Edward Worlledge Ormiston Academy

Design and Technology Curriculum Map

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
1	**Cooking and Nutrition -Fruit Salad** **Technical knowledge:** Benefits of fruit and vegetables. Understand where food comes from. **Pupils will learn to:** **Design** Explain which tools I need to use. Explain (in words and pictures) what I want to do. **Make** With support choose and use the appropriate tools to complete a task. Use tools safely to complete a task. **Evaluate** Use key vocabulary to describe what I did. Complete a taste test. Evaluate fruit salad against design criteria. 		**.Textiles - Weaving** **Technical Knowledge:** Weave with variety of fabrics that have different properties. **Pupils will learn to:** **Design** Develop my ideas though talking. Explain what I am making. **Make** With support choose the appropriate tools to complete a task. Combine and join materials together. **Evaluate** Talk about my work and what I did to with people. 		**Mechanism-** A Flapbook Page from The Emperor's Egg **Technical Knowledge**: Flaps and Hinges (How they work) – associated vocabulary relating to basic forces. **Pupils will learn to:** **Design** Discuss and create a plan for what I am making. Communicate ideas through talking, drawing and templates. **Make** Combine and join materials together. Cut and shape materials. **Evaluate** Evaluate my design, what worked and what I would change or improve. 	
2	**Cooking and Nutrition - Pasta Salad** **Technical Knowledge:** Basic cooking techniques. Nutritional value of basic carbohydrates and vegetables. Design		**Structures – Bug Hotels** **Technical Knowledge:** **Design:** Generate and develop ideas though trial and error, mock-ups and where possible use of computing.		**Mechanisms - Moving Vehicle Toy** **Technical Knowledge: e**xplore and use wheels, axles and axle holders, distinguish between fixed and freely moving axles Design	

	Make Evaluate		**Make:** **Evaluate:**		Make Evaluate	
3	**Co**oking and Nutrition - **Design**		**Textiles -** **Design** **Make** **Evaluate** 		**Mechanical Systems** **Design** **Make** **Evaluate**	
4	**Structures**		**Textiles**		Electronics Design Learn about what is a simple circuit. Use annotated sketches to communicate ideas. Understand and use electrical systems in their products such as series circuits incorporating switches, bulbs and buzzers. Make Pupil's design and make a purposeful product using electric circuit. Evaluate Understand how key events/ people in D&T have helped shape the world.	
5	**<u>Cooking and Nutrition</u>**		**<u>Mechanical Systems -Pulleys and Gears</u>** **Design** **Make** **Evaluate**		**<u>Structures:</u>** **<u>Frame Structures</u>** **Design** **Make** **Evaluate**	

6	Cooking and Nutrition – Food Fit for a Soldier! **Technical knowledge:** **Design** **Make** **Evaluate**		**Textiles - WW2 Soldier/Nurse** **Design** Use CAD (computer based art and design) to assist in making accurately designed products. **Make**		**Electrical Systems – Alarming a Vehicle** **Technical Knowledge**: understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers, apply their understanding of computing to program and control their products, know and use technical vocabulary relevant to the project. **Design** **Make** **Evaluate**	

Edward Worlledge Ormiston Academy **Design and Technology Knowledge Progression Map**					
Year	**Cooking and Nutrition**	**Structures**	**Textiles**	**Mechanics/Mechanical Systems**	**Electronics**
Year 1	Name a range of fruit and vegetables. Name healthy and unhealthy foods. Know and use technical and sensory vocabulary relevant to the project.		Understand how simple 3-D textile products are made, using a template to create two identical shapes. Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. Explore different finishing techniques Know and use technical vocabulary relevant to the project.	Explore and use sliders and levers. Understand that different mechanisms produce different types of movement. Know and use technical vocabulary relevant to the project.	
Year 2	Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of The eatwell plate. Know and use technical and sensory vocabulary relevant to the project.	Know how to make freestanding structures stronger, stiffer and more stable. Know and use technical vocabulary relevant to the project.		Explore and use wheels, axles and axle holders. Distinguish between fixed and freely moving axles. Know and use technical vocabulary relevant to the project.	
Year 3	Know how to use appropriate equipment and utensils to prepare and combine food. Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. Know and use relevant technical and sensory vocabulary appropriately.		Know how to strengthen, stiffen and reinforce existing fabrics. Understand how to securely join two pieces of fabric together. Understand the need for patterns and seam allowances. Know and use technical vocabulary relevant to the project.	Understand and use lever and linkage mechanisms. Distinguish between fixed and loose pivots. Know and use technical vocabulary relevant to the project.	

Year 4		Develop and use knowledge of how to construct strong, stiff shell structures. Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. Know and use technical vocabulary relevant to the project.	Know how to strengthen, stiffen and reinforce existing fabrics. Understand how to securely join two pieces of fabric together. Understand the need for patterns and seam allowances. Know and use technical vocabulary relevant to the project.		. Understand and use electrical systems in their products linked to science coverage. Apply their understanding of computing to program and control their products. Know and use technical vocabulary relevant to the project.
Year 5	Know how to use appropriate equipment and utensils to prepare and combine food. Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. Understand seasonality in food. Know and use relevant technical and sensory vocabulary appropriately	Understand how to strengthen, stiffen and reinforce and triangulate 3-D frameworks. Know and use technical vocabulary relevant to the project.		Understand that mechanical and electrical systems have an input, process and an output. Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. Know and use technical vocabulary relevant to the project.	
Year 6	Know how to use utensils and equipment including heat sources to prepare and cook food. Understand about seasonality in relation to food products and the source of different food products. Understand the preservation methods for different foods. Know and use relevant technical and sensory vocabulary.		Produce a 3-D textile product from a combination of accurately made pattern pieces, fabric shapes and different fabrics. Understand how fabrics can be strengthened, stiffened and reinforced where appropriate. Know and use technical vocabulary relevant to the project		Understand and use electrical systems in their products linked to science coverage. Apply their understanding of computing to program, monitor and control their products. Know and use technical vocabulary relevant to the project

Edward Worlledge Ormiston Academy
Design and Technology Skills Progression Map

	Design	Make	Evaluate	Greater Depth
Year 1	Develop ideas though talking. Explain what they are am making. Explain which tools in need to use. Explain what they want to do using words and pictures. Communicate ideas through taking, drawing and templates. Discuss and create a plan for what I will make. Learn and use key words (vocabulary).	With support, choose the appropriate tools to complete a task Ensure the appropriate tools to perform a task Use tools safely to complete a task Cut and shape materials Combine and join materials together	Talk about my work and what I did to other people Use the keywords (vocabulary) I have learnt to describe what they did and how they did it Evaluate my design, and how well I worked. To say what I changed and improved as I went along	Explain why they have chosen their tools Explain why other tools they have chosen would not be appropriate
Year 2	Use my own experience to support me in designing a purposeful and appealing product based on given criterion. Use a design specification or criteria. Generate and develop ideas though trial and error, mock-ups and where possible use of computing. Identify purpose of what I intend to make. Draw and annotate my design. Create a realistic plan for making. Use appropriate vocabulary to explain what I need to do, and what tools in need to use. Plan my design.	Select from a range of tools and equipment to perform practical tasks (for example – cutting, shaping, joining and finishing) Use a range of tools accurately and safely Select from a range of materials and components including construction materials, textiles, and ingredients according to their characteristics Use a range of materials according to their characteristics against my design criteria	To explore and evaluate a range of existing products To discuss their own products, what worked well and what can be improved for next time Children comment on the products made by their peers Children evaluate their ideas and finished products against the design criteria	Explain reasons why the best materials are the best for the purpose Describe their design by using pictures, diagrams, models and words
Year 3	Draw model and describe my ideas. Annotate my designs to explain details. Use my experience and knowledge about products to support their design. Identify the aims/purpose of my design within the specification. Use own experience to support me in designing a purposeful and appealing product based on given criterion. Use a design specification or criteria. Annotate and explain designs. Use appropriate vocabulary to explain what I need to do, and what tools in need to use.	Choose what tools/materials/techniques to use and use them with some accuracy Cut, shape and put things together when making Make my product work well (function)	Plan what to do next Think ahead about how to make my design and in what order Evaluate my design, and how well they worked, to say what I changed and improved as they went along Specify who will use my design and consider their needs/opinions	Explain how realistic their plan is. Explain why they chose particular tools.

	Write an accurate and appropriate plan for making.			
Year 4	Use my own experience to support me in designing a purposeful and appealing product based on given criterion. Use research to support me in designing. Use appropriate vocabulary to explain what I need to do, and what tools in need to use. Create an accurate and realistic plan and specify some of the limitations when designing (e.g. time and cost) Show different ideas using words, sketches and models.	Make my product work well (function) Choose and use a range of tools, equipment and techniques Use a variety of material/components with some accuracy Select from and use a wider range of materials and components including construction materials, textiles, and ingredients according to their characteristics.	Evaluate and develop my ideas by annotating Evaluate my design, and how well I worked, to say what I hanged and improved as I went along	Ascertain beforehand and explain if their finished product is going to be good quality
Year 5	Use appropriate vocabulary to explain what I need to do, and what tools in need to use. Use research to support me in designing. Consider who will use my design and incorporate their opinions/needs. Evaluate my ideas through annotation. Work from my own detailed plan and adapt it when needed.	Use a variety of materials/components with some accuracy Work with a range of tools, materials and equipment with some precision 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	Test and evaluate my work, comparing it to my design specification Check and measure my work as it develops and correct errors	Suggest some alternative plans and say what the good points and drawbacks are about each
Year 6	Use appropriate vocabulary to explain what I need to do, and what tools in need to use. By looking at an evaluation of an existing product to show understanding of their form and function. Evaluate how effectively I have used my sources of information.	Use a variety of materials/components with some accuracy Select from and use a wider range of materials and components Work with a range of tools, materials and equipment with some precision Test and evaluate my work, comparing it to my design specification	Evaluate how effectively I have used my sources of information Test and evaluate my work, comparing it to my design specification	Explain whether different resources would have improved the product

Edward Worlledge Ormiston Academy Design and Technology Vocabulary Progression					
Year	**Cooking and Nutrition**	**Structures**	**Textiles**	**Mechanics/Mechanical Systems**	**Electronics**
Year 1	fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients,		Joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish	Slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards	
Year 2	Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. Fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients	Cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder		Vehicle, wheel, axle, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism names of tools, equipment and materials used	
Year 3	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,		fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance	mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating	

	tinned, processed, seasonal, harvested healthy/varied diet				
Year 4		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, laminating, font, lettering, text, graphics, decision,	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,		Series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, control, program, system, input device, output device
Year 5	Ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble	Understand how to strengthen, stiffen and reinforce 3-D frameworks. • Know and use technical vocabulary relevant to the project.		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	
Year 6	Ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble		Know how to strengthen, stiffen and reinforce existing fabrics. Understand how to securely join two pieces of fabric together. Understand the need for patterns and seam allowances. Know and use technical vocabulary relevant to the project.		Reed switch, toggle switch, push-to-make switch, push-to-break switch, light dependent resistor (LDR), tilt switch, light emitting diode (LED), bulb, bulb holder, battery, battery holder, USB cable, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, series circuit, parallel circuit