The Progression of Our Design and Technology Skills

Skills	EYFS (Reception)	Key Stage 1 (Year 1 and 2)	Lower Key Stage 2 (Year 3 and 4)	Upper Key Stage 2 (Year 5 and 6)
Investigate Exploring existing products, learning about key designers	Dismantle, examine, talk about existing objects/structures Look at similarities and differences between existing objects / materials / tools Start to describe textures e.g. soft, hard Begin to talk about how things work	Talk about what an existing product or technology is for, what it's made of, how it works, who it's for, where it's used, and say what they think about it.	Begin to evaluate existing products and technology, considering: how well they have been made, materials, whether they work, how they have been made, fit for purpose Know about some inventors/designers/ engineers/chefs/manufacturers of ground-breaking products	Evaluate and discuss existing products and technology, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose Discuss some key inventors/designers/ engineers/ chefs/manufacturers of ground-breaking products
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.)	Explore and grow ideas by talking, looking, drawing, and making models Identify a purpose for what they intend to design and make. Model ideas in card and paper. Create a design checklist. Draw a design and label parts.	Identify a purpose and create their own design criteria for a successful product. Plan the order of the work before starting. Identify where the process might go wrong and come up with solutions. Evaluate similar products and plan a design criteria for the product. Investigate and develop a design, and make drawings with labels when designing.	Generate ideas through group discussion and identify a purpose for their product. 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 Consider and manage some risks Select tools & techniques to shape, assemble and join Replicate structures with materials / components	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 With help, measure, draw, cut, and shape materials 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; explain choices Work through plan in order. 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, considering constraints Select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics Create, follow, and adapt detailed step-by-step plans Mainly accurately measure, mark out, cut and shape materials/components

	Discuss how to make an activity safe and hygienic Record experiences by drawing, writing and verbalising	Choose suitable materials and explain choices Use finishing techniques to make product look good Work safely and hygienically		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 Evaluating processes and products	Adapt work if necessary Talk about what they like about what they made.	Talk about my work describing what went well. Talk about what I would do differently if I were to do it again and why.	Use design criteria to evaluate finished product Begin to explain how I could improve original design Research whether products can be recycled or reused	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 Research and discuss how sustainable materials are made Consider the impact of products beyond their intended purpose

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	Key Stage 1 (Year 1 and 2)	Lower Key Stage 2 (Year 3 and 4)	Upper Key Stage 2 (Year 5 and 6)
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
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
Textiles	Measure, cut and join textiles to make a product, with some support Explain choices of textile Understand that a 3D textile structure can be made from two identical fabric shapes	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 Understand that a simple fabric shape can be used to make a 3D textiles project	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 single 3D textiles project can be made from a combination of fabric shapes.
: **Food and Nutrition**	Explain hygiene and how to keep a hygienic kitchen Describe properties of ingredients and importance of varied diet Say where food comes from (animal, underground etc.) Draw eat well plate; explain there are groups of food Cut, peel and grate with increasing confidence	Explain how to be safe/hygienic Think about presenting product in interesting/ attractive ways Understand ingredients can be fresh, pre-cooked or processed and begin to explain seasonality of food 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	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.

		Explain importance of food and drink for active, healthy bodies Grow in confidence using some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	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.
Electrical Systems	N/A	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