Design and Technology: At Plaxtol Primary School our D & T curriculum will prepare the children to deal with the rapidly changing world in which we live. It will build and develop pupils' problem-solving skills and resilience which can be applied to all areas of life.							
	EYFS	1	2	3	4	5	6
Design and Planning	*EAD* *Creating with materials* Use design, form, colour and texture Design and create through exploration. *criteria set by children and teacher*	Create simple design ideas based on discussion and experience of existing products. Develop and communicate ideas by talking and drawing, drawing on their own experience *criteria set by teacher/children*	Design purposeful, functional, appealing products based on design criteria. Develop and communicate ideas by talking and drawing Use information and communication technology, where appropriate, to develop and communicate their ideas *criteria set by teacher/children*	Use knowledge of existing products to inform design criteria for his/her own functional product. *criteria co-created teacher/pupil*	Use knowledge of existing products to inform design criteria for a functional and appealing product with a particular purpose and audience. *criteria co-created teacher/pupil*	Use his/her research into existing products and his/her market research to inform the design criteria for his/her own innovative product with a specific purpose and audience. Develop a simple design specification to guide their thinking *criteria developed by children independently/peer assessed*	Use research he/she has done into famous designers and inventors to inform the design criteria for his/her own innovative products with a specific purpose and audience. Develop a simple design specification to guide their thinking *criteria developed by children independently/peer assessed*
	U/W *The natural world* Explore collections of materials both natural and man-made. Multiple opportunities	Communicate design ideas using annotated sketches (simple drawings with labels). describe what their products are for	Communicate their ideas through annotated sketches (simple drawings with labels).	Communicate their ideas through cross-sectional diagrams. Share and clarify ideas through discussion	use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas	Communicate their ideas through Computer Assisted Design (CAD). Create prototypes to show his/her ideas.	To communicate their ideas through Computer Assisted Design (CAD). Generate innovative ideas, drawing on research Make design decisions, taking account of constraints such as time, finances etc.

	for exploration in CP		Say whether their products are for themselves or other users Describe what their products are for say how their products will work say how they will make their products suitable for their intended users	generate realistic ideas, focusing on the needs of the user	Model their ideas using prototypes and pattern pieces		
	People culture and communities Hands on exploration of natural and man-made materials. Multiple opportunities for exploration in CP	Use pictures and words to describe what he/she wants to do. *Describe choices*	Plan out the main stages of the making process and the tools, materials and components involved based on their characteristics. *Consider and describe choices*	Plan the order of their work for the making process and outline how the tools, materials and components will be used based on their functional properties and aesthetic qualities. *Consider and explain choices*	Use his/her knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them and in what order based on their functional properties and aesthetic qualities. *Consider and justify choices*	Produce step-by-step plans to guide his/her making, demonstrating that he/she can apply his/her knowledge of the functional properties and aesthetic qualities of different materials, tools and techniques. *Consider and justify choices according to effectiveness.*	Produce step-by-step plans to guide his/her making, demonstrating that he/she can apply his/her knowledge of functional properties and aesthetic qualities to choose appropriate materials, tools and techniques. *Consider and justify choices according to effectiveness.*
Making	*Fine motor* Use a range of tools and resources	Use the correct vocabulary to describe	Use the correct vocabulary to describe	Use the correct vocabulary to describe	Use the correct vocabulary to describe materials and name tools and techniques.	Use the correct vocabulary to describe materials and name tools and techniques.	Use the correct vocabulary to describe materials and name tools and techniques.

	e.g. malleable substances, scissors, tweezers, buttons, zips	materials and name tools.	materials and name tools.	materials and name tools and techniques.			
	EAD *Creating with materials* Use a range of materials and join them together e.g. card, paper, wood with tape, staple, paper clip, glue Use a range of tools to create complex designs e.g. lego, k'nex, stapler, split pin	Perform practical tasks using simple tools and equipment. Measure, mark out, cut and shape a range of materials. Assemble, join and combine materials to make simple products from a variety of temporary methods eg glue or masking tape. Use finishing techniques, including those from art and design **Sew and join fabrics using a running stitch.** *Adult assistance & risk*	Perform practical tasks using simple tools and equipment. Safely measure, mark out, cut and shape materials and components using a range of tools. Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components and explain their choices Assemble, join and combine materials to make a product using a range of tools.	Make suitable choices from a wider range of tools and unfamiliar materials. Safely measure, mark out, cut, shape, assemble and join with some accuracy using a range of tools. Assemble, join and combine materials and components accurately using a range of tools. Identify improvements and modify design based on feedback. apply a range of finishing techniques, including those from art and design,	Follow procedures for safety and hygiene Safely use tools and techniques which require more accuracy to cut, shape, join and finish his/her work e.g. Cutting internal shapes, slots in frameworks. Make design decisions that take account of the availability of resources Identify improvements and modify design based on feedback. Apply a range of finishing techniques, including those from art and design, with some accuracy **Use a pattern which is linked to a prototype – sewing skills are becoming more accurate.**	Work safely with tools and techniques to make careful and precise measurements so that joins/seams, holes and openings are in exactly the right place. Use technical knowledge and accurate skills to identify improvements and problem solve during the making process Use techniques that involve a number of steps **Create products using pattern pieces and demonstrate an awareness of seam allowance. Learn how to use blanket stitch.** *Adult supervision & risk assessment* *junior hacksaw, glue guns, hammer, pliers, needles, card, wood, metal, fabric, plastic etc.*	Select and use appropriate tools, equipment and techniques accurately and safely. produce appropriate lists of tools, equipment and materials Use technical knowledge and accurate skills to identify improvements and problem solve during the making process Apply his/her knowledge of materials and techniques to refine and rework his/her product to improve its functional properties and aesthetic qualities. Demonstrate resourcefulness when tackling practical problems **Learn to pin and tack fabric pieces together. Join fabrics by over sewing, back stitch and blanket stitch. Pupils are able to make quality products with increasing accuracy.**

		assessment scissors, hole punch, glue, tape, string, card, fabric, wood etc.	use finishing techniques, including those from art and design **Cut out shapes which have been created by drawing around a template onto fabric. Children begin to sew using a range of basic stitches.** *Adult assistance & risk assessment scissors, hole punch, glue, tape, string, card, fabric, wood etc.*	with some accuracy **Join fabrics using a range of stitches with increasing independence. Learn how to add further decoration to their work using buttons, beads, sequins etc..** *Adult supervision & risk assessment junior hacksaw, glue guns, hammer, pliers, needles, card, wood, metal, fabric, plastic etc.*	*Adult supervision & risk assessment junior hacksaw, glue guns, hammer, pliers, needles, card, wood, metal, fabric, plastic etc.*		*Adult supervision & risk assessment junior hacksaw, glue guns, hammer, pliers, needles, card, wood, metal, fabric, plastic etc.*
Evaluate	*EAD Creating with materials* To explain the creation process and evaluate effectiveness for purpose.	Evaluate and assess the products that he/she has made against design criteria. *by discussing what they have*	Evaluate and assess the products that he/she has made against design criteria. *by discussing what they*	Consider and modify their design ideas throughout. Investigate and analyse products he/she has made, considering a	Consider and modify their design ideas throughout. Consider how his/her own products might be improved and how well they meet the needs of the intended user.	Consider, test, assess and modify their design ideas throughout. Make detailed evaluations about his/her own product against their own design criteria.	Consider, test, assess and modify their design ideas throughout. Evaluate their ideas and products against their original design specification Use his/her knowledge of famous designs to further

		made, the making process, the tools involved and how well the product suits its purpose etc.	*like/dislike, identifying strengths and possible changes they might make*	wide range of factors and identify the strengths and areas for development in their ideas and products Consider the views of others to improve their work. *by identifying strengths and areas for improvement by carrying out appropriate tests*	Consider the views of others to improve their work. Use their design criteria to evaluate their completed products *by identifying strengths and areas for improvement by carrying out appropriate tests.*	Consider the views of others and decide which to implement to improve their work. Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make *by identifying strengths and areas for improvement by applying experience/knowledge of other products by carrying out appropriate tests.*	compare and judge the effectiveness of products he/she have made. Consider the views of others and justify which implement to improve their work. *by identifying strengths and areas for improvement by applying experience/knowledge of other products by carrying out appropriate tests.*
		Ask simple questions about existing products.	Evaluate and assess existing products. suggest how their products could be improved	Investigate and analyse existing products.	Consider how existing products might be improved and how well they meet the needs of the intended user.	Make detailed evaluations about existing products.	Use his/her knowledge of famous designs to further explain the effectiveness of existing products. Investigate and analyse: how much products cost to make, how innovative products are, how sustainable the materials in products are, what impact products have beyond their intended purpose
			Across KS1 pupils should explore for existing products; what products are, who products are for, what products are for, how products work, how products are used,				Across KS2 pupils should investigate and analyse for

			where products might be used, what materials products are made from, what they like and dislike about products				existing products; how well products have been designed, how well products have been made, why materials have been chosen, what methods of construction have been used, how well products work, how well products achieve their purposes, how well products meet user needs and wants and whether products can be recycled or reused.
Technical Knowledge	*U/W* *The natural world* To talk about forces they can feel in the world around them. To understand and discuss changes e.g. of materials. *Fine Motor* To understand how certain tools work for a purpose e.g scissors, tweezers, zips, buttons	Build simple structures and explore their stability. To explore and use wheels and axles in their products. *e.g. vehicles*	Investigate different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable. To explore and use sliders and levers in their products. *e.g. pop-up fairy tales book*	Create and strengthen frames using diagonal struts. How to use learning from science to help design and make products that work How to make strong, stiff shell structures To understand and use pneumatic systems to create movement in their products.	Apply techniques he/she has learnt to strengthen, stiffen and reinforce structures and explore his/her own ideas. To learn that materials have both functional properties and aesthetic qualities How to use learning from mathematics to help design and make products that work To understand and use electrical systems in their products *e.g. electrical torch*	Build more complex 3D structures and apply his/her knowledge of strengthening, stiffening and reinforcing techniques to make them stronger or more stable. To learn that mechanical and electrical systems have an input, process and output To understand and use cams/gears/cogs in their products *e.g. automata toy*	Use a wide range of methods to strengthen, stiffen and reinforce complex structures and can use them accurately and justify their selection. How more complex electrical circuits and components can be used to create functional products How to program a computer to monitor changes in the environment and control their products Apply their understanding of computing to program, monitor and control their products. *e.g. step counter*

				e.g. moving monsters			
Cooking and nutrition	*U/W* To begin to talk about what healthy foods are.	Talk about what he/she eats at home and begin to discuss what healthy foods are. Say where some food comes from and give examples of food that is grown. To learn that everyone should eat at least five portions of fruit and vegetables every day	Understand the need for a variety of food in a diet. Understand that all food has to be farmed, grown or caught. How to name and sort foods into the five groups in the eat well plate	Talk about the different food groups and name food from each group. Understand that food has to be grown, farmed or caught in Europe and the wider world. Understand seasonality and the advantages of eating seasonal and locally produced food.	Understand what makes a healthy and balanced diet, and that different foods and drinks provide different substances the body needs to be healthy and active. To learn that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish)	Understand the main food groups and the different nutrients that are important for health. Understand how a variety of ingredients are grown, reared, caught and processed to make them safe and palatable / tasty to eat. Evaluate and adapt meals and explain the health benefits of choices. To know that recipes can be adapted to change the appearance, taste, texture and aroma To understand that seasons may affect the food available	Confidently plan a series of healthy meals based on the principles of a healthy and varied diet. To understand that different food and drink contain different substances – nutrients, water and fibre – that are needed for health Use information on food labels to inform and validate choices. To learn how food is processed into ingredients that can be eaten or used in cooking
	Fine motor and U/W To begin to use simple tools with help and cookery techniques to	Use simple tools with help and cookery techniques to prepare food safely (and hygienically).	To learn how to use techniques such as cutting, peeling and grating	Read and follow a savoury recipe which involves several processes, skills and	To learn how to use techniques such as cutting, peeling and grating To understand that that a healthy diet is	Research, plan, prepare and cook savoury recipes with appropriate ingredients and use a wide range processes, skills and techniques to combine them.	Research, plan and prepare and cook a savoury dish, applying his/her knowledge of ingredients and his/her technical skills

	prepare food safely (and hygienically). e.g. knife, peeler, whisk, To learn how to prepare simple dishes safely and hygienically, with and without using a heat source *e.g. porridge, soup, sandwiches, biscuits*	To learn how to prepare simple dishes safely and hygienically, without using a heat source *e.g. seasonal salad/ sandwich/fruit sticks*	Measure or weigh using measuring cups or electronic scales.	techniques to combine ingredients. Prepare ingredients hygienically using appropriate utensils. Measure accurately and follow a recipe. *e.g. savoury muffins, spaghetti bolognaise*	made up from a variety and balance of different food and drink, as depicted in The eatwell plate that to be active and healthy, food and drink are needed to provide energy for the body	How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking *e.g. curry, bread making*	How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking Measure accurately and calculate ratios of ingredients to scale up or down from recipe. *e.g. multi-course meals/tapas/ mezze*
							Across KS2 pupils should know: about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products