



At Red Hall, we see Design and Technology as a way of helping to prepare our children be a part of today's rapidly changing world. We live in a technological age and need to encourage children to become independent and creative problem solvers, who can work both individually and as part of a team.

- From Nursery to Year 6, the children are taught to combine their designing and making skills with knowledge and understanding, in order to design and make a product. Evaluation is an integral part of the design process and allows children to adapt and improve their product. This is a key skill which they need throughout their life.
- Children learn to select and safely use an appropriate range of tools to produce a product which satisfies a particular purpose. They develop clear decision-making skills and build and construct, adapting their work where necessary.
- Through our DT curriculum, children will be inspired by engineers, designers, chefs and architects to enable them to create a range of structures, mechanisms, textiles, electrical systems and food products-all with a real-life purpose.

#### Red Hall Progression of Skills in Design and Technology

Year group	Designing (purpose, users and developing ideas)	Making (planning, skills and techniques)	Evaluating (own ideas/products and existing products)	Technical Knowledge (how products work)	Food and Nutrition (where food comes from/food preparation, cooking and nutrition)
EYFS	Technology: children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. 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 design and technology.				
Years 1 and 2	<ul style="list-style-type: none"> <li>• Use contexts such as home, school, gardens, playgrounds, the local community, industry and the wider environment.</li> <li>• Explain who and what their products are for and explain how they will work/are suitable for the intended users.</li> </ul>	<ul style="list-style-type: none"> <li>• Plan by suggesting what to do next.</li> <li>• Select from a range of tools and equipment, explaining their choices.</li> <li>• Select from a range of materials and components according to their characteristics.</li> </ul>	<ul style="list-style-type: none"> <li>• Talk about their design ideas and what they are making</li> <li>• Make simple judgements about their products and ideas against their design criteria</li> <li>• Explore what products are/are for/who they are for/how they work/how</li> </ul>	<ul style="list-style-type: none"> <li>• Know about the simple working characteristics of materials and components</li> <li>• About the movement of simple mechanisms such as levers, sliders, wheels and axels</li> </ul>	<ul style="list-style-type: none"> <li>• Know that all food comes from plants and animals</li> <li>• That food has to be farmed, grown elsewhere e.g home or caught</li> <li>• Name and sort foods into the 5 groups</li> <li>• Know that everyone should eat 5 portions of fruit and vegetables a day</li> </ul>

	<ul style="list-style-type: none"> <li>• Use simple design criteria to help develop ideas.</li> <li>• Draw on own experiences and knowledge of existing products</li> <li>• Communicate ideas through talking and drawing.</li> <li>• Model ideas by using construction kits, making templates and mock-ups.</li> <li>• Use ICT to develop and communicate ideas.</li> </ul>	<ul style="list-style-type: none"> <li>• Follow procedures for safety and hygiene.</li> <li>• Use a range of materials and components e.g construction kits, textiles, food ingredients and mechanical components.</li> <li>• Measure, mark out, cut and shape</li> <li>• Assemble join and combine materials and components</li> <li>• Use finishing techniques</li> </ul>	<p>they are used/what they are made from</p> <ul style="list-style-type: none"> <li>• Explore what they like/dislike about products</li> </ul>	<ul style="list-style-type: none"> <li>• How free-standing structures can be made more stiff and stable</li> <li>• That a 3D textiles product can be assembled from 2 identical fabric shapes</li> <li>• The correct technical vocabulary for the projects they are undertaking</li> </ul>	<ul style="list-style-type: none"> <li>• How to prepare simple dishes safely and hygienically, without using a heat source.</li> <li>• Use techniques such as cutting, peeling and grating.</li> </ul>
Years 3 and 4	<ul style="list-style-type: none"> <li>• Work with a range of contexts such as home, school, leisure, culture, enterprise, industry and the wider environment.</li> <li>• Describe the purpose of their products and explain how particular parts work.</li> <li>• Explain which design features will appeal to the intended users.</li> <li>• Gather information about the needs/wants of the intended users.</li> <li>• Develop their own design criteria and use these to inform their ideas.</li> <li>• Share and clarify ideas through discussion.</li> <li>• Model ideas using prototypes and pattern pieces</li> </ul>	<ul style="list-style-type: none"> <li>• Use suitable tools and equipment</li> <li>• Select suitable materials and components</li> <li>• Explain their choice according to function and aesthetic qualities.</li> <li>• Order the stages of making</li> <li>• Follow hygiene and safety procedures.</li> <li>• Use a wider range of materials and components than KS1 e.g electrical components</li> <li>• Measure, mark out and shape with some accuracy</li> <li>• Assemble, join, combine with some accuracy</li> </ul>	<ul style="list-style-type: none"> <li>• Identify the strengths and areas for development in their ideas and products</li> <li>• Consider the views of others to improve their work</li> <li>• Refer to their design criteria as they design, make and evaluate their completed products.</li> <li>• Investigate and analyse how well products have been designed and made.</li> <li>• Why materials have been chosen</li> <li>• Which methods of construction have been used.</li> <li>• How well products work/achieve their purpose/meet users needs and wants</li> <li>• Learn about inventors, designers,</li> </ul>	<ul style="list-style-type: none"> <li>• How to use learning from science/maths to help design and make products that work</li> <li>• That materials have both functional and aesthetic qualities</li> <li>• That mechanical and electrical systems have an output, process and input</li> <li>• Know the correct technical vocabulary</li> <li>• How mechanical systems such as levers and linkages or pneumatic systems create movement</li> <li>• How simple electrical circuits and components can be used to create functional products</li> <li>• How to programme a computer to control their products</li> <li>• How to make strong, stiff shell structures</li> </ul>	<ul style="list-style-type: none"> <li>• Know that food is grown, reared and caught in the UK, and the wider world.</li> <li>• How to prepare and cook a variety of predominantly savoury dishes, including where appropriate using a heat source.</li> <li>• How to use a range of techniques including peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</li> <li>• A healthy diet is made up from a variety and balance of different food and drinks</li> <li>• To be active and healthy food and drink provides energy for the body.</li> </ul>

	<ul style="list-style-type: none"> <li>• Use annotated sketches, cross sectional drawing and exploded diagrams to develop and communicate ideas</li> <li>• Focus on the needs of the user to generate realistic ideas.</li> </ul>	<ul style="list-style-type: none"> <li>• Apply a range of finishing techniques with some accuracy</li> </ul>	<p>engineers, chefs and manufacturers who have developed ground-breaking products</p>	<ul style="list-style-type: none"> <li>• That food ingredients can be fresh, pre-cooked and processed.</li> </ul>	
Years 5 and 6	<ul style="list-style-type: none"> <li>• Work with a range of contexts such as home, school, leisure, culture, enterprise, industry and the wider environment.</li> <li>• Describe the purpose of their products and explain how particular parts work.</li> <li>• Carry out research-surveys, interviews, questionnaires and web-based resources</li> <li>• Identify needs, wants preferences and values of the intended users.</li> <li>• Share and clarify ideas through discussion.</li> <li>• Model ideas using prototypes and pattern pieces</li> <li>• Use annotated sketches, cross sectional drawing and exploded diagrams to develop and communicate ideas</li> </ul>	<ul style="list-style-type: none"> <li>• Use suitable tools and equipment</li> <li>• Select suitable materials and components</li> <li>• Explain their choice according to function and aesthetic qualities.</li> <li>• Produce a list of tools, equipment and materials that they need.</li> <li>• Formulate a step by step plan as a guide to making</li> <li>• Follow hygiene and safety procedures.</li> <li>• Use a wider range of materials and components than KS1 e.g electrical components</li> <li>• Accurately measure, mark out, cut, shape, assemble, join and combine materials and components</li> </ul>	<ul style="list-style-type: none"> <li>• Identify the strengths and areas for development in their ideas and products</li> <li>• Consider the views of others to improve their work</li> <li>• Refer to their design criteria as they design, make and evaluate their completed products.</li> <li>• Investigate and analyse how well products have been designed and made.</li> <li>• Why materials have been chosen</li> <li>• Which methods of construction have been used.</li> <li>• How well products work/achieve their purpose/meet users' needs and wants</li> <li>• Investigate how much products cost to make/how sustainable the materials in products</li> </ul>	<ul style="list-style-type: none"> <li>• How to use learning from science/maths to help design and make products that work</li> <li>• That materials have both functional and aesthetic qualities</li> <li>• That mechanical and electrical systems have an output, process and input</li> <li>• Know the correct technical vocabulary</li> <li>• How mechanical systems such as cams , pulleys or gears create movement</li> <li>• How more complex electrical circuits and components can be used to create functional products</li> <li>• How to programme a computer to monitor changes in the environment and control their products.</li> <li>• How to reinforce and strengthen a 3D framework</li> </ul>	<ul style="list-style-type: none"> <li>• Know that food is grown, reared and caught in the UK, and the wider world.</li> <li>• The seasons may affect the food available</li> <li>• Know how food is processed into ingredients that can be eaten or used in cooking e.g wheat into flour.</li> <li>• How to prepare and cook a variety of predominantly savoury dishes, including where appropriate using a heat source.</li> <li>• How to use a range of techniques including peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</li> <li>• Know that food and drink contains nutrients, water and</li> </ul>

	<ul style="list-style-type: none"> <li>• Generate innovative ideas drawing on research</li> <li>• Make decisions based upon time, cost and resource constraints.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate resourcefulness when tackling problems</li> </ul>	<p>are/the impact products have beyond their intended purpose</p> <ul style="list-style-type: none"> <li>• Learn about inventors, designers, engineers, chefs and manufacturers who have developed groundbreaking products</li> </ul>	<ul style="list-style-type: none"> <li>• That a 3D product can be made from a combination of fabric shapes</li> <li>• That a recipe can be adapted by adding or substituting one or more ingredients.</li> </ul>	<p>fibre which are needed for health.</p>
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