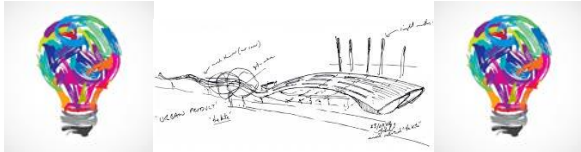


### **Design**

Children design their own products based on a design criteria using talk, drawings and computer programmes to generate ideas.



### **Make**

Children select appropriate tools for practical tasks from a wide range of materials and components.



### **Evaluate**

Children learn to reflect on both what worked well in current products on the market and how they could have improved their final work both individually and by feedback from others.



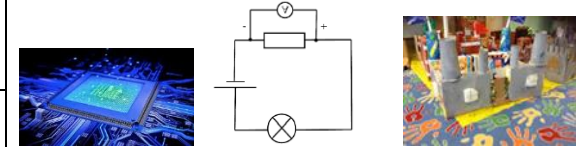
## Design and Technology 2019-2020

At Cranmere, we understand and value the analysis, problem solving and application skills that design technology instils in children. We have recognised that although the cooking area is used regularly for interventions, such as Elsa and Baking Group, we are working to encourage its regular use as a facility for year groups which are not accessing this provision on a regular basis and ensure that it is being utilised to its full potential. Following analysis of D&T work, alongside pupil voice it is evident that all children thoroughly enjoy all aspects of Design and Technology across the school, and we are raising its profile so that there is a cohesive approach for planning and delivery from early years to Year 6 to ensure that all aspects of the Design Technology curriculum are met.



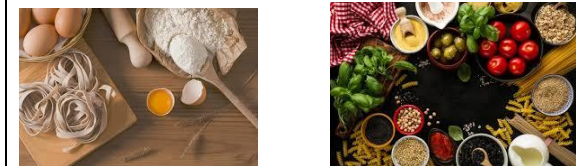
### **Technical knowledge**

Children will build structures, exploring and applying their knowledge of how to strengthen them, exploring and applying their knowledge of mechanisms including electrical components and computing programmes.



### **Cooking and Nutrition**

This essential life skill is taught to the children, instilling the principles of healthy eating and nutrition which aims to develop a love and basic understanding of cooking.



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	Autumn Term	Spring Term	Summer Term
	EYFS : in our Nursery and Reception we follow the EYFS Development matters curriculum working towards the Early Learning Goals at the end of the Foundation Stage. Pupils follow a broad and balanced curriculum which is facilitated through enhanced provision which meets the needs and interests of our children.		
Nursery	Experiments with blocks, colours and marks. Beginning to be interested in and describe the texture of things. Uses various construction materials. Exploring a variety of textures, media and materials through sensory play. Beginning to recognise danger and seeks support of significant adults for help.	Joins construction pieces together to build and balance. Realises tools can be used for a purpose. Exploring a variety of textures, media and materials through sensory play. Understands that equipment and tools have to be used safely	Beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces. Joining and constructing with a range of materials, experimenting with building and balancing. Exploring a variety of textures, media and materials through sensory play. Understands that equipment and tools have to be used safely
Reception	Using tools for a purpose. Exploring media and materials Finding out what can be done with different media and what happens when we different things together such as sand, paint and sawdust. Combining different media to create new effects. Manipulating materials to achieve a planned effect. Shows understanding of the need for safety when tackling new challenges, and considers and manages some risks.	Constructing with a purpose in mind, using a variety of resources. Using simple tools and techniques competently and appropriately. Selecting appropriate resources and adapting work where necessary. Selecting tools and techniques needed to shape, assemble and join materials they are using Shows understanding of how to transport and store equipment safely.	<b>Early Learning Goal</b> Children sing songs, make music and dance, and experiment with ways of changing them. They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  Practices some appropriate safety measures without direct supervision.
Year 1	<b>Design a puppet</b> Design purposeful, functional, appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. Select from and use a range of tools and equipment to perform practical tasks (eg cutting, shaping, joining and finishing) Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria. <b>Making Soup:</b> Use the principles of a healthy and varied diet to prepare dishes.	<b>Make a moving object</b> Build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms (eg levers, sliders, wheels, axles), in their products. Design purposeful, functional, appealing products for themselves and other users based on design criteria. Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria.	<b>UK food and healthy eating -from Plant to plate</b> Understand where food comes from. Use the principles of a healthy and varied diet to prepare dishes.

	Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria.		
Year 2	<b>Healthy Eating and Nutrition</b> To understand the need for a variety of food in a diet. To understand that all food has to be farmed, grown or caught. To use a wider range of cookery techniques to prepare food safely. To design products based on a design brief. To generate, develop, model and show my ideas in different ways. To choose the ingredients and tools I need to use.	<b>Making structures – Tudor Houses</b> To design useful, pleasing products based on a design brief. To generate, develop, model and show my ideas in different ways. To choose appropriate tools and select materials based on my knowledge of their properties. I can safely measure, mark out, cut and shape materials and components using a range of tools. I can evaluate and assess existing products and products I make using a design criteria. I can investigate different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable.	<b>Boats</b> To design useful, pleasing products based on a design brief. To generate, develop, model and show my ideas in different ways. To choose appropriate tools and select materials based on my knowledge of their properties. I can safely measure, mark out, cut and shape materials and components using a range of tools. I can evaluate and assess existing products and products I make using a design criteria. I can investigate different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable. Explore and use mechanisms (eg levers, sliders, wheels, axles), in their products.
Year 3	<b>Sun Dials</b> I can: use my knowledge of existing products to design my own functional product create designs using annotated sketches, cross-sectional diagrams and simple computer programmes safely measure, mark out, cut, assemble and join with some accuracy make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them investigate and analyse existing products and those I have made, considering a wide range of factors strengthen frames with diagonal struts	<b>Moving pneumatic iron man</b> I can understand how mechanical systems such as levers and linkages or pneumatic systems create movement I can use my knowledge of existing products to design my own functional product I can create designs using annotated sketches, cross-sectional diagrams and simple computer programmes safely measure, mark out, cut, assemble and join with some accuracy I can make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them	<b>Food project with younger year group</b> I can talk about the different food groups and name food from each group I can understand that food has to be grown, farmed or caught in Europe and the wider world I can use a wider variety of ingredients and techniques to prepare and combine ingredients safely
Year 4	<b>Light boxes</b> I can use my knowledge of existing products to design a functional and appealing product for a particular purpose and audience. I can create designs using exploded diagrams. I can use techniques which require more accuracy to cut, shape, join and finish my work e.g. Cutting internal shapes, slots. I can use my knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them	<b>Musical instruments</b> I can use my knowledge of existing products to design a functional and appealing product for a particular purpose and audience I can create designs using exploded diagrams I can use my knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them I can consider how existing products and my own finished products might be improved and how well they meet the needs of the intended user	<b>Healthy eating</b> Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience. Understand what makes a healthy and balanced diet, and that different foods and drinks provide different substances the body needs to be healthy and active. Understand seasonality and the advantages of eating seasonal and locally produced food. Read and follow recipes which involve several processes, skills and techniques.

	<p>I can consider how existing products and my own finished products might be improved and how well they meet the needs of the intended user</p> <p>I can apply techniques I have learnt to strengthen</p> <p>I can understand and use electrical systems in my products.</p>	<p>I can apply techniques I have learnt to strengthen.</p>	
<p><b>Year 5</b></p>	<p><b>Cars</b></p> <p>I can make careful and precise measurements so that joins, holes and openings are in exactly the right place.</p> <p>I can product step by step plans to guide my making, demonstrating that I can apply my knowledge of different materials, tools and techniques.</p> <p>I can make detailed evaluations about existing products and my own considering the views of others to improve my work.</p> <p>I can build more complex 3D structures and apply my knowledge of strengthening techniques to make them stronger or more stable.</p> <p>I can understand how to use more complex mechanical and electrical systems.</p>	<p><b>Anglo Saxon Meal</b></p> <p>I can understand the main food groups and the different nutrients that are important to health.</p> <p>I can understand how a variety of ingredients are grown, reared, caught and processed to make them safe and palatable/tasty to eat.</p> <p>I can select appropriate ingredients and use a wide range of techniques to combine them.</p>	<p><b>Quilt Making</b></p> <p>I can use my research into existing products and my market research to inform the design of my own innovative project.</p> <p>I can create prototypes to show my ideas</p> <p>I can make careful and precise measurements so that joins, holes and openings are in exactly the right place.</p> <p>I can product step by step plans to guide my making, demonstrating that I can apply my knowledge of different materials, tools and techniques.</p>
<p><b>Year 6</b></p>	<p><b>Mayan Clay masks</b></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</p> <p>Understand how key events and individuals in design and technology have helped shape the world.</p> <p>Critique, evaluate and test their ideas and products and the work of others.</p> <p>Apply his/her knowledge of materials and techniques to refine and rework his/her product to improve its functional properties and aesthetic qualities</p>	<p><b>Greek Meal</b></p> <p>I can confidently plan a series of healthy meals based on the principles of a healthy and varied diet</p> <p>I can use information on food labels to inform choices</p> <p>I can research, plan and prepare and cook a savoury dish, applying his/her knowledge of ingredients and his/her technical skills</p>	<p><b>Fairgrounds</b></p> <p>I can use research I have done into famous designers and inventors to inform the design of his/her own innovative products.</p> <p>I can generate, develop, model and communicate his/her ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>I can use technical knowledge accurate skills to problem solve during the making process</p> <p>I can use my knowledge of famous designs to further explain the effectiveness of existing products and products he/she have made</p> <p>I can use a wide range of methods to strengthen, stiffen and reinforce complex structures and can use them accurately and appropriately</p> <p>I can apply my understanding of computing to program, monitor and control his/her product</p>