Design & Technology Progression Grid

	Characteristics of Effective Learning	Early Learning Goals
EYFS	Show curiosity about objects, events and people Questions why things happen Engage in open-ended activity Thinking of ideas Find ways to solve problems / find new ways to do things / test their ideas Use senses to explore the world around them Create simple representations of events, people and objects Planning, making decisions about how to approach a task, solve a problem and reach a goal Checking how well their activities are going Changing strategy as needed Reviewing how well the approach worked	Choose the resources they need for their chosen activities Handle equipment and tools effectively Children know the importance for good health of a healthy diet They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology

	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Product Design	C&L Learn new vocabulary. EAD Explore Different materials freely, to develop their ideas about how to use them and what to make. EAD Develop their own ideas and then decide which materials to use to	C&L Articulate ideas and thoughts in well informed sentences. C&L Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen.	I can think of more than one idea when designing something I can work out my design ideas by talking and drawing I can use knowledge about existing products to help come up with ideas I can generate initial ideas and simple design criteria I can begin to develop and communicate ideas through simple drawings and mock-ups	I can use what I know about existing products to help develop my ideas I can experiment using different materials and components by making templates and mock-ups I can talk about how I have made my product suitable for the person or people who will use it	I can discuss design features of my product that will appeal to the person or people who I designed it for I can begin to produce annotated sketches, to help me develop and improve my ideas and communicate my ideas to others I can describe the purposes of my product I can use research into the features of an appealing product to inform design criteria	I can plan the main stages of making my product and list them in order I can take the needs of the user and what resources are available for me to use into account I know how to specify a design to make it more appealing to a specific target group. I can understand and use electrical systems in their products I know about the influence of specific manufacturers and consider the importance and usefulness of market research in this	I can generate realistic and appropriate ideas I can work out a set of design criteria for a product and come up with some suitable ideas for it I can produce annotated sketches, cross-sectional drawings and to help me develop and improve my ideas I can find out about the needs and wants of particular individuals and groups and account for these in my design	I can use surveys, interviews, questionnaires and web-based resources to find out about the needs and wants of particular individuals and groups; taking these into account I can develop a simple design specification to guide thinking when designing I know how to specify a design to make it more appealing to a specific target group I can select appropriate tools, equipment and materials needed to make a product I can review and update step-by-step plans during

	express them.					context.		the designing process
Make	PSED Select and use activities and resources, with help when needed. PD Use onehanded tools and equipment, for example, making snips in paper with scissors. EAD Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. EAD Join different materials and explore different textures.	PD Develop their small motor skills so that they can use a range of tools competently, safely and confidently: Pencils paintbrushes, scissors, knives etc. EAD Create collaboratively, sharing ideas, resources and skills. ELG PD – Fine Motor Skills (use small tools). ELG EAD - Creating, exploring materials, textures, tools, techniques safely	I can explain what I'm making and why I can consider what I need to do next I can select tools/equipment to use to cut and join materials and explain choices I know that a range of tools can be used for different purposes I can use tools for different purposes	I can explain why a product is fit for purpose I can describe which tools I'm using and why I can choose suitable materials and explain choices depending on characteristics I know how to join components together effectively I know that a range of tools can be used for different purposes	I can work through a plan in order I can begin to measure, mark out, cut, shape and assemble materials/components with some accuracy I can begin to assemble, join and combine materials and components with some accuracy I can select and use appropriate utensils and equipment to prepare and combine materials	I can select suitable tools and equipment, explain choices in relation to required techniques and use accurately I can select appropriate materials, fit for purpose; explain choices I can determine if product is going to be good quality and explain my reasons I can select from and use a wider range of tools, materials and components, including construction materials, according to their functional properties and aesthetic qualities I can show expertise when using a range of tool and equipment. I can consider how a product will appeal to the given audience	I can independently produce suitable lists of tools, equipment / materials needed I can select appropriate tools and materials, fit for purpose; explain choices, considering functionality I can measure, mark out, cut, shape and assemble materials/components with some accuracy, applying a range of finishing techniques I can independently order the main stages of making	I can plan, create, follow, adapt detailed step-by-step plans and evaluate any changes to improve quality I can accurately measure, mark out, cut, shape and assemble materials/components, applying a range of finishing techniques
Evaluate	EAD Develop their own ideas and then decide which materials to	EAD Return to and build on their previous learning, refining ideas and develop	I can explore and talk about existing products considering: use, materials, how they work, audience, where they might be	I can describe and evaluate existing products considering: the use, materials, how they work, audience, and where they might	Evaluate the product during the making process with reference to the design criteria and the views of others.	I can refer to design criteria while designing and making a product, deciding what to change to make design better and explain reasons	I can evaluate quality of design while designing and making I can evaluate ideas and finished product against	I can evaluate and test ideas and finished product against specification, stating if it's fit for purpose and offer ideas to improve it and the effect different

	use to express them.	their ability to represent them. Talk about their design/model and suggest an improvement ELG EAD - Share creations; explaining the processes	used and say what is and isn't good I can begin to talk about what could make product better I can evaluate their ideas throughout the process.	be used I can evaluate their own and others work suggesting possible improvements Evaluate their ideas throughout the process against original criteria I can evaluate the success of their own finished work	Evaluate the outcome with reference to the design criteria. Record the evaluations using e.g. tables and simple graphs. I understand how key events and individuals in design and technology have helped shape the world	I can evaluate existing products, considering: how well they've been made I know about the influence of specific manufacturers and consider the importance and usefulness of market research in this context. I know how to evaluate their product against the product criteria they have generated individually, as a means to improve their work I can record evaluative data in a table to support comparison	specification, considering purpose and appearance. I can begin to evaluate how much products cost to make I can use feedback from others to help evaluate how well the product achieved its purposes and met the user's needs and wants.	resources may have had I can complete thorough evaluations of existing products considering: how well they've been made, materials, whether they work, how they've been made, fit for purpose I can research and discuss some key inventors/designers/ engineers/ chefs/manufacturers of ground-breaking products, considering their impact beyond their intended purpose and discuss how sustainable materials are.
Design, Make, Evaluate: Vocabulary			planning, investigating design, evaluate, make, user, purpose, ideas, product,	investigating, planning, design, make, evaluate, user, purpose, ideas, design criteria, product, function	user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, function, planning, design criteria, annotated sketch, appealing	evaluating, design brief design criteria, innovative, prototype, user, purpose, function, prototype, innovative, appealing, design brief, planning, annotated sketch, sensory evaluations	design decisions, functionality, authentic, user, purpose, design specification, design brief, innovative, research, evaluate, design criteria, annotate, evaluate, mock-up, prototype	function, innovative, design specification, design brief, user, purpose design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, mock-up, prototype
Technical Knowledge – Materials & Structures		Investigate joining using a variety of materials e.g. PVA glue, glue stick, sticky tape, treasury tags. Begin to cut and join materials with some support.	I can describe the purpose of different structures I can begin to measure, cut and join materials to build a structure with some support. I can begin to describe differences in materials		I can use appropriate materials I can measure carefully to avoid mistakes I can effectively join materials indifferent ways I can apply an understanding of how to strengthen, stiffen		I have a secure understanding of how to strengthen, stiffen and reinforce more complex structures. I know how structures can fail when loaded, and techniques for reinforcing and strengthening them I can select materials carefully, considering	

			I know that the shape of a structure affects its strength I can suggest ways to make a structure stronger/stiffer.		and reinforce more complex structures. I can continue working on product even if original didn't work		intended use of product and appearance. I can explain how a product meets design criteria and is fit for purpose. I can measure accurately enough to ensure precision I can begin to reinforce and strengthen a 3D frame.	
Materials & Structures Vocabulary		cut, fold, join, fix, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, wood,	cutting, sticking, curling, bending, joining, stronger, stiffer, paper, card, plastic and wood.		material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, decision		frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent	
Technical Knowledge - Mechanisms		I can handle tools and materials safely. I can use simple tools to effect changes in materials. I can construct with a purpose in mind using a range of resources. I can select tools and techniques in order to assemble and	I can begin to explore and use mechanisms in a product. I can begin to explore levers and sliders in a product. I understand that levers and sliders are mechanisms that make things move. I can identify whether a mechanism is a lever or slider and determine the movement it makes. I can identify how a mechanism moves	I can use mechanisms; wheels and axles in my products. I know that a mechanism is a device used to create movement in a product and wheels and axles are examples of this. I know the difference and can distinguish between fixed and freely moving axles. I can select appropriate tools / techniques I can begin to try new/different		I can begin to understand and use mechanical systems in a product I know techniques for making simple pneumatic systems I can select most appropriate tools / techniques I can explain alterations to product after checking it I am developing confidence about trying new / different ideas.		I understand and can use mechanical systems in a product. I recognise levers, gears and pulleys and what they are used for I can begin to use levers, pulleys or gears to create movement. I can refine product after testing I am growing in confidence about trying new / different ideas

		join materials.	forward.	ideas				
Mechanisms Vocabulary		Card, paper, join, split pin, construct, tools, materials, assemble	slider, lever, masking tape, paper fastener, join, pull, push, up, down, straight, forwards, backwards vehicle, assembling, cutting, joining, shaping, finishing, fixed, free, moving.	wheel, axle, join, pull, push, up, down, straight, forwards, backwards vehicle, chassis, body, assembling, cutting, joining, shaping, finishing, fixed, free, moving		control, pneumatic system, pressure, inflate, deflate, syringe, input, output, pump, hinge		pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, annotated drawings, mechanical system, electrical system, input, process, output
Technical Knowledge – Electrical Systems / CAD			I can explore 3D shapes using Tinker Cad. I can begin to add 3D shapes to the work plane. I can join two 3D shapes together with support.	I can explore 3D shapes using Tinker CAD. I can design a product using 3D shapes using Tinker Cad. I can join two 3D shapes together independently.		I begin to understand how to use electrical systems in a product. I can begin to apply an understanding of computing to program, monitor and control a product. I can present my design so it is fit for purpose and show components. I can use number of components in circuit I can incorporate switch into product I can program a computer to control a product		I have a secure understanding and can use electrical systems in a product. I can use different types of circuit in product I can design a product using a circuit to improve performance
Electrical Systems/CAD Vocabulary				Tinker CAD, workplane, design, join, flip, rotate, zoom.		Series, circuits, incorporating switches, bulbs, buzzers and motors. Tinker CAD, workplane, design, join, flip, rotate, zoom, align, angle		Cut, shape, join, finish, series circuit, Circuit, switch, wire, bulb, battery, connection, buzzer, electronic game, circuit, design, frame, structure

Technical Knowledge - Textiles		Simple stitching using large plastic needles and large binca		I can join textiles to make a product, with some support I am beginning to use appropriate tools / techniques for a task I know that some joining techniques are stronger/weaker than others I know that fabric can be joined in temporary and permanent ways	I can select appropriate tools / techniques for a task Choose and join textiles in different ways considering appearance and functionality I can begin to understand that a simple fabric shape can be used to make a 3D textiles project		I can begin to devise a template for a product. I can consider the user when choosing textiles. I can explain how to join things in a different way and suggest how to make a product strong I know and use technical vocabulary relevant to the project I can investigate the effect of different stitches in joining seams and how they contribute to the overall effectiveness and durability of the product.	I can select and refine materials carefully, so a product is fit for purpose, meeting the functionality of the design, making the product attractive and strong. I can make a prototype. I can use a range of joining techniques. I understand that a single 3D textiles project can be made from a combination of fabric shapes. I can investigate the effect of different stitches in joining seams and how they contribute to the overall effectiveness and durability of the product.
Textiles Vocabulary		Joining, tools, fabrics and pattern pieces, mark out, decorate, finish			fabric, names of fabrics, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance		fabric, names of fabrics, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance, chain/back/running/blanket stitch	Textiles, cotton, fashion, joins, stitches, design, pattern, needles, thread, pins, scrap material, buttons, scissors, fabric chalk, seam, hem, template, pattern pieces and fastenings.
Technical Knowledge – Food & Nutrition	PSED Make healthy choices about food, drink, activity and tooth brushing	PSED Know and talk about the different factors that support their overall health and wellbeing: regular physical activity, healthy eating. ELG PSED – Managing Self	I know to wash my hands & to clean surfaces I can say where some foods come from (plant or animal) I can describe differences between some food groups I can distinguish	I can begin to explain hygiene and know how to keep a hygienic kitchen To understand that food comes from plants or animals and that is has to be farmed, caught, or grown. To begin to understand the food groups that	With adult support, I can prepare simple ingredients and cook some dishes safely and hygienically. I can use simple cooking equipment safely. I can consider presentation to make a product look	I can explain how to be safe and hygienic. I can present products in interesting and attractive way. I understand that ingredients can be fresh, pre-cooked or processed. I can explain the importance of food and	I can explain how to be safe / hygienic and follow own safety guidelines. I understand and can apply the principles of a healthy and varied diet. I can prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques	I can prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source. I can confidently prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques understand seasonality

		(Importance of healthy food choices) Understand the need for variety in my diet	between healthy and unhealthy food I can to begin to cut, peel and grate safely, with support	different healthy foods belong and demonstrate this by selecting appropriate combinations for a singular meal. To describe the properties of ingredients and importance of varied diet. To be able to draw the eat well plate; explain there are groups of food To begin to cut, peel and grate with increasing confidence.	appealing. I think about how to grow plants to use in cooking. I understand that food comes from UK and the wider world. I can describe and explain how healthy diet equals a balance of food/drinks, in order to have active / healthy bodies. I can begin to independently use some of the techniques; peeling, chopping, slicing, grating, mixing, spreading, kneading.	drink for active, healthy bodies Select suitable tools and equipment, explain choices in relation to required techniques and use accurately I can use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking I can begin to understand and apply the principles of a healthy and varied diet. I can begin to understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.	I understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed I can present a product that is interesting, attractive and fit for purpose I can describe how recipes can be adapted to change appearance, taste, texture, and aroma. I can prepare and cook a savoury dish using a range of cooking techniques I can select appropriate tools and materials, fit for purpose; explain choices, considering functionality I can use all of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking I can explain how there are different substances in food / drink needed for health	and know where and how a variety of ingredients are grown, reared, caught and processed I know the importance of food and drink for active, healthy bodies and can use nutritional information to plan a healthy meal I understand that a recipe can be adapted by adding / substituting ingredients which then changes appearance, taste, texture or aroma. I can describe some food processing methods. I can use a range of techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.

Food & Nutrition - Vocabulary		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,	appearance, smell, taste, texture, utensils, balanced diet, nutrients, healthy, pith and smoothie.	Hygiene, balanced diet, nutrients, eat well, peeling, chopping, grate steaming and boiling, farmed, home-grown	names of equipment/ utensils, techniques and ingredients, texture, taste, sweet, appearance, peeling, chopping, slicing, grating, mixing, spreading, kneading, farmed, home-grown smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested, eatwell, healthy/varied diet	names of equipment/ utensils, techniques and ingredients, texture, taste, sweet, appearance, mixing, spreading, kneading, farmed, home-grown smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested, eatwell, healthy/varied diet	names of equipment/ utensils, techniques and ingredients, texture, taste, sweet, appearance, mixing, spreading, kneading, farmed, home-grown smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested, eatwell, healthy/varied diet, appearance, taste, texture, aroma, peeling, chopping, slicing, grating, stirring.	Fruit and vegetables, fibre, carbohydrate, vitamins, minerals, fats and sugars, dairy, pulses, meat alternatives, unsaturated fats, spreads oils, protein, nutrients, nutrition, healthy, varied, gluten, allergy, recipe, hygiene, intolerance, savoury, source, seasonality, utensils, peeling, chopping, slicing, grating, mixing, knives, chopping boards, weighing scales, measuring jugs, baking trays, peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.