Design and Technology Long Term Plan

We use Kapow to support the teaching of Design and Technology within the curriculum. We teach Design and Technology at the end of each half term within one week ending in a showcase of the work that the children have produced as part of that unit.

Overview	Autumn term	Spring term	Summer term
EYFS	Structures: Junk modelling Seasonal project: Christmas	Textiles: Bookmarks Structures: Boats	Cooking and nutrition: Soup Seasonal project: Summer
Milestone 1	**Cycle 1** Mechanisms: Making a moving story book Structures: Constructing a windmill **Cycle 2** Mechanisms: Fairground wheel Structures: Baby Bear's chair	**Cycle 1** Textiles: Puppets Mechanisms: Wheels and axles **Cycle 2** Mechanisms: Making a moving monster Textiles: Pouches	**Cycle 1** Cooking and nutrition: Fruit and vegetables **Cycle 2** Cooking and nutrition: A balanced diet
Milestone 2	**Cycle 1** Cooking and nutrition: Eating seasonally **Cycle 2** Electrical systems: Torches Mechanical systems: Making a slingshot car	**Cycle 1** Textiles: Cross-stitch and appliqué Digital world: Wearable technology **Cycle 2** Cooking and nutrition: Adapting a recipe	**Cycle 1** Structures: Constructing a castle Mechanical systems: Pneumatic toys **Cycle 2** Structure: Pavilions Textiles: Fastenings

		Digital world: Mindful moments timer	
Milestone 3	**Cycle 1** Cooking and nutrition: What could be healthier? Mechanical systems: Pop-up book **Cycle 2** Cooking and nutrition: Come dine with me Structure: Playgrounds	**Cycle 1** Textiles: Stuffed toys Structure: Bridges **Cycle 2** Digital world: Navigating the world Textiles: Waistcoats	**Cycle 1** Digital world: Monitoring devices Electrical systems: Doodlers **Cycle 2** Electrical systems: Steady hand game Mechanical systems: Automata toys

Design and Technology overview

	Cooking and Nutrition	Mechanisms	Structures	Textiles	Electrical systems	Digital world
Reception	Soup		Boats Junk modelling	Bookmarks		
Milestone 1	Fruit and vegetables	Moving storybook Wheels and axles	Windmills	Puppets		
Milestone 1	A Balanced Diet	Moving monsters Ferris wheels	Baby bear's chair	Pouches		
Milestone 2	Eating seasonally	Pneumatic toys	Castles	Cross stitch and applique	Electric poster	Electronic charm
Milestone 2	Adapting a recipe	Slingshot cars	Pavilions	Fastenings	Torches	Mindful moments timer
Milestone 3	What could be healthier?	Pop-up books	Bridges	Stuffed toys	Doodlers	Monitoring devices
Milestone 3	Come dine with me	Automata toys	Playgrounds	Waistcoats	Steady hand games	Navigating the world

Key Skills	Autumn term	Spring term	Summer term
Milestone 1 Year 1 and 2	<u>Design</u> • 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 <u>Make</u> • 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 <u>Evaluate</u> • Explore and evaluate a range of existing products • Evaluate their ideas and products against design criteria <u>Technical knowledge</u> • 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.	<u>Design</u> • 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 <u>Make</u> • 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 <u>Evaluate</u> • Explore and evaluate a range of existing products • Evaluate their ideas and products against design criteria <u>Technical knowledge</u> • 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.	<u>Design</u> • 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 <u>Make</u> • 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 <u>Evaluate</u> • Explore and evaluate a range of existing products • Evaluate their ideas and products against design criteria <u>Technical knowledge</u> • 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.

Milestone 2 Year 3 and 4	<u>Design</u> • 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. <u>Make</u> • 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. <u>Evaluate</u> • 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. <u>Cooking and Nutrition</u>	<u>Design</u> • 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. <u>Make</u> • 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. <u>Evaluate</u> • 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.	<u>Design</u> • 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. <u>Make</u> • 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. <u>Evaluate</u> • 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 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. <u>Technical knowledge</u> • Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] • Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] •	<u>Technical knowledge</u> • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures • Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] • Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] • Apply their understanding of computing to program, monitor and control their products.	<u>Technical knowledge</u> • Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] • Apply their understanding of computing to program, monitor and control their products. <u>Cooking and Nutrition</u> • 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.
Milestone 3 Year 5 and 6	<u>Design</u> • 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. <u>Make</u> • Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting,	<u>Design</u> • 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. <u>Make</u> • Select from and use a wider range of tools and equipment to perform practical tasks [for example,	<u>Design</u> • 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. <u>Make</u> • Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting,

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