



Orton Wistow Primary School – Curriculum Plan







Subject : Design Technology

Year : 5

Term : Autumn

Vocabulary	Knowledge What children will know	Understanding What children will understand	Skills What children will be able to do																		
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<p>Structure – something built or constructed (from latin 'structura', equivalent to struct and 'ura' = put together)</p> <p>Mechanism – an assembly of moving parts performing a complete functional motion (from Latin 'mechanismus' and Greek 'mechan' = machine)</p> <p>Engineer – a person trained and skills in the design, contructions and use of engines or machines (Latin 'ingenia' = to design)</p> <p>Design- to prepare the preliminary sketch or plans for a structure (Middle English 'designen' and Latin 'designare' = to mark out)</p> <p>Criteria- a standard for judgement or to test something (Greek 'kriterion' = to separate)</p> <p>Product- a thing produced by labour</p> <p>Material- the substances of which a thing is made (Latin 'materialis' meaning belonging to matter)</p> <p>Electricity – the science dealing with electric charges and currents (Latin – 'electricus' = 'electrum' amber-coloured alloy of gold and silver used in ancient times)</p>	<p>Remember what an engineer does and explain where we may see their work.</p> <p>Name an inspirational engineer and their work.</p> <p>Know what 'innovate' means and they can improve an existing design.</p> <p>Dissemble and test products for their strength and to find out how they are made.</p> <p>Remember what a cam and tell someone how they work.</p> <p>Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product - introduce and investigate different cams and motion.</p> <p>Tell someone what equipment is needed to make a simple circuit to work, including adding a light source.</p> <p>Remember what is a cam is and how it works, being able to draw a diagram to highlight this.</p> <p>Explain what linear motion is and how it works.</p>	<p>How is an engineer and designer the same and different?</p> <p>If know what a design is, what is a designer?</p> <p>Can I design a product using a cam with different motions that works?</p> <p>What is a cam and how can I explain what it does?</p> <p>What is linear motion and how can I explain what it does?</p> <p>What is rotary motion and how can I explain what it does?</p> <p>Who are famous engineers local to me?</p> <p>Can I find an existing product to innovate?</p> <p>What is the user experience? How do I know?</p> <p>What is a force and how do forces affect my design?</p> <p>How do I make a simple circuit with a light bulb and how can I fix it if it does not work?</p> <p>What is the perimeter of a shape?</p>	<p>Name a famous engineer and their work.</p> <p>Generate ideas for their own designs using inspiration from known engineers.</p> <p>Explain what a force is.</p> <p>Make a simple electrical circuit with a light bulb.</p> <p>Tinker with electrical equipment and put it back together again.</p> <p>Explain which cam makes which type of motion.</p> <p>Design a moving object (on Sketch Up and labelling) with cams, lever with pulleys, gears and one electronic element (simple circuit) with a light source.</p> <p>Select appropriate joining techniques/ resources.</p> <p>Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape).</p> <p>Measure with a ruler and mark out to the nearest millimetre.</p>																		

			
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<p>Cam – a disk or cylinder having an irregular form such that its motion, usually rotary or reciprocating (Dutch - 'kamm' = round comb)</p> <p>Pulley – a wheel, with a grooved rim, that turns in a frame to change the direction of or transmit force (Greek – 'polidian' = little pivot)</p> <p>Gear – a part that has cut teeth of similar spacing to another that they mesh with teeth in another part to transmit or receive force and motion (Middle English – 'gere' = equipment)</p> <p>Linear – consisting of, or using lines (Latin 'linearis' = belonging to lines)</p> <p>Rotary – turning or capable of turning on an axis like a wheel (Latin 'rotarius' = wheel)</p> <p>Innovative – to introduce something new or make changes to something established (Latin – 'innovatus' = renew, alter)</p>	<p>Explain what rotary motion is and how it works.</p> <p>How to choose suitable techniques to construct products, strengthen or to repair items.</p> <p>Know that different materials have different qualities, for example, wood and paper have different durability, strength, etc.</p> <p>Test the product and modify if needed</p>	<p>How can I improve my product using different strengthening techniques?</p> <p>Which techniques will I use to make my product? Will I need a different cutting method for different materials? Why?</p> <p>What do I like and dislike about my product and how might I modify it?</p> <p>Can I offer suggestions to my peers about their products?</p> <p>What is the user experience of my product? How can I improve it to ensure they choose my product?</p>	<p>Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs).</p> <p>Choose suitable techniques to repair products.</p> <p>Evaluate product, identifying what they did well and what they would change next time for a positive user experience.</p>



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<p>Aesthetic – Latin (aestheticus – perception) sense of beauty</p> <p>Appendage – a subordinate part attached to something</p> <p>Assemble – bring or gather in one place</p> <p>Blanket-stitch – a technique to join fabric together</p> <p>Design – prepare plans or a sketch</p> <p>Criteria/criterion – Greek (kriterion – a standard) rule for evaluating or testing something</p> <p>Evaluation – appraisal/appraising</p> <p>Fastening/fastener – something that fastens such as a lock or clasp</p> <p>Prototype – a model, often full-size, for testing after design and draft stage</p> <p>Net – stage before mock-up, product before fastening or stitching</p> <p>Stitching – one complete movement of a threaded needle through a fabric or material. To sew, join or embellish with stitches.</p> <p>Stencil – a device for applying a pattern or design to a fabric or material</p> <p>Template – a pattern serving as a guide</p>	<p>Different designers from around the world and how their creations inspired people.</p> <p>How different materials react under different conditions, choosing the most suitable material for their products.</p> <p>Know why the design process is important and why we don't just make the final piece.</p> <p>Remember how to tinker with different materials and design own product.</p> <p>Remember how to measure and mark out to the nearest millimetre.</p> <p>Select appropriate joining techniques/ resources (back-stitch for seam and running stitch for appendages)</p> <p>Understand the need for a seam allowance.</p> <p>Evaluate product as going along with a final evaluation against the design brief.</p>	<p>How to compare and contrast different designers from around the world.</p> <p>Observe different materials and their features, including visual and tactile effects.</p> <p>How to follow instructions on working with needles, scissors and materials safely, being able to explain why.</p> <p>Observe the importance for the aesthetics of their own products, being able to explain why this is important.</p> <p>Practise different sewing techniques and why certain ones are most suitable for their product.</p> <p>Understand why their product was suitable and why it wasn't, including the price and how much profit could be made.</p>	<p>Research and investigate different designers from around the world – explaining which ones inspire them.</p> <p>Cost a product, thinking about the consumer and profit.</p> <p>Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs).</p> <p>Try different stitching techniques and join textiles with most appropriate stitching.</p> <p>Cut materials accurately and safely by selecting appropriate tools.</p> <p>Select the most appropriate techniques to decorate textiles, being able to explain those choices.</p> <p>Explain why their product achieves the design brief and reflect how it can be improved next time.</p>						







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<p>Fruit – any edible product of plant growth useful to humans or animals</p> <p>Assemble – Latin (assimulare) to bring together or gather</p> <p>Healthy – enjoying good health</p> <p>Ingredients – Latin (stem of ingrediens) something that enters as an element into a mixture</p> <p>Recipe – Latin (recipere) a set of instructions for making or preparing a food dish</p> <p>Slice – Old French (esclicer – to split up) a thin, flat piece cut from something</p>	<p>Children will know what a microorganism is and how can we keep food safe from being contaminated.</p> <p>How to design a healthy, home cooked meal from different countries, demonstrating a range of cooking and baking techniques.</p> <p>Suggest improvements to existing designs and what make them appealing to the consumer.</p> <p>Testing how food products have been created. Assemble or cook locally sourced, healthy ingredients.</p> <p>How to cut, peel or grate ingredients safely and hygienically.</p>	<p>Understand the importance of correct storage and handling of ingredients (using knowledge of microorganisms)</p> <p>Understand which foods are grown, reared, caught and processed.</p> <p>Understand that food must be prepared safely and hygienically and be able to explain the reasons why.</p> <p>How to create and refine recipes, including healthy seasonal ingredients, methods, cooking times and temperatures.</p> <p>Practise how to use a knife, grater and peeler safely and hygienically.</p>	<p>Find a healthy, home cooked recipe in a cookbook or using an internet search from a variety of different countries.</p> <p>Identify ingredients that can be classed as locally sourced.</p> <p>Group ingredients into grown, reared, caught and processed.</p> <p>Use a variety of different cooking and backing utensils safely and responsibly.</p> <p>Measure accurately to nearest gram.</p> <p>Calculate ratios of ingredients to scale up or down from a recipe</p>																		



			
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<p>Vegetable – Latin (vegetabilis – able to live and grow) any plant whose parts are used as food</p> <p>Caught – to catch, for example, fish</p> <p>Reared – to rear, for example, cattle and sheep</p> <p>Grown – food grown from the ground such as vegetables, etc</p> <p>Processed – foods made by humans in a factory</p> <p>Seasonal – dependent on the seasons of the year or a particular season</p>	<p>To use scales or measuring cups, measure or weigh food items to nearest gram.</p> <p>Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.</p> <p>Begin to evaluate their ideas and products against design criteria and how to change next time.</p>	<p>Understand the difference between healthy and unhealthy ingredients and what makes them that way.</p> <p>Understand how different packaging can be visually appealing and unappealing, being able to tell another person why.</p> <p>Testing how packaging can affect the sales of a product, using it to influence their own product.</p>	<p>Evaluate a food dish or item, being able to explain why they like or dislike it.</p> <p>Critically reflect on different types of packaging and their impact on the environment and consumer.</p> <p>Design packaging so it is visually appealing to the consumer.</p>
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