Progression 2024

Design Technology

	Procedural Knowledge		
	Design	**Make**	**Evaluate**
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.
	Design	**Make**	**Evaluate**
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.	*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.

	Design	Make	Evaluate
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. *Begin to use computers to show design.	*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.
	Design	**Make**	**Evaluate**
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. *Describe how realistic 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 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.
	Design	**Make**	**Evaluate**
5	*Use internet and questionnaires for research and design ideas.	*Use selected tools/equipment with good level of precision.	*Evaluate quality of design while designing and making.

	*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.	*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 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.
	Design	**Make**	**Evaluate**
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. *Develop 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.

	Substantive & Disciplinary Knowledge				
	Structures / Materials	**Mechanisms**	**Textiles**	**Electrical Systems**	**Food and Nutrition**
1		*Begin to use levers or slides.	*Measure, cut and join textiles to make a product, with some support. *Choose suitable textiles.		*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, vegetable etc.) *Discuss how fruit and vegetables are healthy. *Cut, peel and grate safely, with support.
	Structures / Materials	**Mechanisms**	**Textiles**	**Electrical Systems**	**Food and Nutrition**
2	*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.	*Use levers or slides. *Begin to understand how to use wheels and axles.			*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.

	Structures / Materials	Mechanisms	Textiles	Electrical Systems	Food and Nutrition
3		*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.	*Measure and cut textiles. *Join different textiles in different ways. *Choose textiles. considering appearance and functionality. *Explain choice of textiles. *Begin to understand that a simple fabric shape can be used to make a 3D textiles project.		*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.
	Structures / Materials	**Mechanisms**	**Textiles**	**Electrical Systems**	**Food and Nutrition**
4	*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.			*Use number of components in a series 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.
	Structures / Materials	**Mechanisms**	**Textiles**	**Electrical Systems**	**Food and Nutrition**
5		*Refine product after testing. *Grow in confidence about trying new / different ideas. *Begin to use cams, pulleys or gears to create movement.	*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.		*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 range of techniques such as peeling, chopping, slicing,

					grating, mixing, spreading, kneading and baking.
	Structures / Materials	**Mechanisms**	**Textiles**	**Electrical Systems**	**Food and Nutrition**
6	*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.	*Refine produce 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 circuit in product. *Think of ways in which adding a circuit would improve product. *Program a computer to monitor changes in environment and control 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.