



Whole School Key Learning: Design & Technology

Class: Holly		Year group: 1	
Curriculum focus	Mechanisms (Levers and sliders)	Structures	Food and Nutrition
Suggested Outcomes	Design and make a moving Christmas Card	Design and make a 3D model of a landmark	Design and make fruit kebabs/fruit salad/fruit lollies
NC Procedural Knowledge	DESIGN <ul style="list-style-type: none"> ● Have my own ideas and explain what I want to do. ● Explain what my product is for, and how it will work. ● Use pictures and words to plan and begin to use models. ● Design a product for myself following design criteria. ● Research similar existing products 	MAKE <ul style="list-style-type: none"> ● Explain what I'm making and why. ● Consider what I need to do next. ● Select tools/equipment to cut, shape, join, finish and explain choices. ● Measure, mark out, cut and shape, with support. ● Choose suitable materials and explain choices. ● Try to use finishing techniques to make the product look good. ● Work in a safe and hygienic manner. 	EVALUATE <ul style="list-style-type: none"> ● Describe what went well, thinking about design criteria. ● Talk about existing products considering: use, materials, how they work, audience, where they might be used; express personal opinion. ● Evaluate how good existing products are. ● Talk about what I would do differently if I were to do it again and why.
Curriculum Core Knowledge	<ul style="list-style-type: none"> ● Know how to use levers or slides to find different ways of making things move in a 2D plane. ● Know how to fold, tear and cut paper and card. ● Cut along lines, straight and curved. ● Know how to use a hole punch. ● Know how to insert paper fasteners for card 	<ul style="list-style-type: none"> ● Begin to measure and join materials, with some support. ● Describe differences in materials. ● Suggest ways to make material/product stronger. 	<ul style="list-style-type: none"> ● Wash hands & clean surfaces. ● Say where some foods come from, (i.e. plant or animal). ● Group familiar food groups (i.e. fruits and vegetables etc.) ● Discuss how and why fruit and vegetables are healthy. ● Cut, peel and grate safely, with support
Key vocabulary	slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards	cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal,	fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard



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		wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder	flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy/balanced diet, ingredients,
Supporting documents			

Class: Elm		Year group: 2	
Curriculum focus	Mechanisms (Wheels and Axles)	Textiles	Food and Nutrition
Suggested Outcomes	Design and make a moving vehicle with wheels and axles	Design and make puppets	Design and make a healthy sandwich using locally sourced ingredients
NC Procedural Knowledge	<p>DESIGN</p> <ul style="list-style-type: none"> ● Have my own ideas and plan what to do next. ● Explain what I want to do and describe how I may do it. ● Explain the purpose of my product, how it will work and how it will be suitable for the user. ● Describe design using pictures, words, models, diagrams and begin to use computer programmes to design. ● Design products for myself and others following design criteria. ● Choose the best tools and materials, and explain the reasons for the choice. 	<p>MAKE</p> <ul style="list-style-type: none"> ● Explain what I am making and why it fits the purpose. ● Make suggestions as to what I need to do next. ● Join materials/components together in different ways. ● Measure, mark out, cut and shape materials and components, with support. ● Describe which tools I'm using and why. ● Choose suitable materials and explain choices depending on characteristics. ● Use finishing techniques to make the product look good. ● Work safely and hygienically. 	<p>EVALUATE</p> <ul style="list-style-type: none"> ● Describe what went well, thinking about design criteria. ● Talk about existing products considering: use, materials, how they work, audience, where they might be used; express personal opinion. ● Evaluate how good existing products are. ● Talk about what I would do differently if I were to do it again and why.



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	<ul style="list-style-type: none"> ● Use knowledge of existing products to produce ideas 		
Curriculum Core Knowledge	<ul style="list-style-type: none"> ● Use a range of materials to create models with wheels and axles e.g. tubes, dowel, cotton reels. ● Begin to understand how wheels and axles work. ● Roll paper to create tubes. ● Cut dowel using hacksaw and bench hook (with support) ● Attach wheels to a chassis using an axle. ● Mark out materials to be cut using a template. 	<ul style="list-style-type: none"> ● Measure textiles. ● Join fabrics by using simple sewing techniques e.g. running stitch. ● Decorate fabrics with attached items e.g. buttons, beads, sequins, braids, ribbons. ● Join textiles together to make a product, and explain how I did it. ● Carefully cut textiles to produce accurate pieces. ● Explain choices of textile. 	<ul style="list-style-type: none"> ● Explain hygiene and keep a hygienic cooking space. ● Describe the different ingredients and importance of a varied, balanced diet. ● Say where food comes from (animal, plant etc.). ● Describe how food is farmed, home-grown or caught. ● Draw the eat well plate and explain that there are groups of food. ● Describe “five a day”. ● Measure and weigh food items, with scales or non-statutory measures e.g. spoons, cups. ● Cut, peel and grate with increasing confidence
Key vocabulary	<p>vehicle, wheel, axle, axle holder, chassis, body, cutting, joining, shaping, finishing, fixed, free, moving, mechanism,</p> <p>names of tools, equipment and materials used</p>	<p>names of stitching techniques used (running stitch), names of tools used, names of fabrics and components used, template, pattern pieces, mark out, join, decorate, finish</p>	<p>fruit and vegetable names, names of equipment and utensils</p> <p>sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard</p> <p>flesh, skin, seed, pip, core, slicing, peeling, cutting, healthy/balanced diet, ingredients.</p>
Supporting documents			
Morecambe Bay Curriculum links			Locally sourced ingredients



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Class: Willow		Year group: 3/4		Cycle: A	
Curriculum focus	Textiles	Structures	Food and Nutrition		
Suggested Outcomes	Design and make a pencil case/Christmas tree decoration.	Design and make a structure with a waterproof roof.		Prepare healthy, locally produced vegetables to make Soup.	
NC Procedural Knowledge	<p>DESIGN</p> <ul style="list-style-type: none"> ● Use research for design ideas. ● Show how design meets a range of requirements and is fit for purpose. ● Begin to create my own design criteria. ● Have at least one idea about how to create a product and suggest improvements for design. ● Produce a plan and explain it to others. ● Include an annotated sketch. ● Make and explain design decisions considering availability of resources. ● Explain how my product will work. ● Make a prototype. 	<p>MAKE</p> <ul style="list-style-type: none"> ● Select suitable tools and equipment, explain choices in relation to required techniques and use them accurately. ● Select appropriate materials, fit for purpose; explain choices. ● Work through a plan in order. ● Realise if the 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. 	<p>EVALUATE</p> <ul style="list-style-type: none"> ● Look at design criteria while designing and making. ● Use design criteria to evaluate finished products.. ● Say what I would change to make the 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 ground breaking products. 		
Curriculum Core Knowledge	<ul style="list-style-type: none"> ● Develop vocabulary for tools, materials and their properties. ● Understand seam allowance. ● Join fabrics using running stitch and blanket stitch. ● Sew on buttons and make loops. ● Use appropriate decoration techniques. 	<ul style="list-style-type: none"> ● Use appropriate materials. Measure materials with increasing accuracy. Join materials. Make a strong, stiff structure by giving it a wide base. ● Create shell or frame structures 	<ul style="list-style-type: none"> ● Carefully select ingredients . ● Use equipment safely. ● Begin to make products look attractive. ● Begin to understand that food comes from the UK and the wider world. 		



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		<ul style="list-style-type: none"> • Measure and mark square section, strip and dowel accurately to 1cm. 	<ul style="list-style-type: none"> • Describe how a healthy diet= variety/balance of food/drinks.- refer to the Eatwell Plate. • Explain how food and drink are needed for active/healthy bodies. • Prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of a heat source. • Grow in confidence using some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, oven baking and pan frying.
Key vocabulary	<p>fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance</p>	<p>shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing</p>	<p>name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet</p>
Supporting documents			



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Class: Beech		Year group: 4/5		Cycle: A	
Curriculum focus	Textiles	Electrical Systems (CAD)	Food and Nutrition		
Suggested Outcomes	Design and make a Christmas Stocking	Design and make a nightlight	Make savoury scones		
NC Procedural Knowledge	<p>DESIGN</p> <ul style="list-style-type: none"> ● Use internet and questionnaires for research and design ideas. ● Take a user's view into account when designing. ● Begin to consider needs/wants of individuals/groups when designing and ensure the product is fit for purpose. ● Have a range of ideas. ● Produce a logical, realistic plan and explain it to others. ● Use cross-sectional planning and annotated sketches. ● Make design decisions considering time and resources. ● Clearly explain how parts of the product will work. ● Model and refine design ideas by making prototypes and using pattern pieces. ● Use computer-aided designs 	<p>MAKE</p> <ul style="list-style-type: none"> ● Use selected tools/equipment with a good level of precision. ● Produce suitable lists of tools, equipment/materials needed. ● Select appropriate materials that are fit for purpose and explain choices, considering their functionality. ● Explain how the product will appeal to an audience. ● Create and follow a plan ● Mainly accurately measure, mark out, cut and shape materials/components. ● Mainly accurately assemble, join and combine materials/components. ● Mainly accurately apply a range of finishing techniques. ● Use techniques that involve a small number of steps. ● Begin to be resourceful with practical problems. 	<p>EVALUATE</p> <ul style="list-style-type: none"> ● Refer to design criteria while designing and making. ● Use criteria to evaluate products. ● 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. ● Test and evaluate final product discussing how well they've been made, materials, whether they work, how they have been made, fit for purpose. ● Research whether products can be recycled or reused. ● Know about some inventors/designers/engineers/chefs/manufacturers of ground-breaking products 		



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<p style="text-align: center;">Curriculum Core Knowledge</p>	<ul style="list-style-type: none"> ● Use vocabulary for tools, materials and their properties. ● Use a prototype to make a pattern. ● Join fabrics using running stitch, over sewing, blanket stitch more confidently. ● Explore strengthening and stiffening of fabrics. ● Explore fastenings and recreate some. 	<ul style="list-style-type: none"> ● Incorporate a circuit into a model. ● Use electrical systems such as switches, bulbs and buzzers. 	<ul style="list-style-type: none"> ● Explain how to be safe/hygienic and follow the guidelines. ● Analyse the taste, texture, smell and appearance of a range of foods (predominantly savoury). ● Follow instructions/recipes. ● Begin to understand the seasonality of foods. ● Understand food can be grown, reared or caught in the UK and the wider world. ● Describe how recipes can be adapted to change appearance, taste, texture, aroma. ● Explain how there are different substances in food/drink needed for health and make healthy eating choices – use the Eatwell plate. ● Prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of a heat source. ● Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading, oven baking and pan frying.
<p style="text-align: center;">Key vocabulary</p>	<p style="text-align: center;">names of stitching techniques (running stitch, blanket stitch) fabric, names of fabrics used, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance</p>	<p style="text-align: center;">series circuit, fault, connection, toggle switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, control, program, system, input device, output device, parallel circuit</p>	<p style="text-align: center;">name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet</p>
<p style="text-align: center;">Supporting documents</p>		<p>CAD software: https://www.tinkercad.com/</p>	



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Class: Oak		Year group: 5/6		Cycle: A	
Curriculum focus	Mechanical Systems/Electrical Systems (Gears and Pulleys powered by a motor)	Textiles	Food and Nutrition		
Suggested Outcomes	Design and make a fairground ride that includes gears and pulleys.	Design and make a phone case	Design and make healthy, balanced burgers		
NC Procedural Knowledge	<p>DESIGN</p> <p>Draw on a range of research conducted to inspire design ideas Use research of the user's individual needs, wants, requirements for design. Identify features of design that will appeal to the intended user.. Come up with innovative design ideas. Follow and refine a logical plan. Use annotated sketches, cross sectional planning and exploded diagrams. Make design decisions, considering resources and cost and clearly explain how parts of design will work, and how they are fit for purpose. Independently model and refine design ideas by making prototypes and using pattern pieces.</p>	<p>MAKE</p> <ul style="list-style-type: none"> ● Use selected tools and equipment precisely. ● Produce suitable lists of tools, equipment, materials needed, considering constraints. ● Select appropriate materials that are fit for purpose and explain choices, considering functionality and aesthetics. ● follow, and adapt detailed step-by-step plans. ● Explain how the product will appeal to the audience; make changes to improve quality. ● Accurately measure, mark out, cut and shape materials/components. ● Accurately assemble, join and combine materials/components. ● Accurately apply a range of finishing techniques. ● Use techniques that involve a number of steps. ● Be resourceful with practical problems. 	<p>EVALUATE</p> <ul style="list-style-type: none"> ● Evaluate quality of design while designing and making. ● Evaluate ideas and finished product against specification, considering purpose and appearance. ● Test and evaluate the final product. ● Begin to evaluate how much products cost to make and how innovative they are. ● Test and evaluate the final product; explain what would improve it and the effect different resources may have had. ● Research and discuss how sustainable materials are. ● Discuss some key inventors/designers/ engineers/ chefs/manufacturers of ground breaking products 		



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<p style="text-align: center;">Curriculum Core Knowledge</p>	<ul style="list-style-type: none"> ● Refine product after testing, considering aesthetics, functionality and purpose ● Use pulleys/gears to create movement. ● Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. ● Use electrical systems such as circuits and motors. ● Think of ways in which adding a circuit would improve my product. 	<ul style="list-style-type: none"> ● Use the correct vocabulary appropriate to the project. ● Create 3D products using pattern pieces and seam allowance. ● Understand pattern layout. ● Decorate textiles appropriately (often before joining components). ● Pin and tack fabric pieces together. ● Join fabrics using over sewing, back stitch, blanket stitch. ● Combine fabrics to create more useful properties. ● Make quality products. 	<ul style="list-style-type: none"> ● Understand a recipe can be adapted by adding/substituting ingredients. ● Explain the seasonality of foods. ● Weigh and measure using scales ● Select and prepare foods for a particular purpose. ● Work safely and hygienically. ● Name some types of food that are grown, reared or caught in the UK or wider world. ● Adapt recipes to change appearance, taste, texture or aroma. ● Describe some of the different substances in food and drink, and how they can affect health- Refer to the Eatwell Plate ● Prepare and cook a variety of savoury dishes safely and hygienically using a range of cooking techniques. ● Use a range of techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading, baking, grilling, boiling and pan frying. ● Consider influence of chefs e.g. Jamie Oliver and school meals, Hugh Fearnley-Whittingstall and sustainable fishing etc.
<p style="text-align: center;">Key vocabulary</p>	<p>pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor, circuit, switch, circuit diagram, annotated drawings, exploded diagrams, mechanical system, electrical system, input, process, output</p>	<p>seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, pin, tack, names of stitching techniques used (back stitch, blanket stitch)</p>	<p>ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs</p> <p>fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality</p> <p>utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble</p>



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Supporting documents	follow link for resources https://drive.google.com/drive/folders/1-dKgOoOLyTU-Dv2ZUWvj3t7UYaWfg-J9		
Morecambe Bay Curriculum links	Frontier Land		