



Witton Church Walk

Design Technology Key Stage 1



Designing		Making	Evaluating	Technical Knowledge	Food Technology
Design purposeful, functional, appealing products for themselves and for others based on a specific design criteria. Children must communicate their ideas, through discussions, drawings, mock templates		<p>Select 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.</p>	Explore and evaluate a range of existing products. Children should evaluate their ideas against the design criteria.	<p>Build structures, exploring how they can be made stronger, stiffer and more stable.</p> <p>Develop products, which explore the use of mechanisms such as levers, sliders, wheels and axles.</p>	<p>Use the basic principles of a healthy and varied diet to prepare dishes.</p> <p>Understand where food comes from.</p>
Y.1	<p>Develop own ideas to design something and describe how their product works.</p> <p>Design a product that moves</p>	<p>Use own ideas to make something</p> <p>Make a product that moves</p> <p>Choose appropriate resources and tools</p>	<p>Describe how something works</p> <p>Explain how their product works and what works well, regarding their model.</p>	Discuss and demonstrate how they can improve their make their own model or make it stronger.	<p>Cut food safely.</p> <p>Become competent at using kitchen utensils safely.</p>
Y.2	<p>Think of an idea and plan what to do next.</p> <p>Explain why they have chosen the specific materials/textiles.</p>	<p>Chose tools and materials and explain why. Join materials and components in different ways.</p> <p>Measure materials for model or structure.</p>	Explain the process, how it was made, how it works, what went well and how it could it be improved.	<p>Use prior knowledge to make a model stronger or more stable.</p> <p>Use wheels and or axles if it is appropriate for the model</p>	<p>Weigh ingredients to use in a recipe.</p> <p>Describe where the food comes from, which food group and if it is healthy.</p>

Progression of vocabulary by the end of Key Stage 1

Design Purposeful Product, Plan Material Communicate Mock Template	Investigate Measure Join Cutting Joining Shaping, Finishing Constructing materials Textiles Ingredients	Evaluate Compare Similarities Differences	Stronger Stiffer More stable Improve Lever Slide Axle.	Healthy, Unhealthy Varied Diet locate Recipe Weigh Food groups
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Progression of Skills by the end of Key Stage 1

<p>Designing</p> <p>Talk about what they would like to make, in relation to the design brief. Draw a labelled picture of their product, including parts and materials. Select appropriate materials, ingredients or tools that they will use. Write a list of ingredients or tools that they will use. They represent their own ideas, thoughts and feelings through design technology.</p>	<p>Technical Knowledge</p> <p>Apply their knowledge of materials to make a structure, stiffer and more stable. Test their product and how they could make it stronger or make improvements. Investigate using levers, sliders, axels.</p>
<p>Making</p> <p>Mark materials and measure before cutting. Cut paper and other materials safely. Begin to choose the most effective joining methods. Use simple components such as split pins. Textiles- Make simple paper patterns, cut fabric, learn basic sewing. Create a design on fabric using pens/paint.</p>	<p>Food Technology</p> <p>Observe basic food hygiene procedures with support, such as washing hands, fruit and vegetables. Know to keep meat separate and clean surfaces before and after preparing food. Use a knife and chopping board safety. Use a spoon to add condiments. Serve food in appealing way. Clean and wash up after themselves.</p>
<p>Evaluating</p> <p>Describe what went well and which aspects of their product they are pleased with. Describe anything that didn't work well and any changes they had to make. Suggest how their product could improve.</p>	



Witton Church Walk

Design Technology Lower Key Stage 2

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 and aimed at particular individuals or groups. Children can develop and communicate their ideas through discussion, annotated sketches, prototypes and computer aided design.		Select and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing. Use prior knowledge to accurately select from and use a wide range of materials and components, including construction materials textiles and ingredients.	Investigate and analyse a range of existing products. Evaluate their ideas and products against their own criteria. And consider the views of others to improve their work. Understand how significant events and people have impacted on design and technology and have helped to shape our world.	Apply prior knowledge of how to strengthen, stiffen and reinforce more complex structures. Understand and use mechanical systems their products. (For example, gears, pulleys, cams, levers and linkages). Understand and use electrical systems in their work, incorporating circuits, 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 varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality and know how a variety of ingredients are grown, reared, caught and processed.
Y.3	Prove that a design meets a set criteria. Choose a material both for its suitability and its appearance.	Follow a step by step plan, choosing the right equipment and resources. Make a product which uses both electrical and mechanical components. Work accurately to measure, make cuts and holes.	Explain how to improve a finished model. Know why a model has, or has not been successful.	Know how to strengthen a product or structure Use a simple IT program with the design	Weigh out ingredients and follow a given recipe. Describe the process of making the food. Know when food is ready for harvesting. Discuss healthy and unhealthy foods.
Y.4	Use ideas from other people when designing. Produce a plan and ensure you can explain it. Trial and adapt work. Communicate work in annotated sketches and drawings.	Build on prior skills Predict which material is likely to give the best outcome. Measure accurately Show knowledge of handling tools safely and which tools to use for a given task.	Evaluate and suggest improvements for their model. Adapt original ideas that don't work. Evaluate product for appearance and purpose. Explain how I have improved the original design.	Use electrical systems to enhance the quality of the product. Link scientific knowledge by using lights, switches or buzzers. Use IT where appropriate to add to the quality of the product.	Know how to be safe and hygienic when using food. Discuss ideas to bring a creative element to the food being designed.

Progression of vocabulary for end of Lower Key Stage 2.

Research Develop Design criteria Functional Prototype Suitability Trial Adapt Innovative.	Predict Measure Construction materials Equipment Resources Electrical components Mechanical components	Designers Inventors Analyse Successful and unsuccessful Viewpoints Problem solve Solutions	Strengthen Stiffen Gears Pulleys Cams Levers Linkages Circuit Switches Buzzers Technology.	Savoury dishes Prepare Seasonality Reared Processed Harvesting, Hygienic.
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Progression of skills by the end of Lower Key stage 2

<p>Design Use their research to develop some of their own criteria. Draw a fully labelled sketch or diagram of their product, including some measurements. Choose the materials, ingredients, tools they will need, based on their suitability. List the materials, ingredients and tools they will need. Sequence the main stages of making.</p>	<p>Technical Knowledge Measure and mark materials before cutting. Score and fold card accurately. Apply their prior knowledge and understanding to make structures, stiffer or more stable as they work. Join using a range of techniques and materials accurately, choosing the most appropriate method. Test their product, making informed choices against the design criteria. Create a basic electrical circuit and incorporate it into their product.</p>
<p>Making Cut materials accurately, using appropriate tools. Score and fold paper accurately. Join a range of materials using a variety of methods. Test their product as they work. Making informed adjustments to ensure the product meets the design criteria.</p> <p>Textiles Learn sewing techniques using running stitch, knotting the thread and finishing off, create a design using applique, sewing on simple components. Use stuffing to create padding.</p>	<p>Food Technology Observe basic food hygiene procedures with support, such as washing hands, fruit and vegetables. Know to keep meat separate, avoiding cross contamination. Clean surfaces before and after preparing food. Use appropriate tools to peel, chop, slice, grate and mix ingredients. Cook the product in the oven, ensuring that it is properly cooked. Knead, roll and cut ingredients. Clean and wash up after themselves.</p>
<p>Evaluating Identify strengths and areas for improvement with their product. Decide if it meets the criteria for the design brief. Take part in peer evaluation, giving and receiving feedback from fellow pupils.</p>	



Witton Church Walk

Design Technology Upper Key Stage 2

Designing		Making	Evaluating	Technical Knowledge	Food Technology
<p>Develop a design criteria and research to inform design innovative, functional, appealing products that are fit for purpose. Product must be aimed at a particular group or individuals. Generate models and cross sectional sketches, prototypes, pattern pieces and computer aided design</p>		<p>Select and use a wider range of tools to perform practical tasks, (such as cutting, shaping, joining and finishing,) accurately select and use a wide range of materials, 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. To understand how key events and people in design and technology have helped to 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, such as gears, pulleys, cams, levers and linkages. Understand and use electrical systems in their products: series circuits, 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</p> <p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality and know how ingredients are grown reared, caught and processed.</p>
Y.5	<p>Come up with a range of ideas after researching information from different sources.</p> <p>Produce a step by step plan, explain how a product will appeal to a specific audience.</p> <p>Design a product that requires pulleys and gears.</p>	<p>Use a range of tools and equipment competently.</p> <p>Make a prototype before making a final version</p> <p>Make a product that relies on pulleys and gears.</p>	<p>Suggest alternative plans, outline positive features and drawbacks.</p> <p>Evaluate appearance and function against original criteria.</p>	<p>Links scientific knowledge to design by using pulleys or gears</p> <p>Uses more complex IT program to help enhance the quality of the product produced.</p>	<p>Be safe and hygienic in the kitchen</p> <p>Know how to prepare a meal by collecting the ingredients /being organised. Know which season various foods are available for harvesting.</p>
Y.6	<p>Use market research to inform plans and ideas.</p> <p>Follow and refine own plans.</p> <p>Show that culture and society is considered in plans and designs.</p>	<p>Know which tools are used for specific practical tasks. Know how to use all tools safely and correctly.</p> <p>Be able to explain why a specific tool is best for the task.</p>	<p>Know how to test and evaluate designed products.</p> <p>Explain how products should be stored and give reasons.</p> <p>Evaluate product against clear criteria.</p>	<p>Use electrical systems correctly and accurately to enhance a product.</p> <p>To use prior knowledge to know which IT product would further enhance a specific product and how to strengthen or reinforce it.</p>	<p>Explain how food ingredients should be stored and give reasons. Work with a budget to create a meal.</p> <p>Understand the difference between a savoury and sweet dish.</p>

Progression of Vocabulary by the end of Upper Key Stage 2						
	Innovative Functional cross-sectional Proto-type Resource Sources Audience Market research Refine.	Functional properties Aesthetic qualities Prototype Pulleys Gears	Investigate Design criteria Analyse Alternative Draw backs	Strengthen Stiffen Reinforce More complex structures Scientific knowledge Enhance Quality.	Stored Budget Sweet and savoury Safe Hygienic Season Harvesting Reared Processed.	

Progression of Skills by the end of Upper Key Stage 2

Designing

Use research to develop their own design criteria. Draw a fully labelled/annotated sketch/diagram of their product, including measurements and cross-sections. Indicate where electrical components will go and explain how they will function.

Choose the materials/ ingredients and tools they will use, based on the suitability for the task.

Write a brief instructions on how they intend to make their product.

Technical Knowledge

Apply their increasing knowledge and understanding to make structures, stiffer or more stable as they work.

Research scientific knowledge to inspire their design. Create a working mechanism (pulleys and gears)

Create a basic electrical circuit and incorporate it into their product.

Making

Measure and mark materials with increased accuracy before cutting. Cut materials accurately using suitable and appropriate tools. Note the most suitable method to join materials. Test the product as they work, making informed decisions and addressing any problems.

Create a polished and well finished product that they are proud to share with others.

Textiles

Make, using a pattern, allowing for a seam. Cut fabric accurately. Thread a needle, knot thread and finish off. Sew using running stitch or back stitch. Use method of turning out so stitching is hidden. Create designs on fabric using applique/pens/paint. Incorporate a fastening component, button/zip/press stud.

Food Technology

Observe basic food hygiene procedures with support, such as washing hands, fruit and vegetables. Know to keep meat separate, avoiding cross contamination. Clean surfaces before and after preparing food. Use appropriate tools to peel, chop, slice, grate and mix ingredients.

Cook food in the oven/ stove top/fire pit, ensuring it is fully cooked.

Serve food in appealing ways. Clean/ wash up after themselves

Evaluating

Identify and discuss the strengths of their product, as well as areas for development and improvements that could be made.

Discuss if the product is fit for purpose and does it meet the requirements of the user?

Take part in peer evaluation, giving a receiving feedback.