



St. James' Church of England Primary Academy

LKS2 DT SKILLS

<p>Year 3 – Design and Technology Autumn Term: Engineering Round Houses Spring Term: Designing Rainforest Fabric Summer Term: Creating a Roman Menu for a banquet</p>	<p>Year 4 – Design and Technology Autumn Term: Engineering Round Houses Spring Term: Designing Rainforest Fabric Summer Term: Creating a Roman Menu for a banquet</p>
<p>National Curriculum objectives When designing and making, pupils should be taught to:</p> <p>Design</p> <ul style="list-style-type: none"> ♣ 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 ♣ generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design <p>Make</p> <ul style="list-style-type: none"> ♣ select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately ♣ 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 <p>Evaluate</p> <ul style="list-style-type: none"> ♣ 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 ♣ understand how key events and individuals in design and technology have helped shape the world <p>Technical knowledge</p> <ul style="list-style-type: none"> ♣ apply their understanding of how to strengthen, stiffen and reinforce more complex structures ♣ understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] ♣ understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] ♣ apply their understanding of computing to program, monitor and control their products. <p>Food and Nutrition</p> <ul style="list-style-type: none"> ♣ understand and apply the principles of a healthy and varied diet ♣ prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques ♣ understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. 	
<p>Design</p>	<ul style="list-style-type: none"> • begin to research others' needs • show design meets a range of requirements • describe purpose of product • follow a given design criteria • have at least one idea about how to create product • create a plan which shows order, equipment and tools • describe design using an accurately labelled sketch and words



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	<ul style="list-style-type: none"> • make design decisions • explain how product will work • make a prototype • begin to use computers to show design 	<ul style="list-style-type: none"> • include an annotated sketch • make and explain design decisions considering availability of resources • explain how product will work • make a prototype • begin to use computers to show design.
Make	<ul style="list-style-type: none"> • select suitable tools/equipment, explain choices; begin to use them accurately • select appropriate materials, fit for purpose. • work through plan in order • consider how good product will be • begin to measure, mark out, cut and shape materials/components with some accuracy • begin to assemble, join and combine materials and components with some accuracy • begin to apply a range of finishing techniques with some accuracy 	<ul style="list-style-type: none"> • select suitable tools and equipment, explain choices in relation to required techniques and use accurately • select appropriate materials, fit for purpose; explain choices • work through plan in order. • realise if product is going to be good quality • measure, mark out, cut and shape materials/components with some accuracy • assemble, join and combine materials and components with some accuracy • apply a range of finishing techniques with some accuracy



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Evaluate	<ul style="list-style-type: none"> • look at design criteria while designing and making • use design criteria to evaluate finished product • say what I would change to make design better • begin to evaluate existing products, considering: how well they have been made, materials, whether they work, how they have been made, fit for purpose • begin to understand by whom, when and where products were designed • learn about some inventors/designers/ engineers/chefs/ manufacturers of groundbreaking products 	<ul style="list-style-type: none"> • refer to design criteria while designing and making • use criteria to evaluate product • begin to explain how I could improve original design • evaluate existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose • discuss by whom, when and where products were designed • research whether products can be recycled or reused • know about some inventors/designers/ engineers/chefs/manufacturers of ground-breaking products
Technical knowledge Materials/ Structure	<ul style="list-style-type: none"> • use appropriate materials • work accurately to make cuts and holes • join materials • begin to make strong structures 	<ul style="list-style-type: none"> • measure carefully to avoid mistakes • attempt to make product strong • continue working on product even if original didn't work • make a strong, stiff structure
Technical knowledge Mechanisms	<ul style="list-style-type: none"> • select appropriate tools / techniques • alter product after checking, to make it better • begin to try new/different ideas • use simple lever and linkages to create movement 	<ul style="list-style-type: none"> • select most appropriate tools / techniques • explain alterations to product after checking it • grow in confidence about trying new / different ideas. • use levers and linkages to create movement • use pneumatics to create movement



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<p>Technical knowledge</p> <p>Textiles</p>	<ul style="list-style-type: none"> • join different textiles in different ways • choose textiles considering appearance and functionality • begin to understand that a simple fabric shape can be used to make a 3D textiles project 	<ul style="list-style-type: none"> • think about user when choosing textiles • think about how to make product strong • begin to devise a template • explain how to join things in a different way • understand that a simple fabric shape can be used to make a 3D textiles project
<p>Technical knowledge</p> <p>Food and nutrition</p>	<ul style="list-style-type: none"> • carefully select ingredients • use equipment safely • make product look attractive • think about how to grow plants to use in cooking • begin to understand food comes from UK and wider world • describe how healthy diet= variety/balance of food/drinks • explain how food and drink are needed for active/healthy bodies. • prepare and cook some dishes safely and hygienically • grow in confidence using some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking 	<ul style="list-style-type: none"> • explain how to be safe/hygienic • think about presenting product in interesting/ attractive ways • understand ingredients can be fresh, pre-cooked or processed • begin to understand about food being grown, reared or caught in the UK or wider world • describe eat well plate and how a healthy diet=variety / balance of food and drinks • explain importance of food and drink for active, healthy bodies • prepare and cook some dishes safely and hygienically • use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking



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Technical Knowledge- Electrical system	<ul style="list-style-type: none">• use simple circuit in product• learn about how to program a computer to control product.	<ul style="list-style-type: none">• use number of components in circuit• program a computer to control product
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