



Westhead Lathom St James' CE Primary School

Year 5 and 6

Design and Technology

<p>Questions to Develop Children's Spirituality in Design Technology:</p>	<p>What does it mean if an object has worth or value? Can the value be different from one person to another? How can an object tell a story? Does it mean more to someone if you have made the gift yourself? Is home-made or factory made best? Do we value what people have made for us? If we believe that God has made us, what does that reveal about our views about our value for God?</p>
<p>Development of the child:</p>	<p>Wonder, consideration and appreciation.</p>



<p>Topic: Food, Glorious Food</p> <p>Subject: Design and Technology-Food and Nutrition</p>	<p>Prior Knowledge/Links: Healthy Humans- Cooking and Nutrition: Picnic Food (peel, chop, grate) (Y3/4) Hunted- Cooking and Nutrition: Simple Meal (bake, boil) (Y3/4)</p> <p>Children should already know:</p> <ul style="list-style-type: none"> the basic principles of a healthy and varied diet to prepare dishes where food comes from 	
<p>National Curriculum Objectives</p>	<p>Key Knowledge and Vocabulary</p>	
<p>Technical knowledge:</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. 	<ul style="list-style-type: none"> Know about traditional food that is cooked for a celebration from another culture. Know how to decide on a recipe based on various factors e.g., allergies, time to cook and prepare, price of ingredients Know how to prepare food products considering the properties of ingredients and sensory characteristics. Know how to weigh and measure using scales. Know how to select and prepare foods for a particular purpose. Know how to work safely and hygienically. Know how to use a range of cooking techniques. Know where and how ingredients are grown and processed. Know how to plan the sequence of actions needed to make their dish. Know how to decide upon tools and materials, making realistic suggestions as to how they can achieve their design ideas. Know how to improve the aesthetic qualities of ingredients chosen, e.g., will it taste good and look and smell appetising? 	<p>research/design/make/evaluate culture cuisine traditional celebration prepare weigh measure techniques cut/chop/grate/peel bake/boil/fry hygiene/hygienic quality taste/texture/aroma aesthetics</p>



<p>Topic: Inventors and Inventions</p> <p>Subject: Design and Technology-Mechanisms</p>	<p>Prior Knowledge/Links: Fire, Fire – Mechanisms: Pop Ups and Levers (Y1/2) Explorers- Mechanisms: Wheels and Axles (Y1/2) The Iron Man- Mechanisms: Levers and Linkages (Y3/4)</p> <p>Children should already know:</p> <ul style="list-style-type: none"> • how to use mechanisms in products – levers, sliders, wheels, axles • how to use a range of tools and equipment to perform practical tasks – cutting, shaping, joining, finishing 	
<p>National Curriculum Objectives</p>	<p>Key Knowledge and Vocabulary</p>	
<p>Technical knowledge:</p> <ul style="list-style-type: none"> • understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. 	<ul style="list-style-type: none"> • Know devices which help us – such as pulley systems for hoisting materials up scaffolding, winches for moving heavy objects, winding gears for lift mechanisms. • Know about existing products – a vehicle using gears and pulleys e.g., breakdown vehicle, simple moving displays using gears, toys using cams. • Product – know how to make a product that features gears, cams or pulleys. • Know how to measure and mark out accurately. • Know how to cut and join with accuracy to ensure a good-quality finish to the product. • Know how to evaluate the finished product against the original design specification. 	<p>gear pulley CAM motor axle vehicle hoist wind join input process output rotation research/design/make/evaluate purpose user product brief design criteria quality finish</p>



<p>Topic: Amazon Adventure</p> <p>Subject: Design and Technology- Textiles</p>	<p>Prior Knowledge/Links: Wind in the Willows- Textiles: Puppets (Y1/2) Passport to Europe- Textiles: Passport Holder/Wallet (Y3/4)</p> <p>Children should already know:</p> <ul style="list-style-type: none"> • how to use a wide range of materials and components, including textiles • how textiles can be made stronger and stiffer 	
<p>National Curriculum Objectives</p>	<p>Key Knowledge and Vocabulary</p>	
<p>Make:</p> <ul style="list-style-type: none"> • select from and use a wider range of materials and components, including textiles, according to their functional properties and aesthetic qualities. 	<ul style="list-style-type: none"> • Know about existing products, disassembling where possible to explore the pattern-making process and joining methods. • Know that they must consider the fabrics, fastenings, stitches, any stiffening or strengthening which has been used. • Know the prospective user's requirements to present a design specification. • Know how to make a mock-up of the product e.g., from disposable wash cloths. Use these to make the pattern for the final product, having ensured the size is accurate to contain equipment. If needed, strengthen or stiffen the fabric (by combining fabrics/layers). Use appropriate stitches and fastening. • Know how to decorate the garment if required, using choice of decorative techniques. • Know how to evaluate the product against the design criteria/specification. 	<p>research/design/make/evaluate purpose user product brief design criteria quality finish fastening pocket stich/stitches fabric decoration loop hem seam embroidery pattern seam allowance</p>



<p>Topic: Heroes and Villains Subject: Design and Technology- Food and Nutrition</p>	<p>Prior Knowledge/Links: Healthy Humans- Cooking and Nutrition: Picnic Food (peel, chop, grate) (Y3/4) Hunted- Cooking and Nutrition: Simple Meal (bake, boil) (Y3/4)</p> <p>Children should already know:</p> <ul style="list-style-type: none"> • the basic principles of a healthy and varied diet to prepare dishes • where food comes from 	
<p>National Curriculum Objectives</p>	<p>Key Knowledge and Vocabulary</p>	
<p>Technical knowledge:</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. 	<ul style="list-style-type: none"> • Know how our children feel about school meals, using research techniques such as questionnaires • Know about initiatives to provide children with healthier, balanced meals, and compare approaches to school meals in different countries. • Know about the 'traffic light' labelling system and portion control to assist with healthy eating and a balanced diet. • Know how to plan a meal that has a good balance of food groups, deciding on a meal according to a set design criterion. • Know how to improve the visual appeal of their meal, making it more attractive to a child. • Know how to weigh and measure using scales. • Know how to select and prepare foods for a particular purpose. • Know how to work safely and hygienically. • Know how to use a range of cooking techniques. 	<p>research/design/make/evaluate seasonal healthy balanced eat well plate carbohydrates/protein/fibre/fats/sugars/fruit and vegetables prepare weigh measure techniques cut/chop/grate/peel bake/boil/fry hygiene/hygienic quality taste/texture/aroma aesthetics allergy/intolerance cost effective nutritional content</p>



<p>Topic: Oh I Do Like to Be Beside the Seaside</p> <p>Subject: Design and Technology- Mechanisms, Structures and Electrical Systems</p>	<p>Prior Knowledge/Links: Explorers- Mechanisms: Wheels and Axles (Y1/2) The Iron Man- Mechanisms: Levers and Linkages (Y3/4) How Does Your Garden Grow- Structures: Planters (Y3/4) Sparks Might Fly- Electrical Systems: Buzzer Games (Y3/4)</p> <p>Children should already know:</p> <ul style="list-style-type: none"> • how structures can be made stronger, stiffer and more stable • how to use mechanisms in their products – levers, sliders, wheels, axles 		
<p>National Curriculum Objectives</p>	<p>Key Knowledge and Vocabulary</p>		
<p>Technical Knowledge:</p> <ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Know how to produce detailed lists of components / materials and tools required • Know how to refine their product – review and rework/improve. • Know how to give a report using correct technical vocabulary. • Know how the finished product could be improved related to design criteria. • Know how well the finished product meets the design criteria of the user. Test on the user. • Know how to select from and use a wide range of tools. • Know how to cut accurately and safely to a marked line. • Know how to use appropriate finishing techniques for the project. 	<p>research/design/make/evaluate purpose user product brief design criteria quality finish measure combine components movements accurate refine finishing techniques</p>	<p>gear pulley motor axle wind join input process output rotation electrical system circuit switch buzzer/bulb/cell</p>



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Design and Technology

Design, Make and Evaluate National Curriculum Objectives apply to all units:

Design

- 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

Make

- 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

Evaluate

- 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