

# Bengeo School

DT Subject coverage – Nursery & Reception

<p>Area of Learning: Understanding the world Aspect: Technology</p>			
Nursery	<p>30 - 50 months:</p> <ul style="list-style-type: none"> <li>• Know how to operate simple equipment</li> <li>• Shows an interest in technological toys with knobs or pulleys, or real objects</li> <li>• Shows skills in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images</li> </ul>		
<b>Autumn</b>	<b>Spring</b>	<b>Summer</b>	<b>Continuous provision</b>
<p>Making birthday cards Using scissors - make hedgehogs, dangle scarecrow Tasting bread/ vegetables Cutting skills</p>	<p>Creating an Elmer out of milk bottle using tissue paper Making footprints Make woodpile house - Gruffalo Follow instructions to make Gruffalo crumble Cutting, sticking, making Chinese dragon Easter - cooking, designing own Easter eggs Tasting pancakes and toppings - spreading/cutting Decorate mittens Making animals masks</p>	<p>Making shields - George and the Dragon Making flags - castles and dragons Junk modelling - making castle Making Father's Day cards Healthy eating - Very Hungry Caterpillar</p>	<p>Wooden blocks Playdough Printing chicks Diggers Lacing numbers Construction Junk modelling Mud kitchen - using utensils</p>
Reception	<p>40 - 60 months+: n/a ELG:  <ul style="list-style-type: none"> <li>• Children recognise that a range of technology is used in places such as home and schools. They select and use technology for particular purposes.</li> </ul>                     Exceeding:  <ul style="list-style-type: none"> <li>• Children find out about a range of everyday technology. They select appropriate applications that support an identified need.</li> </ul> </p>		
<b>Autumn</b>	<b>Spring</b>	<b>Summer</b>	<b>Continuous provision</b>
<p>Cutting, joining - making skeletons, Christmas cards Diva pots/ lamps - tools, manipulating materials</p>	<p>Cutting, joining - Easter cards, Mother's Day cards Design and make boats - Journeys Design and build a bridge - Three Billy Goats Gruff</p>	<p>Design and build - Making vehicles Textiles - joining materials - needle work</p>	<p>Lego Duplo Straws Junk modelling Playdough Marble run Stickle bricks Scissors - creative station</p>

DT Subject coverage – KS1

Designing	Making	Evaluating	Technical Knowledge	Food Technology
<p>Design – purposeful, functional, appealing products for themselves and other users based on design criteria</p> <p>Design – generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p>	<p>Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping joining and finishing]</p> <p>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p>	<p>Explore and evaluate a range of existing products</p> <p>Evaluate their ideas and products against design criteria</p>	<p>Build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products</p>	<p>Use the basic principles of a healthy and varied diet to prepare dishes</p> <p>Understand where food comes from</p>
<p>Year 1</p>	<p><b>Mechanisms – slider</b></p> <ul style="list-style-type: none"> <li>Design a product which moves</li> <li>Explain to someone else how to make their product and design a simple plan before making</li> <li>Use own ideas to make a product which moves</li> <li>Choose appropriate resources and tools</li> <li>Describe how something works</li> <li>Look at and choose from appropriate products</li> </ul> <p><b>Key words:</b> Design, make, tools, equipment, cutting, joining, mechanism, slider, slot, evaluate</p>	<p><b>Structure – freestanding</b></p> <ul style="list-style-type: none"> <li>Use own ideas to make something</li> <li>Choose appropriate resources and tools</li> <li>Make their own model stronger and more stable</li> <li>Explain what works well and not so well in the model they have made</li> </ul> <p><b>Key words:</b> Design, make, evaluate, structure, stronger, stable</p>	<p><b>Food – fruit salad (preparing fruit and veg)</b></p> <ul style="list-style-type: none"> <li>Know how to cut food safely</li> <li>Understand the difference between healthy and unhealthy foods</li> <li>Understand where food comes from</li> </ul> <p><b>Key words:</b> Healthy, unhealthy, fruit, vegetables, safety, chopping board, chopping, peeling, slicing</p>	
	<p>Year 2</p>	<p><b>Textiles – joining (puppets)</b></p> <ul style="list-style-type: none"> <li>Think of an idea and create a plan</li> <li>Explain why they have chosen specific textiles</li> <li>Join materials and components in different ways</li> </ul> <p><b>Key words:</b> Design, make, joining, materials, sewing, over stitch, textiles, evaluate</p>	<p><b>Structure – freestanding</b></p> <ul style="list-style-type: none"> <li>Communicate their ideas through talking and drawing</li> <li>Choose tools and materials and explain why you have chosen them</li> <li>Join materials and components in different ways</li> <li>Make a model stronger and more stable</li> </ul> <p><b>Key words:</b> joining, materials, stronger, stability, evaluating</p>	<p><b>Mechanism – wheels and axles</b></p> <ul style="list-style-type: none"> <li>Design a product based on design criteria</li> <li>Use wheels and axles</li> <li>Measure materials to use in a model or structure</li> <li>Choose tools and materials and explain why you have chosen them</li> <li>Join materials and components in different ways</li> <li>Explain what went well in their work</li> </ul> <p><b>Key words:</b> Design criteria, product, wheels, axle, chassis, body, construction materials, permanent fixings, temporary fixings, saw, jig (Moving vehicle: links with history GFOL – making ambulances)</p>

Designing		Making		Evaluating		Technical Knowledge		Food Technology	
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-sectioned diagrams, prototypes, pattern pieces and computer-aided design		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 wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities		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		Apply their understanding of how to strengthen, stiffen and reinforce more complex structures 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 program, monitor and control their products		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.	
Year 3	<b>Textiles - joining techniques (2D shape to 3D product)</b> <ul style="list-style-type: none"> <li>Follow a step-by-step plan, choosing the right equipment and materials</li> <li>Prove that a design meets a set criteria</li> <li>Design a product and make sure that it looks attractive</li> <li>Choose a material for both its suitability and its appearance</li> </ul> <b>Key words:</b> <b>Design criteria, joining, materials, sewing, running stitch, cross stitch, textiles, applique, seam, evaluate</b>		<b>Food - healthy lunch (sandwiches/wraps/pitta)</b> <ul style="list-style-type: none"> <li>Describe how food ingredients come together</li> <li>Weigh out ingredients and follow a given recipe to create a dish</li> <li>Talk about which food is healthy and which is not</li> <li>Know when food is ready for harvesting</li> </ul> <b>Key words:</b> <b>ingredients, healthy, unhealthy, Eatwell plate, harvesting, spreading, chopping, claw grip, bridge hold, grating, appearance, texture, sensory evaluation</b>		<b>Mechanism - levers and linkages - castle moving picture</b> <ul style="list-style-type: none"> <li>Select the most appropriate tools and techniques for a given task</li> <li>Work accurately to measure, make cuts and make holes</li> </ul> <b>Key words:</b> <b>Mechanism, lever, linkage, slot, guide, loose pivot, fixed pivot</b>		<b>Structure - photo frames</b> <ul style="list-style-type: none"> <li>Select the most appropriate tools and techniques for a given task</li> <li>Know how to strengthen a product by stiffening a given part or reinforce part of the structure</li> <li>Work accurately to measure, make cuts and make holes</li> <li>Explain how to improve a finished model</li> <li>Know why a model has, or has not, been successful</li> </ul> <b>Key words:</b> <b>Design, joining, strengthening, reinforcement, improvements, measure, tools</b>		
	<b>Structure - shell structures (Pyramids)</b> <ul style="list-style-type: none"> <li>Use ideas from other people when designing</li> <li>Produce a plan and explain it</li> <li>Communicate ideas in a range of ways, including by sketches and drawings which are annotated</li> <li>Use IT, where appropriate, to add to the quality of their product (Create nets for their products)</li> <li>Know which material is likely to give the best outcome</li> <li>Evaluate and suggest improvements for design</li> <li>Evaluate products for both their purpose and appearance</li> <li>Present a product in an interesting way</li> </ul> <b>Key words:</b> <b>Planning, designing, annotations, measure, accuracy, evaluate, edge, face, vertex, net, scoring, shell structure, ribbing, corrugating, folding, laminating</b>		<b>Food - healthy and varied diet (making bread)</b> <ul style="list-style-type: none"> <li>Know how to be hygienic and safe when using food</li> <li>Bring creative element to the food product being designed</li> </ul> <b>Key words:</b> <b>ingredients, recipe, weighing, measuring, hygiene, hygienic, health and safety, finishing, rubbing in, knead, dough, yeast, flour, gluten, intolerance, allergy, design specification, innovative</b>		<b>Mechanism - simple circuits and switches - electrical game</b> <ul style="list-style-type: none"> <li>Links scientific knowledge by using lights, switches or buzzers</li> <li>Use electrical systems to enhance the quality of the product</li> <li>Persevere and adapt work when original ideas do not work</li> <li>Evaluate and suggest improvements for design</li> </ul> <b>Key words:</b> <b>mechanism, electricity, electrical system, switch, buzzers, adaptations, circuit, connections, input device, output device, evaluate</b>				
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<p>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-sectioned diagrams, prototypes, pattern pieces and computer-aided design</p>	<p>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 wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p>	<p>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>	<p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures 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 program, monitor and control their products.</p>	<p>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.</p>
<p>Year 5</p>	<p><b>Structure - frame structure</b></p> <ul style="list-style-type: none"> <li>• Come up with a range of ideas after collecting information from different sources</li> <li>• Produce a detailed step-by-step plan</li> <li>• Use a range of tools and equipment competently</li> <li>• Evaluate appearance and function against original criteria</li> </ul> <p><b>Key words: frame structure, planning, designing, annotations, measure, accuracy, evaluate, net, scoring, reinforcement, triangulation, horizontal, vertical</b></p>	<p><b>Textiles - combining different fabric shapes</b></p> <ul style="list-style-type: none"> <li>• Produce a detailed step-by-step plan</li> <li>• Use a range of tools and equipment competently</li> <li>• Make a prototype before making a final version</li> <li>• Evaluate appearance and function against original criteria</li> </ul> <p><b>Key words: mock-up, pattern or template, seam allowance, prototype, specification, tacking, working drawing</b></p>	<p><b>Electrical systems - Crumble kit - links with Computing (Fairground ride)</b></p> <ul style="list-style-type: none"> <li>• design a product that requires pulleys or gears</li> <li>• make a product that relies on pulleys or gears</li> <li>• links scientific knowledge to design by using pulleys or gears</li> <li>• uses more complex IT program to help enhance the quality of the product produced</li> <li>• use electrical systems correctly and accurately to enhance a given product</li> <li>• apply their understanding of computing to program, monitor and control their products</li> </ul> <p><b>Key words: external device, control, instructions, sequence, selection, repetition, component, circuit, program, switch, battery, motor, sensor, charge, troubleshoot, debug, problem, solution, evaluate, pulley, gear, drive belt, gearing up or down, mechanical system, driver</b></p> <p><b>Mechanism - KNEX Challenge Day (February - June - apply in September)</b></p>	
<p>Year 6</p>	<p><b>Food - celebrating culture and seasonality (Spring rolls)</b></p> <ul style="list-style-type: none"> <li>• Explain how food ingredients should be stored and give reasons</li> <li>• Work within a budget to create a savoury dish</li> <li>• Understand the difference between a sweet and savoury dish</li> <li>• Know how a variety of ingredients are grown, reared, caught and processed</li> </ul> <p><b>Key words: storage, refrigerator, freezer, food poisoning, perishable, decay, use by, best before, budget</b></p>	<p><b>Structure - frame structure (Viking boat)</b></p> <ul style="list-style-type: none"> <li>• Use market research to inform plans and ideas</li> <li>• Follow and refine original plans</li> <li>• Know which tool to use for a specific practical task</li> <li>• Know how to use any tool correctly and safely</li> <li>• Know what each tool is used for</li> <li>• Explain why a specific tool is best for a specific action</li> <li>• Use knowledge to improve a made product by strengthening, stiffening or reinforcing</li> <li>• Know how to test and evaluate designed products</li> <li>• Evaluate product against clear criteria</li> </ul> <p><b>Key words: market research, glue gun, saws, strengthening, stiffen, reinforce, frame structure, diagonal , horizontal, vertical, triangulation, tension, strut,</b></p>		