Padiham Green Church of England Primary School **Jesus said, "Come, follow me." (Matthew 4:19)**

DT Progression Map

Intent

Our D.T. curriculum will develop imaginative thinking in children to enable them to talk about what they like and dislike when designing and making. It will enable children to discuss and understand how things work, and to draw and model their ideas. We want our children to use creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. We intend for all children to acquire appropriate subject knowledge, skills and understanding as set out in the National Curriculum. It is our aim to create strong cross-curricular links with other subjects, such as Mathematics, Science, Computing, and Art.

Implementation

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge	All About Me – Construction blocks Transport –Junk modelling – Construction blocks Animals – Construction blocks Seaside –Scarecrows	Food – Smoothies Mechanisms – Sliders and Levers Structures – Bridges	Mechanisms – Wheels and Axles Food – Healthy Pizza Textiles – Puppets	Structures – Shell Structures Food – Healthy Soup Mechanical-leavers and linkages	Electrical – Board Games Textiles – CAD design Food – Bread	Food – Healthy Burgers Mechanical systems Textiles – Cushions and Fastenings	Food – Seasonal Produce Electrical Mechanisms

Design							
	EYFS	**KS1**		**LKS2**		**UKS2**	
	To experiments to create different textures. To understands that different media can be combined to create new effects.	**KS1 Design and Technology National Curriculum** **Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing.** **They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].** **Children design purposeful, functional, appealing products for themselves and other users based on design criteria.** **They generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.** Children can: • 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;		**KS2 Design and Technology National Curriculum** **Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing.** **They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].** **Children 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.** **They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.** Children can:		**KS2 Design and Technology National Curriculum** **Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing.** **They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].** **Children 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.** **They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.** Children can: • use research to inform and develop detailed design criteria to inform the

		• explain how their products will look and work through talking and simple annotated drawings; • design models using simple computing software; • 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.	• 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; • design innovative and appealing products that have a clear purpose and are aimed at a specific user; • explain how particular parts of their products work; • use annotated sketches and cross-sectional drawings 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; • use computer-aided design to develop and communicate their ideas • develop and follow simple design criteria; • work in a broader range of relevant contexts, for example entertainment, the home, school, leisure, food industry and the wider environment.	design of innovative, 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; • explain how particular parts of their products work; • use annotated sketches, cross-sectional drawings and exploded diagrams (possibly including computer-aided design) to develop and communicate their ideas; • generate a range of design ideas and clearly communicate final designs; • consider the availability and costings of resources when planning out designs; • work in a broad range of relevant contexts, for example conservation, the home, school, leisure, culture, enterprise, industry and the wider environment.
Make				
	EYFS	**KS1**	**LKS2**	**UKS2**

Skills	To select tools and techniques needed to shape, assemble and join materials they are using. Use simple tools and techniques competently. Manipulates materials to achieve a planned effect. Constructs with a purpose in mind, using a variety of resources.	**KS1 Design and Technology National Curriculum** **Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making. Children select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].** **They select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.** Children can: Planning • with support, follow a simple plan or recipe; • begin to select from a range of hand tools and equipment, such as scissors, graters, zesters, safe knives, juicer; • select from a range of materials, textiles and components according to their characteristics; Practical skills and techniques • learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures; • use a range of materials and components, including textiles and food	**KS2 Design and Technology National Curriculum** **Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making.** **Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] accurately.** **They 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 can: Planning • 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; • place the main stages of making in a systematic order; • Practical skills and techniques • learn to use a range of tools and equipment safely, appropriately and	**KS2 Design and Technology National Curriculum** **Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making.** **Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.** **They 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 can: Planning • independently plan by suggesting what to do next; • 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; • create step-by-step plans as a guide to making;

		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; • manipulate fabrics in simple ways to create the desired effect; • use a basic running stitch; • cut, peel and grate ingredients, including measuring and weighing ingredients using measuring cups; • begin to use simple finishing techniques to improve the appearance of their product, such as adding • simple decorations.	accurately and learn to follow hygiene procedures; • use a wider range of materials and components, including construction materials and kits, textiles and mechanical and electrical components; • with growing independence, measure and mark out to the nearest cm and millimetre; • cut, shape and score materials with some degree of accuracy; • 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 such as hemming, tie-dye, fabric paints and digital graphics.	Practical skills and techniques • 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; • use a full range of materials and components, including construction materials and kits, textiles, and mechanical components; • cut a range of materials with precision and accuracy; • shape and score materials with precision and accuracy; • assemble, join and combine materials and components with accuracy; • demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product; • join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch; • 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				

	EYFS	KS1	LKS2	UKS2
Skills	To share their creations, explaining the process they have used.	**KS1 Design and Technology National Curriculum** **Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making.** **Children explore and evaluate a range of existing products. They evaluate their ideas and products against design criteria.** Children can: • explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations; • explain positives and things to improve for existing products; • 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	**KS2 Design and Technology National Curriculum** **Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making.** **Children investigate and analyse a range of existing products.** **They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.** **They understand how key events and individuals in design and technology have helped shape the world.** Children can: • 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	**KS2 Design and Technology National Curriculum** **Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making.** **Children investigate and analyse a range of existing products.** **They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.** **They understand how key events and individuals in design and technology have helped shape the world.** Children can: • complete detailed competitor analysis of other products on the market; • critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make;

		against their simple design criteria; • start to understand that the iterative process sometimes involves repeating different stages of the process.	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, including technological developments, and designs of individuals in design and technology that have helped shape the world.	• evaluate their ideas and products against the original design criteria, making changes as needed.
Cooking and Nutrition				
	EYFS	**KS1**	**LKS2**	**UKS2**
Skills	To start to know where food comes from. To be able to identify healthy foods in comparison to unhealthy foods	**KS1 Design and Technology National Curriculum** **Children use the basic principles of a healthy and varied diet to prepare dishes.** **They understand where food comes from.** Children can: • explain where in the world different foods originate from; • understand that all food comes from plants or animals; • understand that food has to be farmed, grown elsewhere (e.g. home) or caught;	**KS2 Design and Technology National Curriculum** **Children understand and apply the principles of a healthy and varied diet.** **They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.** **They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.** Children can: • start to know when, where and how food is grown (such as herbs,	**KS2 Design and Technology National Curriculum** **Children understand and apply the principles of a healthy and varied diet.** **They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.** **They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.** Children can: • know, explain and give examples of food that is grown (such as

		• name and sort foods into the five groups in the Eatwell Guide; • understand that everyone should eat at least five portions of fruit and vegetables every day and start to explain why; • use what they know about the Eatwell Guide to design and prepare dishes.	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 mashing, whisking, crushing, 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;	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; • demonstrate how to use a range of cooking techniques, such as griddling, grilling, frying and boiling; • 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; • adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and

			• start to independently follow a recipe; • start to understand seasonality.	aroma; • alter methods, cooking times and/or temperatures; • measure accurately and calculate ratios of ingredients to scale up or down from a recipe; • independently follow a recipe.
Technical knowledge				
		KS1	**LKS2**	**UKS2**
		KS1 Design and Technology National Curriculum **Children build structures, exploring how they can be made stronger, stiffer and more stable.** **They explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.** Children can: • 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 levers, sliders and wheels.	**KS2 Design and Technology National Curriculum** **Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures.** **They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].** **They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].** **They apply their understanding of computing to program, monitor and control their products.** Children can: • understand that materials have both functional properties and aesthetic qualities;	**KS2 Design and Technology National Curriculum** **Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures.** **They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].** **They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].** **They apply their understanding of computing to program, monitor and control their products.** Children can: • apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create

			• 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 and electrical systems have an input and output process; • make and represent simple electrical circuits, such as a series and parallel, and components to create functional products; • explain how mechanical systems such as levers and linkages create movement; • use mechanical systems in their products.	more useful characteristics of products; • understand and demonstrate that mechanical and electrical systems have an input, process and output; • explain how mechanical systems, such as cams, create movement and use mechanical systems in their products; • apply their understanding of computing to program, monitor and control a product.
Impact				
	The expected impact of following the Design and technology curriculum at Padiham Green is that children will: ➔ Talk enthusiastically about their work in Design and Technology. ➔ Understand the functional and aesthetic properties of a range of materials and resources. ➔ Understand how to use and combine tools to carry out different processes for shaping, decorating, and manufacturing products. ➔ Build and apply a repertoire of skills, knowledge and understanding to produce high quality, innovative outcomes, including models, prototypes, CAD, and products to fulfil the needs of users, clients, and scenarios. ➔ Understand and apply the principles of healthy eating, diets, and recipes, including key processes, food groups and cooking equipment. ➔ Have an appreciation for key individuals, inventions, and events in history and of today that impact our world. ➔ Self-evaluate and reflect on learning at different stages and identify areas to improve. ➔ Meet the end of key stage expectations outlined in the National curriculum for Design and technology.			