



Theme 1	Curriculum Flight Path Year A				
	Nursery (30 - 50 months)	Reception	Year 1/2	Year 3/4	Year 5/6
Textiles/food/construction and mechanism	Construction and mechanism: play dough/plasticine/clay	Construction and mechanism	Mechanisms: <i>Wheels and axis</i>	Textiles: <i>change 2D materials to 3D</i>	Structure and mechanisms: <i>Woodwork/Moving Cams</i>
Possible Themes (overarching e.g Tudors)	Making food for a customer for the home corner/shop/cafe	creating small home for the elf/fairy for shelter (linked with literacy character)	Design and make a moon buggy for an astronaut to travel on the moon Design and make a winter/Santa's sleigh	Anglo Saxon purse Baby's toy	Moving toy linked with another curriculum area.
Substantive knowledge <i>As a designer, I am learning about</i>	how tools can be used for a purpose	making enclosures and creating spaces.	The movement of simple mechanisms such as levers, sliders, wheels and axles How to use simple tools to effect changes to materials	how to strengthen, stiffen and reinforce existing fabrics. how to securely join two pieces of fabric together. Using back stitch	using learning from science to help design and make products that work using learning from mathematics to help design and make products that work how materials have both functional properties and aesthetic qualities how materials can be combined and mixed to create more useful characteristics
Disciplinary Knowledge <i>As a designer, I am learning to</i>	construct with a purpose in mind	construct with a purpose in mind using a variety of resources manipulate materials to achieve a planned effect. use simple tools to effect changes to materials	create a drawing of a design and discuss it make a mockup of a design and discuss it	design products that are functional and designed for purpose use given shapes on a basic computer program to create a design eg, use	design products that are innovative and appeal to individuals create a prototype of my design

			<p>use simple tools to effect changes to materials</p> <p>find ways to make structures more stable through exploring and assembling</p> <p>say what they like and dislike about existing products</p> <p>say how well my design has met a given criteria.</p>	<p>a computer aided design program</p> <p>use back stitch to join fabric</p> <p>cut slots in fabric</p> <p>explain strengths and weaknesses of existing products</p> <p>evaluate my work against my own design criteria.</p>	<p>build frameworks using a range of materials: wood, card, corrugated plastic</p> <p>cut internal shapes</p> <p>use a glue gun with close supervision</p> <p>use more complex mechanical systems in their products e.g. pulleys and linkages.</p> <p>select the most appropriate way to join or secure materials within their design</p> <p>evaluate existing products in relation to their purpose and audience</p> <p>explore the impact of well known designers and inventors and how their products helped shape the world</p> <p>collect feedback from others to find out how to improve their product</p>
Possible leading enquiry questions (based on specific components of knowledge).				How can flat fabrics be used to store coins/create a 3D toy for a baby?	What do we need to use and do to build the best go-kart?
Vocabulary (progressive – so what are the new words?)	make	material, change, make	vehicle, wheel, axle, axle holder, chassis, body, cab assembling, cutting, shaping, finishing, fixed, free, moving, mechanism	Back stitch, chain stitch, cross stitch, triangular prism, net	Cam, follower, rotary motion into linear motion, mechanism, pivot, off-centre, axle, force, framework, follower, guide, offset, shaft, prototype, communicate

Theme 2		Curriculum Flight Path Year A			
	Nursery	Reception	KS1	Year 3/4	Year 5/6
Theme (overarching e.g Tudors)	Construction	Food Technology: making a fruit salad	Templates and joining techniques	Food Technology: making sandwiches.	Food Technology: Computer -aided design
Possible Themes		Making a fruit salad for a party	Making a moving card for an occasion (Mother's Day\ Easter)	Making sandwiches for an event. Can include packaging design and marketing aspects.	Make a soup using seasonal vegetables including its packaging
Substantive Knowledge <i>As a designer, I am learning about</i>	different construction materials. how different construction pieces can be joined together to build and balance.	Know the importance of a healthy diet Talk about ways to keep healthy	how freestanding structures can be made stronger, stiffer and more stable Know the correct vocabulary for the projects they are undertaking	how to prepare food. Practising good food hygiene and safety when using cutting equipment.	foods that are reared, caught and grown in the UK and across the globe. how some foods are seasonal and give examples seasonality in relation to food products and the source of different food products.
Disciplinary Knowledge <i>As a designer, I am learning to</i>	experiment with blocks, colours and marks. use a variety of construction materials. begin to stack blocks, vertically and horizontally. join construction pieces together and build and balance.	Show some understanding of good practice regarding hygiene and how eating can contribute to good health Use a knife and fork to cut my own food	Talk about design ideas	Know which foods are reared, caught or grown in different seasons and that this happens in the UK. that different seasons can affect food production.	Evaluate existing products in relation to their purpose and audience Identify which food and drink provide certain nutritional and health benefits which support a healthy lifestyle and why Use a computer aided program to communicate

				that recipes can be changed by adding or taking away ingredients.	<p>their ideas (e.g. create packaging design with text and graphics)</p> <p>Estimate the amount of ingredients to an appropriate level of accuracy</p> <p>Use cooking techniques such as slicing and peeling</p> <p>collect feedback from others to find out how to improve their product</p>
Possible Leading Enquiry Questions		How can we make a healthy fruit salad?	Which joining technique is best for...?	Which filling would be the most suitable...?	Why did you choose..... ingredients instead of.....?
Vocabulary	build	Taste - sweet, salty, sour Smell - strong	Explore, assemble, structure, join, finish, decorate	Meat, grown, savoury scale, hygienic, frozen, tinned, processed, irreversible, spreading, carbohydrate, seasonal, harvested healthy/varied diet, packaging	at, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality , estimate, accuracy
Theme 3		Curriculum Flight Path Year A			
		EYFS	KS1	Year 3/4	Year 5/6
Theme (overarching e.g Tudors)		Textiles: Cutting different materials	Food Technology: Preparing fruit and veg	Structures: Using computer aided design	Mechanical Structures

Possible Themes		Making a rug for a Teddy Bear's picnic	Fruit kebabs using more than one fruit for a healthy snack	Creating a photo frame	Using pulleys and gears to create a ... for ... Catapulting toy?
Substantive Knowledge <i>As a designer, I am learning about</i>		Choose appropriate resources and adapt this where necessary Create different textures	Understand that food comes from plants or animals Understand that food has been farmed, caught or grown Identify that people should eat at least 5 portions of fruit and vegetables per day Sort foods into 5 groups using the 'Eatwell Plate' Know the correct vocabulary for the projects they are undertaking	to know that materials have both functional and aesthetic qualities. to know that materials can be combined and mixed to create more useful characteristics know the correct technical vocabulary for the projects they are undertaking.	understand how gears and pulleys can be used to speed up, slow down or change the direction of movement understand that mechanical and electrical systems have an input, process and an output use more complex mechanical systems in their products e.g. pulleys and linkages
Disciplinary Knowledge <i>As a designer, I am learning to</i>		Construct a product with a purpose in mind using a variety of resources Manipulate materials to achieve a planned effect Use simple tools to change the shape of materials and join them To use and transport scissors safely	Talk about design ideas/create a drawing of a design and discuss it Prepare simple dishes safely, with or without a heat source Read a simple scale to weigh and measure ingredients	develop my own ideas through discussion. design products that are functional and designed for purpose. create simple joins with wood. measure and mark a square section and dowelling to the nearest cm.	evaluate existing products in relation to their purpose and audience Can design products that are innovative and appeal to individuals or groups create a prototype of their design build frameworks using a range of materials: wood card, corrugated plastic

			<p>Use cooking techniques such as: cutting, peeling and grating</p> <p>Decide own satisfaction of their own product</p> <p>Evaluate their use of technique</p> <p>Explain strengths and weaknesses of existing products</p> <p>Decide own satisfaction of their own product</p> <p>Teacher model evaluation and choice</p> <p>Explain why and what could have made it better</p>	<p>make a frame or a structure, strengthening with diagonal struts.</p> <p>explain strengths and weaknesses of existing products.</p> <p>evaluate own work against the design criteria.</p>	<p>understand how to strengthen, stiffen and reinforce 3D frameworks</p> <p>can cut accurately to 1mm: strip wood, dowel and square section</p> <p>can cut internal shapes</p> <p>can select the most appropriate way to join or secure materials within their design</p> <p>collect feedback from others to find out how to improve their product</p>
Possible Leading Questions		Which tool is better to cut.....?	Which methods are appropriate for making this food smaller?	How can joints be made more stable?	How does it appeal to?
Vocabulary (progressive – so what are the new words?)		Cut, stick, material, change	<p>Peel, Chop, Grate, Prepare</p> <p>Measure, Method</p> <p>Mixture, ingredients, recipe, healthy, 'The Eat Well plate', nutrition, farmed, grown, ingredients, recipe, grating, germs, scale, like, dislike, because, evaluate, change, improve, choice</p> <p>Taste adjectives: juicy, squishy, sour, sweet, soft, hard</p>	<p>Diagonal strut, dowel joint, butt joint</p> <p>appealing , design brief, design criteria, evaluate</p>	<p>pulleys, linkages, pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle,</p>

Theme 1	Curriculum Flight Path Year B				
	Nursery (30-50 months)	Reception	KS1	Year 3/4	Year 5/6
Theme (overarching e.g Tudors)		Structures: Begin to build structures inside and out	Mechanisms: Sliders and Levers	Electrical Systems: Simple circuits and switches including programming	Textiles: Combining different fabric shapes (using computer-aided design)
Possible Themes		Building a house to keep the 3 little pigs safe	Moving Christmas card	Using circuits to create a light up Christmas card	pencil case/water bottle carrier inspired by William Morris.
Substantive Knowledge <i>As a designer, I am learning about</i>		Making enclosures and creating spaces Selecting appropriate resources and adapting this where necessary	Know about the simple working characteristics of materials and components Know about the movement of simple mechanisms such as sliders and levers Know the correct technical vocabulary for the projects they are undertaking	How mechanical and electrical systems have an input, process and output. Understand and use electrical systems in their products.	creating a 3D textile product made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. fabrics can be strengthened, stiffened and reinforced where appropriate explore the impact of well known designers and inventors and how their products helped shape the world

Disciplinary Knowledge <i>As a designer, I am learning to</i>		Construct something with a purpose in mind Manipulate materials to achieve a planned effect Select tools and techniques needed to shape, assemble and join materials they are using	Talk about design ideas Create a drawing of a design and discuss it Make a mock up of a design and discuss it Use tape and glue to create temporary joins, fixed joins and moving joins	Use different mechanical systems to add decoration to a design. Use scientific knowledge to help design and make products that work Know how to use learning from mathematics to help design and make products that work Know that materials have both functional properties and aesthetic qualities	evaluate existing products in relation to their purpose and audience know how to use an applique stitch Use applique to decorate by glueing and stitching Create a simple sewing pattern or printing block to use in their design. collect feedback from others to find out how to improve their product
Possible Leading Questions		Which is the best material to build a strong house?	How does your..... move?	How can we make a Christmas card light up?	How have you created your design?
Vocabulary (progressive – so what are the new words?)		Build, join, construct, balance, strength	slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, pull, push, up, down, straight, curve, forwards, backwards, cut, fold, join, weak, strong, corner, straight, moving, cutting, assembling	series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, control, program, system, input device, output device	visual and tactile qualities, eg shiny, scaly drawing skills, eg outline, mark making making skills, eg glueing, stitching composition, eg arrangement of shapes, colours, lines, background, foreground
Theme 2		Curriculum Flight Path Year B			
	Nursery	Reception	KS1	Year 3/4	Year 5/6
Theme (overarching e.g Tudors)			Structures: Freestanding structures	Food Technology: Healthy and varied diet	Electrical Systems: Electrical moving item (more complex circuits and switches)

Possible Themes			Create a room for a bug hotel for the forest school area	Design and make a food product for a runner to sustain them during a marathon	Alarm/safe system to protect something precious?
Substantive Knowledge <i>As a designer, I am learning about</i>			<p>Know how freestanding structures can be made stronger, stiffer and more stable</p> <p>Know the correct technical vocabulary for the projects they are undertaking</p>	How to prepare and make a healthy food product.	<p>understanding and using electrical circuits in products.</p> <p>understanding that electrical systems have an input, process and output</p>
Disciplinary Knowledge <i>As a designer, I am learning to</i>			<p>Create a drawing of a design and discuss it</p> <p>Make a mockup of a design and discuss it</p> <p>Through exploring and assembling, find ways to make structures more stable</p> <p>Through exploring and assembling, find ways to make structures more stable so they are freestanding</p> <p>Use tape and glue to create temporary joins, fixed joins and moving joins</p>	<p>Identify that food and drink provide certain nutritional and health benefits which support a healthy lifestyle.</p> <p>Can create a prototype of their design.</p> <p>Can design a product that is innovative and appealing to individuals or groups.</p>	<p>evaluate existing products in relation to their purpose and audience</p> <p>use a glue gun.</p> <p>build a framework using a variety of materials.</p> <p>select the most appropriate way to join or secure materials within my design.</p> <p>include an electrical circuit that produces more than one outcome, e.g. light and sound.</p> <p>apply their understanding of computing to program monitor and control their products</p>

					collect feedback from others to find out how to improve their product
Possible Leading Questions		How can you get rid of germs?	How can you make your..... stable?	How can we fuel our runner?	How can electricity help us protect....?
Vocabulary (progressive – so what are the new words?)		Germs/bacteria Clean Dirty Mouldy Hungry Tired Soap	cut, fold,, fix structure, wall, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic	Hygienically Accurate Reliable Consistent Bacteria Quantity purpose healthy/varied diet, packaging, fair trade	circuit, programm, reed switch, toggle switch, push-to-make switch, push-to-break switch, light dependent resistor (LDR), tilt switch, light emitting diode (LED), bulb, bulb holder, battery, battery holder, USB cable, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, series circuit, parallel circuit
Theme 3	Curriculum Flight Path Year B				
	Nursery	Reception	KS1	Year 3/4	Year 5/6
Theme (overarching e.g Tudors)		Construction: choosing resources	Textiles: Joining materials Needs to be a 3D textile product that can be assembled from two identical fabric shapes	Mechanical Systems: Levers and linkages	Food Technology: Celebrating culture and seasonality
Possible Themes		Build a boat that can carry the gingerbread man across the river	Design a teddy bear (or other animal) to give as a present. (Cut out of two pieces of felt, stuff and	Create a moving birthday card for a friend	Create a savoury snack for a celebration (e.g. samosas, spring rolls,

			running stitch around the edge). Decorate with fabric pens, googly eyes, sequins etc.		
Substantive Knowledge <i>As a designer, I am learning about</i>			<p>Know the correct technical vocabulary for the projects they are undertaking</p> <p>Know that a 3-D textile product can be assembled from two identical fabric shapes</p> <p>Say what they like and dislike about existing products</p> <p>Say how well their design has met a given criteria</p>	<p>creating a design product that is functional and designed for purpose.</p> <p>Know how mechanical systems such as levers and linkages create movement.</p>	<p>Understand that sometimes raw ingredients need to be processed before they can be cooked (e.g. defeathering a chicken)</p> <p>Understand how foods are produced in different areas of the world.</p> <p>Understand that recipes can be adapted to change the appearance, taste and aroma of a dish.</p>
Disciplinary Knowledge <i>As a designer, I am learning to</i>		Construct with a purpose in mind using a variety of sources	<p>Use IT to explore ideas - research design ideas and draw a design using a basic paint program</p> <p>Make a template of a design and discuss it/Make a mock up of a design and discuss it</p> <p>Know how to join fabrics using running stitch</p> <p>Join fabrics using staples</p> <p>Join fabrics using staples and a running stitch</p>	Understand how gears and pulleys can be used to speed up or slow down or change the direction of movement.	<p>evaluate existing products in relation to their purpose and audience</p> <p>understand what effects food types have on the body</p> <p>Use cooking techniques such as spreading and baking</p> <p>Select the appropriate tools to follow a given recipe for a savoury dish</p> <p>know how to use utensils and equipment, including</p>

			Decorate textiles using buttons, beads, braids, ribbons and sequins Colour fabrics using paints to print and paint		heat sources, to prepare and cook food. know and use relevant technical and sensory vocabulary collect feedback from others to find out how to improve their product
Possible Leading Questions		Which is the best material to make a boat from?		Which is best to use, oscillating or reciprocating?	Can you make something tasty for a celebration?
Vocabulary (progressive – so what are the new words?)		Build, join, construct, balance	pattern, pieces, mark out, decorate, finish, fabric , running stitch, staple	mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output mechanism, gear, lever, cam, product linear, rotary, oscillating, reciprocating	fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality