The Progression of Our Design and Technology Skills

Skills	EYFS	Year 1 (KS1)	Year 2 (KS1)	Year 3 (LKS2)	Year 4 (LKS2)	Year 5 (UKS2)	Year 6 (UKS2)
Design Developing, planning and communicating ideas	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.)	Generate ideas and explain what they are going to do. Identify who they intend to design and make a product for. Model ideas in card and paper. Build on ideas from Research and investigation.	Generate and develop ideas through discussion, observation, drawing and modelling. Identify a purpose for what they intend to design and make. Create a design checklist. Draw a design and label parts.	Generate ideas for a product and consider its purpose and the user/s. Identify a purpose and create their own design criteria for a successful product. Plan the order of the work before starting. Investigate and develop a design, and make drawings with labels when designing.	Generate ideas for a product and consider its purpose and the user/s. Identify a purpose and have a clear plan of how to create the product, which materials to use and the process. Identify where the process might go wrong and come up with solutions. Evaluate similar products and plan a design criteria for the product. Explore and develop a design, and make drawings from different views and labelling special features.	Generate ideas through group discussion and identify a purpose for their product. Draw up a specification for their design. Identify a purpose and have a clear plan of how to create the product, which materials to use and the process. Suggest alternative methods of making if the first attempts fail. Use results of investigations, information sources including ICT when developing design ideas.	Communicate detailed ideas through labelled drawings. Develop a specification for their design by modelling proposals in a variety of ways (paper, 3D models, ICT) Plan the order of their work carefully, choosing appropriate materials.
Make Working with tools, equipment, materials and components to make quality products (including food)	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	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	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	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	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	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

	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	Work in a safe and hygienic manner	Choose suitable materials and explain choices depending on characteristics. Use finishing techniques to make product look good Work safely and hygienically	Begin to apply a range of finishing techniques with some accuracy		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	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
<u>Evaluate</u> Evaluating processes and products	Adapt work if necessary Dismantle, examine, talk about existing objects/structures Consider and manage some risks Practise some appropriate safety measures independently Begin to talk about how things work Look at similarities and differences between existing objects / materials / tools Show an interest in technological toys Start to describe textures e.g. soft, hard	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	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 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 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 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 Research and discuss how sustainable materials are made Consider the impact of products beyond their intended purpose Discuss some key inventors/designers/ engineers/ chefs/manufacturers of ground-breaking products

At Oldfield, we focus on 5 key strands of learning in Design and Technology: Materials and Structures, Mechanisms, Textiles, Food and Nutrition and Electrical Systems. Along with progressing their skills stated in the table above, the children will also develop key technical knowledge and skills within these strands (see table below).

Skills	EYFS	Year 1 (KS1)	Year 2 (KS1)	Year 3 (LKS2)	Year 4 (LKS2)	Year 5 (UKS2)	Year 6 (UKS2)
Technical Knowledge: **Materials/Structures**		Begin to measure and join materials, with some support Describe different characteristics of materials Use own ideas to try to make product stronger Use joining, rolling or folding to make it stronger		Use appropriate materials Measure carefully to avoid mistakes Work accurately to make cuts and holes Join materials Attempt to make product strong Continue working on product even if original didn't work		Select materials carefully, considering intended use of the product, the aesthetics and functionality. Explain how product meets design criteria Measure accurately enough to ensure precision Ensure product is strong and fit for purpose Reinforce and strengthen a 3D frame	
Technical Knowledge: **Mechanisms**			Use levers or slides Begin to understand how to use wheels and axles	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	.	Refine product after testing Grow in confidence about trying new / different ideas Use cams, pulleys or gears to create movement Incorporate pneumatics	
Technical Knowledge: **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		Think about user when choosing textiles Join different textiles in different ways Think about how to make product strong Begin to devise a template Explain how to join things in a different way		Think about user's wants/needs and aesthetics when choosing textiles Make product attractive and strong Make a prototype Use own template Use a range of joining techniques

			Understand that a 3D textile structure can be made from two identical fabric shapes.		Understand that a simple fabric shape can be used to make a 3D textiles project		Understand that a single 3D textiles project can be made from a combination of fabric shapes.
Technical Knowledge: **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	Carefully select ingredients Use equipment safely Make a 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.
Technical Knowledge: **Electrical Systems**					Begin to use a number of components in a circuit Incorporate a switch into a product		Confidently use a number of components in a circuit Think of ways in which adding to a circuit would improve the product Begin to look at how you can programme a

							computer to control product