Wychwood Whole School Progression of Skills – Design and Technology

	EYFS	YEAR ONE	YEAR 2	END OF KEY STAGE EXPECTATIONS	YEAR THREE	YEAR FOUR	YEAR FIVE	YEAR SIX	END OF KEY STAGE 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	*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.	* 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 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.	*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	* 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 research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at individuals 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
Make	*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 recording *Understand different media can be combined for a purpose	*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 on characteristics. *Use finishing techniques to make product look good *work safely and hygienically	*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	*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 several 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	*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 if I were to do it again and why	*Explore and evaluate a range of existing products *Evaluate their ideas and products against design criteria	* 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 sustainable materials are *Talk about some key inventors/designers/ engineers/ chefs/manufacturers of ground-breaking products	*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	*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
Textiles		*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 two identical fabric shapes.		*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.	
Materials and Structures		*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	*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 and fit for purpose *Begin to reinforce and strengthen a 3D frame	*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

Food and Nutrition	*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 well contributes to good health	*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.	*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 how food is grown, reared or caught in the UK and the wider world. Explore sustainable and ethical ways of producing food. *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. Discuss sustainable and ethical ways of food production. Explore impact on the 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.
Electrical Systems					*Use simple circuit in product *Learn about how to program a computer to control product.	*Use number of components in circuit *program a computer to control product	*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	*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 and use electrical systems in their products [for example, series circuits
Mechanisms		*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.	*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]