structures • To improve and add detail to structures • To create surrounding landscape 	<ul style="list-style-type: none"> • To write a design brief and criteria based on a client request • To write a program to include multiple functions as part of a navigation device • To develop a sustainable product concept • To develop 3D CAD skills to produce a virtual mode 	