



# Christ Church CE & Lewis Street Primary Schools



## Design and Technology

### **Aims**

The National Curriculum for Design and Technology aims to ensure that all pupils:

- Develop the creative, technical and practical expertise needed to perform everyday
- Tasks confidently and to participate successfully in an increasingly technological world
- Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- Critique, evaluate and test their ideas and products and the work of others
- Understand and apply the principles of nutrition and learn how to cook.

### **Intent**

What are we trying to achieve for our children in Design and Technology?

- To be creative and imaginative
- To develop skills that are transferable to other aspects of the curriculum and their lives
- To be real life problem solvers in a variety of contexts
- To open the world of engineering and enterprise to them
- To develop their design skills through evaluation and critical thinking
- To explore future opportunities and aspirations related to Design Technology

### **Implementation**

How is the curriculum delivered?

- Through steps of milestone progression across year groups
- Parental session/workshops in EYFS
- Whole class differentiation through questioning and equipment
- Through the use of appropriate trips and visits
- Through a 2 week time table



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- 30 hours per year delivered

### **Impact**

What difference is the curriculum making?

- Children will become more imaginative and creative across the curriculum
- To develop children into creative, innovative and enterprising citizens
- Children will become critical thinkers who are willing to challenge and take calculated risks
- A higher profile of Design and Technology across the Partnership



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## Design and Technology

Design

Make

Evaluate



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## Design and Technology

Threshold Concept	Milestone 1 Years 1 and 2	Milestone 2 Years 3 and 4	Milestone 3 Years 5 and 6
<b>Design</b>	<ul style="list-style-type: none"> <li>• To discuss given stimulus beginning to give opinions</li> <li>• To discuss the use of a product</li> <li>• To discuss the features of a product</li> <li>• To draw/design a new product based on the given stimulus</li> <li>• To make comments/explanations of their design</li> <li>• To understand a product needs to be functional and purposeful</li> <li>• To begin to select suitable materials from a given range</li> </ul>	<ul style="list-style-type: none"> <li>• To discuss given stimuli giving opinions and critical thinking</li> <li>• To begin to research stimuli further</li> <li>• To begin to analyse the use of a product and it's features</li> <li>• To draw/design a product based on a given criteria</li> <li>• To design a purposeful, functional and attractive product</li> <li>• To produce a step by step explanation of their design</li> <li>• To select appropriate materials and tools with reasoning from a given range</li> </ul>	<ul style="list-style-type: none"> <li>• To Research own stimuli on a given theme</li> <li>• To analyse the use of an existing product and it's features and evaluate its usefulness and attractiveness</li> <li>• To draw/design a product based on researched theme</li> <li>• To design a purposeful, functional and attractive product focusing on a given audience</li> <li>• To produce a detailed step by step explanation of their design with reasoning</li> <li>• Begin to foresee problems and discuss how these will be solved by the design</li> <li>• To select appropriate materials and tools with reasoning</li> <li>• To begin to use IT in design where appropriate</li> </ul>



Design and Technology

Threshold Concept		Milestone 1 Years 3 and 4	Milestone 2 Years 3 and 4	Milestone 3 Years 5 and 6
Make	Structure	<ul style="list-style-type: none"> <li>To explore and investigate how to make a product stronger, stiffer and more stable by using a given range of materials</li> <li>Explore the use of a choice of materials to make the product from</li> <li>Use PVA glue, glue stick, cellotape, scissors proficiently</li> <li>Explore and investigate mechanisms such as levers, sliders, wheels and axles</li> <li>With adult support begin to use levers, sliders, wheels &amp; axles in their own designs</li> </ul>	<ul style="list-style-type: none"> <li>To discuss how and where a product may need to be stronger and stiffer (inc the structure of buildings, bridges etc) and choose the correct material to do this</li> <li>Suggest and choose appropriate materials to make a product from and give reasons for this choice</li> <li>To choose the correct product to join materials together beginning to giving reasons for the choice.</li> <li>Explore, research and investigate mechanisms such as levers, sliders, wheels and axles</li> <li>Recognise where a product will need a levers, sliders, wheels and/or axles in their own designs and give explanations for this</li> </ul>	<ul style="list-style-type: none"> <li>Understand that the design and shape or something gives products strength and choose where to use these in their products (e.g. arches)</li> <li>Research the materials current products are made from and investigate and explore materials for their design using this knowledge. Chn to give justifications and reasons for their choice</li> <li>consider types of joints that provide strength and choose the most appropriate product to joint things with</li> <li>Through their design consider the purpose of their product and choose any mechanisms that are needed including the use of electronics for lights, sound, movement etc</li> </ul>
	Mechanisms			
	Electronics			



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	Textiles	<ul style="list-style-type: none"><li>• Join fabrics and materials using glue and simple running stitch etc</li><li>• Name tools such as glue spreader, needle, thread</li><li>• Use good scissor control to cut along a line</li><li>• With adult support use scissors to cut fabric - begin to understand that fabric must be taut</li></ul>	<ul style="list-style-type: none"><li>• Join fabrics using running stitch, back stitch and overcast stitch</li><li>• Be able to thread a needle and knot thread</li><li>• Independently or with peer support use scissors to cut fabric ensuring the fabric is taut</li><li>• Begin to embroider basic patterns onto fabric for a purpose</li><li>• Begin to sew in openers with adult guidance and support (buttons, press studs, velcro, zips)</li></ul>	<ul style="list-style-type: none"><li>• Join fabrics using previously tight stitches and blanket stitch</li><li>• Use the invisible stitch to close up openings</li><li>• To be able to choose appropriate needle size and know and sew with cotton</li><li>• Be able to hold fabric taut whilst cutting and sewing</li><li>• Choose and sew in appropriate openers to products (buttons, press studs, velcro, zips)</li></ul>
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	Nutrition	<ul style="list-style-type: none"> <li>• Understand that all food comes from animals or plants</li> <li>• Understand that all food is farmed or caught</li> <li>• Be able to sort food into the five groups on the Eatwell plate</li> <li>• Understand that we must wash a working area and our hands before beginning cooking</li> <li>• With adult guidance and supervision begin to cut, peel and grate foods</li> <li>• With adult guidance and supervision measure our ingredients</li> </ul>	<ul style="list-style-type: none"> <li>• Understand that all food is grown, reared or caught in the UK or is imported</li> <li>• Understand that food and drink give us energy</li> <li>• Begin to plan and make own decisions on a healthy diet based on the Eatwell plate</li> <li>• Understand basic hygiene around cooking including washing hands, surfaces and products</li> <li>• Begin to understand cross contamination or raw and cooked foods, vegetarian, nuts, dairy etc</li> <li>• With adult supervision cut, slice, peel, grate, mix, spread, knead</li> <li>• Begin to use heat and understand the use and danger of hot appliances</li> </ul>	<ul style="list-style-type: none"> <li>• Understand what affects the productions of food</li> <li>• Understand that food is processed to produce new products or ingredients</li> <li>• Plan and make own decisions on a healthy diet based on the Eatwell plate</li> <li>• Explain the reasons for hygiene in a kitchen and link it to food safety</li> <li>• With adult supervision cut, slice, peel, grate, mix, spread, knead confidently and be able to choose the appropriate technique for a recipe</li> <li>• Use heat and understand the use and danger of hot appliances</li> <li>• Use knowledge to design on recipes and understand that amounts of ingredients can be changes to create different effects/tastes</li> </ul>
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Threshold Concept	Milestone 1 Years 1 and 2	Milestone 2 Years 3 and 4	Milestone 3 Years 5 and 6
<b>Evaluate</b>	<ul style="list-style-type: none"> <li>To compare their finished product to their design</li> <li>To discuss the WWW &amp; EBI of their products and design</li> <li>To suggest and begin to make improvements to their products based on evaluation</li> </ul>	<ul style="list-style-type: none"> <li>Chn to test their product and evaluate whether it does its jobs, suits its purpose etc.</li> <li>Chn to go back to their original designs and make annotations about the WWW and EBIs of their designs</li> <li>With the support of class discussions and teacher guidance chn to make changes to their original design in order to improve on the EBI's</li> <li>Chn to begin to reason why they have made the changes they have and how it will improve their product</li> <li>Chn to be begin to offer constructive criticism to their peers considering the use of the product</li> </ul>	<ul style="list-style-type: none"> <li>Chn to try and pre-empt problems with their designs at the designing stage and try and put preventative measures in place.</li> <li>Chn to evaluate the suitability and use of their product and write up an analysis giving details of weaknesses and strengths</li> <li>Chn to compare the successes and problems of their products with the products of others</li> <li>Chn to produce further research into their designs and strengthen and improve any weakness</li> <li>Chn to offer constructive criticism to peers and offer advise on how to solve</li> <li>Chn to complete the make, test, review process independently</li> </ul>