Whole school DT progression of skills map – Tithe Farm Primary school

	EYFS	**Year 1**	**Year 2**	**End of KS expectations**	
Design	* Select appropriate resources *Use gestures, talking and arrangements of materials and components to show design. * Use contexts set by the teacher and myself. *Use language of designing and making (join, build, shape, longer, shorter, heavier etc.)	* 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.	* 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.	*Design purposeful, functional, appealing products for themselves and other users based on design criteria. *Generate, develop, model and communicate their ideas through talking, drawing, templates, mockups and, where appropriate, information and communication technology.	
Design	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**End of KS expectations**
	*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.	*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.	*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	*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.	*Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals

	* 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.	*Say 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.	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.	* 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.	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.
<u>Make</u>	**EYFS**	**Year 1**	**Year 2**	**End of KS expectations**	
	*Construct with a purpose, using a variety of resources. *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	*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.	*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	*Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] *Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics	

	recording. *Understand different media can be combined for a purpose.		on characteristics. *Use finishing techniques to make product look good *Work safely and hygienically.		
Make	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**End of KS expectations.**
	*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.	*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.	*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.	*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.	*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, textiles and ingredients, according to their functional properties and aesthetic qualities
Evaluate	**EYFS**	**Year 1**	**Year 2**	**End of KS**	

				expectations.	
	*Adapt work if necessary *Dismantle, examine, talk about existing objects/structures *Consider and manage some risks. *Practise some appropriate safety measures independently. *Talk about how things work. *Look at similarities and differences between existing objects / materials / tools. *Show an interest in technological toys *Describe textures.	*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.	*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.	*Explore and evaluate a range of existing products. *Evaluate their ideas and products against design criteria.	
<u>Evaluate</u>	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**End of KS expectations**
	*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.	*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.	*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	*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.	*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.

			sustainable materials are. *Talk about some key inventors/designers/ engineers/ chefs/manufacturers of ground-breaking products.	*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.	
Textile knowledge – material/ structures	**EYFS**	**Year 1**	**Year 2**	**End of KS expectations**	
		*Begin to measure and join materials, with some support. *Describe differences in materials. *Suggest ways to make material/product stronger.	*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.	*Build structures, exploring how they can be made stronger, stiffer and more stable.	
Textile knowledge – material/ structures	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**End of KS expectations**
	*Use appropriate materials *Work accurately to make cuts and holes. * Join materials. *Begin to make strong structures.	*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.	*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	*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.	*Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.

			and fit for purpose. *Begin to reinforce and strengthen a 3D frame.		
Textile knowledge - mechanisms	**EYFS**	**Year 1**	**Year 2**	**End of KS expectations**	
		*Begin to use levers or slides.	*Use levers or slides. *Begin to understand how to use wheels and axles.	*Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products	
Textile knowledge – mechanisms	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**End of KS expectations**
	*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.	*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.	*Refine product after testing. *Grow in confidence about trying new / different ideas. *Begin to use cams, pulleys or gears to create movement.	*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.	*Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
Textile knowledge - textiles	**EYFS**	**Year 1**	**Year 2**	**End of KS expectations**	
		*Measure, cut and join textiles to make a product, with some support. *Choose suitable textiles.	*Measure textiles *join textiles together to make a product, and explain how I did it. *Carefully cut textiles to produce accurate pieces. *Explain choices of textile. *Understand that a 3D textile structure can be made from		
Textile knowledge -	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**End of KS**

textiles					**expectations**
	*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.	*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.	*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.	*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.	
Textile knowledge – Food and nutrition	**EYFS**	**Year 1**	**Year 2**	**End of KS expectations**	
	*Begin to understand some food preparation tools, techniques and processes. *Practise stirring, mixing, pouring, blending. *Discuss how to make an activity safe and hygienic. *Discuss use of senses. *Understand need for variety in food. *Begin to understand that eating.	*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.	*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.	*Use the basic principles of a healthy and varied diet to prepare dishes. *Understand where food comes from.	
Textile knowledge – Food and	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**End of KS expectations**

nutrition					
	*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.	*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.	*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.	*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.	*Understand and apply the principles of a healthy and varied diet. *Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. *Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.
Textile knowledge – Electrical systems	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**End of KS expectations**
	*Use simple circuit in product *learn about how to program a	*use number of components in circuit. *Program a computer to control	*Incorporate switch into product. *Confidently use	*Use different types of circuit in product.	*Understand and use electrical systems in

	computer to control product.	product.	number of components in circuit. *Begin to be able to program a computer to monitor changes in environment and control product.	* Think of ways in which adding a circuit would improve product. * Program a computer to monitor changes in environment and control product.	their products.