

Atwood Primary Academy

Design & Technology Curriculum Overview

Within each project, the children will work through the stages of designing, making and evaluating

	Autumn	Spring	Summer
Year 1	Mechanisms <i>Sliders and levers</i>	Structures <i>Freestanding Structures</i>	Food Preparing fruit and Vegetables (including cooking and nutrition requirements for KSI)
	<ul style="list-style-type: none"> • use own ideas to design something and describe how their own idea works • design a product which moves • explain to someone else how they want to make their product and make a simple plan before making • use own ideas to make something • make a product which moves • choose appropriate resources and tools • describe how something works • explain what works well and not so well in the model they have made • make their own model stronger 		<ul style="list-style-type: none"> • cut food safely
Year 2	Food Preparing fruit and vegetables (including cooking and nutrition requirements for KSI) Fruit & Vegetable Kebabs	Textiles Templates and joining Techniques Making a teddy	Mechanisms Wheels and Axles Designing and making their own Cars
	<ul style="list-style-type: none"> • weigh ingredients to use in a recipe • describe the ingredients used when making a dish or cake 	<ul style="list-style-type: none"> • think of an idea and plan what to do next • explain why they have chosen specific textiles • choose tools and materials and explain why they have chosen them • join materials and components in different ways • measure materials to use in a model or structure • explain what went well with their work • make a model stronger and more stable • use wheels and axles, when appropriate to do so 	
Year 3	Textiles 2D shape to 3D product Sewing Christmas Decorations	Structures Shell structures (Using nets) Earthquake-proof buildings	Food Healthy and varied diet (including cooking and nutrition requirements for KS2)

	<ul style="list-style-type: none"> • prove that a design meets a set criteria. • design a product and make sure that it looks attractive • choose a material for both its suitability and its appearance • follow a step-by-step plan, choosing the right equipment and materials • select the most appropriate tools and techniques for a given task • make a product which uses both electrical and mechanical components • work accurately to measure, make cuts and make holes • explain how to improve a finished model • know why a model has, or has not, been successful • know how to strengthen a product by stiffening a given part or reinforce a part of the structure • use a simple IT program within the design 	<ul style="list-style-type: none"> • describe how food ingredients come together • weigh out ingredients and follow a given recipe to create a dish • talk about which food is healthy and which food is not • know when food is ready for harvesting 	
Year 4	<p>Electrical systems</p> <p><i>Simple circuits and switches (including programming and control)</i></p> <p>Iron man models with eyes etc.</p>	<p>Food</p> <p><i>Healthy and varied diet (including cooking and nutrition requirements for KS2)</i></p> <p>Tapas – Linked to Spanish food</p>	<p>Mechanical Systems</p> <p>Levers and linkages</p> <p>Linked to “Before I Met Dudley” Pop-up page.</p>
	<ul style="list-style-type: none"> • use ideas from other people when designing • produce a plan and explain it • persevere and adapt work when original ideas do not work • communicate ideas in a range of ways, including by sketches and drawings which are annotated • know which tools to use for a particular task and show knowledge of handling the tool • know which material is likely to give the best outcome • measure accurately • evaluate and suggest improvements for design • evaluate products for both their purpose and appearance • explain how the original design has been improved • present a product in an interesting way • links scientific knowledge by using lights, switches or buzzers • use electrical systems to enhance the quality of the product 	<ul style="list-style-type: none"> • <i>know how to be both hygienic and safe when using food</i> • <i>bring a creative element to the food product being designed</i> 	<ul style="list-style-type: none"> • use ideas from other people when designing • produce a plan and explain it • persevere and adapt work when original ideas do not work • communicate ideas in a range of ways, including by sketches and drawings which are annotated • know which tools to use for a particular task and show knowledge of handling the tool • know which material is likely to give the best outcome • measure accurately • evaluate and suggest improvements for design • evaluate products for both their purpose and appearance • explain how the original design has been improved • present a product in an interesting way • links scientific knowledge by using lights, switches or buzzers • use electrical systems to enhance the quality of the product • use IT, where appropriate, to add to the quality of the product

	<ul style="list-style-type: none"> use IT, where appropriate, to add to the quality of the product 		
Year 5	<p>Structures Frame structures (Linked to theme of Space)</p>	<p>Food Celebrating culture and seasonality (including cooking and nutrition) South American Food</p>	<p>Textiles Combining different fabric shapes (including computer-aided design) Linked to history topics</p>
	<ul style="list-style-type: none"> come up with a range of ideas after collecting information from different sources produce a detailed, step-by-step plan explain how a product will appeal to a specific audience design a product that requires pulleys or gears use a range of tools and equipment competently make a prototype before making a final version make a product that relies on pulleys or gears suggest alternative plans; outlining the positive features and draw backs evaluate appearance and function against original criteria links scientific knowledge to design by using pulleys or gears uses more complex IT program to help enhance the quality of the product produced 	<ul style="list-style-type: none"> be both hygienic and safe in the kitchen know how to prepare a meal by collecting the ingredients in the first place know which season various foods are available for harvesting 	<ul style="list-style-type: none"> come up with a range of ideas after collecting information from different sources produce a detailed, step-by-step plan explain how a product will appeal to a specific audience design a product that requires pulleys or gears use a range of tools and equipment competently make a prototype before making a final version make a product that relies on pulleys or gears suggest alternative plans; outlining the positive features and draw backs evaluate appearance and function against original criteria links scientific knowledge to design by using pulleys or gears uses more complex IT program to help enhance the quality of the product produced
Year 6	<p>Electrical Systems More complex switches and circuits (including programming, monitoring and control)</p>	<p>Food Celebrating culture and seasonality (including cooking and nutrition) Linked to Greeks</p>	<p>Mechanical Systems Pulleys or gears Structures Frame structures Bridges.</p>

	<ul style="list-style-type: none"> • use market research to inform plans and ideas. • follow and refine original plans • justify planning in a convincing way • show that culture and society is considered in plans and designs • know which tool to use for a specific practical task • know how to use any tool correctly and safely • know what each tool is used for • explain why a specific tool is best for a specific action • know how to test and evaluate designed products • explain how products should be stored and give reasons • evaluate product against clear criteria • use electrical systems correctly and accurately to enhance a given product • know which IT product would further enhance a specific product • use knowledge to improve a made product by strengthening, stiffening or reinforcing 	<ul style="list-style-type: none"> • <i>explain how food ingredients should be stored and give reasons</i> • <i>work within a budget to create a meal</i> • <i>understand the difference between a savoury and sweet dish</i> 	<ul style="list-style-type: none"> • use market research to inform plans and ideas. • follow and refine original plans • justify planning in a convincing way • show that culture and society is considered in plans and designs • know which tool to use for a specific practical task • know how to use any tool correctly and safely • know what each tool is used for • explain why a specific tool is best for a specific action • know how to test and evaluate designed products • explain how products should be stored and give reasons • evaluate product against clear criteria • use electrical systems correctly and accurately to enhance a given product • know which IT product would further enhance a specific product • use knowledge to improve a made product by strengthening, stiffening or reinforcing
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