DT PROGRESSION

Designing

	Across KS2	
f -based, ds, local er gning r for. lucts develop wing on ts to help by talking ls, and by ion develop	• Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment. • Describe the purpose of their products. • Indicate the design features of their products that will appeal to intended users. • Explain how particular parts of their products work. • Share and clarify ideas through discussion • Model their ideas using prototypes and pattern pieces • Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • Use computer-aided design to develop and communicate their ideas	
	LKS2	**UKS2**
	• Gather information about the needs and wants of particular individuals and groups • Develop their own design criteria and use these to inform their ideas • Generate realistic ideas, focusing on the needs of the user • Make design decisions that take account of the availability of resources	• Carry out research, using surveys, interviews, questionnaires and web-based resources • Identify the needs, wants, preferences and values of particular individuals and groups • Develop a simple design specification to guide their thinking

Planning		
	Across KS2	
xt es nd	• Select tools and equipment suitable for the task • Explain their choice of tools and equipment in relation to the skills and techniques they will be using • Select materials and components suitable for the task • Explain their choice of materials and components according to functional properties and aesthetic qualities	
	LKS2	**UKS2**
	• Order the main stages of making	• Produce appropriate lists of tools, equipment and materials that they need • Formulate step-by-step plans as a guide to making

	Practical skills & techniques	
	Across KS2	
ygiene ponents, nd kits, hanical rials and g those by talking ls, and by on develop	• Follow procedures for safety and hygiene • Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components	
	LKS2	**UKS2**
	• Measure, mark out, cut and shape materials and components with some accuracy • Assemble, join and combine materials and component with some accuracy • Apply a range of finishing techniques, including those from art and design, with some accuracy	• Accurately measure, mark out, cut and shape materials and components • Accurately assemble, join and combine materials and components • Accurately apply a range of finishing techniques, including those from art and design • Use techniques that involve a number of steps • Demonstrate resourcefulness when tackling practical problems

Evaluating

	Across KS2	
what eir n criteria be s	• Identify the strengths and areas for development in their ideas and products • Consider the views of others, including intended users, to improve their work • How well products have been designed • How well products have been made • Why materials have been chosen • What methods of construction have been used • How well products work • How well products achieve their purposes • How well products meet user needs and wants • Pupils should know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products	
	LKS2	**UKS2**
	• Refer to their design criteria as they design and make • Use their design criteria to evaluate their completed products • Who designed and made the products • Where products were designed and made • When products were designed and made • Whether products can be recycled or reused	• Critically evaluate the quality of the design, manufacture and fitness for purpose of their • Products as they design and make • Evaluate their ideas and products against their original design specification • How much products cost to make • How innovative products are • How sustainable the materials in products are • What impact products have beyond their intended purpose

Technical Knowledge	
	Across KS2
	Pupils should know: • how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • that materials can be combined and mixed to create more useful characteristics • that mechanical and electrical systems have an input, process and output • the correct technical vocabulary for the projects they are undertaking
LKS2	**UKS2**
Pupils should know: • how mechanical systems such as levers and linkages or pneumatic systems create movement • how simple electrical circuits and components can be used to create functional products • how to program a computer to control their products • how to make strong, stiff shell structures • that a single fabric shape can be used to make a 3D textiles product • that food ingredients can be fresh, pre-cooked and processed	Pupils should know: • how mechanical systems such as cams or pulleys or gears create movement • how more complex electrical circuits and components can be used to create functional products • how to program a computer to monitor changes in the environment and control their products • how to reinforce and strengthen a 3D framework • that a 3D textiles product can be made from a combination of fabric shapes • that a recipe can be adapted by adding or substituting one or more ingredients

Cooking & Nutrition		
	Across KS2	
als here e groups rtions of eeling	Pupils should know: • that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world • how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	
	LKS2	**UKS2**
	Pupils should know that: • that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eatwell plate • that to be active and healthy, food and drink are needed to provide energy for the body	Pupils should know: • that seasons may affect the food available • how food is processed into ingredients that can be eaten or used in cooking • that recipes can be adapted to change the appearance, taste, texture and aroma • that different food and drink contain different substances – nutrients, water and fibre – that are needed for health

DT - Key Vocabulary

Textiles

B	LKS2		UKS2	
	Cycle A	Cycle B	Cycle A	Cycle B
	2D Shape & 3D Product: fabric, fastening, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance, applique, cross stitch, running stitch user, purpose, design, model, evaluate, annotated sketch, functional, label, drawing, aesthetics, function, pattern pieces		Combining different fabric shapes: 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 design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up, prototype	

Electrical Systems				
	LKS2		UKS2	
B	Cycle A	Cycle B	Cycle A	Cycle B
	Simple Circuits & Switches: 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, user, purpose, function, prototype, design criteria, innovative, appealing, design brief		More complex switches & circuits: series circuit, parallel circuit, names of switches and components, input device, output device, system, monitor, control, program, flowchart, function, innovative, design specification, design brief, user, purpose	

Mechanisms

	LKS2		UKS2	
B	Cycle A	Cycle B	Cycle A	Cycle B
xle, axle ody, cab, ing, finishing, ng, nes of and valuate, iteria,		Pneumatic Systems: components, fixing, attaching, tubing, syringe, plunger, split pin, paper fastener, pneumatic system, input movement, process, output movement, control, compression, pressure, inflate, deflate, pump, seal, air-tight user, purpose, function, prototype, design criteria, innovative, appealing, design brief, research, evaluate, ideas, constraints, investigate	Pulleys or Gears: pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor circuit, switch, circuit diagram, annotated drawings, mechanical system, electrical system, input, process, output design decisions, functionality, innovation, authentic, user, purpose, design specification	

Structures

	LKS2		UKS2	
B	Cycle A	Cycle B	Cycle A	Cycle B
ructures: , structure, ework, se, top, , edge, thicker, aight, ood, angle, e, cuboid, valuate, leas, product,		Shell Structures (inc. Computer Aided Design): 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, evaluating, design brief design criteria, innovative, prototype		Frame Structures: Frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional

Food				
	LKS2		UKS2	
B	Cycle A	Cycle B	Cycle A	Cycle B
ent and unchy, l, flesh, , ; pular,	Healthy & Varied Diet: 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 planning, design criteria, purpose, user, annotated sketch, sensory evaluations		Celebrating Culture & Seasonality: 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 design specification, innovative, research, evaluate, design brief	