

Design and Technology Skills Progression at Hope Brook			
	BY THE END OF EYFS: <i>Expressive arts and design - creating with materials - safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function- share their creations, explain the process they have used</i>		
Skills	BY THE END OF KEY STAGE 1	BY THE END OF LOWER KEY STAGE 2	BY THE END OF UPPER KEY STAGE 2
Developing, planning and communicating ideas	<ul style="list-style-type: none"> Start to generate ideas by drawing on their own and other people's experiences. Begin to develop their design ideas through discussion, observation, drawing and modelling. Develop their ideas through talk and drawings and label parts Make templates and mock ups of their ideas in card and paper or using ICT. Identify a purpose for what they intend to design and make. Understand how to identify a target group for what they intend to design and make based on a design a criteria. 	<ul style="list-style-type: none"> Start to generate ideas, considering the purposes for which they are designing- link with Mathematics and Science. Confidently make labelled drawings from different views showing specific features. Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail. Plan for the product to be used by a given target group. Explain their choice of materials and components according to function and aesthetic. Identify simple strengths and areas for development in their ideas and products. Consider the views of others, including intended users, to improve their work. Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground -breaking products. 	<ul style="list-style-type: none"> Generate, develop, model and communicate their ideas through discussion and idea sharing. Draw up a specification for their design. Use annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces. - link with Mathematics and Science. Make prototypes of their products Plan the order of their work, choosing appropriate materials, tools and techniques, always considering the target group. Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose Suggest alternative methods of making if the first attempts fail. Explain strengths and areas for development in their ideas and products. Accurately apply a range of finishing techniques, including those from art and design. Consider how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose
Evaluating processes and products	<ul style="list-style-type: none"> Look at a range of existing products explain what they like and dislike about products and why. With confidence talk about their ideas, saying what they like and dislike about them. Start to evaluate their products as they are developed, identifying strengths and possible changes they might make Evaluate their final product against their design criteria. 	<ul style="list-style-type: none"> Be able to disassemble and evaluate familiar products and consider the views of others to improve them. Consider and gain inspiration from the key designs of individuals in design and technology that have helped shape the world. Explain how his/her choices of materials and components will contribute to the aesthetic qualities of his/her finished product. Start to evaluate their work both during and at the end of the assignment. Evaluate their products carrying out simple tests. Consider how the finished product might be 	<ul style="list-style-type: none"> Evaluate the key designs of individuals in design and technology has helped shape the world. Evaluate and feedback on the work of others against their design criteria. Critically evaluate the quality of design, aesthetics, manufacture and fitness for purpose as they design and make against original design criteria. Evaluate and adapt their work both during and at the end of the assignment. Evaluate their products, identifying strengths and areas for development or improvement by carrying out appropriate tests.

			improved and how well it meets the needs of the user.	<ul style="list-style-type: none"> Record their evaluations using drawings with labels.
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Working with tools and equipment	<ul style="list-style-type: none"> Begin to select tools and materials; use correct vocabulary to name and describe them. Select from and use a range of tools and equipment safely to perform practical tasks e.g. 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. Learn to use hand tools safely and appropriately. With help measure, cut and score with some accuracy. Join materials in a variety of temporary ways. Start to choose and use appropriate finishing techniques based on their own ideas. 		<ul style="list-style-type: none"> Select a wider range of tools and techniques for making their product safely. Explain their choice of tools, materials and equipment in relation to the skills and techniques they will be using. Use an increasing range of tools safely. Know how to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques. Start to join and combine materials and components accurately in temporary and permanent ways. Begin to use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT. 	<ul style="list-style-type: none"> Confidently select appropriate tools, materials, components and techniques and use them. Use a variety of tools safely and accurately. Measure and mark out more accurately. Assemble components to make working models, joining in different ways. Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT.

Textiles	<ul style="list-style-type: none"> • Demonstrate how to measure, cut and shape • Join fabric to make a simple product, both by sewing and fixing in other ways. • Use basic sewing techniques. 		<ul style="list-style-type: none"> • Demonstrate how to measure, tape or pin, cut and join fabric with some accuracy. • Devise a template for a product • Choose textiles both for their appearances and also qualities 	<ul style="list-style-type: none"> • With confidence and accuracy, pin, sew and stitch materials together to create a product. • Cut and join accurately to ensure a high quality finish to his/her product. • Make prototypes for their product. • Consider the user when choosing textiles.
Mechanisms / Electrical and Mechanical Components	<ul style="list-style-type: none"> • Design and make a simple moving product • Explore and use mechanisms e.g. levers, sliders, wheels and axles, in his/her products. 		<ul style="list-style-type: none"> • Design and make moving products. • Understand and use mechanical systems in his/her products e.g. gears, pulleys, cams, levers and linkages to create movement. • Use an electrical circuit to create a functional product. 	<ul style="list-style-type: none"> • Design and make complex moving products, sometimes with multiple moving elements. • Understand and use mechanical systems such as cams or pulleys or gears to create movement. • Know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products. • Understand that mechanical and electrical systems have an input, process and output.
Cooking and nutrition	<ul style="list-style-type: none"> • Understand that all food comes from plants or animals. Know that food has to be farmed, grown elsewhere (e.g. home) or caught. • Understand how to name and sort foods into the five groups in 'The Eat well plate' and know that everyone should eat at least five portions of fruit and vegetables every day. • Demonstrate how to prepare simple dishes safely and hygienically, without using a heat source. • Begin to understand what being hygienic means. • Demonstrate how to use techniques such as cutting, peeling and grating. • Measure and weigh food items - using informal methods. • Suggest simple ways to decorate or present products. • Describe the textures and properties of food prepared. 		<ul style="list-style-type: none"> • Understand that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. • Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eat well plate'. • Know that to be active and healthy, food and drink are needed to provide energy for the body. • Understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. • Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. • Weigh food items using formal and informal methods. • Consider how to present their products in an appealing way. 	<ul style="list-style-type: none"> • Know and consider where food is grown, reared and caught, consider the implications on availability. • Understand that seasons may affect the food available. • Know different food and drink contain different substances - nutrients, water and fibre - that are needed for health. • Use information on food labels to inform choices. • Understand how food is processed into ingredients that can be eaten or used in cooking. • Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. • Understand when to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. • Weigh food items accurately, choosing appropriate methods. • Consider how products should be presented well and stored.

Stiff & flexible sheet materials and construction	<ul style="list-style-type: none"> Join materials in different ways, generally in temporary ways like glue or tape.# Start to assemble, join and combine materials in order to make a product. Choose from a limited range of materials. Build structures, exploring how they can be made stronger, stiffer and more stable. 		<ul style="list-style-type: none"> Start to join and combine materials and components accurately in temporary and permanent ways. Choose materials based on simple qualities. Start to understand how to reinforce and strengthen a 3D framework e.g. adding diagonal struts. 	<ul style="list-style-type: none"> Confidently, construct products using the most effective temporary and permanent joining techniques. Choose materials on the desired qualities for the purpose. Apply understanding of how to strengthen, stiffen and reinforce a 3D framework to create more complex structures. Demonstrate when make modifications as they go along.
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