

Design and Technology – Y4 KAPOW 2024

<p align="center"><u>Honesty</u></p> <p>Learning to communicate with confidence Asking for help when necessary Receiving criticism kindly</p>	<p align="center"><u>Love</u></p> <p>Offering to help Giving praise to self and others</p>	<p align="center"><u>Forgiveness</u></p> <p>Being able to accept kind criticism Learn to be patient when sharing</p>	<p align="center"><u>Respect</u></p> <p>Appreciating the efforts of others Looking after equipment, materials, the classroom environment and each other's work</p>	<p align="center"><u>Cultural Capital Opportunities</u></p> <p>Investigating products in the school environment, the locality and at home Learning about the impact of nutrition on health Learn about significant designers who have shaped the locality, the UK and the world- Learning where food comes from Learning to use unfamiliar equipment and materials</p>		
<p align="center"><u>Love Of Language</u></p> <p><u>Reading:</u> Reading technical and other key vocabulary Reading instructions Reading age appropriate information about designers and products Reading peers' writing</p> <p><u>Listening:</u> Listening to instructions Listening to video clips Listening to partners and team members</p> <p><u>Speaking:</u> Communicating with partners and team members Asking questions Using technical and other key vocabulary Describing and explaining ideas, decisions and opinions</p> <p><u>Writing:</u> Labelling drawings Writing technical and other key vocabulary Writing instructions Writing product evaluations</p>	<p align="center"><u>Aspirations</u></p> <p>Identify the ways a product will meet the design criteria Identify the positive effect the product will have on the intended user Self-evaluate their use of equipment and skills and set their own targets for improvement</p>	<p align="center"><u>Bringing Learning To Life</u></p> <p>Evaluating a variety of existing products Visits to the locality to investigate products Teacher to bring in photos for children to sort. Practical use of a range of techniques and materials Making products that function and are appealing</p>	<p align="center"><u>Emotional Well-Being</u></p> <p>Learning to be supportive and cooperative Being proud of what they have accomplished</p>	<p align="center"><u>Resilience</u></p> <p>Being willing to take risks Persevering with new techniques and equipment Know that practise brings improvement</p>	<p align="center"><u>Valuing Our Diversity</u></p> <p>Learning about foods from around the world Finding out about and valuing people's preferences</p>	<p align="center"><u>Respect and Responsibility</u></p> <p>Listening to safety instructions and using equipment with care Looking after equipment, materials, the classroom / local environment and each other's work Giving praise (to self as well as others) Giving criticism kindly Accept kind criticism Asking for help when necessary Offer to help Learn to be patient when sharing</p>

What will they learn?		In what order?			End points
Key Concepts	Key Skills	Autumn	Spring	Summer	
<p>Design:</p> <ul style="list-style-type: none"> 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. <p>Make:</p> <ul style="list-style-type: none"> Select from and use a range of tools and equipment to perform practical tasks [for example, 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. <p>Evaluate:</p> <ul style="list-style-type: none"> Explore and evaluate a 	<p>Structures:</p> <p>Build structures such as windmills and chairs, exploring how they can be made stronger, stiffer and more stable. Recognise areas of weakness through trial and error.</p> <p>Mechanisms:</p> <p>Introduce and explore simple mechanisms, such as sliders, wheels and axles in their designs. Recognise where mechanisms such as these exist in toys and other familiar products.</p> <p>Textiles:</p> <p>Explore different methods of joining fabrics and experiment to determine the pros and cons of each technique. KS2 only* Create functional electrical products that use series circuits,</p> <p>Cooking and Nutrition:</p> <p>Learn about the basic rules of a healthy and varied diet to create dishes. Understand where food comes from, for example plants and animals.</p>	<p>Electrical Systems: Torches</p> <p>Torches (4 lessons) Pupils apply their scientific understanding of electrical circuits to create a torch made from recycled and reclaimed materials and objects. They design and evaluate their product against set design criteria.</p> <p>https://www.kapowprimary.com/subjects/design-technology/lower-key-stage-2/year-4/electrical-systems-torches/</p> <p>Making a slingshot car (4 lessons) Transform lollipop sticks, wheels, dowel and straws into a moving car. Pupils use a glue gun to construct, make the launch mechanism, design and create the chassis of a vehicle using nets.</p>	<p>Digital World</p> <p>Mindful moments timer (4 lessons) Design, program, prototype and brand a Micro:bit timer to a specified amount of minutes. Pupils carry out research and existing product analysis to determine how a programmable product could be personalised to their needs.</p> <p>Cooking and Nutrition</p> <p>Adapting a recipe (6 lessons) Work in groups to adapt a simple biscuit recipe, to create a biscuit suited to a chosen target audience. They ensure that their creation comes within a given budget of overheads and ingredients.</p>	<p>Structures: Pavilions (4 lessons) Exploring pavilion structures, learning about what they are used for and investigate how to create strong and stable structures before designing and creating their own pavilions, complete with cladding.</p> <p>Textiles:</p> <p>Fastenings (4 lessons) Building upon their sewing skills from previous years, pupils design and create a book sleeve; exploring a variety of fastenings and selecting the most appropriate for their design based on strength and appropriate-use.</p>	<p>Autumn:</p> <p>Electrical Systems: Torches</p> <ul style="list-style-type: none"> Identify electrical products and explain why they are useful. Help to make a working switch. Identify the features of a torch and how it works. Create suitable designs that fit the success criteria and their own design criteria. Create a functioning torch with a switch according to their design criteria. <p>Making a Slingshot car</p> <ul style="list-style-type: none"> Work independently to produce an accurate, functioning car chassis. Attempt to reduce air resistance through the design of the shape. Produce panels that will fit the chassis and can be assembled effectively using the tabs they have designed. Construct car bodies effectively. Conduct a trial accurately and draw conclusions and improvements from the results. <p>Mindful moments timer</p> <ul style="list-style-type: none"> Write a program that displays a timer on the

<p>range of existing products.</p> <ul style="list-style-type: none"> Evaluate their ideas and products against design criteria. <p>Technical Knowledge:</p> <ul style="list-style-type: none"> Build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products Understands where food comes from. 					<p>Micro:bit based on their chosen seconds/minutes.</p> <ul style="list-style-type: none"> State key functions in the program editor (e.g. loops). Cut out a box net carefully, assembling it securely into a box using tape or glue and tabs and ensuring it has a slot for the Micro:bit display. Evaluate the immediate appeal of the Micro:bit timer and how it might function. Explain the need for a company to stand out against competition and state the importance of logos in business. <p>Cooking and Nutrition: Adapting a recipe</p> <ul style="list-style-type: none"> Describe features of biscuits using taste, texture and appearance. Follow a recipe with support. Use a budget to plan a recipe. Adapt a recipe using additional ingredients. <p>Structures: Pavilions</p> <ul style="list-style-type: none"> Produce a range of free-standing frame structures of different shapes and sizes. Design a pavilion that is strong, stable and aesthetically pleasing. Select appropriate materials and construction techniques to create a stable, free-standing frame structure. Select appropriate materials and techniques to add
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					<p>cladding to their pavilion.</p> <p>Textiles: Fastenings</p> <ul style="list-style-type: none">• Identify the features, benefits and disadvantages of a range of fastening types.• Write design criteria and design a sleeve that satisfies the criteria.• Make a template for their book sleeve.• Assemble their case using any stitch they are comfortable with.
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