

<b>DT</b> <b>Year 5</b> <b>Autumn 2</b>  <b>Theme: Fairtrade</b> <b>Strand: Food Technology</b>		<b>Learning in this topic:</b> <u>Technical knowledge: Develop the creative, technical and practical expertise needed to perform everyday tasks confidently</u> <ul style="list-style-type: none"> <li>The children will learn the fundamentals of food hygiene and kitchen safety e.g. washing hands, cleaning surfaces and equipment, how to handle equipment and consider safety when using electrical/ hot appliances.</li> <li>They children will apply a range of cooking techniques to produce their own Fairtrade cereal bars.</li> </ul>			
<b>NC objectives covered:</b>	<ul style="list-style-type: none"> <li>Understand and apply the principles of a healthy and varied diet</li> <li>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</li> <li>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</li> </ul>	<u>Design and make: 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</u> <ul style="list-style-type: none"> <li>The children will evaluate a range of existing cereals bars and recipes –they will identify their likes and dislikes, the ingredients used and where the ingredients were sourced. They will look at both Fairtrade and non-Fairtrade products and evaluate the differences in ingredients, cost, packaging and impact on the producer.</li> <li>The children will investigate Fairtrade ingredients that are available in shops and experiment with flavour combinations.</li> <li>They will design their own products based on their research and knowledge of flavour and recipes.</li> <li>Children will design 3 alternative packaging prototypes to sell and advertise their products and carry out market research to determine which is the most appealing to the consumer.</li> <li>Children will make their final product and packaging/ advertising ready to sell at their market stall.</li> </ul>			
<b>Prior Knowledge needed:</b>	<ul style="list-style-type: none"> <li>An understanding of what Fairtrade is and where different foods come from.</li> <li>The impact Fairtrade has on producers.</li> <li>Basic understanding of hygiene and kitchen safety.</li> <li>An basic understanding of cooking i.e. equipment to use, basic terminology, combinations of ingredients</li> </ul>	<u>Evaluate: critique, evaluate and test their ideas and products and the work of others (including in the real world)</u> <ul style="list-style-type: none"> <li>The children will be given an opportunity to taste their final product and will <b>evaluate</b> them against the <b>brief</b> and their own <b>design criteria</b>.</li> <li>They will evaluate what went well, any <b>modifications</b> they made during the process and what they would now do differently to improve their products.</li> <li>They will <b>justify</b> their reasons and explain applying <b>technical vocabulary</b> taught throughout the project. They will also be given the opportunity to evaluate others and offer <b>advice</b> and <b>recommendations</b>. They will also gain feedback from the consumers and use this to evaluate how they may improve their product.</li> <li>They will evaluate the success of their advertising and packaging through feedback from the consumer.</li> </ul>			
<b>Curriculum Concepts and Themes:</b>	<ul style="list-style-type: none"> <li>Fair trade</li> <li>Distribution</li> <li>Economics</li> <li>Importing and exporting</li> <li>More and less developed countries</li> <li>Trade links</li> <li>Natural resources</li> <li>Land use</li> </ul>	<b>Curriculum Skills Progression:</b>	<ul style="list-style-type: none"> <li>Talk about how the properties of certain foods can affect the final product.</li> <li>Know and understand the practice needed in terms of food hygiene and kitchen safety.</li> <li>Understand the source, seasonality and characteristics of a broad range of ingredients.</li> <li>Discuss ways in which ideas, plans and designs are formed and modify to ensure that the design criteria are met effectively.</li> <li>Select the appropriate methods and equipment for measuring, e.g. time, dry goods, liquids etc.</li> <li>Compare commercial and domestic processes for producing food, e.g. bread.</li> <li>Understand the principles of cleaning to prevent cross-contamination, chilling foods thoroughly and reheating food until steaming hot.</li> <li>Understand and apply the principles of nutrition and health including the implications of excess and deficiency.</li> <li>Become competent in a range of cooking techniques, e.g. selecting and preparing ingredients, application of heat, seasoning dishes, combining ingredients</li> <li>Follow procedures for safety and hygiene.</li> <li>Use analysis of existing products supported by accurate factual information to inform own work.</li> </ul>	<b>Direct links to made other subjects:</b>	<ul style="list-style-type: none"> <li>Geography - see overview</li> <li>Maths - money and the economy - profit and loss, converting units and measure.</li> </ul>
<b>Inspirational Start:</b> Children to use large printed maps of the world to predict where they think our food comes from - children to be given a mixture of food samples and pictures to plot on the map e.g. coffee beans, chocolate, etc.		<b>Mid-way Milestone:</b> Play the Chocolate Trade Game - the children will take on different roles of businesses, Fairtrade representatives and producers to trade cocoa beans. See game on shared area.		<b>Extraordinary End:</b> Fair trade food stand - the children will make cereal bars using Fairtrade products and sell them at a food market. The children will research and produce information about where the ingredients have come from and how they help support the producers.	

DT		Year 5		Spring 2	
<b>Theme: Anglo-Saxons</b> <b>Strand: Textiles</b>					
<b>NC objectives covered:</b>	<ul style="list-style-type: none"> <li>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</li> <li>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>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</li> <li>Investigate and analyse a range of existing products</li> <li>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> </ul>	<b>Learning in this topic:</b> <u>Technical knowledge: Develop the creative, technical and practical expertise needed to perform everyday tasks confidently</u> <ul style="list-style-type: none"> <li>The children will learn about Anglo-Saxons purses and the history behind them. They will learn that they were used to signify wealth and were usually attached to the belt. They will look at the purse from the Sutton Hoo collection and analyse the shape, finishing techniques and design.</li> <li>They will analyse a range of different money purses - modern and old-fashioned - and comment on their appearance, fabric use, sturdiness, effectiveness, ways they are held together etc. They will also consider the best and most effective way of joining the fabrics and which way would be best suitable to the purpose of the money purse.</li> <li>The children practice a range of stitches that they will use to join their fabric e.g. back stitch, running stitch and stitches they will use to complete their applique e.g. French knots and cross-stitch.</li> <li>The children will build on their knowledge of Year 4 to create a seam allowance, understanding the need for this.</li> </ul> <u>Design and make: 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</u> <ul style="list-style-type: none"> <li>The children will build on their knowledge of what makes a good money purse and taking inspiration from Anglo-Saxon patterns to design their purse. They will consider the most appropriate technique to join the fabric and will consider what design they will use for their applique decoration.</li> <li>The children will use a paper pattern with a range of complex shapes to cut their fabric.</li> <li>They will select the most appropriate stitch, from their analysis previously, to join the fabric.</li> <li>The children will select the most appropriate fastening to complete their purse.</li> </ul> <u>Evaluate: critique, evaluate and test their ideas and products and the work of others (including in the real world)</u> <ul style="list-style-type: none"> <li>The children will evaluate their finished product and their design process. They will evaluate what went well, any <b>modifications</b> they made during the process and what they would now do differently to improve their design. They will consider their choice of colour, how the joining techniques worked, their choice of pattern/applique etc.</li> <li>They will <b>justify</b> their reasons and explain applying <b>technical vocabulary</b> taught throughout the project. They will also be given the opportunity to evaluate others and offer <b>advice</b> and <b>recommendations</b>.</li> <li>They will consider how purses are made today using technology compared to the ancient skill used by Anglo-Saxons.</li> </ul>			
<b>Prior Knowledge needed:</b>	<ul style="list-style-type: none"> <li>Basic knowledge of materials</li> <li>Knowledge of Anglo-Saxon daily life</li> <li>Knowledge of a range of stitches (building on knowledge from Y5 Monarchy art topic)</li> <li>Basic knowledge of using a paper template to create a pattern.</li> </ul>				
<b>Curriculum Concepts and Themes:</b>	<ul style="list-style-type: none"> <li>Invasion</li> <li>Settlements</li> <li>Land use</li> <li>Daily life</li> <li>Impact on Britain today</li> </ul>	<b>Curriculum Skills Progression:</b>	<ul style="list-style-type: none"> <li>Clarify and justify plans, designs and ideas by drawing upon and using a range of relevant sources of information.</li> <li>Discuss ways in which ideas, plans and designs are formed and modify to ensure that the design criteria are met effectively.</li> <li>Select appropriate materials to create a product.</li> <li>Create increasingly complex patterns and templates with more than one part that are accurately measured.</li> <li>Use a broad range of material joining techniques including stitching, fastenings, heat processes and adhesives.</li> <li>Investigate and develop skills in modifying the appearance of materials including textiles and other manufactured materials e.g. applique.</li> <li>Identify the most effective finishing technique in order to maximise the aesthetic value of the product.</li> <li>Identify and apply an appropriate finishing technique to ensure a high quality end product which meeting the design criteria.</li> </ul>	<b>Direct links to made other subjects:</b>	<ul style="list-style-type: none"> <li>History - See overview</li> </ul>
<b>Inspirational Start:</b> Artefact treasure hunt - Children will be given a range of artefacts and pictures, they have to explore what they think our topic might be, makes links between the artefacts and apply what they know. (artefacts to be hidden in sand).		<b>Mid-way Milestone:</b> Art project day - children will create their Anglo-Saxon purses.			<b>Extraordinary End:</b> Anglo-Saxon experience day - arrange an outside company to deliver a workshop for the children.

DT		Year 5	Summer 2
<b>Theme: Space Rovers</b> <b>Strand: Axels, pulleys and gears</b>			
<b>NC objectives covered:</b>	<b>Design</b> <ul style="list-style-type: none"> <li>Use research and develop design criteria to inform the design of innovative, functional, appealing products</li> <li>Generate, develop, model and communicate their ideas</li> </ul> <b>Make</b> <ul style="list-style-type: none"> <li>Select from and use a wider range of tools and equipment to perform practical tasks</li> <li>Select from and use a wider range of materials and components, including construction materials</li> </ul> <b>Evaluate</b> <ul style="list-style-type: none"> <li>Investigate and analyse a range of existing products</li> <li>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>Understand how key events and individuals in design and technology have helped shape the world</li> </ul> <b>Technical knowledge</b> <ul style="list-style-type: none"> <li>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</li> </ul>	<b>Learning in this topic:</b> <u>Technical knowledge: Develop the creative, technical and practical expertise needed to perform everyday tasks confidently</u> <ul style="list-style-type: none"> <li>Children will learn how to build a working model where the direction of movement can be controlled with a chassis with a pivoting axle.</li> <li>They will explore how to build a moving vehicle (Space Rover) that includes an <b>axel, bearings, jinks, pulley system, chassis etc.</b> and how these work together as a mechanical system.</li> <li>They will build on their knowledge from Year 3 to apply <b>fixed pulleys</b> within a <b>mechanical system</b> to move an <b>axel</b>.</li> <li>They will design and build a rover that is fit for purpose - to independently move across the surface of the moon and collect information about the terrain.</li> <li>Children will develop their knowledge of secure structures and method that can be applied to reinforce these.</li> </ul> <u>Design and make: 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</u> <ul style="list-style-type: none"> <li>The children will use trial and error to explore <b>mechanical systems</b>.</li> <li>They will recognise that some mechanisms, including <b>levers, pulleys and gears</b>, allow a smaller force to have a greater effect. They will explore the effects of different surfaces, wheel types and sizes, the number of teeth of a gear and how this affects the speed of rotation and the effects of different weights on their designs.</li> <li>The children will select their own equipment, materials and components. They will test and evaluate their choices.</li> <li>They will plan their designs through researching <b>existing products</b>, considering the purpose and needs and create detailed sketches to communicate their ideas.</li> <li>They will build prototypes to check and evaluate their designs.</li> </ul> <u>Evaluate: critique, evaluate and test their ideas and products and the work of others (including in the real world)</u> <ul style="list-style-type: none"> <li>The children will be given an opportunity to test their models on different surfaces and will <b>evaluate</b> them against the <b>brief</b> and their own <b>design criteria</b>.</li> <li>They will evaluate what went well, any <b>modifications</b> they made during the process and what they would now do differently to improve their models.</li> <li>They will <b>justify</b> their reasons and explain applying <b>technical vocabulary</b> taught throughout the project. They will also be given the opportunity to evaluate others and offer <b>advice</b> and <b>recommendations</b>.</li> <li>They will reflect on how technology has developed and aided our improving knowledge of Space to date and consider how designs might develop in the future and continue to improve our understanding of the Moon and Space.</li> </ul>	
	<b>Prior Knowledge needed:</b> <ul style="list-style-type: none"> <li>Historical knowledge of space (linked to Y5 space topic)</li> <li>Working knowledge of Forces from Science curriculum.</li> <li>Experience of researching existing products.</li> <li>Experience of designing products.</li> <li>Basic practical skills of creating structures and reinforcing them.</li> <li>Some basic technical understanding <i>effectively</i> of mechanical systems e.g. wheels move using axels, pulleys etc.</li> <li>An understanding of how to make a circuit with components such as lights and buzzers.</li> </ul>		
<b>Curriculum Concepts and Themes:</b> <ul style="list-style-type: none"> <li>Mechanical systems</li> <li>Electrical systems</li> <li>Reinforcing structures</li> <li>Real life application of systems</li> <li>Space and the Moon</li> <li>Evaluation and development of technology</li> </ul>	<b>Curriculum Skills Progression:</b> <p>Produce detailed designs and plans drawn to scale from a range of viewpoints, using pattern pieces and computer-aided design packages.</p> <p>Design and build a working model where the direction of movement can be controlled, e.g. with a chassis with a pivoting axle.</p> <p>Explain how a belt and pulley system can be used to reverse the direction of rotation, and alter the plane of rotation by 90 degrees.</p> <p>Explain how the number of teeth of a gear affects the speed of rotation.</p> <p>Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions.</p> <p>Understand how more advance mechanical systems used in their product enable changes in movement and force.</p> <p>Select a range of appropriate tools to cut, shape and join materials and components with accuracy and precision.</p> <p>Use an increasing range of tools and equipment to measure, mark out and shape materials and components accurately.</p> <p>Use a drill to make an off-centre hole.</p> <p>Join and combine a range of materials and components using the most effective permanent and temporary way.</p> <p>Make and adapt where necessary complex mock-ups and templates.</p> <p>Give reasons, supported by factual evidence for the success of aspects of a product and provide considered solutions to resolve those parts that could be improved.</p>	<b>Direct links to other subjects:</b> <ul style="list-style-type: none"> <li>Science work on space and forces</li> <li>History - see overview</li> <li>English work linked to space and Tim Peake.</li> </ul>	
<b>Inspirational Start:</b> Use ipads to virtually explore space.	<b>Mid-way Milestone:</b> Write letters to the space station/ Tim Peake	<b>Extraordinary End:</b> Test out and evaluate rover designs.	