DT Progression map
2024-2025

	Apply this process to all design projects: Skills			Knowledge and Understanding					
Year Group	**Design**	**Make**	**Evaluate**	**Structures**	**Textiles**	**Mechanical Systems**	**Electrical Systems**	**Computing Systems**	**Cooking and Nutrition**
Pre-school	Developing preferences for forms of expression. Captures experiences and responses with a range of media Developing preferences for forms of expression. Begin to use the language of designing and making (join, build, shape, longer, shorter, heavier etc.)	Realise tools can be used for a purpose. Construct with a purpose, using a variety of resources	Beginning to understand 'why' and 'how' questions. Dismantle, examine, talk about existing objects/structures Talk about how things work Show an interest in technological toys	Beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces.	Learn to thread and use plastic needles safely Selects appropriate tools and techniques. Using stitches to decorate	Can use split-pins to create simple hinges. With support begin to incorporate moving parts into models. For example, use split pins to make body parts move.	Begin to show an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones. *(note: electrical systems is not taught until Y4)*	Children recognise that a range of technology is used in places such as homes and schools. Beginning to select and use technology for particular purposes. Find out about and use a range of everyday technology. Select appropriate applications that support an identified need.	Eats a healthy range of foodstuffs and understands the need for variety in food. Beginning to understand the importance of a healthy diet. .
REC	Use gestures, talking and arrangements of materials and components to show design Use contexts set by the teacher and myself Use the language of designing and making (join, build, shape, longer, shorter, heavier etc.) Use media and materials in original ways, thinking about uses and purposes.	Use simple tools and techniques Build / construct with a wide range of objects Select tools & techniques to shape, assemble and join Replicate structures with materials / components Discuss how to make an activity safe and hygienic Record experiences by drawing, writing, voice recording	Consider and manage some risks Practise some appropriate safety measures independently Look at similarities and differences between existing objects / materials / tools Describe textures They answer 'how' and 'why' questions about their experiences and in response to stories or events.	Uses various construction materials. Constructs with a purpose in mind, using a variety of resources. e.g. Duplo, wooden bricks	Learn to thread and use plastic needles safely Selects appropriate tools and techniques. Using stitches to decorate	Can use split-pins to create simple hinges. Create a moving vehicle using Mobilo. With support begin to incorporate moving parts in to models. For example, use split pins to make body parts move.	Shows an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones. *(note: electrical systems is not taught until Y4)*	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. Children find out about and use a range of everyday technology. They select appropriate applications that support an identified need	Eats a healthy range of foodstuffs and understands the need for variety in food. Knows the importance of a healthy diet. .

Year Group	**Design**	**Make**	**Evaluate**	**Structures**	**Textiles**	**Mechanical Systems**	**Electrical Systems**	**Computing Systems**	**Cooking and Nutrition**

Year 1	* have own ideas * explain what I want to do *explain what my product is for, and how it will work * use pictures and words to plan, begin to use models * design a product for myself following design criteria *research similar existing products	*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 product look good *work in a safe and hygienic manner	*talk about my work, linking it to what I was asked to do * talk about existing products considering: ***use, materials, how they work, audience, where they might be used*** *talk about existing products, and say what is and isn't good * talk about things that other people have made *begin to talk about what could make product better	begin to measure and join materials, with some support *describe differences in materials *suggest ways to make material/ product stronger	*measure, cut and join textiles to make a product, with some support *choose suitable textiles	*begin to use levers or slides *learn that levers and sliders are mechanisms and can make things move *Identify whether a mechanism is a lever or slider and determining what movement the mechanism will make	Begin to identify some of the basic components that are used frequently in products and understand how these work. (note: electrical systems is not taught until Y4)	Generate, develop, model and communicate ideas through information technology. - E.g. using book creator - Create films using iMovie - Take photographs and edit	*describe textures *wash hands & clean surfaces *think of interesting ways to decorate food *say where some foods come from, (i.e. plant or animal) *describe differences between some food groups (i.e. sweet,vegetables etc.) *discuss how fruit and vegetables are healthy ****cut, peel and grate*** safely, with support
	Year 1 Curriculum Enrichment Opportunities			**Schema – Connections**			**Mastery****		
				How have you made your product suitable for the user? Which _____is best for _____? How did _____help you to _____? _____ (kitchen tool) is best for _____.			**Generating Ideas**: Showing greater: complexity; research; observation; originality; perception; aspiration; creativity. **Making**: Showing greater: technique; skill; control; complexity; mastery; quality; judgement; creativity. **Evaluating**: Showing greater: judgement; autonomy; independence; perception; subtlety. **Knowledge:** Showing greater: breadth; contextual understanding; explanation; judgement.		

Year Group	Design	Make	Evaluate	Structures	Textiles	Mechanical Systems	Electrical Systems	Computing Systems	Cooking and Nutrition

Year 2	* have own ideas and plan what to do next * explain what I want to do and describe how I may do it * explain purpose of product, how it will work and how it will be suitable for the user * describe design using pictures, words, models, diagrams, begin to use ICT * design products for myself and others following design criteria * choose best tools and materials, and explain choices * use knowledge of existing products to produce ideas	*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 product look good *work safely and hygienically Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely.	* 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	*measure materials *describe some different characteristics of materials *join materials in different ways *use joining, rolling or folding to make it stronger *use own ideas to try to make product stronger	Cutting pieces of fabric Follow a pattern Joining using running stitch, back stitch and glue Explore use of equipment - metal needles and scissors. Use range of decorative items Use of technical language	*use levers or slides *begin to understand how to use wheels and axles Explore and use mechanisms e.g. ***- Use sliders and levers in moving pictures,*** ***- Use hinges to make objects move,*** ***- Use wheels and axels in designs such as cars*** ***- Use winding mechanisms***	identify some of the basic components that are used frequently in products and understand how these work. (note: electrical systems is not taught until Y4)	Generate, develop, model and communicate ideas through information technology. - E.g. using book creator - Create films using iMovie - Take photographs and edit	*explain hygiene and keep a hygienic kitchen *describe properties of ingredients and importance of varied diet *say where food comes from (animal, underground etc.) *describe how food is farmed, home-grown, caught *draw eat well plate; explain there are groups of food *describe "five a day" *cut, peel and grate with increasing confidence
	Year 2 Curriculum Enrichment Opportunities			**Schema – Connections**			**Mastery****		
				How have you made__? **Which _____is best for _____?** **Could your product be improved? How?** **_____(kitchen tool) is best for _____?**			**Generating Ideas: Showing greater: complexity; research; observation; originality; perception; aspiration; creativity.** **Making: Showing greater: technique; skill; control; ex complexity; mastery; quality; judgement; creativity.** **Evalua fry ting: Showing greater: judgement; autonomy; independence; perception; subtlety.** **Knowledge: Showing greater: breadth; contextual understanding; explanation; judgement.**		

Year Group	Design	Make	Evaluate	Structures	Textiles	Mechanical Systems	Electrical Systems	Computing Systems	Cooking and Nutrition
Year 3	*begin to research others' needs * show design meets a range of requirements * describe purpose of product * follow a given design criteria * have at least one idea about how to create product * create a plan which shows order, equipment and tools *describe design using an accurately labelled sketch and words * make design decisions *explain how product will work * make a prototype	*select suitable tools/equipment, explain choices; begin to use them accurately * select appropriate materials, fit for purpose. * work through plan in order *consider how good product will be * begin to measure, mark out, cut and shape materials/ components with some accuracy * begin to assemble, join and combine materials and components with some accuracy * begin to apply a range of finishing techniques with some accuracy	Look at design criteria while designing and making *use design criteria to evaluate finished product * say what I would change to make 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	*use appropriate materials *work accurately to make cuts and holes * join materials *begin to make strong structures *Apply techniques he/she has learnt to strengthen structures and explore his/ her own ideas.	*join different textiles in different ways *choose textiles considering appearance and functionality *begin to understand that a simple fabric shape can be used to make a 3D textiles project	*select appropriate tools / techniques *alter product after checking, to make it better *begin to try new/different ideas *use simple lever and linkages to create movement	*use simple circuit in product *learn about how to program a computer to control product	*Create designs using annotated sketches and simple computer programmes. *Use input and output toys e.g. furbies, robots etc. *Use input devices such as ***sensors.switches, buttons*** *Use scratch coding to select, combine and use software and content to accomplish given goals; Extension/ Option Use a Crumble controller to make working models of parts of a product (e.g. lights, sensors and alarms.)	*carefully select ingredients *use equipment safely *make product look attractive *think about how to grow plants to use in cooking *begin to understand food comes from UK and wider world *describe how healthy diet variety/balance of food/drinks *explain how food and drink are needed for active/healthy bodies. *prepare and cook some dishes safely and hygienically *grow in confidence using some of the following techniques: ***peeling, chopping, slicing, grating, mixing, spreading, kneading and baking***
	Year 3 Curriculum Enrichment Opportunities			**Schema – Connections**			**Mastery****		
				How did your design criteria help you to design your product? Explain your choice of material/s. Could your product be improved? How?: A healthy diet includes _____.			Generating Ideas: Showing greater: complexity; research; observation; originality; perception; aspiration; creativity. Making: Showing greater: technique; skill; control; complexity; mastery; quality; judgement; creativity. Evaluating: Showing greater: judgement; autonomy; independence; perception; subtlety. Knowledge: Showing greater: breadth; contextual understanding; explanation; judgement.	

Year Groups	Design	Make	Evaluate	Structures	Textiles	Mechanical Systems	Electrical Systems	Computing Systems	Cooking and Nutrition
Year 4	* use research for design ideas * show design meets a range of requirements and is fit for purpose *begin to create own design criteria *have at least one idea about how to create product and suggest improvements for design. * produce a plan and explain it to others *say how realistic the plan is. *include an annotated sketch *make and explain design decisions considering availability of resources *explain how product will work * make a prototype *begin to use computers to show design.	* select suitable tools and equipment, explain choices in relation to required techniques and use accurately *select appropriate materials, fit for purpose; explain choices * work through a plan in order. * realise if 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	*refer to design criteria while designing and making *use criteria to evaluate product * 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 * research whether products can be recycled or reused * know about some Inventors/designers /engineers/chefs /manufacturers of ground-breaking products	*measure carefully to avoid mistakes *attempt to make product strong *continue working on product even if original didn't work *make a strong, stiff structure	*think about user when choosing textiles *think about how to make product strong * begin to devise a template *explain how to join things in a different way *understand that a simple fabric shape can be used to make a 3D textiles project	*select most appropriate tools / techniques *explain alterations to product after checking it *grow in confidence about trying new / different ideas. *use levers and linkages to create movement *use pneumatics to create movement	*Understand and use electrical systems in products. *Create a working circuit with a switch *Use appropriate equipment to cut and attach materials ***(crocodile clips/ twisting wires/ electrical tape)*** *Identify the features of a torch or speaker *Understand that a battery contains stored electricity and can be used to power products *Know what electrical conductors and insulators are	*use number of components in circuit *program a computer to control product	*explain how to be safe/hygienic *think about presenting product in interesting/attractive ways *understand ingredients can be fresh, pre-cooked or processed *begin to understand about food being grown, reared or caught in the UK or wider world *describe eat well plate and how a healthy diet variety /balance of food and drinks *explain importance of food and drink for active, healthy bodies *prepare and cook some dishes safely and hygienically *use some of the following techniques: ***peeling, chopping, slicing, grating, mixing, spreading, kneading and baking***

	Year 4 Curriculum Enrichment Opportunities	Schema – Connections	Mastery**
		Design: How did the needs and wants of the user influence your design? Make: I can explain how I ordered the main stages of making. Evaluate: The strengths and weaknesses of my product are _____. Cooking & Nutrition: I can explain how to prepare _____(vegetables x 3).	Generating Ideas: Showing greater: complexity; research; observation; originality; perception; aspiration; creativity. Making: Showing greater: technique; skill; control; complexity; mastery; quality; judgement; creativity. Evaluating: Showing greater: judgement; autonomy; independence; perception; subtlety. Knowledge: Showing greater: breadth; contextual understanding; explanation; judgement.

Year Group	Design	Make	Evaluate	Structures	Textiles	Mechanical Systems	Electrical Systems	Computing Systems	Cooking and Nutrition
Year 5	*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 product is fit for purpose *create own design criteria * 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 product will work. *model and refine design ideas by making prototypes and using pattern pieces. *use computer-aided designs	* use selected tools/equipment with good level of precision * produce suitable lists of tools, equipment/materials needed *select appropriate materials, fit for purpose; explain choices, considering functionality * create and follow detailed step-by-step plan * explain how product will appeal to an audience * 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	*evaluate quality of design while designing and making *evaluate ideas and finished product against specification, considering purpose and appearance. *test and evaluate final product * evaluate and discuss existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose * begin to evaluate how much products cost to make and how innovative they are *research how sustainable materials are *talk about some ***key inventors /designers/ engineers/ chefs/manufacturers*** of ground breaking products	*select materials carefully, considering intended use of product and appearance *explain how product meets design criteria *measure accurately enough to ensure precision *ensure product is strong and fit for purpose *begin to reinforce and strengthen a 3D frame	*think about user and aesthetics when choosing textiles *use own template * think about how to make product strong and look better *think of a range of ways to join things *begin to understand that a single 3D textiles project can be made from a combination of fabric shapes.	*refine product after testing *grow in confidence about trying new / different ideas *begin to use cams, pulleys or gears to create movement	*incorporate switch into product *confidently use number of components in circuit *begin to be able to program a computer to monitor changes in environment and control product	Create prototypes using 3D design software e.g. Sketch up, Tinker cad Apply knowledge of computing to program, monitor and control the product.	*explain how to be safe / hygienic and follow own guidelines *present product well - interesting, attractive, fit for purpose *begin to understand 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 *prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of heat source * use a range of techniques such ***as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.***
	Year 5 Curriculum Enrichment Opportunities			**Schema – Connections**			**Mastery****		
				Design: The purpose of my product is _____. Make: I have chosen _____(tool) to do _____ (purpose). Evaluate: My product was cost effective because _____. Cooking & Nutrition: How have you adapted your recipe?			Generating Ideas: Showing greater: complexity; research; observation; originality; perception; aspiration; creativity. Making: Showing greater: technique; skill; control; complexity; mastery; quality; judgement; creativity. Evaluating: Showing greater: judgement; autonomy; independence; perception; subtlety. Knowledge: Showing greater: breadth; contextual understanding; explanation; judgement	

Year Group	Design	Make	Evaluate	Structures	Textiles	Mechanical Systems	Electrical Systems	Computing Systems	Cooking and Nutrition
Year 6	* draw on market research to inform design * use research of user's individual needs, wants, requirements for design * identify features of design that will appeal to the intended user * create own design criteria and specification * 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 * 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 * use computer-aided designs	* use selected tools and equipment precisely *produce suitable lists of tools, equipment, materials needed, considering constraints * select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics * create, follow, and adapt detailed step-by-step plans *explain how product will appeal to 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	*evaluate quality of design while designing and making; is it fit for purpose? * keep checking design is best it can be. *evaluate ideas and finished product against specification, stating if it's fit for purpose *test and evaluate final product; explain what would improve it and the effect different resources may have had *do thorough evaluations of existing products considering: how well they've been made, materials, whether they work, how they've been made, fit for purpose *evaluate how much products cost to make and how innovative they are *research and discuss how sustainable materials are *consider the impact of products beyond their intended purpose *discuss some key inventors/designers/ engineers/chefs/ manufacturers of ground breaking products	*select materials carefully, considering intended use of the product, the aesthetics and functionality. *explain how product meets design criteria * reinforce and strengthen a 3D frame	*think about user's wants /needs and aesthetics when choosing textiles *make product attractive and strong *make a prototype *use a range of joining techniques *think about how product might be sold *think carefully about what would improve product *understand that a single 3D textiles project can be made from a combination of fabric shapes	*refine product after testing, considering aesthetics, functionality and purpose *incorporate hydraulics and pneumatics *be confident to try new / different ideas *use cams, pulleys and gears to create movement	*use different types of circuits in product * think of ways in which adding a circuit would improve product * program a computer to monitor control product.	Create prototypes using 3D design software e.g. Sketch up, Tinker cad Apply knowledge of computing to program, monitor and control the product.	*understand a recipe can be adapted by adding / substituting ingredients *explain seasonality of foods *learn about food processing methods *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 *prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source. *use a range of techniques confidently such as ***peeling, chopping, slicing, grating, mixing, spreading, kneading and baking***
	Year 6 Curriculum Enrichment Opportunities			**Schema – Connections**			**Mastery****		
				Design: **How did your research influence your design?** **Make:** **My selected materials and components are suitable because_____.** **Evaluate:** **My product is fit for purpose because _____.** **Cooking & Nutrition:** **What hygiene practices have you implemented?**			**Generating Ideas: Showing greater: complexity; research; observation; originality; perception; aspiration; creativity.** **Making: Showing greater: technique; skill; control; complexity; mastery; quality; judgement; creativity.** **Evaluating: Showing greater: judgement; autonomy; independence; perception; subtlety.** **Knowledge: Showing greater: breadth; contextual understanding; explanation; judgement.**	