Design & Technology Progression of Skills

Researching & Innovating

Year Groups	Skills **Making Products Work: Children should know…**
EYFS	**To design a building that cannot be blown down.** About the cause-and-effect nature of tools, materials, components and mechanics e.g. scissors cut, wheels move **To design a hanging decoration.** About the characteristics of materials
1&2	**<u>Year 1</u>** **To design equipment for the playground.** How freestanding structures can be made stronger, stiffer and more stable Correct technical vocabulary related to the project About the simple working characteristics of materials and components **To design an outfit to keep Mr Postmouse warm.** That a 3D textiles product can be assembled from two identical fabric shapes Correct technical vocabulary related to the project About the simple working characteristics of materials and components **To design a healthy lunch for a school** That food ingredients should be combined according to their sensory characteristics Correct technical vocabulary related to the project
	<u>Year 2</u> **To design a structure that floats.** About the simple working characteristics of materials and components Correct technical vocabulary related to the project **To design a soft toy for Emily Brown.** That a 3D textiles product can be assembled from two identical fabric shapes Correct technical vocabulary related to the project About the simple working characteristics of materials and components **To design a moving vehicle.** About the movement of simple mechanisms such as levers, sliders, wheels and axles Correct technical vocabulary related to the project About the simple working characteristics of materials and components
3&4	**Year 3** **To design a pneumatic toy.** How mechanical systems such as levers and linkages or pneumatic systems create movement **To design a healthy snack for break time.** That food ingredients can be fresh, pre-cooked and processed **To design a comfortable item to lie a head on** That a single fabric shape can be used to make a 3D textiles product
	Year 4 **To design a light to use whilst reading at night** How simple electrical circuits and components can be used to create functional products How to program a computer to control their products **To design a stable structure that provides shade** How to make strong, stiff shell structures **To design a cheaper alternative to an existing recipe** That food ingredients can be fresh, pre-cooked and processed

5&6	**Year 5** **To design a healthier sauce** That a recipe can be adapted by adding or substituting one or more ingredients **To design a structure that connects two places from a distance** How to reinforce and strengthen a 3D framework **To design an alarm** How more complex electrical circuits and components can be used to create functional products How to program a computer to monitor changes in the environment and control their products
	Year 6 **To design an item of clothing for a soldier** That a 3D textiles product can be made from a combination of fabric shapes **To design a three course meal** That a recipe can be adapted by adding or substituting one or more ingredients **To design an automata toy** How mechanical systems such as cams or pulleys or gears create movement
3-6	**Making Products Work**
	Children should know…
	How to use learning from science to help design and make products that work
	How to use learning from mathematics to help design and make products that work
	That materials have both functional properties and aesthetic qualities
	That materials can be combined and mixed to create more useful characteristics
	That mechanical and electrical systems have an input, process and output
	The correct technical vocabulary for the projects they are undertaking