Design and Technology Medium Term Plan

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	**Mechanisms: Wheels + Axels** ● 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	**Mechanisms: Making a moving storybook** ● 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	**Cooking + Nutrition: Fruits + Vegetables** ● 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	**Structures: Constructing a windmill** ● 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 communicatio n technology.	**Textiles: Puppets** ● 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	**Cooking + Nutrition: Smoothies** ● 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

	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	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	materials and components, including construction materials, textiles and ingredients, according to their characteristic ● Evaluate their ideas and products against design criteria ● Understand where food comes from.	● 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	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.	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 characteristic ● Evaluate their ideas and products against design criteria ● Understand where food comes from.

				against design criteria. ● Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products ● Build structures, exploring how they can be made stronger, stiffer and more stable.		
Year 2	**Mechanisms: Fairground Wheel** ● Design purposeful, functional, appealing products for themselves and other users based on design criteria. ● Generate, develop, model		**Cooking + Nutrition: Balanced Diet** ● Design purposeful, functional, appealing products for themselves and other users based on design criteria. ● Generate, develop, model and communicate their ideas through talking, drawing,	**Mechanisms: Making a moving monster** ● Design purposeful, functional, appealing products for themselves and other users based on design criteria.	**Structures: Baby Bear's Chair** ● Design purposeful, functional, appealing products for themselves and other users based on design criteria. ● Generate, develop, model	**Textiles: Pouches** ● 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.		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. ● Use basic principles of a healthy and	● Generate, develop, model and communicate their ideas through talking, drawing, templates, mock- ups and, where appropriate, information and communicatio n 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	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.	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. • 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.		varied diet to prepare dishes. • Understand where food comes from.	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.	• Build structures, exploring how they can be made stronger, stiffer and more stable.	• Evaluate their ideas and products against design criteria.
Year 3	**Textiles: Cross Stitch + Applique** • Use research and develop design criteria to inform	**Electrical Systems: Electric Poster** • Use research and develop design criteria to inform	**Pneumatic Toys** • Use research and develop design criteria to inform the design of	**Digital World: Wearable Technology** • Use research and develop design criteria	**Cooking + Nutrition: Eating Seasonally** • Generate, develop, model and	**Structures: Constructing a Castle** • 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	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	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,	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.	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.	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. ● Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	and finishing], accurately. ● 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 their own design criteria and consider the views of others to improve their work. ● Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].	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].	● 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.	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.

Year 4	**Digital World: Mindful Moments timer** • Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular	**Cooking + Nutrition: Adapting a Recipe** • Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular	**Electrical Systems: Torches** • 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.	**Structures: Pavillions** • Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at	**Textiles: Fastenings** • Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular	**Mechanical Systems: Making a Slingshot Car** • 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. • 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. • Apply their understanding of computing to program, monitor and control their products.	individuals or groups. • Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computeraided 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	• Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computeraided 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.	particular individuals or groups. • Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computeraide d design. • Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.	individuals or groups. • Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computeraided 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	individuals or groups. • Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computeraided 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. ● Prepare and cook variety of predominantly savoury dishes using a range of cooking techniques.	● 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].	● 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	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. ●	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].

				complex structures.		
Year 5	**Mechanical systems: Pop up books** ● Use research and develop design	**Electrical systems: Doodlers** ● Use research and develop design	**Cooking and nutrition: Developing a recipe** ● Use research and develop design	**Structure: Bridges** ● Use research and develop	**Textiles: Stuffed toys** ● Use research and develop design	**Digital World: Monitoring Devices** ● 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,	criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular 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. • 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.	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 wider range of	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	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,	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 • Evaluate their ideas and products against their own design criteria and consider the views of others to

	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. ● Understand and use mechanical systems in their products [for example, gears,	● 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].	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 computing to program, monitor and control their products. ● Understand and apply principles of a	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	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.	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. ● Apply their understanding of computing to program, monitor and control their products.

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Year 6	**Digital World: Navigating the world**	**Cooking and nutrition: Come Dine with me**	**Structures: Playgrounds** ● Use research and develop design	**Textiles: Waistcoats** ● Use research and develop	**Electrical systems: Steady hand games**	**Mechanical systems: Automata toys**

	• 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	• 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	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 wider range of	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	• 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	• 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

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		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.		criteria and consider the views of others to improve their work.	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].	