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 construction materials, textiles and ingredients, according to their characteristics. - Explore and evaluate a range of existing products.	**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 components, including construction materials, textiles and ingredients, according to their characteristics. - Explore and evaluate a range of existing products.	**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 materials and components, including construction materials, textiles and ingredients, according to their characteristic – Evaluate their ideas and products against design criteria	**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 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.	**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 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.	**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 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

	- Evaluate their ideas and products against design criteria. - Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products	- Evaluate their ideas and products against design criteria. - Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products	- Understand where food comes from.	- 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.		- Understand where food comes from.
Year 2	**Mechanisms: Fairground Wheel** - 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		**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, 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	**Mechanisms: Making a moving monster** - 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].	**Structures: Baby Bear's Chair** - 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	**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. - 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.		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 varied diet to prepare dishes. - Understand where food comes from.	- 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.	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.	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.
Year 3	**Textiles: Cross Stitch + Applique** - 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,	**Electrical Systems: Electric Poster** - 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,	**Pneumatic 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	**Digital World: Wearable Technology** - 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,	**Cooking + Nutrition: Eating Seasonally** - 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,	**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 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.	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. - Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].	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].	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.	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. - 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.	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.

Year 4	Digital World: Mindful Moments timer	Cooking + Nutrition: Adapting a Recipe	Electrical Systems: Torches	Structures: Pavillions	Textiles: Fastenings	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.	- 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 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	- 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 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	- 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 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	- 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 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	- 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 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.	- 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].	- 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.	- Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	– 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].
Year 5	**Mechanical systems: Pop up books** - 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,	**Electrical systems: Doodlers** - 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,	**Cooking and nutrition: Developing 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 individuals or groups. - Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams,	**Structure: Bridges** - 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,	**Textiles: Stuffed 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,	**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, 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, pulleys, cams, levers and linkages].	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 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].	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 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,	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 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. - Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.	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 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.	prototypes, pattern pieces and computer- aided design - 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. - Apply their understanding of computing to program, monitor and control their products.

			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.			
Year 6	**Digital World: Navigating the world** - 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	**Cooking and nutrition: Come Dine with me** - 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.	**Structures: Playgrounds** - 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	**Textiles: Waistcoats** - 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	**Electrical systems: Steady hand games** - 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	**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 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 computing to program, monitor and control their products.	- 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. - Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. - 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.	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. - Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.	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.	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. - 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 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. - Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].