

Progression Document for Design and Technology

	0-3 Years - N1 (Jan Nursery Starters)	3-4 Years – N1 (Jan Nursery Starters) & N2 (Sep Nursery Starters)	Reception
Disciplinary Knowledge <ul style="list-style-type: none"> • Exploration • Play • Small world opportunities • Box modelling • Joining and fastenings • Discussions / talk • Draw simple representations • Use design templates 	Key Vocabulary: Picture, drawing, painting, build, make.	Key Vocabulary: Build, make, join, shape, longer, shorter, heavier.	Key Vocabulary: Develop, explore, skills, teamwork, fastenings, design, change, adapt.
	Substantive Knowledge: <u>Physical Development</u> <ul style="list-style-type: none"> • Build independently with a range of appropriate resources. • Start eating independently and learning how to use a knife and fork. • Explore different materials and tools. <u>Maths</u> <ul style="list-style-type: none"> • Combine objects like stacking blocks and cups. Put objects inside others and take them out again. • Build with a range of resources. <u>Understanding the World</u> <ul style="list-style-type: none"> • Explore materials with different properties. • Explore natural materials, indoors and outside. <u>Expressive Art and Design</u> <ul style="list-style-type: none"> • Explore different materials, using all their senses to investigate them. Manipulate and play with different materials. • Use their imagination as they consider what they can do with different materials. • Make simple models which express their ideas. 	Substantive Knowledge: <u>Personal, Social and Emotional Development</u> <ul style="list-style-type: none"> • Make healthy choices about food. <u>Physical Development</u> <ul style="list-style-type: none"> • Choose the right resources to carry out their own plan. • Collaborate with others to manage large items. • Use one-handed tools and equipment, for example, making snips in paper with scissors. <u>Maths</u> <ul style="list-style-type: none"> • Talk about and explore 2D and 3D shapes. <u>Understanding the World</u> <ul style="list-style-type: none"> • Using all their senses in hands-on exploration of natural materials. • Explore collections of materials with similar and/or different properties. • Talk about what they see, using a wide vocabulary. • Explore how things work. • Talk about the differences between materials and changes they notice. <u>Expressive Art and Design</u> <ul style="list-style-type: none"> • Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. • Explore different materials freely, to develop their ideas about how to use them and what to make. • Develop their own ideas and then decide which materials to use to express them. • Join different materials and explore different textures. • Create closed shapes with continuous lines, and begin to use these shapes to represent objects. 	Substantive Knowledge: <u>Communication and Language</u> <ul style="list-style-type: none"> • Learn new vocabulary • Use talk to help work out problems and organise thinking and activities, and explain how things might work and why they might happen. • Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. <u>Personal, Social and Emotional Development</u> <ul style="list-style-type: none"> • Show resilience and perseverance in the face of challenge. • Think about the perspective of others. <u>Physical Development</u> <ul style="list-style-type: none"> • Develop their small motor skills so that they can use a range of tools competently, safely and confidently. <u>Maths</u> <ul style="list-style-type: none"> • Select, rotate and manipulate shapes to develop spatial reasoning skills. <u>Understanding the World</u> <ul style="list-style-type: none"> • Explore the natural world around them. <u>Expressive Art and Design</u> <ul style="list-style-type: none"> • Return to and build on their previous learning, refining ideas and developing their ability to represent them. • Create collaboratively, sharing ideas, resources and skills. • 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.

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	Year 1	Year 2	Year 3
Disciplinary Knowledge <ul style="list-style-type: none"> • Use a design template • Discussion • Evaluation and reflection • Measure and weigh • Assemble, join and combining • Name and sort • Identification and classification • Decoration and finishing • Researching using first-hand experiences 	Key Vocabulary: Purpose, planning, ideas, investigating, designing, making, improving, healthy, fruit, vegetables, nutrients.	Key Vocabulary: Research, design, build, stable, evaluate, improve. Recipe, diet, healthy.	Key Vocabulary: Research, design, make, attach, weigh, measure, sew, evaluate, Recipe, ingredients, healthy, flavour, texture.
	Substantive Knowledge: <u>Research / Design / Planning stage</u> <ul style="list-style-type: none"> • Design purposeful, functional and appealing products based on design criteria. • Explain what their design is and what they would use it for. <u>Making the product</u> <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). • Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components. • Measure, mark out, cut and shape materials and components. • Attempt to join materials by gluing or combining materials to strengthen. <u>Evaluate</u> <ul style="list-style-type: none"> • Begin to make suggestions about how they could improve theirs or others work. • Explain how products may have been created. <u>Cooking and nutrition</u> <ul style="list-style-type: none"> • Consider hygiene and begin to cut, peel or grate ingredients safely. • Measure or weigh using non-standard measurements. • Select appropriate ingredients and follow guidance to cook them. • Name and sort the foods on the eat well plate. 	Substantive Knowledge: <u>Research / Design / Planning stage</u> <ul style="list-style-type: none"> • Design products that have a clear purpose and an intended user. • Research similar existing products to produce ideas. <u>Making the product</u> <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. • 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. • With adult support begin to join textiles using running stitch. • Begin to decorate as well as colour textiles to create different effects (such as dyeing, adding sequins or printing). <u>Evaluate</u> <ul style="list-style-type: none"> • Explore and evaluate a range of existing products. • Evaluate their ideas and products against design criteria. • Make simple judgements about their products and designs and suggest how their products could be improved. <u>Cooking and nutrition:</u> <ul style="list-style-type: none"> • Use the basic principles of a healthy and varied diet to prepare dishes. • Understand where their food comes from. 	Substantive Knowledge: <u>Research / Design / Planning stage:</u> <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 • Use annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces or computer-aided design to communicate their ideas. • Investigate and analyse a range of existing products. <u>Making the product:</u> <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. • Experiment with different mechanisms with products (levers, gears, pulleys etc.) • Select different joining techniques. • Decorate their product using different techniques. • Measure and cut products as close as possible to the nearest centimetre. <u>Evaluate:</u> <ul style="list-style-type: none"> • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. <u>Cooking and nutrition:</u> <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.

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	Year 4	Year 5	Year 6
Disciplinary Knowledge <ul style="list-style-type: none"> • Discussion • Measure and weigh accurately • Decoration and finishing • Researching using primary and secondary sources • Analyse • Evaluation and reflection 	Key Vocabulary: Research, design, appealing, annotate, drawings, evaluate. Measure, weigh, join, strengthen. Equipment, utensils, ingredients, hygiene.	Key Vocabulary: Research, design criteria, annotate, sketch, accuracy, decoration, strengthen, evaluate. Levers, gears, pulleys, mechanisms, circuit. Cross-contamination, diet, recipe, nutrients, utensils, Celsius.	Key Vocabulary: Research, design criteria, annotate, accuracy, decoration, strengthen, sustainability, evaluate, refine. Cross-contamination, diet, recipe, nutrients, utensils, Celsius, seasonality.
	Substantive Knowledge: <u>Research / Design / Planning stage:</u> <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 • Confidently use annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces or computer-aided design to communicate their ideas. • Investigate and analyse a range of existing products. <u>Making the product:</u> <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. • Understand and use mechanical systems in their products. • Cut materials accurately and safely. • Select appropriate joining techniques. • Select the most appropriate techniques to decorate textiles. <u>Evaluate:</u> <ul style="list-style-type: none"> • 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. • Choose suitable techniques to repair items. • Strengthen materials using suitable techniques. <u>Cooking and nutrition:</u> <ul style="list-style-type: none"> • Understand and apply the principles of a healthy and varied diet. • Hygienically prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. • Measure ingredients accurately (to the nearest gram). 	Substantive Knowledge: <u>Research / Design / Planning stage:</u> <ul style="list-style-type: none"> • Use the internet to research and then develop own design ideas. • Take a 'user's view' into account when designing – considering the needs and wants of the individuals. • Produce a logical and realistic plan and explain it to others. • Confidently use annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design to communicate their ideas. <u>Making the product:</u> <ul style="list-style-type: none"> • Cut and shape materials with precision, choosing the appropriate tools. • Create series and parallel circuits which include more than the battery and bulb. • Complete products to a high quality. • Mainly accurately apply a range of finishing techniques. • Begin to use levers, pulleys and gears to create movement. • Understand and use electrical systems in their products <u>Evaluate:</u> <ul style="list-style-type: none"> • Evaluate the quality of products and design both throughout and after. • Evaluate the key designs of individuals in design and technology and consider how they have shaped the world. <u>Cooking and nutrition:</u> <ul style="list-style-type: none"> • Understand the importance of hygiene when preparing ingredients and storing them correctly. • Measure ingredients accurately and look at how to adapt a recipe to make more or less than the stated amount. • Using prior knowledge of cooking and baking to create own recipe (including ingredients and method). 	Substantive Knowledge: <u>Research / Design / Planning stage:</u> <ul style="list-style-type: none"> • Draw on own research to inform their design process, including features of design that will appeal to the intended user. • Use annotated sketches, cross-sectional planning, exploded diagrams and computer-aided programs to represent their innovative design ideas. • Make design decisions, considering resources, cost and how to make them sustainable. • Clearly explain how parts of their design will work and how they are fit for purpose. • Formulate their own step-by-step plan to guide them with making their product, including tools, equipment needed, materials and components. <u>Making the product:</u> <ul style="list-style-type: none"> • Cut materials with precision and refine the finish with appropriate tools. • Show an understanding of the qualities of materials to choose the appropriate tools to cut and shape. • Create objects that use a seam allowance. • Join textiles with a combination of stitching techniques. <u>Evaluate:</u> <ul style="list-style-type: none"> • Ensure that products have a high-quality finish, using art skills where appropriate. • Record evaluations with drawings. • Evaluate against their own criteria. • Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. <u>Cooking and nutrition:</u> <ul style="list-style-type: none"> • Understand the importance of correct storage and handling ingredients. • Measure accurately and calculate the ratios of ingredients to scale up or down from a recipe. • Demonstrate a range of baking and cooking techniques. • Create and refine own recipes, including ingredients, methods, cooking times and temperatures.