



Alexandra Park Primary School
DT - Progression of Knowledge & Skills

<p>D&T -Early Years In the EYFS, children have the opportunity to explore and use a range of materials to design and create creative models and designs. Children use a wide range of props for play, which encourage imagination e.g. designing, and creating animal homes, making car ramps using a wide range of materials and resources to create their own designs. Children are encouraged to come up with their own ideas and are encouraged to share their ideas and talk about their creations both indoors and outdoors. Children have the opportunity to work collaboratively to solve problems both through adult led activities and child initiated activities, using a wide range of construction and resources. Children have the opportunity to develop their model making and construction through projects.</p>			
Children in reception will be learning to:	Physical Development	<ul style="list-style-type: none"> Progress towards a more fluent style of moving, with developing control and grace. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor. 	
	Expressive Arts and Design	<ul style="list-style-type: none"> Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills. 	
ELG	Physical Development	Fine Motor Skills	<ul style="list-style-type: none"> Use a range of small tools, including scissors, paint brushes and cutlery.
	Expressive Arts and Design	Creating with Materials	<ul style="list-style-type: none"> Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Share their creations, explaining the process they have used.

	RESEARCH	DESIGN	MAKE	EVALUATE	FOOD AND NUTRITION
<p>EYFS (Expressive Arts and Design/Physical Development)</p>	<ul style="list-style-type: none"> Play with a range of products, gaining knowledge of different products that exist. Identify the purpose of products around us and their functions. 	<ul style="list-style-type: none"> Use gestures, talking and arrangements of materials and components to show design. Design based on contexts set by the teacher or myself. Begin to use language of designing and 	<ul style="list-style-type: none"> Begin to make things through experimentation and discuss chosen materials (e.g., junk modelling area). Safely use and explore a range of materials, tools, and techniques. Begin to experiment with colour, design, 	<ul style="list-style-type: none"> Begin to identify and discuss strengths and weaknesses of products. Listen to and begin to act upon the suggestions of others to improve my product. 	<ul style="list-style-type: none"> I am provided with the opportunity to explore the taste and texture of foods e.g., fruit and vegetables. Begin to discuss the importance of a healthy diet and what this may look like.

	<ul style="list-style-type: none"> • Begin to talk about important aspects of products. • Progress towards a more fluent style of moving, with developing control and grace. • Develop their small motor skills so that they can use a range of tools competently, safely and confidently. • Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor. 	<p>making (join / build / shape / longer / shorter / heavier etc.)</p> <ul style="list-style-type: none"> • Explore, use and refine a variety of artistic effects to express their ideas and feelings. • Communicate my thoughts through drawing, writing and voice recording. 	<p>texture, form, and function.</p> <ul style="list-style-type: none"> • Create collaboratively, sharing ideas, resources and skills. • Construct a product with an intended purpose, using a variety of resources. • Select appropriate tools and techniques to shape, assemble and join. • Replicate structures with materials/components. • Discuss how to use a variety of tools, materials and techniques safely and hygienically. • Use a range of small tools, including scissors, paint brushes and cutlery. 	<ul style="list-style-type: none"> • Begin to suggest ways a product could be improved. • Return to and build on their previous learning, refining ideas and developing their ability to represent them. • Consider and manage some risks. • Describe my product and talk about its function and texture. 	<ul style="list-style-type: none"> • Begin to understand some food preparation tools, techniques and processes. • Practise stirring, mixing, pouring and blending. • Discuss the use of my senses.
Year 1	<ul style="list-style-type: none"> • Draw upon own experiences to generate ideas. • Research similar existing products 	<ul style="list-style-type: none"> • Begin to create and follow a design criteria, by developing an understanding of what is and isn't important in a 	<ul style="list-style-type: none"> • Explain what I am making and why. • Consider and discuss my next steps 	<ul style="list-style-type: none"> • Confidently talk about my finished product, making links to my design criteria. 	

	<p>to generate ideas and spark inspiration.</p> <ul style="list-style-type: none"> • Communicate my own ideas confidently and coherently, through the use of talking and drawing. • Explain who my intended user is and how my product will be used. • Consider aspects of functionality by reflecting upon the intended purpose of the product. 	<p>functioning product.</p> <ul style="list-style-type: none"> • Describe my design, using labels and key words. • Begin to select appropriate tools and methods in order to achieve the intended purpose and design. 	<p>throughout the making process.</p> <ul style="list-style-type: none"> • Select from and use a range of tools and equipment to perform practical tasks (e.g., cutting, joining, shaping, and finishing, templates). • Begin to measure, mark out, cut and shape with support, to ensure accuracy and develop technical skill. • Select from and use a wide range of materials, taking into consideration its properties, suitability and the purpose and functionality of a product (construction materials, textiles, and ingredients). • Try to use finishing techniques appropriately and effectively to enhance a product. • Work in a safe and hygienic manner. 	<ul style="list-style-type: none"> • Identify strengths and weaknesses in my product. • Begin to suggest ways to improve my product. • Reflect upon existing products and my design to check for accuracy. • Begin to give constructive feedback on other people's products, considering their use, materials, how they work, the intended audience and where they might be used. 	<ul style="list-style-type: none"> • Describe different textures in food. • Work in a safe and hygienic manner, ensuring hands are washed and surfaces are clean. • Begin to describe differences between food groups (eg. sweet, savoury, vegetables etc.) • Discuss which foods contribute to a healthy, balanced diet. • Cut, peel and grate foods safely, with support.
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<p>Year 2</p>	<ul style="list-style-type: none"> • Explore existing products, identifying their strengths and weaknesses to inform my design. • Use my knowledge of existing products to produce new ideas. • Communicate my own ideas and plan what to do next, by explaining what I want to do and describe how I will do it. • Explain the purpose of my product, how it will work and how it will be suitable for the intended user. 	<ul style="list-style-type: none"> • Describe my design using pictures, key words, models, diagrams and ICT, where appropriate. • Design products for myself and others, following a design criteria. • Select the best tools and materials, and explain my choices. 	<ul style="list-style-type: none"> • Explain what I am making and why it fits the purpose. • Join materials/components together in different ways, explaining my choices throughout. • Measure, mark out, cut and shape materials and components with support. • Describe which tools I am using and why. • Choose suitable materials and explain my choices, depending on their properties and characteristics. • Use finishing techniques appropriately and effectively to enhance a product. • Work in a safe and hygienic manner. 	<ul style="list-style-type: none"> • Describe what went well, reflecting upon my design criteria and existing products. • Identify strengths and weaknesses in my product, and begin to suggest ways to improve my product. • Talk about what I would do differently next time and why. • Begin to give constructive feedback on other people's products, considering their use, materials, how they work, the intended audience and where they might be used. 	<ul style="list-style-type: none"> • Explain the importance of hygiene and maintain a hygienic kitchen when preparing and cooking food. • Describe the properties of ingredients and the importance of a varied diet. • Begin to discuss and name the different food groups, through describing a varied diet. • Discuss where food comes from and begin to describe how it is farmed, home-grown and caught. • Cut, peel and grate with increasing confidence.
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<p style="text-align: center;"><u>END OF KEY</u> <u>STAGE</u> <u>EXPECTATIONS</u></p>	<ul style="list-style-type: none"> • Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. 	<ul style="list-style-type: none"> • Design purposeful, functional, appealing products for themselves and other users based on design criteria. 	<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. 	<ul style="list-style-type: none"> • Explore and evaluate a range of existing products. • Evaluate their ideas and products against design criteria. 	<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 style="text-align: center;">Year 3</p>	<ul style="list-style-type: none"> • Explore existing products, identifying their strengths and weaknesses to inform my design. • Describe and explain the purpose of a product and how it will work with the intended user's needs in mind. • Demonstrate that design meets a range of requirements. 	<ul style="list-style-type: none"> • Follow a set design criteria and make design decisions with confidence. • Describe my design using an accurately labelled sketch or diagram and key words. • Explain how my intended product will work and how it meets the user's requirements. • Begin to use computers to show design, where appropriate. 	<ul style="list-style-type: none"> • Select appropriate tools/equipment, explaining choices; begin to use them accurately. • Select appropriate materials that are fit for purpose. • Work through the design process plan in order, reflecting on choices as they go. • Begin to measure, mark out, cut and shape materials/components with some accuracy. 	<ul style="list-style-type: none"> • Look at design criteria while designing and making. • Use design criteria to evaluate finished product. • Identify areas to improve, to make the design better. • Begin to evaluate existing products, considering: how well they 	<ul style="list-style-type: none"> • Carefully select ingredients. • Use equipment safely. • Make product look attractive. • Think about how to grow plants to use in cooking. • Understand food comes from UK and the wider world. • Describe what consists of a healthy diet - variety and a

	<ul style="list-style-type: none"> Explore and analyse a prototype, identify strengths and weaknesses to inform design. 	<ul style="list-style-type: none"> Create a design process plan that includes order, equipment and tools. 	<ul style="list-style-type: none"> Begin to assemble, join and combine materials and components with some accuracy. Begin to apply a range of finishing techniques with some accuracy. 	<p>have been made, materials, whether they work, how they have been made, if they are fit for purpose.</p> <ul style="list-style-type: none"> Learn about some inventors/designers/engineers/chefs/manufacturers of ground-breaking products. 	<p>balance of food and drinks.</p> <ul style="list-style-type: none"> Explain the importance of food and drink for active, healthy bodies. Prepare and cook some dishes safely and hygienically. Use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
Year 4	<ul style="list-style-type: none"> Continue to explore existing products, identifying their strengths and weaknesses to inform my design. Use own research to inform design ideas. Demonstrate that design meets a range of requirements, and 	<ul style="list-style-type: none"> Begin to create own design criteria based upon research, user needs and purpose. Have at least one idea of how to create the product when designing. Begin to suggest improvements for design. Produce a plan and confidently explain 	<ul style="list-style-type: none"> Select appropriate tools/equipment, explaining choices in relation to required techniques and use accurately. Select appropriate materials that are fit for purpose, explaining choices. Work through the design process plan in order, reflecting on choices as they go. 	<ul style="list-style-type: none"> Refer to design criteria while designing and making. Use design criteria to evaluate product. Identify areas to improve and explain how to make the design better. 	<ul style="list-style-type: none"> Explain how to be safe/hygienic. Think about presenting product in interesting/attractive ways. Understand ingredients can be fresh, pre-cooked or processed. Begin to understand

	<p>it is fit for purpose.</p> <ul style="list-style-type: none"> • If applicable, make a prototype (individually or in teams) of a product, to explore its suitability and identify potential problems. 	<p>it to others, using key vocabulary.</p> <ul style="list-style-type: none"> • Begin to use annotated sketches to demonstrate design intentions. • Make and explain design decisions considering availability of resources. • Explain how the product will work. • Continue to build upon skills when using a computer to aid design. 	<ul style="list-style-type: none"> • Anticipate whether the product is going to be good quality and make necessary changes. • Measure, mark out, cut and shape materials/components with some accuracy. • Assemble, join and combine materials and components with some accuracy. • Apply a range of finishing techniques with some accuracy. 	<ul style="list-style-type: none"> • Evaluate existing products, considering: how well they have been made, materials, whether they work, how they have been made, if they are fit for purpose. • Discuss by whom, when and where products were designed. • Research whether products can be recycled or reused. • Know about some inventors/designers/engineers/chefs/manufacturers of ground-breaking products. 	<p>about food being grown, reared or caught in the UK or wider world.</p> <ul style="list-style-type: none"> • Describe eat well plate and how a healthy diet=variety / balance of food and drinks. • Explain importance of food and drink for active, healthy bodies • prepare and cook some dishes safely and hygienically. • Use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
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Year 5

- Use the internet and questionnaires for research and design ideas.
- Generate a range of ideas and explore pros and cons of each.
- Produce a logical, realistic plan and explain it to others.
- Create own design criteria, reflecting upon research.

- Take a user's view into account when designing.
- Begin to consider needs/wants of individuals/groups when designing and ensure the product is fit for purpose.
- Use cross-sectional planning and annotated sketches.
- Make design decisions considering time and resources.
- Clearly explain how parts of product will work.
- Model and refine design ideas by making prototypes and using pattern pieces.
- Use computer aided designs.

- Use selected tools/equipment with good level of precision.
- Produce suitable lists of tools, equipment/materials needed.
- Select appropriate materials, fit for purpose; explain choices, considering functionality.
- Create and follow detailed step by-step plan.
- Explain how product will appeal to an audience.
- Mainly accurately measure, mark out, cut and shape materials/component.
- Mainly accurately assemble, join and combine materials/components.
- Mainly accurately apply a range of finishing techniques.

- Evaluate quality of design while designing and making
- Evaluate ideas and finished product against specification, considering purpose and appearance.
- Test and evaluate final product.
- Evaluate and discuss existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose.
- Begin to evaluate how much products cost to make and how innovative they are.

- Explain how to be safe / hygienic and follow own guidelines.
- Present product well - interesting, attractive, fit for purpose.
- Begin to understand seasonality of foods.
- Understand food can be grown, reared or caught in the UK and the wider world.
- Describe how recipes can be adapted to change appearance, taste, texture, aroma.
- Explain how there are different substances in food / drink needed for health.

			<ul style="list-style-type: none"> • Use techniques that involve a small number of steps. • Begin to be resourceful with practical problems. 	<ul style="list-style-type: none"> • Research how sustainable materials are. • Talk about some key inventors/designers/engineers/chefs/manufacturers of ground breaking products 	<ul style="list-style-type: none"> • Prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of heat source. • Use range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
Year 6	<ul style="list-style-type: none"> • Begin to conduct market research, to find out user's individual needs, wants, requirements. • Identify features of design that will appeal to the intended user. • Make design decisions, considering resources and cost identified through research. • Use a range of strategies to conduct research e.g. internet, 	<ul style="list-style-type: none"> • Draw on market research to inform design. • Create own design criteria and specification. • Generate innovative design ideas. • Follow and refine a logical plan. • Use annotated sketches, cross-sectional planning and exploded diagrams. • Clearly explain how parts of design will 	<ul style="list-style-type: none"> • Use selected tools and equipment precisely. • Produce suitable lists of tools, equipment, materials needed, considering constraints. • Select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics. • Create, follow, and adapt detailed step-by-step plans. • Explain how product will appeal to 	<ul style="list-style-type: none"> • Evaluate quality of design while designing and making; is it fit for purpose? • Keep checking design is best it can be. • Evaluate ideas and finished product against specification, stating if it's fit for purpose. • Test and evaluate final product; explain what would improve it and the 	<ul style="list-style-type: none"> • Understand a recipe can be adapted by adding / substituting ingredients. • Explain seasonality of foods. • Learn about food processing methods. • Name some types of food that are grown, reared or caught in the UK or wider world

	<p>books, market research etc.</p>	<p>work, and how they are fit for purpose.</p> <ul style="list-style-type: none"> Independently model and refine design ideas by making prototypes and using pattern pieces. Use computer-aided designs. 	<p>audience; make changes to improve quality.</p> <ul style="list-style-type: none"> Accurately measure, mark out, cut and shape materials/components. Accurately assemble, join and combine materials/components. Accurately apply a range of finishing techniques. Use techniques that involve several steps. Be resourceful with practical problems 	<p>effect different resources may have had.</p> <ul style="list-style-type: none"> Do thorough evaluations of existing products considering: how well they've been made, materials, whether they work, how they've been made, fit for purpose. Evaluate how much products cost to make and how innovative they are. Research and discuss how sustainable materials are. Consider the impact of products beyond their intended purpose. 	<ul style="list-style-type: none"> Adapt recipes to change appearance, taste, texture or aroma. Describe some of the different substances in food and drink, and how they can affect health. Prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source. Use a range of techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
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				<ul style="list-style-type: none"> • Discuss some key inventors/designers/engineers/chefs/manufacturers of groundbreaking products 	
<p style="text-align: center;"><u>END OF KEY</u> <u>STAGE</u> <u>EXPECTATIONS</u></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. 	<ul style="list-style-type: none"> • Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer aided design. 	<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. 	<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. 	<ul style="list-style-type: none"> • 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.

Technical Knowledge Throughout units of work: Children should know and use technical vocabulary relevant to the project.	Structures	Mechanisms	Textiles	Electrical Systems	Food & Nutrition	Key Designers/ Products
Year 1		<ul style="list-style-type: none"> Explore and use wheels, axles and axle holders (toy car). Distinguish between fixed and freely moving axles. 	<ul style="list-style-type: none"> Understand how simple 3-D textile products are made, using a template to create two identical shapes (puppet). Understand how to join fabrics using different techniques e.g. running stitch or glue. 		<ul style="list-style-type: none"> Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. Understand and use basic principles 	Mechanisms: Textiles: - Jim Henson (The Muppets). Food & Nutrition:

			<ul style="list-style-type: none"> Explore different finishing techniques e.g. using painting, sequins, buttons and ribbons. <p>KEY VOCABULARY:</p> <ul style="list-style-type: none"> - fabric - join - decorate - finishing technique - template - research - design criteria - make - evaluate - user - purpose - function 		<p>of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The Eatwell Plate</i> (fruit kebabs).</p>	
Year 2	<ul style="list-style-type: none"> Know how to make freestanding structures stronger, stiffer and more stable (link to Traction Man). Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> Explore and use sliders and levers. Understand that different mechanisms produce different types of movement. 			<ul style="list-style-type: none"> Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables 	<p>Structures:</p> <ul style="list-style-type: none"> - <p>Mechanisms:</p> <ul style="list-style-type: none"> - <p>Food & Nutrition:</p> <ul style="list-style-type: none"> -

					are part of The Eatwell Plate (fruit salads).	
Year 3	X		X		<ul style="list-style-type: none"> • Know how to use appropriate equipment and utensils to prepare and combine food (bagel). • Know and use relevant technical and sensory vocabulary appropriately. 	Structures: - Textiles: - Food & Nutrition: -
Year 4		X		<ul style="list-style-type: none"> • Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. 	<ul style="list-style-type: none"> • Know how to use appropriate equipment and utensils to prepare and combine food. 	Mechanisms: - Electrical Systems: - Food & Nutrition: -

				<ul style="list-style-type: none"> • Apply their understanding of computing to program and control their products. • Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. • Know and use relevant technical and sensory vocabulary appropriately. 	
Year 5	X			X	X	Structures: - Electrical Systems: - Food & Nutrition: -
Year 6		X	X		X	Mechanisms: - Textiles: -

							Food & Nutrition: -
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