Hilton Lane Primary School
Design and Technology Overview

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
National Curriculum (Design)		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, mock ups and, where appropriate, information and communication technology		Use research and develop design criteria to inform the design of innovative functional, appealing products that are fit for purpose, aimed at particular 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			
National Curriculum (Make)		Select from and use range of tools and equipment 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		Select from and use a wider range of tools and equipment to perform practical tasks (e.g. 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			
National Curriculum (Evaluate)		Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria		Investigate and analyse a range of existing products, Evaluate their ideas and products against their own design criteria and consider the views of other to improve their work Understand how key events and individuals in design and technology have helped shape the world			
National Curriculum (Technical Knowledge)		Build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms (e.g. levers, sliders, wheels and axels) in their products		Apply their understanding of how to strengthen, stiffen and reinforce more complex structures Understand and use mechanical systems in their products (e.g., gears, pulleys, cams, levers and linkages) Understand and use electrical systems in their products (e.g., series circuits incorporating switches, bulbs, buzzers and motors) Apply their understanding of computing to program, monitor and control their products			
National Curriculum (Cooking and Nutrition)		Use basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from		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.			

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Hilton Lane Specific (Design)		Smoothies Design a smoothie Making a moving storybook: Design a storybook using a familiar story that they know Constructing a windmill: Include individual preferences and requirements	Baby bear's chair: Explore the concept and features of structures and the stability of different shapes Wheels and axles: Design a moving vehicle Textiles: Design and make a pouch	Cushions: Design a cushion and its template Make a moving monster: Explore different design options Eating seasonally: Create a recipe that is healthy and nutritious using seasonal vegetables.	Torches: Design a torch Pavilions: Design a frame structure Adapting a recipe: Design a biscuit to a given budget	Steady hand game: Research and analyse a range of children's toys Design a steady hand game Stuffed toys: Design a stuffed toy What could be healthier? adapt a traditional recipe	Programming pioneers: Develop ideas for a product with an Embedded computer system that controls it Develop, model and communicate ideas for an embedded system which monitors and controls a door, a room or both Develop ideas for a product and start to write programs to monitor and control them Come dine with me: Research and design a three-course meal Write a recipe Automata toys: Explore cams and make appropriate choices
Hilton Lane Specific (Make)		Making a moving storybook: Construct a moving storybook	Pouches: Sew a running stitch Cut fabric using a template Decorate a pouch using fabric, glue or stitching Baby bear's chair: Make a chair following design criteria Wheels and axles: Make a moving vehicle	Cushions: Decorate fabric using applique and cross stitch Assemble the parts of the cushion Make a moving monster: Make a moving monster following the design Eating seasonally	Torches: Make a torch using electrical components Pavilions: Create a range of different shapes frame structures Build a frame structure Add cladding to a frame structure Adapting a recipe: Make and test a prototype Make a biscuit that meets the design brief	Steady hand game: Make electromagnetic motors and understand how they work Construct a stable base Assemble electronics and complete their electronic game Stuffed toys To create and add decorations to fabric Use a blanket stitch to assemble the components of a stuffed toy What could be healthier? Adapt a recipe and make a complete product	Programming pioneers: Start to write programs to monitor and control a product Model and communicate ideas, using either prototype models or computer-aided design Come dine with me: Prepare a meal using a recipe Automata toys: To assemble a window display To assemble components to make a frame
Vocabulary		Model, tool, equipment, materials, shaping, stiff, test, support	Strength, stability joining, mechanism (Y1)	Pivots, shaping (Y1), joining (Y2).	Assemble, stability, frame, properties. bake, mix,	Stuffing, sew, applique,	Control, motion, algorithm, automatic, input, output. cook, cross-contamination,

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Hilton Lane Specific (Evaluate)		*Making a moving storybook:* *Evaluate their finished product* *Construct a windmill:* *Evaluate my project and adapt design*	*Baby bear's chair:* *Evaluate the strength, stiffness and stability of their structure*	*Cushions:* *Evaluate their cushion against their design criteria* *Make a moving monster* *Evaluate the movement of their product*	*Torches:* *Analyse and evaluate electrical products* *Pavilions* *Evaluate the different shaped frame structures*	*Steady hand game:* *Evaluate their own and others' designs / games* *Stuffed toys:* *Evaluate their stuffed toy against design criteria*	*Programming pioneers:* *Evaluate the design for a computer-controlled system and consider the views of others to improve your work* *Come dine with me:* *Evaluate their meal against design criteria* *Automata toys*
Hilton Lane Specific (Technical knowledge)		*Making a moving storybook:* *Use levers and sliders* *Construct a windmill:* *Make a stable structure – assemble components of my structure.*	*Baby bear's chair:* *Explore strength in different structures* *Understand the shape of the structure affects its strength* *Wheels and axles:* *Understand how wheels move* *Identify what stops wheels from turning*	*Cushions:* *Know how to sew, cross stitch and applique* *Make a moving monster:* *Study objects and understand how they move* *Eating seasonally:* *Know that climate affects food growth* *Know that importing food impacts the environment and is one of the reasons why we should eat seasonal foods grown in the UK*	*Torches:* *Learn about electrical items and how they work* *Pavilions:* *Understand why we need to add cladding to our structure*	*Stuffed toys* *Sew a blanket stitch* *What could be healthier?* *-to understand the term 'healthy'* *-to understand where food comes from*	*Programming pioneers:* *Explain how computers and computer programs are used in a variety of products* *Come dine with me:* *Understand where food comes from* *Research a three-course meal* *Automata toys:* *To use woodworking tools*
Vocabulary		*Mechanism, sliders, finishing, lever, turbine, axle,*	*Structure, axles, axle holder*	*Cross stitch, applique, thread, knot, sew, secure, running stitch, sliders (Y1), input, output*	*Circuit, switch, bulb, motor, electricity, light, battery, conductor, insulator, housing, reflector, cladding, pavilion, properties*	*Electromagnetic motor, buzzer, net, sew, pattern, blanket stitch, proportion, vegetables, substitute, reduce, nutrients*	*Cam, mechanism, (Y1), rotary motion, linear motion, linkage, algorithm, control, automatic, program*
Cooking		*Smoothies:* *Identify if a food is a fruit or a vegetable* *Identify where plants grow and which parts we eat* *Taste and compare fruit and vegetables* *Make a fruit and vegetable smoothie*		*Eating seasonally:* *Create a recipe that is healthy and nutritious using seasonal vegetables* *Safely follow a recipe when cooking*	*Adapting a recipe:* *Follow a baking recipe* *Make and test a prototype* *Make a biscuit that meets a given design brief*	*What could be healthier?:* *Adapt a traditional recipe* *To make a complete product*	*Come dine with me:* *To understand where food comes from* *Prepare a meal using a recipe*

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Vocabulary		*peel, fruit, vegetable, seed, healthy*		*Seasonal, nutrition, balanced diet, hygiene*	*Bake, mould, recipe, quantity*	*Nutrients, adapt, substitute*	*Savoury, techniques, cross-contamination*

	Autumn 1	*Autumn 2*	*Spring 1*	*Spring 2*	*Summer 1*	*Summer 2*
Year 1		*Food - Smoothies*		*Constructing a windmill*		*Making a moving storybook*
Year 2		*Textiles – Pouches*		*Baby bear's chair*		*Wheels and axles*
Year 3		*Eating seasonally*		*Textiles – Cushions*		*Making a moving monster*
Year 4		*Structure – Pavilions*		*Food – Adapting a recipe*		*Electrical systems – Torches*
Year 5		*Food – Developing a recipe*		*Textiles – Stuffed toys*		*Electrical systems – Steady hand game*
Year 6		*Navigating the World*		*Food – Come dine with me*		*Mechanical systems – Automata toys*