Y3 Design and Technology

*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. *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.	*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 and textiles, according to their functional properties and aesthetic qualities.	*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 ingredients, according to their functional properties and aesthetic qualities.
DE 1- I can design, including words, labelled sketches and models, recognising that designs have to meet a range of needs, including being fit for purpose.	**M 1-** Materials: I can cut materials accurately and safely by selecting appropriate tools.	**CN1-** I can prepare ingredients hygienically using appropriate utensils.
DE 2- I can make realistic plans, identifying processes, equipment and materials needed.	**M 2-** Materials I can select appropriate joining techniques (taping, gluing, hinges).	**CN2-** I can measure accurately.
DE3- I can use ICT software to create a labelled plan or design in detail.	**M 3-** Textiles I can select the most appropriate techniques to decorate textiles.	**CN3-** I can follow a recipe.
DE4- I can suggest improvements upon existing designs, giving reasons for choices.	**M 4-** Textiles I can join textiles with appropriate stitching (back or cross stitch).	**CN4-** I can describe what a balanced diet is.
DE 5- I can identify some of the great designers in all of the areas of study to generate ideas for designs.	**M 5-** Electricals and Electronics I can build models incorporating circuits with buzzers and bulbs.	**CN5-** I can identify food that comes from the UK and other countries in the world.
DE 6- I can refine work as it progresses, evaluating the end product design (taking the views of others into account).	**M 6-** Construction I can choose suitable techniques to construct products or repair items.	
	M 7- Construction I can develop my cutting skills, using a junior hacksaw.	
	M 8- Mechanics I can create pulleys, levers and linkages.	
	M 9- I can monitor, evaluate, refine and improve my own models using software designed for this purpose.	

Autumn 1 Ug!	Autumn 2 Ug!	Spring 1 Ratatouille	Spring 2 Ay Up Duck!	Summer The Wild, Wild West
DE1, DE2, DE4, M1, M2, M6, M7, CN1, CN5		DE1, M8, CN1, CN3, CN4, CN5, M9	DE1, DE3, DE5, M5, CN1, CN2, CN3	DE1, DE4, DE6, M3, M4, CN1, CN2, CN4

Vocabulary

Designing and Evaluating

Design, purpose, identify, design opportunities, product, deconstruct, efficiency, carefully select, wide range, tools, scissors, ruler, tape measure, pens and pencils for marking, hammer, saw, pliers, junior hacksaw, bench hook, screw driver, drill, glue gun, craft knife, hole punch, stapler, materials, card, paper, fabric, string, ribbon, card board, tubes, boxes, cotton reels, wood, plastic, bottles, dowel, straws, wheels, nails, glue, tape, refine as work progresses, share, discuss, evaluate, end product design, identify, great designers' names, generate ideas from famous designers, improve, existing designs, own work (self), others work (peer), reason, choice, design using software, represent, show, product designs

Cooking and Nutrition

Prepare, ingredients, names of ingredients, hygienically, use, appropriate, utensils, sterilise, knife, grater, peeler, pan, chopping board, fork, spoon, plate, blender, bowl, whisk, scales, electronic scales, jug, measuring cup, microwave, oven, hob, measure, assemble, cook, follow, recipe, stir, whisk, mix, chop, slice, cut, bake, blend, fry, grate

Making: Materials and Construction – cut, fold, shape, accuracy, safety, joining, range of techniques e.g. gluing, hinging, put together (combine) to strengthen, select, appropriate, tools, materials, technique, tools, scissors, ruler, tape measure, pens and pencils for marking, hammer, saw, pliers, junior hacksaw, bench hook, screw driver, drill, glue gun, craft knife, hole punch, stapler, materials, card, paper, fabric, string, ribbon, card board, tubes, boxes, cotton reels, wood, plastic, bottles, dowel, straws, wheels, nails, glue, tape.	Making: Mechanics – use, scientific knowledge, force, select appropriate, mechanisms, levers, winding mechanisms, pulleys, gears. Computing – monitor, observe, discuss, improve, model, software.	Making: Electricals and electronics – create, series, circuit, wires, crocodile clips, battery, bulbs.	Making: Textiles – select, appropriate, technique, decorate, decorative materials, paint, pompoms, feathers, sequins, range of techniques, paint, print, sew, dye, join, stitch.

I will learn…

Designing and Evaluating: That products can have a design (planning stage) before they are made. • That designs are based around the intended purpose of the object/product. • How to create a design for a product that has a clear purpose. • How to identify opportunities to develop designs. • That there are a range of materials that can be used to create an object/product. • That there are a range of tools that can be used to create an object/product. • How to say which materials I select from a range and justify my choices. • How to say which tools I select from a range and justify my choices. • How to work efficiently by making the most appropriate selections of tools and materials at the beginning of the process (during the design stage). • That I can look at and discuss my own and others current designs with some criticality. • How to say/give my suggestions for improvements to my own and others current designs. • That refine means to change and improve my ideas and designs as work progresses. • How to adapt my designs as I make. • That I can evaluate my work at the end of the process to say what I am happy with and what I may change if I were to make the product again. • How to evaluate my own product with support (peer/self). • That there are many great designers in the world. • The name and works of some great designers.

How to use work and ideas from great designers to generate ideas for my own designs. • That I can look at and discuss current designs with some criticality. • That I can adapt and change designs to improve them. • How to adapt and change designs to improve them. • How to give reasons for the changes to my designs (how to explain my decisions). • That designs can be made on a computer using software. • That representations of the final product can be made on a computer using software. • The name of the software that I can use to design and represent a product. • How to design a product using computer software. • How to represent a product using computer software

Cooking and Nutrition: That ingredients can be prepared in different ways using different utensils including a knife, peeler, and grater. • How to prepare ingredients using a knife, peeler, and grater. • How to select the most appropriate tool to prepare ingredients for the meal that I am making. That I can measure or weigh ingredients using measuring cups or electronic scales. • How to measure or weigh ingredients using measuring cups or electronic scales with increasing accuracy. • That a recipe is a set of instructions to follow when cooking. • That the recipe will tell me what is needed to make the meal. • That the recipe will tell me step by step how to prepare and cook the meal. • How to follow a recipe. • That some food can be eaten raw (without cooking) and some food cannot. • That food that is raw still needs to be prepared and served as a meal. • How to assemble a cold meal that does not require cooking e.g. salad. • How to assemble and cook a simple meal that does require cooking e.g. porridge – the use of one piece of cooking equipment e.g. the microwave. • How to use simple cooking equipment such as the microwave. • How to evaluate my own product with support (peer/self).

Materials • That materials can be cut in different ways by different tools. • That the different tools for cutting give different finishes. • How to use the tools to cut material accurately. • How to use the tools safely when cutting material. • How to select the most appropriate tool for the job I am trying to complete. • That materials can be joined in different ways (gluing, stitching etc). • How to choose the most appropriate method of joining materials in the context of the product that I am making. **Construction** • That there are a range of materials that I can use to construct products. • The names of the materials available to me. • That there are a range of tools that I can use to construct products. • The names of the tools available to me. • That there are a range of techniques that I can use to construct products. • The names of the techniques that I may be able to use to construct. • How to select a suitable technique to construct the product I am making. • How to select a suitable technique to repair a product	**Mechanics** • That forces can be transferred. • The different forces that can be used (pushes/pulls). • That there are different mechanisms that can be used to transfer force. • The names of the mechanisms that can be used to transfer force (pulley, gear, lever, winding mechanism). • How to select an appropriate mechanism for the intended purpose of a product. • How to make a product using my selected mechanism **Computing** • That models can be monitored using computer software. • The name of the software that I can use to monitor a model. • How to use computer software to monitor a model.	**Electricals and electronics** • That a series circuit is one that has more than one resistor (light bulbs), but only one path through which the electricity flows. • That a circuit must be joined all the way round to work, a break in the circuit will stop the flow of electricity. • The components that are needed to make a series circuit. • How to build and test a series circuit. • How to evaluate my own product with support (peer/self).	**Textiles** • That when working with fabric it is known as textiles. • That textiles can be coloured and decorated in a range of ways using different mediums. • How to decorate textiles using different mediums. • How to select the most appropriate technique to apply decorations to fabrics. • That textiles can be joined by stitching them together. • How to stitch materials together. • How to select the most appropriate method of stitching to join the materials together with increasing accuracy and neat finish.