Cantrell Primary School Design and Technology Curriculum

Progression Map of Knowledge and Skills in Design and Technology							
	Early Years	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
1. Developing, planning and communicating ideas	Participate in small group, class and one-to-one discussions, offering their own ideas… and explanations for why things might happen (ELG – Speaking) Experiment with colour, design, texture, form and function (ELG – Creating with materials) This could include: Begin to represent ideas for making (eg what they are making, for who, and for what purpose) through talking and drawing. Begin to use the language of creating (eg make, plan, design, draw).	Begin to understand existing products: what and who they are for, how they work, materials made from, likes and dislikes etc. Drawing on their own experience and research of existing products, develop simple design ideas for the product they will be designing and making (eg its intended users, purpose, how it will work etc). Represent ideas for making through talking and drawing. Make mock-ups of ideas in card or paper.	Explore existing products: what and who they are for, how they work, how and where they might be used, materials made from, likes and dislikes etc. Drawing on their own experience and research of existing products, develop design ideas for the product they will be designing and making (eg its intended users, purpose, how it will work etc). Represent ideas for making through talking and drawing, including what their steps for making could be. Model ideas by exploring materials, ICT, construction kits, and by making templates and mock-ups.	Learn about inventors, designers, engineers, chefs, manufacturers who have developed ground-breaking products. Investigate and analyse existing products: eg when, where, by who they were made; their purpose; materials used; reusability; construction methods. Evaluate how well products work and how well they meet users' needs. Gather information about the needs and wants of individuals or groups for their product. Identify a purpose and develop criteria for a successful product.	Learn about inventors, designers, engineers, chefs, manufacturers who have developed ground-breaking products. Investigate and analyse existing products: eg when, where, by who they were made; their purpose; materials used; reusability; construction methods. Evaluate how well products work and how well they meet users' needs. Gather information about the needs and wants of individuals or groups for their product. Identify a purpose and develop criteria for a successful product, taking into account	Learn about inventors, designers, engineers, chefs, manufacturers who have developed ground-breaking products. Investigate and analyse existing products: eg how well they are designed and made, and meet users' needs; materials used; construction methods. Also consider the cost of making products; how innovative they are; sustainability of product materials; and what impact products have beyond their intended purpose. Identify the needs, wants, and values of individuals and groups by carrying out research, using surveys, interviews,	Learn about inventors, designers, engineers, chefs, manufacturers who have developed ground-breaking products. Investigate and analyse existing products: eg how well they are designed and made, and meet users' needs; materials used; construction methods. Also consider the cost of making products; how innovative they are; sustainability of product materials; and what impact products have beyond their intended purpose. Identify the needs, wants, and values of individuals and groups by carrying out research, using surveys, interviews,

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				Order the main stages in making the product. Represent ideas using prototypes, annotated sketches, diagrams, CAD etc.	availability of resources. Order the main stages of making. Represent ideas using prototypes, annotated sketches, diagrams, CAD etc.	questionnaires and web-based resources. Generate innovative ideas drawing on research and taking account of constraints such as resources, time and cost. Develop a design specification and formulate step-by-step plans as a guide to making. Develop and communicate ideas using eg prototypes, pattern pieces, annotated sketches, cross-sectional drawings, CAD.	questionnaires and web-based resources. Generate innovative ideas drawing on research and taking account of constraints such as resources, time and cost. Develop a design specification and formulate step-by-step plans as a guide to making. Develop and communicate ideas using eg prototypes, pattern pieces, annotated sketches, cross-sectional drawings, CAD.

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	Early Years	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
2. Working with tools, equipment, materials and components to make quality products (including food)	Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function (ELG – Creating with materials) Use a range of small tools, including scissors, paint brushes and cutlery (ELG – Fine motor skills) This could include: Construct their model/product with a simple purpose in mind. Use simple tools and equipment to shape, assemble and join materials together. Experiment with different colours, designs, textures, forms and function during the making process.	Begin to select suitable tools, materials and components for making (eg textiles, food ingredients, construction materials and kits). With support, measure, mark out, cut and shape materials and components With support, assemble, join and combine materials and components using a variety of temporary methods (eg glue, masking tape) Select and use appropriate fruit and vegetables, processes and tools. Use simple finishing techniques to improve the appearance of their product.	Select suitable tools, materials and components for making (eg textiles, food ingredients, construction materials and kits), explaining their choices. Measure, mark out, cut and shape materials and components Assemble, join and combine materials and components using a variety of methods (eg glue, sewing) Select and use appropriate fruit and vegetables, processes and tools. Use finishing techniques, including those from art and design. Follow safety and food hygiene procedures.	Select suitable tools and equipment and begin to explain their choices in relation to the skills and techniques they will be using. Select suitable materials and components (eg textiles, food ingredients, construction materials and kits, mechanical and electrical components), and begin to explain their choices in relation to functional properties. Measure, mark out, cut and shape assemble materials and components with some accuracy. Assemble, join and combine materials and components with some accuracy.	Select suitable tools and equipment and begin to explain their choices in relation to the skills and techniques they will be using. Select suitable materials and components (eg textiles, food ingredients, construction materials and kits, mechanical and electrical components), and begin to explain their choices in relation to functional properties. Measure, mark out, cut and shape materials and components with some accuracy. Assemble, join and combine materials and components with some accuracy. Begin to suggest alternative	Select suitable tools and equipment and explain their choices in relation to the skills and techniques they will be using. Select suitable materials and components (eg textiles, food ingredients, construction materials and kits, mechanical and electrical components), explaining their choices in relation to functional properties. Accurately measure, mark out, cut and shape materials and components. Accurately assemble, join and combine materials and components. Accurately apply a range of finishing techniques	Select suitable tools and equipment and explain their choices in relation to the skills and techniques they will be using. Select suitable materials and components (eg textiles, food ingredients, construction materials and kits, mechanical and electrical components), explaining their choices in relation to functional properties. Accurately measure, mark out, cut and shape materials and components. Accurately assemble, join and combine materials and components. Accurately apply a range of finishing techniques

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	Mix ingredients using simple utensils. Follow basic food safety and hygiene procedures.	Follow safety and food hygiene procedures.		Apply a range of finishing techniques, including those from art and design, with some accuracy. Follow safety and food hygiene procedures.	methods of making, if first attempts fail. Apply a range of finishing techniques, including those from art and design with some accuracy. Follow safety and food hygiene procedures.	including those from art and design. Use techniques that involve a number of steps. Demonstrate resourcefulness when tackling practical problems. Follow safety and food hygiene procedures.	including those from art and design. Use techniques that involve a number of steps. Demonstrate resourcefulness when tackling practical problems. Follow safety and food hygiene procedures.

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	Early Years	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
3. Evaluating own ideas and products	Share their creations, explaining the process they have used (ELG – Creating with materials) This could include: Adapt ideas as they are making their model. Talk about how they made their model or creation. Talk about some of the features and what they like/dislike about their creation. Suggest one thing they might change when making a similar creation.	Talk about their design ideas and product as it is being developed. Make simple judgements about their finished product and how well it works in relation to their design ideas.	Talk about their design ideas and product as it is being developed, beginning to identify strengths and possible changes they might make. Make judgements about their product and how well it works in relation to their design ideas. Suggest how their product could be improved	Refer to their design criteria as they design and make. Use their design criteria to evaluate their completed product, identifying strengths and areas for development. Consider the views of others, including intended users, whilst evaluating product.	Refer to their design criteria as they design and make. Use their design criteria to evaluate their completed product, identifying strengths and areas for development. Consider the views of others, including intended users, whilst evaluating product.	Critically evaluate the design, manufacture and fitness for purpose of their products as they design and make. Evaluate their ideas and products against their original design specification, identifying strengths and areas for development. Consider the views of others, including intended users, whilst evaluating product.	Critically evaluate the design, manufacture and fitness for purpose of their products as they design and make. Evaluate their ideas and products against their original design specification, identifying strengths and areas for development. Consider the views of others, including intended users, whilst evaluating product.