PRIORY SCHOOL

DT Curriculum Map

Years 1 – 6

September 2022

Design Technology

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

The national curriculum for design and technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

Year	Subject	Autumn	Spring	Summer
1	**Theme**	**Our School/Feelings/Autumn**	**Penguins**	**Billy Goats Gruff/Where The Wild Things Are**
	DT	**Textiles Focus:** Weaving **Additional/optional DT:** **Construction Focus:** Outside construction	**Construction focus (mechanisms & mechanical systems):** Penguins/rainbows using levers & leverages	**Cookery & nutrition focus:** Healthy sandwiches **Additional/optional DT:** **Construction focus:** Bridges **Textiles Focus:** Mask making
	Designer/ Craftsman focus (DT & Art)	Andy Goldsworthy		
	NC objectives	• generate, develop and communicate their ideas through talking • select from and use a wide range of materials including textiles according to their characteristics • explore and evaluate a range of existing products • evaluate their ideas and products against design criteria	• 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 and mock-ups • 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, 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	• generate, develop, model and communicate their ideas through talking and drawing • Use a range of tools and equipment to perform practical tasks • select from and use a range of ingredients, according to their characteristics • explore and evaluate a range of existing products • use the basic principles of a healthy and varied diet to prepare dishes • understand where food comes from

			• explore and use mechanisms including levers and sliders in their products.	
	Progression of skills	**Design** • use their knowledge of existing products and their own experience to help generate their ideas; • design products that have a purpose and are aimed at an intended user; • explain how their products will look and work through talking. **Make - Planning** • begin to select from a range of hand tools and equipment, such as scissors; • use a range of materials, and textiles according to their characteristics. **Make – Practical skills and techniques** • with help, measure and mark out; • manipulate fabrics in simple ways to create the desired effect; • assemble and combine ingredients; • learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures; • begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations; • use a range of materials and components, including food ingredients. **Evaluate** • talk about their design ideas and what they are making; • as they work, start to identify strengths and possible changes they might make to refine their existing design; • explore what materials products are made from; • explain positives and things to improve for existing products; • evaluate their products and ideas against their simple design criteria. **Technical Knowledge** • build simple structures, exploring how they can be made stronger, stiffer and more stable; • explore and create products using mechanisms, such as levers and sliders; **Cooking and nutrition** • understand that all food comes from plants or animals; • understand that food has to be farmed, grown elsewhere (e.g. home) or caught; • understand that everyone should eat at least five portions of fruit and vegetables every day and start to explain why.		

	Subject	**Autumn**	**Spring**	**Summer**

Year 2	Theme	Going Up In Flames!	Our Country	Beside The Seaside
	DT	**Construction focus (mechanisms & mechanical systems):** Design and make a fire engine toy with free moving wheels (PlanBee)	**Cookery and nutrition focus:** Make Scottish shortbread	**Textiles focus:** Glove puppets (PlanBee) **Additional/Optional DT:** **Cookery and nutrition focus:** Seaside snacks (PlanBee)
	NC Objectives	• 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 and mock-ups • select from and use a range of tools and equipment to perform practical tasks [for example, cutting, joining and finishing • select from and use a wide range of materials and components, including construction materials 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, including wheels and axles, in their products	• select from and use ingredients, according to their characteristics • explore and evaluate a range of existing products • evaluate their ideas and products against design criteria • use the basic principles of a healthy and varied diet to prepare dishes	• design purposeful, functional, appealing products for themselves and other users based on design criteria • generate, develop, model and communicate their ideas through talking, drawing, template and mock-ups • 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 textiles according to their characteristics • explore and evaluate a range of existing products • evaluate their ideas and products against design criteria
	Progression of skills	**Design** • use their knowledge of existing products and their own experience to help generate their ideas; • design products that have a purpose and are aimed at an intended user; • explain how their products will look and work through talking and simple annotated drawings; • plan and test ideas using templates and mock-ups;		

		• understand and follow simple design criteria; • work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment. **Make – Planning** • with support follow a simple plan or recipe; • begin to select from a range of hand tools and equipment, such as scissors and safe knives; • select from a range of materials, textiles and components according to their characteristics. **Make Practical skills and techniques** • use a range of materials and components, including textiles and food ingredients; • with help, measure and mark out; • cut, shape and score materials with some accuracy; • assemble, join and combine materials, components or ingredients; • demonstrate how to cut, shape and join fabric to make a simple product; • use a basic running stich; • learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures; • measure and weigh ingredients using measuring cups; • begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations. **Evaluate** • explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations; • explore what materials products are made from; • talk about their design ideas and what they are making; • as they work, start to identify strengths and possible changes they might make to refine their existing design; • evaluate their products and ideas against their simple design criteria; • explain positives and things to improve for existing products; • start to understand that the iterative process sometimes involves repeating different stages of the process **Technical knowledge** • build simple structures, exploring how they can be made stronger, stiffer and more stable; • talk about and start to understand the simple working characteristics of materials and components; • explore and create products using mechanisms, such as wheels. **Cooking and nutrition** • explain where in the world different foods originate from; • name and sort foods into the five groups in the Eatwell Guide; • use what they know about the Eatwell Guide to design and prepare dishes.

	Subject	Autumn	Spring	Summer

Year 3				
	Theme	**The Earth Beneath Our Feet**	**The Sands Of Time**	**All The Water In The World**
	DT	**DT Cookery & nutrition focus:** seasonal tarts (Planbee) **DT Textiles focus:** Christmas decorations	**DT Construction focus (mechanisms & mechanical systems systems):** Pop- up story books (PlanBee)	**Construction focus(structures):** Greek vases in different materials, papier-mâché/clay
	NC Objectives	• use research and develop design criteria to inform the design of 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 and pattern pieces • 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 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 apply the principles of a healthy and varied diet	• 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 and prototypes • apply their understanding of how to strengthen, stiffen and reinforce more complex structures • understand and use mechanical systems in their products [for example levers and linkages]	• use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose • generate, develop, model and communicate their ideas through discussion and annotated sketches

		• understand seasonality, and know where and how a variety of ingredients are grown		
	Progression of skills	**Design** • identify the design features of their products that will appeal to intended customers; • use their knowledge of a broad range of existing products to help generate their ideas; • use annotated sketches to develop and communicate their ideas; • when planning, start to explain their choice of materials and components including function and aesthetics; • develop and follow simple design criteria; • explain how particular parts of their products work; • when designing, explore different initial ideas before coming up with a final design; • test ideas out through using prototypes; **Make – Planning** • place the main stages of making in a systematic order; **Make – Practical skills and techniques** • learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedures; • use a wider range of materials and components, including textiles; • cut, assemble, join and combine material and components with some degree of accuracy; • demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product; • join textiles with an appropriate sewing technique; • begin to select and use different and appropriate finishing techniques to improve the appearance of a product; • with growing independence, measure and mark out to the nearest cm. **Evaluate** • explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose; • explore what materials products are made from and suggest reasons for this; • evaluate their product against their original design criteria; • consider their design criteria as they make progress and are willing to alter their plans, sometimes considering the views of others if this helps them to improve their product. **Technical Knowledge** • apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products; • understand and demonstrate how mechanical systems have an input and output process; • explain how mechanical systems such as levers and linkages create movement; • use mechanical systems in their products; • understand that materials have both functional properties and aesthetic qualities; **Cooking and nutrition**	

		• start to know when, where and how food is grown (such as herbs, tomatoes and strawberries) in the UK, Europe and the wider world; • use a range of techniques such as mashing, crushing and cutting, • explain that a healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide • understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body; • prepare ingredients using appropriate cooking utensils; • measure and weigh ingredients to the nearest gram • start to understand seasonality.

Year	Subject	Autumn	Spring	Summer
4	**Theme**	**Feeding The World**	**Coming To Britain (Migration)**	**Raiders, Traders & Settlers**
	DT	**Cookery & nutrition focus:** Pasta	**Textiles focus:** Money containers	**DT Construction focus (electrical systems):** Wire buzzer game (link to Science - electronics)
	DT Influential Figures			Thomas Edison
	NC Objectives	• select from and use a wider range of tools and equipment to perform	• use research and develop design criteria to inform the design of innovative, functional, appealing	• use research and develop design criteria to inform the design of innovative, functional, appealing

		practical tasks [for example, cutting], accurately • select from and use a wider range of materials and components, including ingredients, according to their functional properties and aesthetic qualities • 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.	products that are fit for purpose, aimed at particular individuals or groups • generate, develop, model and communicate their ideas through discussion, annotated sketches, prototypes and pattern pieces • 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 textiles, according to their functional properties and aesthetic qualities • with growing confidence, carefully select from a range of tools and equipment, explaining their choices; • select from a range of materials and components according to their functional properties and aesthetic qualities; • understand that materials have both functional properties and aesthetic qualities;	products that are fit for purpose, aimed at particular individuals or groups • generate, develop, model and communicate their ideas through discussion and annotated sketches • select from and use a wider range of materials and components, including construction materials, 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] • with growing confidence, carefully select from a range of tools and equipment, explaining their choices; • select from a range of materials and components according to their functional properties and aesthetic qualities; • make and represent simple electrical circuits, such as a series and parallel, and components to create functional products;
	Progression of skills	**Design** • identify the design features of their products that will appeal to intended customers;		

		• use their knowledge of a broad range of existing products to help generate their ideas; • work in a broader range of relevant contexts, for example food industry and entertainment; • design innovative and appealing products that have a clear purpose and are aimed at a specific user; • use annotated sketches to develop and communicate their ideas; • when designing, explore different initial ideas before coming up with a final design; • when planning, start to explain their choice of materials and components including function and aesthetics; • test ideas out through using prototypes; • develop and follow simple design criteria; • explain how particular parts of their products work; **Make – Planning** • with growing confidence select from a range of tools and equipment, explaining their choices; • select from a a range of materials and components according to their functional and aesthetic properties; • place the main stages of making in a systematic order. **Make – Practical skills and techniques** • learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedures; • use a wider range of materials and components, including textiles and electrical components; • demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product; • join textiles with an appropriate sewing technique; • with growing independence, measure and mark out to the nearest cm and millimeter; • cut, assemble, join and combine material and components with some degree of accuracy; • begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as tie-dye or fabric paints. **Evaluate** • explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose; • explore what materials/ingredients products are made from and suggest reasons for this; • consider their design criteria as they make progress and are willing to alter their plans, sometimes considering the views of others if this helps them to improve their product; • evaluate their product against their original design criteria; • evaluate the key events and designs of individuals in design and technology that have helped shape the world. **Technical Knowledge** • understand that materials have both functional properties and aesthetic qualities; • understand and demonstrate how electrical systems have an input and output process; • make and represent simple circuits and components to create functional products. **Cooking and nutrition** • start to know when, where and how food is grown (such as herbs, tomatoes and strawberries) in the UK, Europe and the wider world; • understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically;

		• with support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven; • use a range of techniques such as grating, cutting, kneading and baking; • explain that a healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide and be able to apply these principles when planning and cooking dishes; • understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body; • prepare ingredients using appropriate cooking utensils; • measure and weigh ingredients to the nearest gram and millilitre; • start to independently follow a recipe; • start to understand seasonality.

Year	Subject	Autumn	Spring	Summer
5	**Theme**	**The World At War**	**The Islamic Empire**	**Highways and Byways**
	DT	**Cookery & nutrition focus:** Creating savoury meals using rations **Textiles focus**: Make do and mend (Planbee)	**DT Construction focus (structures):** Earthquake resistant buildings (Twinkl) **DT Construction focus (mechanisms):** Mars Rover (Planbee)	**Construction focus:** Bug Hotels (link to Science theme)

				
	DT Influential Figures/events		Moon Landings	Brunel (BBC life story bitesize)
	NC Objectives	• select from and use a wider range of materials and components, including ingredients, according to their functional properties and aesthetic qualities • 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.	• use research and develop design criteria to inform the design of innovative, functional 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 and prototypes • 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 according to their functional properties and 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	• use research and develop design criteria to inform the design of 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 and prototypes • 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 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 • understand and use mechanical systems in their products [for example, gears and cams	
	Progression of skills	**Design** • use research to inform and develop detailed design criteria to inform the design of functional and appealing products that are fit for purpose and aimed at a target market; • use their knowledge of a broad range of existing products to help generate their ideas; • design products that have a clear purpose and indicate the design features of their products that will appeal to the intended user; • work in a broad range of relevant contexts, for example conservation, leisure and the home; • generate a range of design ideas and clearly communicate final designs; • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas; • explain how particular parts of their products work. **Make – Planning** • create step-by-step plans as a guide to making; • with growing confidence, select from a wide range of tools and equipment, explaining their choices; • select from a range of materials and components according to their functional properties and aesthetic qualities. **Make – Practical skills and techniques** • use a full range of materials and components, including construction materials, textiles and mechanical components; • learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures; • cut, assemble, join and combine materials and components with accuracy; • demonstrate how to measure, pin, cut, shape and join fabric with precision; • independently take exact measurements and mark out, to within 1 millimetre; • join textiles using a greater variety of stitches, such as running stitch, backstitch and blanket stitch; • refine the finish using techniques to improve the appearance of their product, such as a more precise scissor cut after roughly cutting out a shape. **Evaluate** • critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make; • evaluate their ideas and products against the original design criteria, making changes as needed. **Technical Knowledge** • apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products;	

		• understand and demonstrate that mechanical systems have an input, process and output; • explain how mechanical systems, such as cams, create movement and use mechanical systems in their products. **Cooking and nutrition** • know, explain and give examples of food that is grown (such as pears, wheat and potatoes), reared (such as poultry and cattle) and caught (such as fish) in the UK, Europe and the wider world; • understand about seasonality, how this may affect the food availability and plan recipes according to seasonality; • understand that food is processed into ingredients that can be eaten or used in cooking; • demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source; • explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes.

Year	Subject	Autumn	Spring	Summer
6	**Theme**	**Magic & Monarchy**	**The New World**	**Monumental Cities**
	DT	**Construction focus:** props (wand/quill) **Construction focus (electrical systems):** Burglar alarms (link to Science - electronics) **Computing focus: (**cross curricular) 3D modelling built into Autumn 2 Computing unit	**Cookery & nutrition focus:** Bread	**Construction focus (architecture):** Bridges (PlanBee) **Cookery & nutrition focus:** Frozen fruit kebabs/ Mocktails/ scones – Summer Fair
	DT Influential figures and key event	Friedensreich Hundertwasser/Gaudi buildings – link to Diagon Alley  		Isambard Kingdom Brunel - bridges
	NC objectives	• use research and develop design criteria to inform the design of functional, appealing products that are fit for purpose • generate, develop, model and communicate their ideas through discussion and annotated sketches • select from and use a wider range of tools and equipment to perform practical tasks [for	• 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 and prototypes	• 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 and prototypes

		example, cutting, joining and finishing], accurately • select from and use a wider range of materials and components, including construction materials 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 electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] • make and represent simple electrical circuits, such as a series and parallel, and components to create functional 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, and textiles 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 apply the principles of a healthy and varied diet • understand seasonality, and know where and how a variety of ingredients are grown • 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 and ingredients, according to their functional properties and aesthetic qualities • apply their understanding of how to strengthen, stiffen and reinforce more complex structures • understand how key events and individuals in technology have helped shape the world
	Progression of skills	**Design** • use research to inform and develop detailed design criteria to inform the design of functional and appealing products that are fit for purpose and aimed at a target market; • use their knowledge of a broad range of existing products to help generate their ideas; • generate a range of design ideas and clearly communicate final designs; • design products that have a clear purpose and indicate the design features of their products that will appeal to the intended user; • generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas; • consider the availability and costings of resources when planning out designs; • work in a broad range of relevant contexts, for example culture, industry and enterprise. **Make – Planning** • independently plan by suggesting what to do next;		

		• create step-by-step plans as a guide to making; • with growing confidence, select from a wide range of tools and equipment, explaining their choices; • select from a range of materials and components according to their functional properties and aesthetic qualities. **Make – Practical skills and techniques** • use a full range of materials and components, including textiles and construction materials; • learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures; • independently take exact measurements and mark out, to within 1 millimetre; • shape and score materials with precision and accuracy; • assemble, join and combine materials and components with accuracy; • refine the finish using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut after roughly cutting out a shape. **Evaluate** • evaluate their ideas and products against the original design criteria, making changes as needed; • critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make; • complete detailed competitor analysis of other products on the market. **Technical Knowledge** • apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products. • make and represent simple circuits and components to create functional products. **Cooking and nutrition** • understand about seasonality, how this may affect the food availability and plan recipes according to seasonality; • adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma; • measure accurately and calculate ratios of ingredients to scale up or down from a recipe; • independently follow a recipe.