





Hillcross Primary Design and Technology Curriculum

		Year 1			Year 2		
Topic		Autumn 2 – Carnival of the animals	Spring 2 - Fee Fi Fo Fum	Summer 2 – Whole School Topic	Autumn 2 - Hearts and Lanterns	Spring 2 - Disaster Strikes	Summer 1 - A Journey to Discovery
Outcome/Product		Lever and slide class animal book https://www.planbee.com/moving-pictures-the-complete-series	Puppets out of card (story characters)	Food Technology – Fruit skewers and salad	Design and Technology - Running stitch to create a pin badge	Emergency services vehicle - wheels and axles	To make a strong structure - house Research different houses around the world https://www.planbee.com/homes-the-complete-series
N C K N O W L E D G E/ U N D E R S T A N D I N G	Design	<ul style="list-style-type: none"> Design purposeful, functional, appealing products for themselves and other users based on design criteria 	<ul style="list-style-type: none"> Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups. 	<ul style="list-style-type: none"> Generate, develop, model and communicate their ideas through talking. Design appealing products for themselves 	<ul style="list-style-type: none"> Design purposeful, functional, appealing products for themselves and other users based on design criteria, Generate, develop, model and communicate their ideas through talking and templates. 	<ul style="list-style-type: none"> Communicating their ideas through talking and drawing. 	<ul style="list-style-type: none"> Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology (researching other houses around the world).
	Make	<ul style="list-style-type: none"> Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] 	<ul style="list-style-type: none"> Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, joining and finishing] 	<ul style="list-style-type: none"> Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, Select from and use a wide range of ingredients, according to their characteristics. 	<ul style="list-style-type: none"> Select from and use a range of tools and equipment to perform practical tasks, example, cutting. 	<ul style="list-style-type: none"> Select from and use a range of equipment to perform practical tasks [for example joining and finishing] Select from and use a wide range of materials and components, including construction materials. 	<ul style="list-style-type: none"> Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] Select from and use a wide range of materials and components, including construction materials and textiles according to their characteristics.
	Evaluate	<ul style="list-style-type: none"> Evaluate their ideas and products against design criteria 	<ul style="list-style-type: none"> Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria 	<ul style="list-style-type: none"> Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria 	<ul style="list-style-type: none"> Evaluate their ideas and products against design criteria 	<ul style="list-style-type: none"> Explore and evaluate a range of existing products 	<ul style="list-style-type: none"> Evaluate their ideas and products against design criteria
	Technical knowledge	<ul style="list-style-type: none"> Explore and use mechanisms [for example, levers and sliders in their products. 	<ul style="list-style-type: none"> Build structures, exploring how they can be made stronger, stiffer and more stable (make a mockup using paper and discuss why this material isn't suitable for a puppet) 	<ul style="list-style-type: none"> Understand where food comes from. Use the basic principles of a healthy and varied diet to prepare dishes 	<ul style="list-style-type: none"> Exploring how they can be made stronger, stiffer and more stable. 	<ul style="list-style-type: none"> Explore and use mechanisms [for example, wheels and axles], in their products. 	<ul style="list-style-type: none"> Build structures, exploring how they can be made stronger, stiffer and more stable.
Future Careers		<ul style="list-style-type: none"> An illustrator 	<ul style="list-style-type: none"> A puppeteer, The Lion King 	<ul style="list-style-type: none"> Chef 	<ul style="list-style-type: none"> Fashion designer 	<ul style="list-style-type: none"> Mechanical engineer 	<ul style="list-style-type: none"> Construction worker

	<ul style="list-style-type: none"> Set designer An author (pull the lever books) 	and Polka Theatre	<ul style="list-style-type: none"> Food critic Dietician 	<ul style="list-style-type: none"> Costume maker 	<ul style="list-style-type: none"> Mechanic Car designer 	<ul style="list-style-type: none"> Architect Carpenter Window fitter
Significant people and events	<ul style="list-style-type: none"> Jane Wolfe (author) Archimedes (history of lever) 	<ul style="list-style-type: none"> Jim Henson (Sesame Street) 	<ul style="list-style-type: none"> Jamie Oliver (link to how he changed healthy schools) Rustie Lee, caribbean salad 	<ul style="list-style-type: none"> Patrick Grant (Great British Sewing Bee) 	<ul style="list-style-type: none"> John Braithwaite (invented the first fire engine) 	<ul style="list-style-type: none"> Zaha Hadid (discriminated against) Maya Lin (award by Barack Obama) Renzo Piano (Shard)
Skills 	<ul style="list-style-type: none"> Cutting using a one handed tool (scissors) Joining techniques by using glue 	<ul style="list-style-type: none"> Cutting using a one handed tool (scissors) Joining techniques by using a split pin 	<ul style="list-style-type: none"> Cutting low resistance foods with a table knife. Thread soft fruit. Cut and mix a salad together 	<ul style="list-style-type: none"> Threading a needle Joining (running stitch) 	<ul style="list-style-type: none"> Joining (apply threading) Shaping (folding) 	<ul style="list-style-type: none"> Cutting (scissors) Shaping (folding) Joining (sticky tape, paper clips, stapler and glue)
Tools and resources 	<ul style="list-style-type: none"> Scissors Card Template (if needed) Glue 	<ul style="list-style-type: none"> Scissors Split pins Templates of characters 	<u>Ingredients to be ordered by teams</u> <ul style="list-style-type: none"> Fruit and vegetables of your choice Chopping boards Wooden skewers Table knife 	<ul style="list-style-type: none"> Scissors Felt Stuffing material Needle Thread 	<ul style="list-style-type: none"> Wheels Axles 	<u>Ask parents on newsletter beforehand to ask for donations</u> <ul style="list-style-type: none"> Junk modelling materials Scissors Tape Glue



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		Year 3			Year 4		
	Topic	Autumn 1 - Supermarket Sweep	Spring 1 - Settle Down	Summer 1 - Dig Deep	Autumn 2 - Journey Over Europe	Spring 1 - Battle Stations	Summer 1 - Playing Cat and Mouse
	Outcome/Product	Savoury Tart	Pneumatic toy - Anglo Saxon Monster	Photo Frame	Mini GreenHouse Plant some cress/seeds in the greenhouse and observe over time.	Tapestry	Light up Box - Write an equality slogan
NC knowledge/ understanding	Design	<ul style="list-style-type: none"> Understand and apply the principles of a healthy and varied diet 	<ul style="list-style-type: none"> Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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, 	<ul style="list-style-type: none"> Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and prototypes and computer-aided design. 	<ul style="list-style-type: none"> 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,
	Make:	<ul style="list-style-type: none"> Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. 	<ul style="list-style-type: none"> Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately 	<ul style="list-style-type: none"> Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately 	<ul style="list-style-type: none"> Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including construction materials, according to their functional properties and aesthetic qualities 	<ul style="list-style-type: none"> Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately 	<ul style="list-style-type: none"> Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
	Evaluate	<ul style="list-style-type: none"> Evaluate their ideas based on the principles of a healthy diet. Understand how key events and individuals in design and technology have helped shape the world investigate and analyse a range of existing products 	<ul style="list-style-type: none"> Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Understand how key events and individuals in design and technology have helped shape the world (Lonnie Johnson, creator of Nerf Water) 	<ul style="list-style-type: none"> Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work 	<ul style="list-style-type: none"> Investigate and analyse a range of existing products Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Understand how key events and individuals in design and technology have helped shape the world (look at Kew Garden and Eden Project) 	<ul style="list-style-type: none"> Understand how key events and individuals in design and technology have helped shape the world 	<ul style="list-style-type: none"> Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
	Technical		<ul style="list-style-type: none"> Understand and use 	<ul style="list-style-type: none"> Apply their understanding of 	<ul style="list-style-type: none"> Apply their understanding of how 		<ul style="list-style-type: none"> Understand and use electrical

	knowledge		mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]	how to strengthen, stiffen and reinforce more complex structures	to strengthen, stiffen and reinforce more complex structures		systems in their products [for example, series circuits incorporating switches and bulbs] ● apply their understanding of how to strengthen, stiffen and reinforce more complex structures
Future careers		<ul style="list-style-type: none"> ● Chef ● Food critic ● Restaurant entrepreneur 	<ul style="list-style-type: none"> ● Toy designer ● Robotics 	<ul style="list-style-type: none"> ● Joiner ● Carpenters 	<ul style="list-style-type: none"> ● Gardener ● Structural engineer ● Landscape designer 	<ul style="list-style-type: none"> ● Upholsterer ● Tailor 	<ul style="list-style-type: none"> ● Lighting director
Significant people and events		<ul style="list-style-type: none"> ● Nadiya Hussein https://www.nadiyahussain.com/recipe/goats-cheese-and-caramelised-onion-tart/ 	<ul style="list-style-type: none"> ● Lego Pneumatics (progression) ● https://www.pneumatictips.com/pneumatics-ages-timeline-evolution-2/ 		<ul style="list-style-type: none"> ● Charles Lucien Bonaparte (invented the greenhouse) 	<ul style="list-style-type: none"> ● Bishop Odo of Bayeux (first creator of tapestry) 	<ul style="list-style-type: none"> ● Stages of the invention of the light bulb (including Thomas Edison)
Skills		<ul style="list-style-type: none"> ● Snip (kitchen scissors) ● Claw cut (vegetable knife). ● Grate (grater) ● Grill/toast (grill/oven) 	<ul style="list-style-type: none"> ● Measure (ruler) ● Joining (sellotape) ● Cutting (scissors) ● Finishing 	<ul style="list-style-type: none"> ● Measure (ruler) ● Cut (hacksaw) ● Joining (glue gun) ● Finishing (decorate photo frame for aesthetic product and sanding) 	<ul style="list-style-type: none"> ● Cutting (scissors) ● Shaping (folding) ● Joining (glue guns to join lolly pop sticks for structure and staples for cellophane) 	<ul style="list-style-type: none"> ● Thread (threading embroidery thread) ● Joining (needle and thread) 	<ul style="list-style-type: none"> ● Joining ● Joining (electrical circuit together) ● Cutting (use pliers to cut the wire)
Tools and resources		<ul style="list-style-type: none"> ● Ingredients ● Kitchen scissors ● Vegetable knife ● Grater 	<ul style="list-style-type: none"> ● Scissors ● Sellotape ● Decorative items ● Ruler 	<ul style="list-style-type: none"> ● Sandpaper ● Wood ● Hacksaws ● Glue gun and glue 	<ul style="list-style-type: none"> ● Cellophane ● Lollipop sticks ● Glue gun ● Glue gun sticks ● Stapler ● Staples 	<ul style="list-style-type: none"> ● Needles ● Thread 	<ul style="list-style-type: none"> ● Box ● Tracing paper ● Black pen ● Long roll of wire ● Pliers ● Coloured cellophane



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		Year 5			Year 6		
	Topic	Autumn 1 - We're the kids in America	Spring 2 - Oh I do like to be beside the seaside	Summer 2 - Whole School Topic	Autumn 2 - A Class Act	Spring 2 - Peace at Last	Summer 2 - Whole School Topic
	Outcome/Product	Moving toys (similar to a Jack in the box, popping up and down) Focus on cams system and a lever.	Making a pulley system	Savoury dish- Entrepreneurs - Dragons Den	Make a wooden chair with a cushion	Identity bag	Fairground rides
NC Knowledge/ Understanding	Design	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Use research and develop design criteria to inform the design of innovative, functional, appealing product Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes and pattern pieces 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 and pattern pieces. 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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
	Make	<ul style="list-style-type: none"> Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately 	<ul style="list-style-type: none"> Select from and use a wider range of tools and equipment to perform practical tasks [for example, 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 	<ul style="list-style-type: none"> Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques 	<ul style="list-style-type: none"> Select from and use a wider range of tools and equipment to perform practical tasks [for example, 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 	<ul style="list-style-type: none"> Select from and use a wider range of tools and equipment to perform practical tasks [for example, 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 	<ul style="list-style-type: none"> Select from and use a wider range of tools and equipment to perform practical tasks [for example, 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
	Evaluate	<ul style="list-style-type: none"> Investigate and analyse a range of existing products 	<ul style="list-style-type: none"> Investigate and analyse a range of existing products evaluate their ideas and products against their 	<ul style="list-style-type: none"> understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed (links to 	<ul style="list-style-type: none"> Investigate and analyse a range of existing products Evaluate their ideas and products against their own design criteria 	<ul style="list-style-type: none"> Investigate and analyse a range of existing products Evaluate their ideas and products against their own 	<ul style="list-style-type: none"> Investigate and analyse a range of existing products Evaluate their ideas and products against their own design criteria

			own design criteria and consider the views of others to improve their work <ul style="list-style-type: none"> Understand how key events and individuals in design and technology have helped shape the world (Archimedes created the pulley system) 	science and geography) <ul style="list-style-type: none"> Understand how key events and individuals in design and technology have helped shape the world 	and consider the views of others to improve their work	design criteria and consider the views of others to improve their work	and consider the views of others to improve their work
	Technical knowledge	<ul style="list-style-type: none"> Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] 	<ul style="list-style-type: none"> Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] Apply their understanding of how to strengthen, stiffen and reinforce more complex structures 		<ul style="list-style-type: none"> Apply their understanding of how to strengthen, stiffen and reinforce more complex structures 	<ul style="list-style-type: none"> Apply their understanding of how to strengthen, stiffen and reinforce more complex structures 	<ul style="list-style-type: none"> Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
Future careers		<ul style="list-style-type: none"> Joiner Carpenters 	<ul style="list-style-type: none"> Toy designer Robotics 	<ul style="list-style-type: none"> Chef Food critic Dietician 	<ul style="list-style-type: none"> Joiner Carpenters Structural engineer 	<ul style="list-style-type: none"> Upholsterer Tailor 	<ul style="list-style-type: none"> Lighting director Structural engineer
Significant people and events		<ul style="list-style-type: none"> Leonardo da Vinci. 	<ul style="list-style-type: none"> Archimedes (invented the pulley) 	<ul style="list-style-type: none"> https://www.cornishpasttyco.com/history/ 	<ul style="list-style-type: none"> https://www.gq.com/story/the-12-most-iconic-chairs-of-all-time 	<ul style="list-style-type: none"> https://thehistory.com/fashion-accessories/fashionHistoryPursesHandbags?text=%20Fashion%20History%3A%20Purses%20and%20Handbags%20%2014am%20silhouette%20when%20skirts%20became%20progressively...%20More%20 Sten Gustaf Thulin 	<ul style="list-style-type: none"> Michael Faraday and the invention of the electric motor. https://www.sheffield.ac.uk/nfra/researchandarticles/fairgroundrides
Skills		<ul style="list-style-type: none"> Thread (axle through the cams) Measure (accurate measuring of the lever) Cut (hacksaws) 	<ul style="list-style-type: none"> Threading (pulley system) Joining 	<ul style="list-style-type: none"> Rolling (rolling pin) Mixing (mixing ingredients) Weighing (weigh the ingredients) Bake Crimping 	<ul style="list-style-type: none"> Measure Cutting (hacksaw) Joining (nails and a hammer) Joining (glue gun) Cutting (craft knife) Finishing (sanding down) 	<ul style="list-style-type: none"> Cutting (pinking scissors) Threading and joining (needle and thread) Finishing (sew initials onto bag). Tease (tease out the cord) Joining (buttons) 	<ul style="list-style-type: none"> Strengthening and stiffening (structure) Joining (glue gun and the circuit) Thread (flying out seats?)
Tools and resources		<ul style="list-style-type: none"> Hacksaw Ruler Axle Cams Glue 	<ul style="list-style-type: none"> Wooden pulleys (with groove) String/thread/ cotton Cotton reels 	<ul style="list-style-type: none"> Bowl Mixing spoon Scales Rolling pin Knife <p>Ingredients Butternut squash Feta cheese Beetroot Chickpeas (tinned)</p> <p><i>Extra ingredients for the pastry</i></p>	<ul style="list-style-type: none"> Hammers Nails Kitchen sponges Felt Wood Craft knife Sandpaper Thick card/cardboard 	<ul style="list-style-type: none"> Pinking scissors Needle Different types of thread, cotton thread for making the bag, embroidery thread to finish initials and cord. Material Eyelets Buttons 	<ul style="list-style-type: none"> Recycled material Lollipop sticks Electrical circuits Motor/bulb/buzzer/switch