

**DT Scheme of Work: Knowledge and Skills Curriculum**

**Class One:**

Reception – follow the ‘statutory framework for the Early Years’: The level of development children should be expected to have attained by the end of the EYFS is defined by the early learning goals (ELGs). Educational programmes must involve activities and experiences for children, as set out under each of the areas of learning.

Communication and Language: By commenting on what children are interested in or doing, and echoing back what they say with new vocabulary added, practitioners will build children's language effectively. Providing them with extensive opportunities to use and embed new words in a range of contexts, will give children the opportunity to thrive. Through conversation, where children share their ideas with support and modelling from their teacher, and sensitive questioning that invites them to elaborate, children become comfortable using a rich range of vocabulary and language structures.

Personal, Social and Emotional Development: Children should be supported to set themselves simple goals, have confidence in their own abilities, to persist and wait for what they want and direct attention as necessary. Through adult modelling and guidance, they will learn how to look after their bodies, including healthy eating.

Physical Development: Repeated and varied opportunities to explore and play with small world activities, puzzles, arts and crafts and the practice of using small tools, with feedback and support from adults, allow children to develop proficiency, control and confidence.

Expressive Arts and Design: It is important that children have regular opportunities to explore and play with a wide range of media and materials.

Year 1 - Design purposeful, functional, appealing products for themselves & other users based on design criteria; Select & use a range a wide range of materials & components, including construction materials, textiles & ingredients, according to their characteristics; Understand where food comes from & group familiar food products.

<b><u>Design</u></b>	<b><u>Make</u></b>	<b><u>Evaluate</u></b>	<b><u>Technical Knowledge</u></b>	<b><u>Cooking and Nutrition</u></b>
<p>Make comments about what they have heard and ask questions to clarify their understanding.</p> <p>Use pictures and words to convey what they want to design / make.</p> <p>Set and work towards simple goals.</p> <p>Explore ideas by rearranging materials.</p> <p>Show an ability to follow instructions involving several ideas or actions.</p> <p>Select pictures to help develop ideas.</p> <p>Offer explanations for why things might happen.</p> <p>Use mock-ups e.g. recycled material trial models to try out their ideas.</p>	<p>Select materials from a limited range.</p> <p>Explain what they are making.</p> <p>Use a range of small tools, including scissors.</p> <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>Name the tools they are using.</p>	<p>Explore existing products and investigate how they have been made (including teacher-made examples).</p> <p>Talk about their design as they develop and identify good and bad points.</p> <p>Share their creations, explaining the process they have used.</p> <p>Say what they like and do not like about items they have made and attempt to say why.</p>	<p>Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary.</p> <p>Start to use technical vocabulary.</p> <p>Cut out shapes which have been created by drawing round a template.</p> <p>Join materials in a variety of ways.</p> <p>Decorate using a variety of techniques.</p> <p>Attach wheels to a chassis using an axle.</p>	<p>Group familiar food products e.g. fruit and vegetables.</p> <p>Cut and chop a range of ingredients.</p> <p>Work safely and hygienically.</p> <p>Understand the importance of healthy food choices.</p> <p>Know about the need for a variety of foods in a diet.</p>

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<p><b>Class Two:</b>          Year 2 - Generate, develop, model &amp; communicate ideas through talking, drawing, templates, mock-ups &amp;, where appropriate, ICT; Build structures &amp; mechanisms, exploring how they can be made stronger, stiffer &amp; more stable; Explore &amp; evaluate a range of existing products, evaluating own ideas and products against design criteria.          Year 3 - Use research &amp; criteria to develop products which are fit for purpose; Use annotated sketches and prototypes to explain ideas; Evaluate existing products and improve own work; Use mechanical systems in own work; Understand seasonality; prepare &amp; cook mainly savoury dishes.</p>				
<p><b>Design</b>          Propose more than one idea for their product.          Develop more than one design or adaptation of an initial design.          Use ICT to communicate ideas.          Use drawings to record ideas as they are developed.          Plan a sequence of actions to make a product.          Think ahead about the order of their work and decide upon tools and materials.          Add notes to drawings to help explanations.          Propose realistic suggestions as to how they can achieve their design ideas.</p>	<p><b>Make</b>          Discuss their work as it progresses.          Select and name the tools needed to work the materials.          Select from a range of tools for cutting, shaping, joining and finishing.          Use tools with accuracy.          Explain which materials they are using and why.          Select from materials according to their functional properties.          Use appropriate finishing techniques.</p>	<p><b>Evaluate</b>          Decide how existing products do / do not achieve their purpose.          Investigate similar products to the one to be made to give starting points for a design.          Research needs of user.          Decide which design idea to develop.          Discuss how closely their finished product meets their own design criteria.          Consider and explain how the finished product could be improved.          Discuss how well the finished product meets the user's design criteria.          Investigate key events and individuals in design and technology.</p>	<p><b>Technical Knowledge</b>          Start to use technical vocabulary. Use an increasingly appropriate technical vocabulary for tools materials and their properties.          Cut out shapes which have been created by drawing round a template.          Understand seam allowance. Prototype a product.          Join materials in a variety of ways.          Sew on buttons and make loops.          Decorate using a variety of techniques.          Know some ways of making structures stronger.          Strengthen frames with diagonal struts.          Show how to stiffen some materials.          Know how to make a simple structure more stable.          Know some different ways of making things move in a 2-D plane.          Measure and mark square section, strip and dowel accurately to 1cm.          Incorporate a circuit into a model.          Use electrical systems such as switches bulbs and buzzers.          Use ICT to control products.          Use linkages to make movement larger or more varied.</p>	<p><b>Cooking and Nutrition</b>          Cut, peel, grate, chop a range of ingredients.          Join and combine a range of ingredients.          Work safely and hygienically.          Follow instructions / recipes.          Know about the Eatwell Plate.          Begin to understand the food groups on the Eatwell Plate.          Understand where food comes from.</p>

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### Class Three

Year 4 - Use research& criteria to develop products which are fit for purpose; Use annotated sketches and prototypes to explain ideas; Evaluate existing products and improve own work; Use mechanical systems in own work; Understand seasonality; prepare & cook mainly savoury dishes.

Year 5 - Use research& criteria to develop products which are fit for purpose and aimed at specific groups; Use annotated sketches, cross-section diagrams & computer-aided design; Analyse & evaluate existing products and improve own work; Use mechanical & electrical systems in own products, including programming; Cook savoury dishes for a healthy & varied diet.

Year 6 - Use research& criteria to develop products which are fit for purpose and aimed at specific groups; Use annotated sketches, cross-section diagrams & computer-aided design; Analyse & evaluate existing products and improve own work; Use mechanical & electrical systems in own products, including programming; Cook savoury dishes for a healthy & varied diet.

Year 5 and 6 skills.

<u>Design</u>	<u>Make</u>	<u>Evaluate</u>	<u>Technical Knowledge</u>	<u>Cooking and Nutrition</u>
<p>Record the plan by drawing using annotated sketches.</p> <p>Record ideas using annotated diagrams.</p> <p>Plan the sequence of work.</p> <p>Devise step by step plans which can be read / followed by someone else.</p> <p>Use prototypes to develop and share ideas.</p> <p>Use models, kits and drawings to help formulate design ideas.</p> <p>Sketch and model alternative ideas.</p> <p>Decide which design idea to develop.</p> <p>Use exploded diagrams and cross-sectional diagrams to communicate ideas.</p> <p>Consider aesthetic qualities of materials chosen.</p> <p>Use CAD where appropriate.</p>	<p>Prepare pattern pieces as templates for their design.</p> <p>Develop one idea in depth.</p> <p>Make prototypes.</p> <p>Use researched information to inform decisions.</p> <p>Select from techniques for different parts of the process.</p> <p>Select from and use a wide range of tools.</p> <p>Cut accurately and safely to a marked line.</p> <p>Select from and use a wide range of materials.</p> <p>Produce detailed lists of ingredients / components / materials and tools.</p> <p>Refine their product – review and rework / improve.</p>	<p>Draw / sketch existing products in order to analyse and understand how products are made.</p> <p>Research and evaluate existing products.</p> <p>Identify the strengths and weaknesses of their design ideas in relation to purpose / user.</p> <p>Identify the strengths and weaknesses of their design ideas.</p> <p>Consider user and purpose.</p> <p>Consider and explain how the finished product could be improved.</p> <p>Consider and explain how the finished product could be improved related to design criteria.</p> <p>Report using correct technical vocabulary.</p> <p>Discuss how well the finished product meets the design criteria having tested</p>	<p>Use an increasingly appropriate technical vocabulary for tools materials and their properties.</p> <p>Use the correct vocabulary appropriate to the project.</p> <p>Understand seam allowance.</p> <p>Prototype a product.</p> <p>Sew on buttons and make loops.</p> <p>Join materials using appropriate methods.</p> <p>Create 3=D textile products using pattern pieces.</p> <p>Understand pattern layout with textiles.</p> <p>Strengthen frames with diagonal struts.</p> <p>Build frameworks to support mechanisms.</p> <p>Stiffen and reinforce complex structures.</p> <p>Measure and mark square section, strip and dowel accurately to 1cm.</p>	<p>Make healthy eating choices – use the Eatwell plate.</p> <p>Understand and apply the principles of a healthy and varied diet.</p> <p>Choose ingredients to support healthy eating choices when designing their food products.</p> <p>Understand seasonality.</p> <p>Know where and how ingredients are reared and caught.</p> <p>Know where and how ingredients are grown and processed.</p> <p>Prepare and cook using different cooking techniques.</p> <p>Join and combine a widening range of ingredients.</p> <p>Select and prepare foods for a particular purpose.</p> <p>Prepare and cook a variety of mostly savoury dishes using a range of cooking techniques.</p>

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		<p>on/discussed outcomes with the user.</p> <p>Investigate key events and individuals in design and technology.</p> <p>Investigate key events and individuals in design and technology.</p> <p>Understand how key people have influenced design in a variety of contexts.</p> <p>Investigate key events and individuals in design and technology.</p>	<p>Cut strip wood, dowel, square section wood accurately to 1mm.</p> <p>Incorporate a circuit into a model.</p> <p>Use electrical systems such as switches bulbs and buzzers.</p> <p>Use electrical systems such as motors and switches.</p> <p>Use ICT to control products.</p> <p>Program, monitor and control using ICT.</p> <p>Use linkages to make movement larger or more varied.</p> <p>Use mechanical systems such as cams, pulleys and gears.</p>	
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