

Design & Technology

End of FS (Reception)	Area of attainment	End of KS1 (Years 1 & 2)	End of LKS2 (Years 3 & 4)	End of UKS2 (Years 5 & 6)
<p>Expressive Arts & Design</p> <p><u>Media & Materials</u></p> <p><i>Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</i></p> <p><u>Being Imaginative</u></p> <p><i>Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through art.</i></p> <p><i>They represent their own ideas, thoughts and feelings through design and technology.</i></p>	<p>Designing</p>	<p>Work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community and the wider environment.</p> <p>State what products they are designing and making.</p> <p>Say whether their products are for themselves or other users.</p> <p>Describe what their products are for.</p> <p>Say how they will make their products suitable for their intended users.</p> <p>Use simple design criteria to help develop their ideas.</p> <p>Generate, develop, model and communicate their ideas through talking about their own experiences and existing products, drawings, templates, exploring materials, creating mock-ups and, where appropriate, information and communication technology.</p>	<p>Work confidently within a range of contexts, such as home, school, leisure and the wider environment.</p> <p>Use research and design criteria to inform the design of innovative, functional, appealing products.</p> <p>Describe the purpose of their products.</p> <p>Gather information about the needs and wants of particular individuals and groups. Indicate the design features of their products that will appeal to the intended users.</p> <p>Explain how particular parts of their products work.</p> <p>Generate, develop, model and communicate their ideas through discussion and annotated sketches.</p> <p>Generate realistic ideas, focusing on the needs of the user.</p> <p>Make design decisions, taking into account the availability of resources.</p>	<p>Work confidently within a range of contexts, such as home, school, leisure, enterprise, industry, culture and the wider environment.</p> <p>Carry out research, using surveys, interviews, questionnaires and web-based resources to identify the needs, wants, preferences and values of particular individuals and groups.</p> <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.</p> <p>Generate, develop, model and communicate their ideas through cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</p> <p>Make design decisions, taking account of constraints such as time, resources and cost.</p>

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<p>Expressive Arts & Design</p> <p><u>Media & Materials</u></p> <p><i>Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</i></p> <p><u>Being Imaginative</u></p> <p><i>Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through art.</i></p> <p><i>They represent their own ideas, thoughts and feelings through design and technology.</i></p>	<p>Making</p>	<p>Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing). They should explain their choices.</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>Plan by suggesting what to do next.</p> <p>Follow procedures for safety and hygiene.</p> <p>Measure, mark out, cut and shape materials and components.</p> <p>Assemble, join and combine materials and components.</p> <p>Use finishing techniques, including those from art and 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]. Explain their choices.</p> <p>Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional and aesthetic properties.</p> <p>Order the main stages of making.</p> <p>Follow procedures for safety and hygiene.</p> <p>Measure, mark out, cut and shape materials and components with some accuracy.</p> <p>Assemble, join and combine materials and components with some accuracy.</p> <p>Apply a range of finishing techniques, including those from art and design, with some accuracy.</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. Explain their choices in relation to the skills and techniques they will be using.</p> <p>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.</p> <p>Produce appropriate lists of tools, equipment and materials that they need.</p> <p>Formulate step-by-step plans as a guide to making.</p> <p>Follow procedures for safety and hygiene.</p> <p>Accurately measure, mark out, cut and shape materials and components.</p> <p>Accurately assemble, join and combine materials and components.</p> <p>Accurately apply a range of finishing techniques, including those from art and design.</p> <p>Use techniques that involve a number of steps.</p> <p>Demonstrate resourcefulness when tackling practical problems.</p>

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<p>Expressive Arts & Design</p> <p><u>Media & Materials</u></p> <p>Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p><u>Being Imaginative</u></p> <p>Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through art.</p> <p>They represent their own ideas, thoughts and feelings through design and technology.</p>	<p>Evaluate</p>	<p>Explore and evaluate a range of existing products:</p> <ul style="list-style-type: none"> -What products are -Who products are for -What products are for -How products work -How products are used -Where products might be used -What material products are made from -What they like and dislike about products. <p>Evaluate their ideas and products against design criteria, including, what they are making and how their product could be improved.</p>	<p>Investigate and analyse a range of existing products</p> <p>evaluate their ideas and products against their own design criteria.</p> <p>Consider:</p> <ul style="list-style-type: none"> How well products have been designed How well products have been made Why materials have been chosen What methods of construction have been used How well products work How well products achieve their purposes How well products meet user needs and wants. <p>Investigate and analyse:</p> <ul style="list-style-type: none"> Who designed and made the products Where products were designed and made When products were designed and made Whether products can be recycled or reused. <p>Be introduced to inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.</p>	<p>Investigate and analyse a range of existing products</p> <p>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>Consider:</p> <ul style="list-style-type: none"> How well products have been designed How well products have been made Why materials have been chosen What methods of construction have been used How well products work How well products achieve their purposes How well products meet user needs and wants. <p>Investigate and analyse:</p> <ul style="list-style-type: none"> How much products cost to make. How innovative products are How sustainable the materials in products are What impact products have beyond their intended purpose. <p>Understand how key events and individuals in design and technology have helped shape the world. (For example, inventors, designers, engineers, chefs and manufacturers)</p>

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<p>Understanding of the World</p> <p><u>Technology</u></p> <p>Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.</p> <p>Expressive Arts & Design</p> <p><u>Media and Materials</u></p> <p>Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p><u>Being Imaginative</u></p> <p>Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through art.</p> <p>They represent their own ideas, thoughts and feelings through design and technology.</p>	<p>Technical Knowledge</p>	<p>Build structures, exploring how they can be made stronger, stiffer and more stable.</p> <p>Explore the movement of mechanisms (for example, levers, sliders, wheels and axles).</p> <p>Know about the simple working characteristics of materials and components.</p> <p>Know that 3D textile products can be assembled from two identical fabric shapes.</p> <p>Know that food ingredients should be combined according to their sensory characteristics.</p> <p>Use correct technical vocabulary for the projects they are undertaking.</p>	<p>Use learning from science and maths to help design and make products that work.</p> <p>Understand that materials have both functional properties and aesthetic qualities, and that materials can be combined to create more useful characteristics.</p> <p>Know that mechanical and electrical systems have an input, process and output.</p> <p>Understand and use mechanical systems in their products (for example, pneumatics, levers and linkages) to create movement.</p> <p>Understand and use electrical systems to create functional products (for example, series circuits incorporating switches, bulbs, buzzers and motors).</p> <p>Have an understanding of how to program a computer to control their products.</p> <p>Apply their understanding of how to strengthen, stiffen and reinforce shell structures.</p> <p>Know that a single piece of fabric can be used to create functional products.</p> <p>Know that food ingredients can be fresh, pre-cooked and processed.</p> <p>Use correct technical vocabulary for the projects they are undertaking.</p>	<p>Use learning from science and maths to help design and make products that work.</p> <p>Understand that materials have both functional properties and aesthetic qualities, and that materials can be combined to create more useful characteristics.</p> <p>Know that mechanical and electrical systems have an input, process and output.</p> <p>Understand and use mechanical systems in their products (for example, gears, pulleys and cams) to create movement.</p> <p>Understand and use more complex electrical systems to create functional products. (for example, series circuits incorporating switches, bulbs, buzzers and motors).</p> <p>Have an understanding of how to program a computer to monitor changes in the environment and control their products.</p> <p>Apply their understanding of how to strengthen, stiffen and reinforce a 3D framework.</p> <p>Know that a 3D textiles product can be made from a combination of fabric shapes.</p> <p>Know that a recipe can be adapted by adding or substituting one or more ingredients.</p> <p>Use correct technical vocabulary for the projects they are undertaking.</p>

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<p>Physical Development</p> <p><u>Health & Self-Care</u></p> <p><i>Children know the importance for good health, of physical exercise and a healthy diet, and talk about ways to keep healthy and safe.</i></p>	<p>Cooking and Nutrition</p>	<p>Know that all food comes from plants or animals.</p> <p>Know that food has to be farmed, grown elsewhere (eg. Home) or caught.</p> <p>Name and sort foods into the 5 groups in 'The Eatwell Plate'.</p> <p>Know that everyone should eat at least 5 portions of fruit and vegetables every day.</p> <p>Know how to prepare simple dishes safely and hygienically, without using a heat source.</p> <p>Know how to use techniques such as cutting, peeling and grating.</p>	<p>Know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world.</p> <p>Prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</p> <p>Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p> <p>Understand a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eatwell Plate'.</p> <p>Understand that to be active and healthy, food and drink are needed to provide energy for the body.</p>	<p>Know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world.</p> <p>They should know that seasons may affect the food available.</p> <p>To know how food is processed into ingredients that can be eaten or used in cooking.</p> <p>Prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</p> <p>Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p> <p>Understand that recipes can be adapted to change the appearance, taste, texture and aroma.</p> <p>Understand that different food and drink contain different substances – nutrients, water and fibre – that are needed for health.</p>