Design Technology

EYFS	**Creating with Materials ELG –** Safely use and explore a variety of materials, tools and techniques. - Share their creations, explaining the process they have used. **Fine Motor Skills ELG –** Use a range of small tools, including scissors, paintbrushes and cutlery.

	Structures	Cooking and nutrition	Mechanisms
Year 1	Children will design purposeful, functional, appealing products for themselves and other users based on design criteria. Children will generate, develop, model and communicate their ideas through talking, drawing, templates, mock- ups and, where appropriate, information and communication technology. Children will select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Children will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children will explore and evaluate a range of existing products. Children will evaluate their ideas and products against design criteria. Children will build structures, exploring how they can be made stronger, stiffer and more stable.	Children will design purposeful, functional, appealing products for themselves and other users based on design criteria. Children will generate, develop, model and communicate their ideas through talking, drawing, templates, mock- ups and, where appropriate, information and communication technology. Children will select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Children will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children will evaluate their ideas and products against design criteria. Children will understand where food comes from.	Children will design purposeful, functional, appealing products for themselves and other users based on design criteria. Children will generate, develop, model and communicate their ideas through talking, drawing, templates, mock- ups and, where appropriate, information and communication technology. Children will select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Children will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children will explore and evaluate a range of existing products. Children will evaluate their ideas and products against design criteria. Children will explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

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Year 2	**Mechanisms** Children will design purposeful, functional, appealing products for themselves and other users based on design criteria. Children will generate, develop, model and communicate their ideas through talking, drawing, templates, mock- ups and, where appropriate, information and communication technology. Children will select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Children will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children will explore and evaluate a range of existing products. Children will evaluate their ideas and products against design criteria. Children will build structures, exploring how they can be made stronger, stiffer and more stable. Children will explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.	**Structures** Children will design purposeful, functional, appealing products for themselves and other users based on design criteria. Children will generate, develop, model and communicate their ideas through talking, drawing, templates, mock- ups and, where appropriate, information and communication technology. Children will select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Children will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children will evaluate their ideas and products against design criteria. Children will build structures, exploring how they can be made stronger, stiffer and more stable. Children will build structures, exploring how they can be made stronger, stiffer and more stable	**Textiles** Children will design purposeful, functional, appealing products for themselves and other users based on design criteria. Children will generate, develop, model and communicate their ideas through talking, drawing, templates, mock- ups and, where appropriate, information and communication technology. Children will select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Children will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children will explore and evaluate a range of existing products. Children will evaluate their ideas and products against design criteria. Children will build structures, exploring how they can be made stronger, stiffer and more stable.
	Textiles	**Mechanical systems**	**Digital world**

Year 3	Children will 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. Children will generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design. Children will select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Children will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children will evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	Children will 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. Children will generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design. Children will select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Children will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children will investigate and analyse a range of existing products. Children will evaluate their ideas and products against their own design criteria and consider the views of others to improve. Children will understand how key events and individuals in design and technology have helped shape the world. Children will understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].	Children will 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. Children will generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design. Children will investigate and analyse a range of existing products. Children will evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Children will understand how key events and individuals in design and technology have helped shape the world. Children will apply their understanding of computing to program, monitor and control their products.
Year 4	**Structures** Children will use research and develop design criteria to inform the design of innovative,	**Cooking and nutrition** Children will use research and develop design criteria to inform the design of innovative,	**Electrical systems**

	functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Children will generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design. Children will select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Children will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children will investigate and analyse a range of existing products. Children will evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Children will apply their understanding of how to strengthen, stiffen and reinforce more complex structures.	functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Children will generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design. Children will select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Children will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children will investigate and analyse a range of existing products. Children will evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Children will prepare and cook variety of predominantly savoury dishes using a range of cooking techniques.	Children will se 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. Children will generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design. Children will select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Children will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children will investigate and analyse a range of existing products. Children will evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Children will understand how key events and individuals in design and technology have helped shape the world. Children will understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].
Year 5	**Mechanical systems**	**Structures**	**Digital world**
	Children will use research and develop design criteria to inform the design of innovative,	Children will use research and develop design criteria to inform the design of innovative,	Children will 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. Children will generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design. Children will select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Children will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children will investigate and analyse a range of existing products. Children will evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Children will understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].	functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Children will generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design. Children will select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Children will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children will investigate and analyse a range of existing products. Children will evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Children will apply their understanding of how to strengthen, stiffen and reinforce more complex structures.	functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Children will generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design. Children will evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Children will understand how key events and individuals in design and technology have helped shape the world. Children will apply their understanding of how to strengthen, stiffen and reinforce more complex structures. Children will apply their understanding of computing to program, monitor and control their products.
Year 6	**Textiles**	**Electrical systems**	**Cooking and nutrition**
	Children will 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. Children will generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and	Children will 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. Children will generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded	Children will 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. Children will generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded

	exploded diagrams, prototypes, pattern pieces and computer- aided design. Children will select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Children will 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. Children will investigate and analyse a range of existing products. Children will evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	diagrams, prototypes, pattern pieces and computer- aided design. Children will select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Children will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children will investigate and analyse a range of existing products. Children will evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Children will understand how key events and individuals in design and technology have helped shape the world. Children will understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].	diagrams, prototypes, pattern pieces and computer- aided design. Children will select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Children will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children will understand and apply principles of a healthy and varied diet. Children will prepare and cook variety of predominantly savoury dishes using a range of cooking techniques. Children will understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. Children will evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.