

SUBJECT CURRICULUM LONG TERM PLAN

Subject: DT

Subject Lead/Team: Natalie Prince

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YR R	MARVELLOUS ME How to use one handed tools,(fine motor) how to use equipment safely	A WALK IN THE WOODS Gingerbread man biscuits, Christmas decorations	SUPER YOU SUPER ME Superhero Lolly Stick puppets	A LONG TIME AGO Egg day, make a paper bag princess	ANIMAL MAGIC Design own odd dog	AROUND THE WORLD Make a mask/instrument
YR1	Templates and joining		Freestanding structures		Wheels and axles	
YR2	Sliders and levers				Preparing fruit and veg	
YR3	Healthy and varied diet		Levers and linkages		Shell structures	
YR4	Simple circuits and switches		2d shape to 3d product			
YR5	Frame structures		More complex switches		Combining different fabric shapes	
YR6	Celebrating culture and seasonality				Pulleys or gears	

Stour Primary School

DT SUBJECT AIMS

At Balfour, we use an iterative design process. The DT curriculum draws on the instinct that children have, to create. It is ambitious in its aim to interleave related learning and has problem solving at its core. It is designed to complement and promote the cognitive and physical skill development of the children through their primary education journey. It aims to give children real life design and technology tasks that will allow them to think critically and work creatively.

The DT curriculum is designed to develop a wide range of skills including literacy, numeracy, and communication skills. Children will problem solve in groups and individually and provide solutions to the needs of real-life users. It aims to broaden horizons by developing links with the wider community in Brighton, nationally and globally.

This real-life purpose at the heart of DT at Balfour, allows the children to analyse and question why a product is needed and who and what a consumer is. The children will start every project with a design brief and finish with an evaluation and modification of their own projects. Children work through the iterative design and making process, and experience how a designer works. The units have a spiral design, intended to build on previous year's knowledge and skill development. This will promote retention through active and kinaesthetic practise that supports both long-term and working memory.

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The importance of health and safety issues are embedded in every unit across the school. DT helps to develop the skills to strengthen their memory through an active and kinaesthetic practise that supports both, long-term and working memory.

An inclusive range of designers from history and from around the world are showcased in each unit.

Year Group: Yr R

Autumn Term 1 and 2			
Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC
Equipment, tool, cut, mix, construct, manipulate, create, join, assemble, same, different, build, colour, design, model, function, keeping safe,	30-50 months: Physical development, Understanding of the world, Expressive arts and design.		Opportunities for social and spiritual development through cooperation, respect and tolerance and by the use of imagination and creativity. Moral - appreciating others' viewpoints in relation to preferences of art Cultural -understanding the impact of design on communities.
Threshold Concepts Core Knowledge To know how to use tools and equipment appropriately and safely To know how to manipulate ingredients to make a simple dish (egt Gingerbread man,)		Key skills To use one-handed tools and equipment, To use equipment and tools safely. ELG 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, explaining the process they have used. • Make use of props and materials when role playing characters in narratives and stories.	
Spring Term 1 and 2			
Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC
			Children's moral development encouraged by opportunities to see the consequences

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			<p>of behaviour choices and by listening to the viewpoint of others.</p> <p>Cultural development encouraged by understanding the impact of design on communities.</p> <p>Social and spiritual development opportunities provided through cooperation, tolerance and respect.</p>
Equipment, tool, construct, manipulate, create, join, assemble, same, different, build, colour, design, model, function	30-50 months: Physical development, Understanding of the world, Expressive arts and design.		
<p>Threshold Concepts</p> <p>Core Knowledge</p> <p>To know how to use tools and equipment appropriately and safely</p>	<p>Key skills</p> <p>To use simple tools to effect changes to materials.</p> <p>To mix colours and create different textures.</p> <p>To construct with a purpose in mind, using a variety of resources.</p> <p>To create simple representations of events, people and objects</p> <p>To explore and understand how to create models out of junk modelling</p> <p>To follow and remember instructions</p> <p>To use different materials and tools appropriately.</p> <p>ELG Creating with Materials</p> <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • Share their creations, explaining the process they have used. • Make use of props and materials when role playing characters in narratives and stories.</p>		
Summer Term 1 and 2			
Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC
Equipment, tool, construct, manipulate, create, join, assemble, same, different, build, colour, design, model, function	30-50 months: Physical development, Understanding of the world, Expressive arts and design.		<p>Moral - children can provide reasoned views</p> <p>Social - listen to others ideas with respect</p> <p>Spiritual - to engage with fascination with their school community</p> <p>Cultural- children can explore and respond to design in their own year group</p>

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			community and in the wider school community
Threshold Concepts		Key skills	
Core Knowledge		To handle equipment and tools effectively, including pencils for writing. To safely use and explore a variety of materials, tools and techniques, To represent their own ideas, thoughts and feelings through design and technology	
To know how to create a simple representation of an object		ELG 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, explaining the process they have used. • Make use of props and materials when role playing characters in narratives and stories.	

Year Group: Yr 1

Autumn Term 1 and 2			
Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC
<p>Joining and finishing vocabulary (stapling, stitch, glue, sew)</p> <p>Names of tools (scissors, needle, template)</p> <p>Fabric names and components (cotton, thread)</p> <p>Also: template, pattern pieces, mark out, join, decorate, finish, suitable, quality, mock-up, design</p>	<p>Reception - Spring 1- Super you super me- Junk Modelling (emergency vehicles)</p>	<p>Science Investigate physical properties of fabric types against suitability for the product to be made. Use knowledge of properties of everyday materials to select appropriate ones for their product</p> <p>Spoken language Ask questions throughout the process to check understanding, develop vocabulary and build knowledge. Listen and respond to adults. Explain and articulate their ideas orally.</p> <p>Art Use colour, pattern, texture, and shape as</p>	<p>Social - Children communicate and interact with others from different backgrounds.</p> <p>Moral - Children have the opportunity to offer reasoned views and appreciate those of others within the context of their behaviour and actions</p> <p>Spiritual - Children have the opportunity to engage with fascination in the world around them and to use their creativity in their learning.</p> <p>Cultural - Children have the opportunity to learn about and respect the things we share in common across all communities.</p>

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brief, design criteria, make, evaluate, user, purpose, function		appropriate. Quick drawings or detailed observational drawings of one product to develop and share ideas. Use and develop drawing skills. Mathematics Measurement using non-standard and standard units.	
Threshold Concepts Core Knowledge Technical knowledge and understanding To know that a 3D product is made from 2D shapes To know what a template is To know that fabric is joined using different techniques. running stitch, glue, over stitch, stapling. To know and understand technical vocabulary relevant to the project.		Key skills: Designing Design a functional and appealing product for a chosen user and purpose based on simple design criteria. Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology. Making Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing. Select from and use textiles according to their characteristics. Evaluating Explore and evaluate a range of existing textile products relevant to the project being undertaken. Evaluate their ideas throughout and their final products against original design criteria.	
Spring Term 1 and 2			
Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC
Cut, fold, join, fix, structure, wall, tower, framework, weak, strong, base,	EYFS- Autumn 2- "A walk in the woods"- EAD- Christmas decoration	Mathematics Use appropriate standard and non-standard	Social - Children communicate and interact with others from different backgrounds, and

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<p>top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved</p> <p>metal, wood, plastic</p> <p>circle, triangle, square, rectangle, cuboid, cube, cylinder</p> <p>design, make, evaluate, user, purpose, ideas, design criteria, product, function</p>	<p>EYFS - Spring 2 - "A long time ago" Maths- SSM- "3D shapes"</p>	<p>measures. Recognise and name common 2-D and 3-D shapes.</p> <p>Science Think about the properties of materials that make them suitable or unsuitable for particular purposes.</p> <p>Spoken language Ask relevant questions to extend their knowledge and understanding. Build technical vocabulary. Participate in discussion about various structures, taking turns and listening to what others say. Use spoken language to develop understanding through imagining and exploring ideas.</p> <p>Geography Use simple fieldwork and observational skills to study the geography of their school and its grounds and the key physical features of its surrounding environment.</p> <p>Art Use colour, pattern, line, shape. Use and develop drawing skills.</p>	<p>develop and demonstrate attitudes that will allow them to participate in modern life.</p> <p>Moral - Children have the opportunity to offer reasoned views and appreciate those of others within the context of their behaviour and actions</p> <p>Spiritual - Children have the opportunity to engage with fascination in the world around them and to use their creativity in their learning.</p> <p>Cultural - Children have the opportunity to learn about and respect the things we share in common across all communities.</p>
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Barnet Primary School

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<p>Threshold Concepts</p> <p>Core Knowledge</p> <p>To know that materials need to be strengthened for construction.</p> <p>To know and understand technical vocabulary relevant to the project</p>	<p>Key skills</p> <p>Designing</p> <p>Generate ideas based on simple design criteria and their own experiences, explaining what they could make.</p> <p>Develop, model and communicate their ideas through talking, mock-ups and drawings.</p> <p>Making</p> <p>Plan by suggesting what to do next.</p> <p>Select and use tools, skills and techniques suitable for the task, explaining their choices.</p> <p>Select new and reclaimed materials and construction kits to build their structures.</p> <p>Use simple finishing techniques suitable for the structure they are creating.</p> <p>Evaluating</p> <p>Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings.</p> <p>Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.</p>
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Summer Term 1 and 2

Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC
<p>vehicle, wheel, axle, axle holder, chassis, body, cab, assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism</p>	<p>EYFS Spring 1- Super You Super Me- Junk Modelling (emergency vehicles)</p>	<p>Science Working scientifically: ask simple questions and observe closely. Explore use of everyday materials.</p> <p>Mathematics Number of wheels, more than, less than, equal. Measuring length using non-standard and standard units.</p> <p>Spoken Language Use of technical vocabulary. Ask relevant questions to extend</p>	<p>Social - Children communicate and interact with others from different backgrounds.</p> <p>Moral - Children have the opportunity to offer reasoned views and appreciate those of others within the context of their behaviour and actions</p> <p>Spiritual - Children have the opportunity to engage with fascination in the world around</p>

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<p>names of the tools, design, make, evaluate, purpose, user, criteria, functional.</p>		<p>understanding and build vocabulary and knowledge. Use spoken language to develop understanding through imagining and exploring ideas</p> <p>Art Use a range of media and materials creatively to design and make products.</p> <p>Computing Use technology purposefully to create and manipulate digital content.</p>	<p>them and to use their creativity in their learning.</p> <p>Cultural - Children have the opportunity to learn about and respect the things we share in common across all communities.</p>
<p>Threshold Concepts</p> <p>Core Knowledge</p> <p>To know that wheels are connected to other structures in order to work properly (in this unit with axels and axel rods, but also in other contexts with gears/chains etc)</p> <p>To know and use technical vocabulary relevant to the project.</p>		<p>Key skills</p> <p>Designing</p> <p>Generate initial ideas and simple design criteria through talking and using own experiences.</p> <p>Develop and communicate ideas through drawings and mock-ups.</p> <p>Making</p> <p>Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing.</p> <p>Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics.</p> <p>Evaluating</p> <p>Explore and evaluate a range of products with wheels and axles.</p> <p>Evaluate their ideas throughout and their products against original criteria.</p>	

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Autumn Term 1 and 2			
Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC
<p>Slider, lever, pivot, slot, bridge/guide, equipment, card, masking tape, paper fastener, join</p> <p>direction: pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function</p>	<p>Yr 1- Autumn 1/2: Templates and joining</p>	<p>Spoken language Participate in discussion about books and other products with moving parts, taking turns and listening to what others say. Ask relevant questions to extend their knowledge and understanding. Build technical and directional vocabulary.</p> <p>Children listen and respond appropriately to adults. Use spoken language to develop understanding through imagining and exploring ideas</p> <p>Mathematics Describe position, direction and movement. Use appropriate standard and non-standard measures</p> <p>Art Use colour, pattern, line, shape.</p> <p>Computing Digital graphics and text could be incorporated into final products as the background or moving parts.</p>	<p>Social - opportunities for cooperation to promote skills and attitudes necessary for positive contribution to life.</p> <p>Moral- opportunities to understand the consequences of their behaviour and those of others</p> <p>Spiritual - Opportunities to use Creativity and imagination in the learning and to reflect on their experiences as a designer within the context of their school community</p> <p>Cultural - Opportunities to show respect and understanding towards all different communities locally, nationally and globally.</p>

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<div><div>Threshold Concepts</div><div>Core Knowledge</div><div>To know what a slider is and what a lever is.</div><div>To know that sliders and levers produce different types of movement.</div><div>Know and use technical vocabulary relevant to the project.</div></div>		<div><div>Key skills</div><div>Designing</div><div>Generate ideas based on simple design criteria and their own experiences, explaining what they could make.</div><div>Develop, model and communicate their ideas through drawings and mock-ups with card and paper.</div><div>Making</div><div>Plan by suggesting what to do next.</div><div>Select and use tools suitable for the task, explaining their choices, to cut, shape and join paper and card.</div><div>Use simple finishing techniques suitable for the product they are creating.</div><div>Evaluating</div><div>Explore a range of existing books and everyday products that use simple sliders and levers.</div><div>Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria.</div></div>	
<div>Spring Term 1 and 2</div>			
<div>Key Vocabulary</div>	<div>Interleaving Opportunities (e.g. when past topics can be revisited)</div>	<div>Links to wider curriculum (e.g. different subjects or key stages)</div>	<div>SMSC</div>
<div>Threshold Concepts</div> <div>Knowledge without which later concepts will not be fully understood</div> <div>Core Knowledge</div> <div>The minimum all pupils should know</div>	<div>Key skills</div> <div>Which can be applied once the knowledge is understood</div>		
<div>Summer Term 1 and 2</div>			

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Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC
<p>Names of fruit and vegetables</p> <p>Names of equipment and utensils</p> <p>Sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard</p> <p>Fruit and vegetable features: flesh, skin, seed, pip, core</p> <p>Peeling, cut, choosing, slicing, squeezing</p> <p>Other: ingredients, planning, healthy diet, investigating, tasting, arranging, popular,</p>	<p>Reception- Autumn 2- A walk in the woods - Making soup/Making gingerbread man</p>	<p>Science Understand that plants have leaves, stems, roots, flowers and fruits; understand the importance of growing plants and how seasons affect growth. Talk about a balanced diet, different types of food and hygiene.</p> <p>Spoken language Children develop and use a sensory vocabulary. They ask questions to check understanding; use the correct terminology for equipment and food processes.</p> <p>Writing Develop descriptive writing based on first-hand experience of tasting fruit and vegetables. Write instructions on how to use one of the utensils, or how to prepare e.g. a fruit, for eating. Write a simple account about how they made their food product</p> <p>Mathematics Carry out a simple survey to find out which are the favourite fruits/vegetables; construct and interpret the information in e.g. pictograms and bar graphs</p> <p>Art Use and develop drawing skills.</p> <p>Computing Use digital photographs to help order the main stages of making and support children's writing.</p>	<p>Social - Opportunities for cooperation to promote skills and attitudes necessary for positive contribution to life.</p> <p>Moral- Opportunities to understand the consequences of their behaviour and those of others, and to appreciate the viewpoints of others.</p> <p>Spiritual - Opportunities to use creativity and imagination in the learning, and to reflect on their experiences and personal development.</p> <p>Cultural - Opportunities to show respect and understanding towards all different communities locally, nationally and globally</p>
<p>Threshold Concepts Knowledge without which later concepts will not be fully understood</p> <p>Core Knowledge</p> <p>The minimum all pupils should know</p>		<p>Key skills</p> <p>Which can be applied once the knowledge is understood</p>	
<p>Technical knowledge and understanding</p> <p>To know that a range of fruit and vegetables come from different places e.g. farmed or grown at home.</p>		<p>Designing</p> <p>Design appealing products for a particular user based on simple design criteria.</p>	

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<p>To know the basic principles of a healthy and varied diet in order to prepare dishes, including how fruit and vegetables are part of <i>The Eatwell Plate</i>.</p> <p>To know and use technical and sensory vocabulary relevant to the project.</p>	<p>Generate initial ideas and design criteria through investigating a variety of fruit and vegetables.</p> <p>Communicate these ideas through talk and drawings.</p> <p>Making</p> <p>Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely.</p> <p>Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.</p> <p>Evaluating</p> <p>Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences.</p> <p>Evaluate ideas and finished products against design criteria, including intended user and purpose.</p>
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Year Group: Yr 3

Autumn Term 1 and 2			
Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC
<p>Name of products, names of equipment, utensils, techniques and ingredients</p> <p>texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury</p> <p>hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested</p> <p>healthy/varied diet</p> <p>planning, design criteria, purpose, user, annotated sketch,</p>	<p>Yr 2- Summer 1/ 2 : "Preparing fruit and veg"</p>	<p>Mathematics and Computing Making use of mathematical and computing skills to present results of sensory evaluations graphically. Mass k/kg</p> <p>Spoken language Developing relevant vocabulary e.g. sensory descriptors. Ask relevant questions to extend their knowledge.</p> <p>Science Use and develop skills of observing and questioning. Humans get nutrition from what they eat. Discuss changes of state if heat is used. Consider and evaluate different viewpoints. Use discussion to develop understanding through exploring ideas.</p> <p>Art Using and developing drawing skills.</p>	<p>Social - opportunities for cooperation to promote skills and attitudes necessary for positive contribution to life.</p> <p>Moral- opportunities to understand the consequences of their behaviour and those of others</p> <p>Spiritual - Opportunities to use creativity and imagination in the learning</p> <p>Cultural - Opportunities to show respect and understanding towards all different communities locally, nationally and globally</p>

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		Writing Use non-fiction texts such as description, explanation and instructions e.g. recipes. Organise their work using e.g. headings, subheadings.	
Threshold Concepts Knowledge without which later concepts will not be fully understood Core Knowledge <i>The minimum all pupils should know</i>		Key skills Which can be applied once the knowledge is understood	
Technical knowledge and understanding To know how to use appropriate equipment and utensils to prepare and combine food. To know about a range of fresh and processed ingredients appropriate for the product, and whether they are grown, reared or caught. To know and use relevant technical and sensory vocabulary appropriately.		Designing Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. Making Plan the main stages of a recipe, listing ingredients, utensils and equipment. Select and use appropriate utensils and equipment to prepare and combine ingredients. Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics. Evaluating Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.	
Spring Term 1 and 2			
Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC
Slider, lever, pivot, slot, bridge/guide card, masking tape, paper fastener, join	YR2- Autumn 1/ 2: Sliders and levers	Spoken language Participate in discussion and evaluation of books and, where available, other products with moving pictures, ask relevant questions to extend knowledge and	Social - Opportunities for cooperation to promote skills and attitudes necessary for positive contribution to life. Moral - Opportunities to understand the consequences of their behaviour and those of

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pull, push, up, down, straight, curve, forwards, backwards design, make, evaluate, user, purpose, ideas, design criteria, product, function		understanding. Build technical vocabulary. Consider and evaluate different viewpoints. Computing Digital graphics and text could be incorporated into final products as the background or moving parts. Art Use and develop drawing techniques. Use colour, pattern, line, shape Mathematics Use the vocabulary of position, direction and movement. Use a ruler to measure to the nearest cm, half cm or mm.	others, and to recognise the difference between right and wrong. Spiritual - Opportunities to use creativity and imagination in their learning and to reflect on their personal development. Cultural - Opportunities to show respect and understanding towards all different communities locally, nationally and globally
Threshold Concepts Knowledge without which later concepts will not be fully understood Core Knowledge The minimum all pupils should know		Key skills <i>Which can be applied once the knowledge is understood</i>	
Technical knowledge and understanding To know what a lever and a linkage mechanism is. To know what the difference is between fixed and loose pivots. To know and understand technical vocabulary relevant to the project.		Designing Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user. Use annotated sketches and prototypes to develop, model and communicate ideas. Making Order the main stages of making. Select from and use appropriate tools with some accuracy to cut, shape and join paper and card. Select from and use finishing techniques suitable for the product they are creating. Evaluating Investigate and analyse books and, where available, other products with lever and linkage mechanisms. Evaluate their own products and ideas against criteria and user needs, as they design and make.	
Summer Term 1 and 2			
Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC
Mechanism, lever, linkage, pivot, slot, bridge, guide, system, input, process, output, linear,	YR 1: Spring 1 / 2 : Freestanding structures"	Mathematics Use a ruler to measure to the nearest cm, half cm or mm. Draw 2-D shapes and make 3-D shapes using modelling	Social - Opportunities for cooperation to promote skills and attitudes necessary for positive contribution to life.

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<p>rotary, oscillating, reciprocating, user, purpose, function</p> <p>prototype, design criteria, innovative, appealing, design brief</p>		<p>materials. Compare and sort common 2-D and 3-D shapes in everyday objects. Recognise 3-D shapes in different orientations and describe them.</p> <p>Computing Design and create digital content on screen, creating nets for their products and combining text with graphics. Potential for CAD</p> <p>Spoken language Ask relevant questions to extend knowledge and understanding. Build technical vocabulary.</p> <p>Art Use and develop drawing skills.</p> <p>Writing Write for real purposes and audiences.</p>	<p>Moral- Opportunities to understand the consequences of their behaviour and those of others</p> <p>Spiritual - Opportunities to use creativity and imagination in their learning and to reflect upon their own development and experiences.</p> <p>Cultural - Opportunities to show respect and understanding towards all different communities locally, nationally and globally</p>
<p>Threshold Concepts Knowledge without which later concepts will not be fully understood</p> <p>Core Knowledge</p> <p>The minimum all pupils should know</p>		<p>Key skills</p> <p><i>Which can be applied once the knowledge is understood</i></p>	
<p>Technical knowledge and understanding</p> <p>To know what a shell structure is.</p> <p>To know that products need to be fit for purpose and understand how to construct strong, stiff shell structures. (paper)</p> <p>To know that 3D objects are created from 2D shapes and to know how to use nets of cubes and cuboids and, where appropriate, more complex 3D shapes.</p> <p>To know and understand technical vocabulary relevant to the project.</p>		<p>Designing</p> <p>Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and purpose of the product.</p> <p>Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas.</p> <p>Making</p> <p>Order the main stages of making.</p> <p>Use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy.</p> <p>Explain their choice of materials according to functional properties and aesthetic qualities.</p> <p>Use finishing techniques suitable for the product they are creating.</p> <p>Evaluating</p> <p>Investigate and evaluate a range of existing shell structures including the materials, components and techniques that have been used.</p> <p>Test and evaluate their own products against design criteria and the intended user and purpose.</p>	

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Year Group: Yr 4

Autumn Term 1 and 2			
Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC
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	First time to be taught	<p>Science Know how to construct simple series circuits and have a basic understanding of conductors, insulators and open and closed switches.</p> <p>Spoken language Participate in discussion and evaluation of battery-powered products. Ask relevant questions to extend knowledge and understanding. Build their technical vocabulary. Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments. Develop understanding through speculating, hypothesising, imagining and exploring ideas.</p> <p>Computing Design, write and debug programs that accomplish specific goals, including controlling physical systems.</p> <p>Art Using and developing drawing skills.</p>	<p>Social - Opportunities for cooperation to promote skills and attitudes necessary for positive contribution to life.</p> <p>Moral - Opportunities to understand the consequences of their behaviour and those of others and to investigate and offer reasoned views about moral and ethical issues.</p> <p>Spiritual - Opportunities to use creativity and imagination in the learning and to reflect upon their personal development.</p> <p>Cultural - Opportunities to show respect and understanding towards all different communities locally, nationally and globally</p>
<p>Threshold Concepts Knowledge without which later concepts will not be fully understood /</p> <p>Core Knowledge</p> <p>The minimum all pupils should know</p>		<p>Key skills</p> <p>Which can be applied once the knowledge is understood</p>	
<p>Technical knowledge and understanding</p> <p>To know that electrical systems in their products, (such as series circuits), incorporate switches, bulbs and buzzers.</p>		<p>Designing</p>	

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<p>To know that computers can program and control products</p>	<p>Gather information about needs and wants, and develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups.</p> <p>Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams.</p> <p>Making</p> <p>Order the main stages of making.</p> <p>Select from and use tools and equipment to cut, shape, join and finish with some accuracy.</p> <p>Select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic qualities.</p> <p>Evaluating</p> <p>Investigate and analyse a range of existing battery-powered products.</p> <p>Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.</p>
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Spring Term 1 and 2

Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC
<p>shell structure, three-dimensional (3-D)</p> <p>shape, net, cube, cuboid, prism, vertex,</p> <p>edge, face, length, width, breadth, capacity</p> <p>marking out, scoring, shaping, tabs,</p> <p>adhesives, joining, assemble, accuracy,</p> <p>material, stiff, strong, reduce, reuse, recycle,</p> <p>corrugating, ribbing, laminating</p> <p>font, lettering, text, graphics, decision,</p> <p>evaluating, design brief</p>	<p>YR 3: Sumer 1/ 2 : Shell structures</p>	<p>Science Physical properties of fabrics. - identify and compare the suitability of a variety of fabrics for particular uses</p> <p>Spoken language Asking and answering questions to develop understanding. Through discussion, participate actively initiating and responding to comments. Develop technical vocabulary. Give well-structured descriptions of e.g. finishing techniques. Consideration and evaluation of others' viewpoint</p> <p>Mathematics Nets of shapes and accurate measurements mm/cm.</p> <p>History Investigating textiles and textile products from age being studied</p>	<p>Social - opportunities for cooperation to promote skills and attitudes necessary for positive contribution to life.</p> <p>Moral- opportunities to understand the consequences of their behaviour and those of others</p> <p>Spiritual - Opportunities to use creativity and imagination in the learning</p> <p>Cultural - Opportunities to show respect and understanding towards all different communities locally, nationally and globally</p>

SUBJECT CURRICULUM LONG TERM PLAN

		<p>Computing Opportunity to create pattern pieces using a computer program.</p> <p>Art Investigating visual and tactile qualities of fabrics and using colour and pattern appropriately. Use a range of tools and decorative techniques. Develop sketching techniques.</p> <p>Writing Written evaluation of their product, organising it under headings</p>	
<p>Threshold Concepts Knowledge without which later concepts will not be fully understood</p> <p>Core Knowledge The minimum all pupils should know</p>	<p>Key skills Which can be applied once the knowledge is understood</p>		
<p>Technical knowledge and understanding</p> <p>To know why and how to strengthen, stiffen and reinforce materials (fabrics)</p> <p>To know how to securely join two pieces of fabric together.</p>	<p>Designing Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s.</p> <p>Produce annotated sketches, prototypes, final product sketches and pattern pieces.</p> <p>Making Plan the main stages of making.</p> <p>Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing.</p> <p>Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern.</p> <p>Evaluating Investigate a range of 3-D textile products relevant to the project.</p> <p>Test their product against the original design criteria and with the intended user.</p> <p>Take into account others' views.</p> <p>Understand how a key event/individual has influenced the development of the chosen product and/or fabric.</p>		
Summer Term 1 and 2			
Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC

SUBJECT CURRICULUM LONG TERM PLAN

Threshold Concepts Knowledge without which later concepts will not be fully understood Core Knowledge The minimum all pupils should know		Key skills Which can be applied once the knowledge is understood	

Year Group: Yr 5

Autumn Term 1 and 2			
Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC
Frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional	YR 3: Summer 1 / 2 : Shell structures	Spoken language Ask relevant questions, formulate and express opinions, give well-structured descriptions and explanations. Use strategies to build their vocabulary. Art Use and develop drawing skills. Mathematics Recognise, describe and build simple 3-D shapes, apply understanding and skill to carry out accurate measuring using standard units i.e. cm/mm. identify 3-D shapes, including cubes and other cuboids, from 2-D representations.	Social - Opportunities for cooperation to promote skills and attitudes necessary for positive contribution to life. Moral - Opportunities to understand the consequences of their behaviour and those of others and to offer reasoned views on moral issues that they encounter Spiritual - Opportunities to use creativity and imagination in the learning and to reflect on their personal development Cultural - Opportunities to show respect and understanding towards

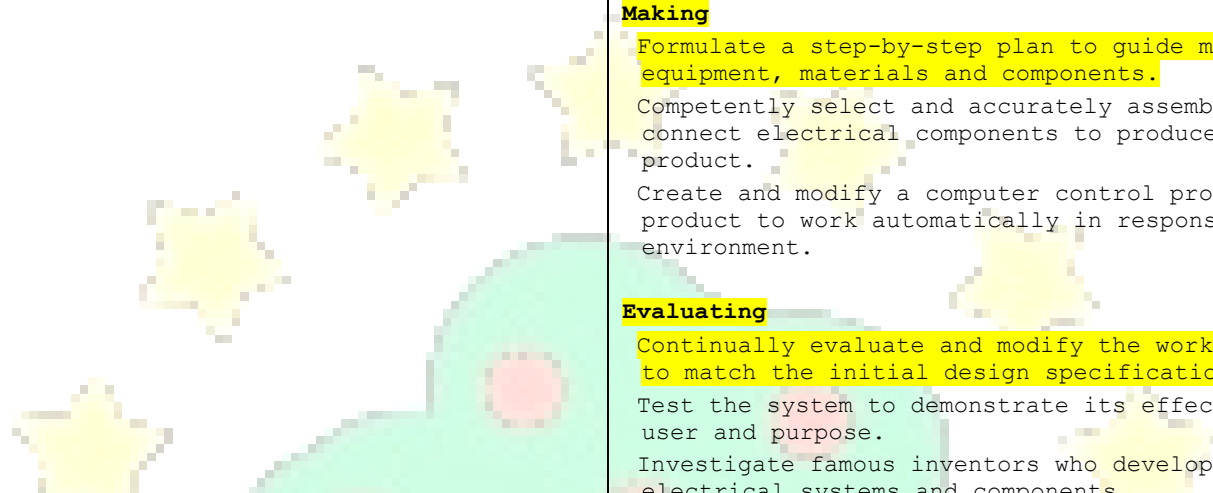
SUBJECT CURRICULUM LONG TERM PLAN

		<p>Science Compare and group together everyday materials on the basis of their properties.</p> <p>Computing Use technologies for research purposes and be discerning when evaluating digital content.</p>	all different communities locally, nationally and globally.
<p>Threshold Concepts Knowledge without which later concepts will not be fully understood</p> <p>Core Knowledge The minimum all pupils should know</p>		<p>Key skills Which can be applied once the knowledge is understood</p>	
<p>Technical knowledge and understanding To know what a framework is and why they are used in construction. To understand frameworks need to be strengthened. To understand how to strengthen, stiffen and reinforce 3-D frameworks. Know and use technical vocabulary relevant to the project</p>		<p>Designing Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches.</p> <p>Making Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used. Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks. Use finishing and decorative techniques suitable for the product they are designing and making.</p> <p>Evaluating Investigate and evaluate a range of existing frame structures. Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. Research key events and individuals relevant to frame structures</p>	
<p style="text-align: center;">Spring Term 1 and 2</p> <p style="text-align: center;">Teacher note: We have raspberry pi controllers in school to access this unit. See link here for ideas:</p>			
Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC

SUBJECT CURRICULUM LONG TERM PLAN

<p>As appropriate: Series circuit, parallel circuit, names of switches and components, input device, output device, system, monitor, control, program, flowchart</p> <p>function, innovative, design specification, design brief, user, purpose</p>	<p>YR 4: Autumn 1/ 2: Simple circuits and switches</p>	<p>Mathematics Apply understanding and skill to carry out accurate measuring using standard units i.e. cm/mm.</p> <p>Science Apply knowledge and understanding of circuits, switches, conductors and insulators.</p> <p>Computing Design, write and debug programs that accomplish specific goals, including controlling physical systems. Use sequence, selection, and repetition in programs. Work with variables and various forms of input and output. Use technologies for research purposes and be discerning when evaluating digital content.</p> <p>Spoken Language Ask relevant questions, give well-structured descriptions and explanations. Build technical vocabulary.</p>	<p>Social - opportunities for cooperation to promote skills and attitudes necessary for positive contribution to life.</p> <p>Moral- opportunities to understand the consequences of their behaviour and those of others</p> <p>Spiritual - Opportunities to use creativity and imagination in the learning</p> <p>Cultural - Opportunities to show respect and understanding towards all different communities locally, nationally and globally</p>
<p>Threshold Concepts Knowledge without which later concepts will not be fully understood</p> <p>Core Knowledge</p> <p>The minimum all pupils should know</p>		<p>Key skills</p> <p>Which can be applied once the knowledge is understood</p>	
<p>Technical knowledge and understanding</p> <p>To understand and use electrical systems in their 'products'.</p> <p>To know how to apply their understanding of computing, to program, monitor and control</p> <p>To know and use technical vocabulary relevant to the project.</p>		<p>Designing</p> <p>Use research to develop a design specification for a functional product that responds automatically to changes in the environment. Take account of constraints including time, resources and cost.</p> <p>Generate and develop innovative ideas and share and clarify these through discussion.</p> <p>Communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams.</p>	

SUBJECT CURRICULUM LONG TERM PLAN

		<p>Making</p> <p>Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components.</p> <p>Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product.</p> <p>Create and modify a computer control program to enable an electrical product to work automatically in response to changes in the environment.</p> <p>Evaluating</p> <p>Continually evaluate and modify the working features of the product to match the initial design specification.</p> <p>Test the system to demonstrate its effectiveness for the intended user and purpose.</p> <p>Investigate famous inventors who developed ground-breaking electrical systems and components</p>
Summer Term 1 and 2		
<p>Key Vocabulary</p> <p>Seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, iron transfer paper, design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up, prototype.</p>	<p>Interleaving Opportunities (e.g. when past topics can be revisited)</p> <p>Yr 4- Spring 1 / 2 : 2D shapes to 3D product</p>	<p>Links to wider curriculum (e.g. different subjects or key stages)</p> <p>Spoken language Ask questions, formulate, articulate and justify answers, arguments and opinions. Consider and evaluate different viewpoints. Give a well-structured oral evaluation to include relevant technical vocabulary.</p> <p>Science Work scientifically investigating properties of fabrics. Children plan different types of scientific enquiries to answer questions.</p> <p>History Significant person/people in their locality linked to textiles and products e.g. Mowalola, Amanda Wakeley.</p> <p>Mathematics Apply knowledge of how 2-D nets can be formed into 3-D shapes; apply skills of accurate measuring using standard units i.e. cm/mm.</p> <p>Art Investigate methods of adding colour, pattern and</p> <p>SMSC</p> <p>Social - Opportunities for cooperation to promote skills and attitudes necessary for positive contribution to life.</p> <p>Moral - Opportunities to understand the consequences of their behaviour and those of others</p> <p>Spiritual - Opportunities to use creativity and imagination in the learning</p> <p>Cultural - Opportunities to show respect and understanding towards all different communities locally, nationally and globally</p>

SUBJECT CURRICULUM LONG TERM PLAN

		<p>texture on to textiles and how to make their own textiles through weaving or felt making. Use and apply drawing skills.</p> <p>Computing Children express themselves and develop ideas using a range of information and communication technology resources</p> <p>Writing Write and record a radio advert, making use of persuasive writing features, sound effects and music to promote the final product or event it is advertising.</p>	
<p>Threshold Concepts Knowledge without which later concepts will not be fully understood</p> <p>Core Knowledge</p> <p>The minimum all pupils should know</p>		<p>Key skills</p> <p>Which can be applied once the knowledge is understood</p>	
<p>Technical knowledge and understanding</p> <p>To understand and know how to combine more complex pattern pieces and pieces of fabric to create a 3-D textile product.</p> <p>To know that more complex 3d shapes are created from more complex 2D shapes</p> <p>To know how to strengthen, stiffen and reinforce fabrics with greater precision.</p>		<p>Designing</p> <p>Generate innovative ideas by carrying out research including surveys, interviews and questionnaires.</p> <p>Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes and, where appropriate, computer-aided design.</p> <p>Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.</p> <p>Making</p> <p>Produce detailed lists of equipment and fabrics relevant to their tasks.</p> <p>Formulate step-by-step plans and, if appropriate, allocate tasks within a team.</p> <p>Select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost.</p> <p>Evaluating</p> <p>Investigate and analyse textile products linked to their final product.</p>	

SUBJECT CURRICULUM LONG TERM PLAN

	<p>Compare the final product to the original design specification.</p> <p>Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</p> <p>Consider the views of others to improve their work.</p>
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Year Group: Yr 6

Autumn Term 1 and 2			
Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC
<p>Ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs, fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality</p> <p>utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble</p>	<p>YR 2: Summer 1/ 2: Preparing fruit and veg</p>	<p>Links to Fairtrade topic as children will use some Fairtrade ingredients in their cooking.</p> <p>Spoken language Ask relevant questions, formulate and express opinions, give well-structured descriptions and explanations. Use strategies to build their vocabulary.</p> <p>Art Use and develop drawing skills.</p> <p>Mathematics Apply understanding and skill to carry out accurate measuring using standard units i.e. cm/mm. Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. Recognise, describe and build simple 3-D shapes. Apply understanding and skill to carry out accurate measuring using standard units i.e. cm/mm.</p>	<p>Social - Opportunities for cooperation to promote skills and attitudes necessary for positive contribution to life, and to participate in a variety of communities or social setting by volunteering and cooperating.</p> <p>Moral- Opportunities to understand the consequences of their behaviour and those of others, and to reflect upon their actions and appreciate the viewpoints of others</p> <p>Spiritual - Opportunities to use creativity and imagination in the learning and to reflect upon their own development and begin to think about ways to further it and grow.</p> <p>Cultural - Opportunities to show respect and understanding towards all different communities locally, nationally and globally</p>

SUBJECT CURRICULUM LONG TERM PLAN

		<p>Science Compare and group together everyday materials on the basis of their properties.</p> <p>Computing Use technologies for research purposes and be discerning when evaluating digital content.</p>	
<p>Threshold Concepts Knowledge without which later concepts will not be fully understood</p> <p>Core Knowledge</p> <p>The minimum all pupils should know</p>		<p>Key skills</p> <p>Which can be applied once the knowledge is understood</p>	
<p>Technical knowledge and understanding</p> <p>To know how to use utensils and equipment including heat sources to prepare and cook food.</p> <p>To know how to use utensils and equipment safely.</p> <p>To understand the importance of seasonality in relation to food products and the source of different food products.</p> <p>To know and use relevant technical and sensory vocabulary.</p>		<p>Designing</p> <p>Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification.</p> <p>Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose.</p> <p>Use words, annotated sketches and information and communication technology as appropriate to develop and communicate ideas.</p> <p>Making</p> <p>Write a step-by-step recipe, including a list of ingredients, equipment and utensils</p> <p>Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients.</p> <p>Make, decorate and present the food product appropriately for the intended user and purpose.</p> <p>Evaluating</p> <p>Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams.</p> <p>Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements.</p> <p>Understand how key chefs have influenced eating habits to promote varied and healthy diets.</p>	
Spring Term 1 and 2			

SUBJECT CURRICULUM LONG TERM PLAN

Key Vocabulary	Interleaving Opportunities (e.g. when past topics can be revisited)	Links to wider curriculum (e.g. different subjects or key stages)	SMSC
Threshold Concepts Knowledge without which later concepts will not be fully understood Core Knowledge The minimum all pupils should know		Key skills Which can be applied once the knowledge is understood	
Summer Term 1 and 2			
Key Vocabulary Pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor, circuit, switch, circuit diagram, annotated drawings, exploded diagrams mechanical system, electrical system, input, process, output, design decisions, functionality, innovation, authentic, user, purpose, design specification, design brief	Interleaving Opportunities (e.g. when past topics can be revisited) First time to be taught	Links to wider curriculum (e.g. different subjects or key stages) Spoken language Ask relevant questions, formulate and express opinions, give well-structured descriptions and explanations. Use relevant strategies to build their vocabulary. Computing Use search technologies for research purposes and be discerning when evaluating digital content Mathematics Understand ratios. Apply understanding and skill to carry out accurate measuring using standard units i.e. cm/mm. Science Apply knowledge and understanding of circuits, switches, conductors and insulators in the design of the final product. Recognise that some mechanisms, including pulleys and gears, allow a smaller force to have a greater effect. Art Use and apply drawing skills. Use techniques	SMSC Social - Opportunities for cooperation to promote skills and attitudes necessary for positive contribution to life, Moral - Opportunities to understand the consequences of their behaviour and those of others, and offer reasoned views about moral issues Spiritual - Opportunities to use creativity and imagination in the learning, and to reflect upon their own personal development Cultural - Opportunities to show respect and understanding towards all different communities locally, nationally and globally, and to understand the range of different cultures in school and further afield.

SUBJECT CURRICULUM LONG TERM PLAN

		with colour, pattern, texture, line and shape.	
Threshold Concepts <i>Knowledge without which later concepts will not be fully understood</i> Core Knowledge <i>The minimum all pupils should know</i>		Key skills <i>Which can be applied once the knowledge is understood</i>	
Technical knowledge and understanding To know that mechanical and electrical systems have an input, process and an output. To know that gears and pulleys can be used to speed up, slow down or change the direction of movement. To know and use technical vocabulary relevant to the project.		Designing Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. Develop a simple design specification to guide their thinking. Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views. Making Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost. Evaluating Compare the final product to the original design specification. Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. Consider the views of others to improve their work. Investigate famous manufacturing and engineering companies relevant to the project.	

