

West Green Primary School Design and Technology Progression

<p>The national curriculum for design and technology aims to ensure that all pupils:</p> <ul style="list-style-type: none"> 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 Group	National Curriculum	Progression Guidance	Learning Activities
Year 1	<p>Design</p> <ul style="list-style-type: none"> 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 <p>Make</p> <ul style="list-style-type: none"> 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 <p>Evaluate</p> <ul style="list-style-type: none"> explore and evaluate a range of existing products evaluate their ideas and products against design criteria <p>Technical knowledge</p> <ul style="list-style-type: none"> 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. <p>Cooking and Nutrition</p> <ul style="list-style-type: none"> use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from. 	<p>Focus Area: Mechanisms</p> <p>This will be the main area of focus for this year group, however, other aspects of D&T can be included as appropriate.</p> <p>Explore a range of mechanisms using paper engineering (pop ups etc). Use paper fasteners to create linkages or levers.</p> <p>Design, make and evaluate a product which includes a simple moving part.</p> <p>(Working together, questioning, reasoning, planning, improving.)</p>	<p>Make puppets – linked to science work on materials – which is the best material to use?</p>
			<p>Mother’s day pop up card.</p> <p>Lifecycle of a penguin model – research, design, make and evaluate.</p>
			<p>Mechanisms and system</p> <p>Research, design, make and evaluate making a character from The Jolly Postman, ensuring the robot has at least one moving part.</p> <p>Cookery – food around the world – tasting, where in the world does our shopping come from? Make dishes from around the world. Designing and making party food, including food from around the world – link to The Jolly Postman and ‘wow’ finish. Link to science – planting and growing.</p>
Year 2	<p>Technical knowledge</p> <ul style="list-style-type: none"> 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. <p>Cooking and Nutrition</p> <ul style="list-style-type: none"> use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from. 	<p>Focus Area: Textiles</p> <p>This will be the main area of focus for this year group, however, other aspects of D&T can be included as appropriate.</p> <p>Join textiles materials together using different methods (sewing, glue)</p> <p>Design, make and evaluate a simple textiles product for a specific purpose (eg: not purely</p>	<p>Textiles – sewing cuddly hedgehogs using running and blanket stitch</p>
			<p>Mother’s Day and Easter cards</p> <p>Wastebusters week - Designing and creating a bag out of different recycled materials – thinking about purpose, resourcefulness and design</p>
			<p>Father’s Day cards</p>

		decorative) (Working together, questioning, reasoning, planning, improving.)	Preparing and cooking balanced meals (link to Science)
Year 3	<p>Design</p> <ul style="list-style-type: none"> 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 <p>Make</p> <ul style="list-style-type: none"> 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 <p>Evaluate</p> <ul style="list-style-type: none"> 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 <p>Technical knowledge</p> <ul style="list-style-type: none"> apply their understanding of how to strengthen, stiffen and reinforce more complex structures 	<p>Focus Area: Cooking and Nutrition</p> <p>This will be the main area of focus for this year group, however, other aspects of D&T can be included as appropriate.</p> <p>Design, make and evaluate one or more dishes, understating the preparation process and the basics of heathy eating.</p> <p>(Working together, questioning, reasoning, planning, improving.)</p>	<p>Fruit salad –connect with science (leaves, stems, roots ,bulbs) preparing cutting fruit And/or</p> <p>Easter basket cakes –melting /cooling chocolate.</p> <p>Stone Age stew .cooking and preparing vegetables design and make a menu And/or</p> <p>Design and make smoothies- link to Ancient Egypt topic and healthy eating</p>
			Shaduf models.-Ancient Egyptlink to forces topic in science
Year 4	<ul style="list-style-type: none"> understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to 	<p>Focus Area: Textiles</p> <p>This will be the main area of focus for this year group, however, other aspects of D&T can be included as appropriate.</p> <p>Join textiles materials together using different methods (sewing, glue) with increasing accuracy.</p>	<p>Textiles</p> <p>Work with hessian to sew a book mark. Practice different stiches- running stitch, cross stitch, butterfly stitch</p> <p>Work with a range of fabrics and investigate</p>

	<p>program, monitor and control their products.</p> <p>Cooking and Nutrition</p> <ul style="list-style-type: none"> • use the basic principles of a healthy and varied diet to prepare dishes • understand where food comes from. 	<p>Design, make and evaluate a textiles product for a specific purpose (eg: not purely decorative)</p> <p>(Working together, questioning, reasoning, planning, improving.)</p>	<p>functionality and aesthetics</p> <p>Make a prototype of a product- a soft toy animal (Rainforest animals) Children will trace a pattern (outline of an animal) on to material, will embroider the fabric, sew buttons on for eyes and then over sew edges.</p>
<p>Year 5</p>		<p>Focus Area: Construction (Woodwork)</p> <p>This will be the main area of focus for this year group, however, other aspects of D&T can be included as appropriate.</p> <p>Design, make and evaluate a product which includes a woodworking aspect as part of its construction.</p> <p>Cut and join materials with increasing accuracy.</p> <p>(Working together, questioning, reasoning, planning, improving.)</p>	<p>Create and design a theme park (based on the book Cosmic).</p> <p>Design, measure and create a net for a hexagonal prism to contain Turkish Delight (based on The Lion, The Witch and The Wardrobe).</p> <p>Design an open cuboid 'secret book' with 1cm² wood.</p>
<p>Year 6</p>		<p>Focus Area: Systems and Mechanisms</p> <p>This will be the main area of focus for this year group, however, other aspects of D&T can be included as appropriate.</p> <p>Understand and look at the operation of: Gears, pulleys, levers, linkages and cams.</p> <p>Carry out a number of focussed construction tasks using construction toys such as lego to model the systems.</p> <p>Design, make and evaluate a product that includes a mechanism.</p> <p>(Working together, questioning, reasoning, planning, improving.)</p>	<p>Making Temples</p> <p>Gluing, crafting, cutting and sticking. Linked to Art project – designing temples based around particular gods.</p> <p>Inventors and Innovators. (D.T)</p> <ul style="list-style-type: none"> - Mechanisms – Designing paper/shadow puppets with moving parts. - Studying different mechanisms and movements - X with History – Archimedes – trireme grabber, Archimedes screw, other famous greek mechanisms