



Pirbright Village Primary School

Progression of Knowledge & Skills in DESIGN & TECHNOLOGY

Subject Intent	Our children should be inspired by engineers, designers, chefs and architects. This in turn will enable them to create a range of structures, mechanisms, textiles, electrical systems and food products with a real-life purpose through practical tasks.	
National Curriculum KS1		National Curriculum KS2
<ul style="list-style-type: none"> • Design purposeful, functional and appealing products for themselves and other users based on clear design criteria. • Generate, develop, model and communicate ideas through talking, drawing, templates and mock-ups. • Explore and evaluate a range of existing products to inform design ideas. • Select and use a range of tools and equipment to perform practical tasks, including cutting, shaping, joining and finishing. • Select materials and components, including construction materials, textiles and ingredients, according to their characteristics. • Build structures and explore how they can be made stronger, stiffer and more stable. • Explore and use mechanisms such as levers, sliders, wheels and axles in products. • Prepare simple dishes using the basic principles of a healthy and varied diet and understand where food comes from. • Evaluate ideas and products against design criteria and suggest improvements. 		<ul style="list-style-type: none"> • Use research to develop design criteria and design innovative, functional and appealing products that are fit for purpose and aimed at particular individuals or groups. • Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. • Select and use a wider range of tools and equipment to perform practical tasks, including cutting, shaping, joining and finishing, with accuracy. • Accurately select and use a wide 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 ideas and products against design criteria and consider the views of others to improve work. • Understand how key events and individuals in design and technology have helped shape the world. • Apply understanding of how to strengthen, stiffen and reinforce more complex structures. • Understand and use mechanical systems in products, such as gears, pulleys, cams, levers and linkages. • Understand and use electrical systems in products, such as series circuits incorporating switches, bulbs, buzzers and motors. • Apply understanding of computing to program, monitor and control products. • 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, and understand seasonality and

where and how ingredients are grown, reared, caught and processed.

Progression of Skills

EYFS	<ul style="list-style-type: none"> • I can generate my own design ideas, clearly explain what I am making, share my creations, and describe the process I have used. • I can safely select and use a variety of tools to cut, shape, join, and finish materials, and work safely with tools, food, and cooking equipment. • I can plan, create, and revisit my model to improve it, while listening to feedback from others to review and develop my ideas.
Year 1	<ul style="list-style-type: none"> • I can select materials that are fit for purpose and accurately use tools to cut, shape, join, and finish, while working safely and confidently with food and cooking equipment. • I can research a range of existing products and use simple design criteria to generate my own design ideas. • I can evaluate my finished product by explaining what works well and what I would improve.
Year 2	<ul style="list-style-type: none"> • I can explore existing products relevant to my design brief and work collaboratively to generate and develop my ideas. • I can select materials that are fit for purpose and use a limited range of tools to cut, shape, join, and finish. • With guidance, I can work safely with food and cooking equipment and evaluate my finished product by identifying strengths and suggesting improvements.
Year 3	<ul style="list-style-type: none"> • I can explore existing products, identify key features to inform my design criteria, and work collaboratively to generate and develop ideas, communicating them clearly through sketches, prototypes, and verbal explanations. • I can select and use a range of tools, including textile tools, to accurately cut, shape, join, and finish, while working safely and increasingly independently with food and cooking equipment and preparing ingredients using a range of techniques. • I can produce a product that meets specific design criteria and explain how it could be improved.
Year 4	<ul style="list-style-type: none"> • I can evaluate the features of a range of existing products relevant to my design brief and work collaboratively, taking a realistic approach to designing while communicating my ideas through sketches, prototypes, and annotated diagrams. • I can select and accurately use a variety of tools to cut, shape, join, and finish, and with increasing independence use appropriate utensils safely to prepare and combine ingredients, applying my understanding of seasonality and nutrients. • I can evaluate and adapt my product throughout the making process to ensure it is functional.
Year 5	<ul style="list-style-type: none"> • I can research a range of existing products relevant to my design brief, work collaboratively with an adventurous approach to designing, and communicate my ideas clearly using sketches, prototypes, and technical vocabulary. • I can confidently select and accurately use a variety of tools to cut, shape, join, and finish, and work safely with a wide range of kitchen equipment, preparing ingredients independently using advanced techniques and applying the principles of the Eatwell Guide. • I can evaluate and adapt my functional, high-quality product throughout the making process and present it clearly..
Year 6	<ul style="list-style-type: none"> • I can research a range of existing products relevant to my design brief, develop detailed design criteria, work collaboratively with a realistic approach to designing ambitious products, and communicate my ideas clearly using sketches, prototypes, and technology. • I can confidently select and accurately use a wide range of tools to cut, shape, join, and finish, and work safely and independently with food and cooking equipment, adapting recipes, scaling quantities, and justifying ingredient choices.

	<ul style="list-style-type: none"> I can produce an ambitious, high-quality product and evaluate and refine it throughout the designing and making process, presenting it clearly to different audiences. 	
EYFS		
Autumn	Spring	Summer
<ul style="list-style-type: none"> To safely use one-handed tools and join materials using glue, tape, and simple fixings. To manipulate materials (including dough and recycled items) to create simple 3D models. To share, explain, and improve creations by listening to feedback. 	<ul style="list-style-type: none"> To accurately cut curved lines and simple shapes, and create folds such as a concertina fold. To join materials using threading, knots, hole punching, and split pins to create movement. To understand hygiene in cooking and select suitable tools for baking tasks. 	<ul style="list-style-type: none"> To combine materials and use techniques such as weaving and flange joins to create representations of real and imaginary ideas. To work safely with cooking tools and understand how products meet the needs of their user. To improve models by building on previous learning and explaining their effectiveness.
Year 1		
Autumn	Spring	Summer
Earth, Wind & Fire	Far, Far Away	Nurturing Nature
Structures	Mechanical systems and mechanisms	Cooking and nutrition
<ul style="list-style-type: none"> To model and manipulate materials through rolling, pressing, and stretching, and select materials with useful properties. To understand stability and strengthen structures using techniques like wider bases, thickening, and strong shapes. To join materials securely and use simple design criteria when creating a structure. 	<ul style="list-style-type: none"> To understand and explore levers, pivots, sliders, and other mechanisms in existing products. To position pivots, use split pins safely, and choose mechanisms to create specific movements. To evaluate how well movements work and improve designs accordingly. 	<ul style="list-style-type: none"> To follow food hygiene rules and handle fruit safely by washing, peeling, chopping, and slicing. To understand the role of fruit and vegetables in a healthy diet and design a simple fruit-based product. To evaluate the taste and appearance of the finished product.
Year 2		
Autumn	Spring	Summer
Passports to the World	Living, Dead and Never Been Alive	Victorians
Cooking and nutrition	Textiles	Mechanical systems and mechanisms
<ul style="list-style-type: none"> To follow basic food hygiene practices and handle tools safely, including knives, peelers, and mixing/rolling dough. To know ingredients and prepare dough and other foods, creating varied textures through chopping, dicing, mixing, kneading, and rolling. 	<ul style="list-style-type: none"> To understand puppet features and use templates to cut fabric accurately. To join fabric pieces using sewing techniques or glue to create 3D products. To add decoration and evaluate the finished textile product. 	<ul style="list-style-type: none"> To understand the function of axles, chassis, and wheels, and the difference between fixed and free-moving axles. To safely cut materials and attach wheels and axles to create movement. To test, refine, and evaluate the effectiveness of a moving vehicle.

<ul style="list-style-type: none"> To evaluate the texture and taste of the finished product. 		
Year 3		
Autumn	Spring	Summer
Clubs and Cavemen	Exhilarating Egyptians	Engaging Environment
Cooking and nutrition	Mechanical systems and mechanisms	Programming and control
<ul style="list-style-type: none"> To safely prepare ingredients by peeling, chopping, and grating, and to use boiling as a cooking method. To understand how boiling affects food, including softening tough fibres, and know whether ingredients are grown, reared, or caught. To evaluate the flavour and texture of the finished dish. 	<ul style="list-style-type: none"> To understand lever and pivot mechanisms and use technical vocabulary such as pivot, input, output, and counterweight. To apply joining techniques like flange, pivot, and counterweight, and identify how fixed and loose pivots affect movement. To design a balance bucket mechanism and evaluate its strength and function. 	<ul style="list-style-type: none"> To use CAD tools, including gridlines and pre-set shapes, to design nets and combine graphics and text for enhanced appearance. To cut, score, and assemble nets into strong shell structures using tabs and adhesives. To select materials based on their functional and aesthetic qualities.
Year 4		
Autumn	Spring	Summer
Cracking Contraptions/Extreme Earth	Are all animals the same?/Myths and Legends	Should we thank the Romans for invading Britain?
Electrical systems	Cooking and nutrition	Textiles
<ul style="list-style-type: none"> To evaluate how circuits are used in existing products and identify conductors and insulators. To create simple series circuits using switches, bulbs, and buzzers, selecting materials for electrical safety. To evaluate and adapt a product during development to improve function. 	<ul style="list-style-type: none"> To understand seasonality, climate, and key nutrients, applying principles of a healthy and varied diet. To plan and prepare a Greek flatbread recipe safely, using appropriate utensils, equipment, and hygienic practices. To evaluate the finished product's taste, texture, and appearance using appropriate sensory vocabulary. 	<ul style="list-style-type: none"> To evaluate existing 3D textile products and select appropriate cutting and finishing tools. To use paper patterns with seam allowance and join fabric using backstitch, running stitch, or overcast stitch. To apply decorative techniques, such as appliqué, and adapt a product during the making process.
Year 5		
Autumn	Spring	Summer
To Infinity and Beyond & In Your Imagination	Journey Around the World & The Diversity of Life	Raiders & Invaders
Mechanical systems and mechanism	Textiles / structures	Cooking and nutrition

<ul style="list-style-type: none"> To understand how axles and gears power movement, including the roles of driver and driven gears. To construct a motorised vehicle safely, using clamps, saws, and accurate measuring, scaling, and labelling. To evaluate the mechanical efficiency of the finished product. 	<ul style="list-style-type: none"> To select and join materials using knotting and weaving techniques to create the web design. To understand the cultural significance of dreamcatchers and use existing products as design inspiration. To reinforce the frame and apply techniques that improve strength, stability, and even tension distribution. 	<ul style="list-style-type: none"> To understand seasonality and the origins of key curry ingredients, applying the principles of a balanced diet. To select and use kitchen utensils safely, preparing ingredients using techniques such as slicing, dicing, sautéing, and simmering while following food hygiene procedures. To evaluate the finished curry's flavour, texture, and nutritional balance using appropriate vocabulary.
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Year 6		
Autumn	Spring	Summer
To Be A Child In WWII	Celebrating Me!	Visit To Central & South America
Cooking and nutrition Electrical systems	Textiles	
<ul style="list-style-type: none"> To understand how rationing and seasonality affected ingredient availability during WWII and justify ingredient choices based on nutrition and availability. To plan, prepare, and adapt ration-inspired dishes safely, applying ratios to scale recipes accurately. To evaluate and compare ration recipes with modern equivalents in terms of taste, texture, and nutritional value. To understand how Morse code can be transmitted using electrical circuits, including the role of switches and controls in creating signals (light or sound). To design and construct a Morse code machine that can send signals using appropriate materials and secure assembly techniques. To test and evaluate the effectiveness of the device. 	<ul style="list-style-type: none"> To analyse cushions and develop detailed design criteria for a specific user, including accurate diagrams with measurements, materials, joining methods, and embellishments. To use CAD software and appropriate stitching techniques to create precise pattern pieces and secure seams. To develop, test, and refine prototypes to improve the final design. 	

