Staniland Academy DT Overview

	Autumn	Spring	Summer
EYFS	Textiles: Animals	Cooking and baking skills	Building
Year 1	Textiles Designing a finger puppet to entertain a reception child.	Designing and building bridges linked to local architecture	Cookery Designing dishes using locally sourced ingredients to make smoothies.
Year 2	Cookery Using medieval ingredients and forest skills to make a cereal bar.	Levers Building a model of a Norman trebuchet	Electrical circuits Building a working model of a lighthouse
Year 3	Cooking Making Stone age bread considering our ancestors diet to present day	Levers Applying knowledge from Active Planet learning to make 'erupting' volcano graphics	Axles, wheels and frame structures Applying learning of the Roman culture to create model chariots
Year 4	Cooking Using the knowledge of local farming to design a dish that would have been served in Anglo-Saxon Lincolnshire.	Frames and Structures Creating a lightbox advertising the effects of global warming for the general public	Levers and frame structures Applying knowledge of Egyptian irrigation methods to build working models of a Shaduf for farmers.
Year 5	Frame Structures Design a working model of a Viking Long Houses for a clan chief.	Cooking Using knowledge of the Mexican culture to design a traditional dish for a KS2 child.	Computer Aided Design Application of knowledge of Greek architecture to design Greek temples—1 temple per class.
Year 6	Cams and frame structures Using knowledge of typical Victorian toys to design a cam-based moving toy suitable for a child of the era	Digital Control Knowledge of digital circuitry and design is applied to programme 'Crumble' spy lamp.	Textiles Knowledge of the reduce, reuse and recycle during wartime applying to thrifty garments and accessories.

Reception Long Term Plan

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
General Themes	All About me!	Terrific Tales!	Amazing Animals!	People that help us!	Come Outside!	On the move
Expressive Arts and Design *Painting, 3D modelling, messy play, collage, cutting, drama, role play, threading, moving to music, clay sculptures, following music patterns with instruments, singing songs linked to topics, making instruments, percussion.* *Children to explain their work to others. Children will have opportunities to learn and perform songs, nursery rhymes and poetry linked to their work / interests and passions.* ***Composer of the Term***  *Being Imaginative*	The development of children's artistic and cultural awareness supports **their imagination and creativity**. It is important that children have regular opportunities to **engage with the arts**, enabling them to explore and play with a wide range of **media and materials**. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, **self-expression, vocabulary and ability to communicate through the arts**. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe. Give children an insight into new musical worlds. Invite musicians in to play music to children and talk about it. Encourage children to listen attentively to music. Discuss changes and patterns as a piece of music develops.					
	Drawing	Collage Look at Eric Carle for collage.	Drawing Mattisse – The Snail	Painting Kandinsky – Circles	3D Sculpture Sunflowers Van Gogh	Printing
	Self-portraits drawing with paint, junk modelling, take picture of children's creations and record them explaining what they did. Scissors and gluing/connecting skills Loose parts art faces Provide opportunities to work together to develop and realise creative ideas. **Design & Technology** **Building** To be able to make imaginative and complex 'small worlds' with blocks and constructions kits, such as city, with different buildings and a park. To be able to explore different materials freely, in order to develop their ideas about how to use them and what to make. To be able to develop their own ideas and then decide which materials to use to express them. Join different materials and explore different textures.	Use different textures and materials to make houses for the three little pigs. Character collage group projects. Look at Eric Carle for collage and Matisse Firework pictures, Christmas decorations, Christmas cards. Fire works collage **Design & Technology** **Building** Encourage children to encourage features in the natural world defining colours shapes textures and smells. Visit galleries and museums to generate inspiration Exploring farm (Farm trip, Farm resources,) Exploring woods (trees, leaves) Town (looking at the town features)	Animal prints / Designing homes for hibernating animals in a box Drawing animals/ Children will be encouraged to select the tools and techniques they need to assemble materials that they are using. Oil pastels, pencils, charcoal Making lanterns, Chinese writing, puppet making, Shadow Puppets Mattisse – The Snail **Design & Technology** **Textiles** To be able to safely use and explore a variety of materials, tools, and techniques., experimenting with colours, design, texture, form and function Teach children different techniques for joining materials, such as how to use adhesive tape and different sorts of glue.	Mother's Day crafts Easter crafts Mixing colours Using water colours Observational drawing/ painting from a photo. E.g. fire engine Drawings/painting of daffodils Kandinsky – Circles **Design & Technology** **Textiles** To be able to share their creations, explaining the process they have used	Make different textures; make patterns using different colours Pastel drawings, printing, patterns, Life cycles Flowers-Sun flowers observational drawings 3D paper flowers Artwork themed around Eric Carle The Seasons – Art. Starry night and Sunflowers- Van Gogh **Design & Technology** **Cooking and Baking skills** To be able to define healthy and unhealthy foods. To be able to explain why it is important to eat healthily. To be able to name favourite foods.	Design and make rockets. Design and make objects they may need in space, thinking about form and function. . Junk modelling, houses, bridges boats and transport. Provide children with a range of materials for children to construct with. Father's day- Print tile rockets **Design & Technology** **Cooking and baking skills** To be able to hold knife safely to cut ingredients. To be able to prepare ingredients for a simple recipe by chopping and cutting.
	Roleplay home corner to stay all year Exploring sounds and how they can be changed, tapping out of simple rhythms. Provide opportunities to work together to develop and realise creative ideas. Sing call-and-response songs, so that children can echo phrases of songs you sing. Join in with songs; join in with role play games and use resources available for props; build models using construction equipment. Nativity Songs **Charanga Unit: Me!** **Scarves**	Listen to music and make their own dances in response. Christmas songs/poems Wriggly Nativity The use of story maps, props, puppets & story bags will encourage children to retell, invent and adapt stories. Role Play Party's and Celebrations Role Play of The Nativity **Charanga Unit: My Stories** **Glockenspiels**	Chinese music and composition Learn a traditional African song and dance and perform it / Encourage children to create their own music Music to represent animals Roleplay- Pets add vets To be able to make use of props and materials when role playing characters in narratives and stories **Charanga Unit: Everyone!** **iPad Glockenspiels**	Role play a range of jobs. **Charanga Unit: Our World** **Boom Whackers** **Castanets**	Home Corner role play Provide a wide range of props for play which encourage imagination **Charanga Unit: Big Bear Funk** **Shakers**	Exploration of other countries – dressing up in different costumes. Retelling familiar stories Creating outer of space pictures **Charanga Unit: Reflect, Rewind and Replay** **Glockenspiels**

Year 1 Term	Autumn	Spring	Summer
Theme N.C PoS	**Textiles Designing a Finger Puppet**	**Designing and building bridges**	**Cookery Designing dishes using locally sourced ingredients**
Skills to be covered	To be able to use questions to develop children's understanding e.g. How many parts is it made from? What is it joined with? How is it finished? Why do you think these joining techniques have been chosen? How is it fastened? Who might use it and why? To be able to make drawings of existing kites, stating the user and purpose. Identify and label, if appropriate, the fabrics, fastenings and techniques used. To be able to talk about the advantages and disadvantages of each joining technique. To be able to use finishing techniques for children to practise in guided groups e.g. sewing buttons, 3-D fabric paint, gluing sequins, printing. To be able to discuss the purpose and user of the products they will be designing, making and evaluating. To be able to talk about the design criteria from the teacher that should be used to guide the development and evaluation of the kite. To be able to investigate fabrics to determine which is best for the purpose of the product they are creating. To be able to develop and communicate ideas through talk, drawings and mock-ups. [Information and communication technology could be used for symmetry and pattern ideas.] To be able to evaluate ongoing work and the final products against the intended purpose and with the intended user, drawing on the design criteria previously agreed To be able to use questions to develop children's understanding e.g. How many parts is it made from? What is it joined with?	Begin to develop and communicate ideas by talking and drawing. Use existing knowledge to talk about structures they have seen and begin to evaluate them. Work within a range of contexts State what products they are designing and making. Describe what their products are for. Use existing knowledge to generate their own original designs. Begin to develop and communicate ideas by talking and drawing. Plans by suggesting what to do next. Selects from a range of tools, materials and components. Follows procedures for safety Talk about their design ideas and what they are making. Talk about how to make their products better.	To be able to name healthy foods. To be able to explain why it is important to have a balanced diet. To be able to follow a simple recipe. To be able to use simple techniques to prepare foods ready to chop, such as cleaning and peeling/grating. To be able to prepare ingredients for a simple recipe by chopping, dicing and cutting. To be able to evaluate ongoing work and the final products against the intended purpose and with the intended user, drawing on the design criteria previously agreed To be able to use questions to develop children's understanding

	How is it finished? Why do you think these joining techniques have been chosen? How is it fastened? kite. Discuss or write what the parts do.		
Resources (Texts/Visual Resources)	https://www.youtube.com/watch?v=lBukRxTt_uA https://www.youtube.com/watch?v=oDlQrCK7tw-Q&t=17 https://www.youtube.com/watch?v=iysZb54aT6M	https://www.bbc.co.uk/bitesize/clips/z8spyrd	https://www.youtube.com/watch?v=zbNL74Tfff0 https://www.youtube.com/watch?v=ykKLIXTqIbI https://www.bbc.co.uk/bitesize/clips/z2pxpv4

Year 2 Term	Autumn	Spring	Summer
Theme N.C PoS	Cookery Using medieval ingredients and forest skills to make a cereal bar.	Levers Building a model of a Norman trebuchet	Electrical circuits Building a working model of a lighthouse

Skills to be covered	To be able to examine a range of fruit/vegetables . To be able to demonstrate a range of food preparation skills such as washing, grating, peeling, slicing and squeezing. To be able to evaluate existing products to determine what they like best and investigate preferences of their intended users/suitability for intended purposes To be able to develop, model and communicate their design ideas. To know how to agree the design criteria that can be used to guide the development and evaluation of the product. To be able to discuss healthy eating advice, including eating more fruit and vegetables To be able to evaluate the final product against the intended purpose and with the intended user, drawing on the design criteria previously agreed.	Measures, marks out, shapes and cuts most materials. (Year 1) Measures, marks out, cuts and shapes a range of materials and components. (Year 2) To be able to explain their knowledge of the movement of simple mechanisms such as levers, sliders, wheels and axles To be able to develop and communicate ideas by talking and drawing To be able to use the correct technical vocabulary for their product To be able to state what product they are designing and making To be able to describe what their product is for To be able to use simple design criteria to help develop To be able to state what product they are designing and making To be able to describe what their product is for To be able to use simple design criteria to help develop their ideas To be able to explain their knowledge of the movement of simple mechanisms such as levers, sliders, wheels and axles To be able to develop and communicate ideas by talking and drawing To be able to use a range of materials, components and explain their choice. To be able to use finishing techniques. To be able to use the correct technical vocabulary for their product To be able to use a range of materials, components and explain their choice To be able to use finishing techniques To be able to make judgements about their product and ideas against certain criteria	To be able to describe the purpose of their product To be able to communicate and generate ideas, contributing to a design brief for their product. To be able to indicate design features of their products To be able to apply learning from history into creating their design To be able to model ideas through prototypes To be able to select tools, equipment, materials and components suitable to the task To be able to order the main stages of making To be able to follow safety and hygiene procedures To be able to measure, mark out, cut and shape materials and components with some accuracy. To be able to assemble, join and combine many materials with some accuracy. To be able to make strong, stiff, shell structures To be able to apply some finishing techniques To be able to identify the strengths and areas for development for their ideas and products To be able to refer to their design criteria as they design and make their product To be able to apply mathematical and scientific learning in their design and make of their product To be able to refer to their design criteria as they design and make their product To know how to apply prior knowledge of the evaluation process to evaluate and modify the features of the product.
Resources (Texts/Visual Resources)			https://www.youtube.com/watch?v=eyy6ueVHuQQ

Year 3 Term	Autumn	Spring	Summer
Theme N.C PoS To know	Cooking Making bread, comparing our ancestors diet to present day	Levers Applying knowledge from Active Planet learning to make 'erupting' volcano graphics	Axles, wheels and frame structures Applying learning of the Roman culture to create model chariots
Skills to be covered To be able to	Design and technology: Recognise that a healthy diet is made up of a variety and balance of different foods and drinks, as depicted on 'The Eatwell Plate.' Know that to be active and healthy, food is needed to provide energy for the body. Know that food is farmed, reared, grown elsewhere (e.g home), imported or caught locally, regionally and internationally. Elements of Design and technology: Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically, including the use of a heat source. Experimenting in Design and technology: Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically, including the use of a heat source. Evaluating in design and technology: To know how to evaluate a product against its intended purpose.	Work confidently within a range of contexts, such as the home, school, leisure and industry. Describe the purpose if their products. Indicate design features of their products. Gather information about the needs and wants of individuals or groups. Develop their own design criteria. Share and clarify ideas through discussion. Model ideas using prototypes. Use annotated diagrams and some computer-aided design packaged, to develop and communicate ideas. Generate realistic ideas, focusing on the needs of the user. Begin to take account of the availability of resources. Develop their own design criteria. Share and clarify ideas through discussion. Model ideas using prototypes. Use annotated diagrams and some computer-aided design packaged, to develop and communicate ideas. Generate realistic ideas, focusing on the needs of the user. Begin to take account of the availability of resources.	To be able to describe the purpose of their product To be able to communicate and generate ideas, contributing to a design brief for their product. To be able to indicate design features of their products To be able to apply learning from history into creating their design To be able to model ideas through prototypes To be able to select tools, equipment, materials and components suitable to the task To be able to order the main stages of making To be able to follow safety and hygiene procedures To be able to measure, mark out, cut and shape materials and components with some accuracy. To be able to assemble, join and combine many materials with some accuracy. To be able to make strong, stiff shell structures To be able to apply some finishing techniques To be able to identify the strengths and areas for development for their ideas and products To be able to refer to their design criteria as they design and make their product To be able to apply mathematical and scientific learning in their design and make of their product To be able to explain how mechanical systems create movement

Resources (Texts/Visual Resources)			

Year 4 Term	Autumn	Spring	Summer
Theme N.C PoS	Cooking Using the knowledge of local farming to design a dish that would have been served in Anglo-Saxon Lincolnshire	Frames and structures Designing a lightbox to advertise the effects of global warming.	Pulley and Lever System Applying knowledge of Egyptian irrigation methods to build working models of a Shaduf.
Skills to be covered	To be able to link to the principles of a varied and healthy diet using 'The Eatwell Plate' e.g. What ingredients have been used? Which food groups do they belong to? What substances are used in the products e.g. nutrients, water, and fibre? To be able to use appropriate words to describe the taste/smell/texture/appearance e.g. How do the sensory characteristics affect your liking for the food? To be able to gather information about existing products available relating to your product. To be able to use appropriate words to describe the taste/smell/texture/appearance e.g. How do the sensory characteristics affect your liking for the food? To be able to gather information about existing products available relating to your product. To be able to gather information about existing products available relating to your product.	Work confidently in a range of contexts. Describe the purpose of their products. Indicate design features of their products that will appeal to intended users. Gather information about the needs and wants of individuals or groups. Develop their own design criteria and use this to inform their ideas. Share and clarify ideas confidently, through discussion. Model ideas using prototypes and pattern pieces. Use annotated sketches, some cross-sectional drawings and computer-aided design packages, to develop and communicate ideas. Generate realistic ideas, focusing on the needs of the user. Make design decisions that take account of the availability of resources. Confidently select tools and equipment suitable to the task. Explain their choices, giving evidence. Selects materials and components suitable to the task.	To be able to communicate and generate ideas, contributing to a design brief for their product. To be able to apply learning from history into creating their design To be able to evaluate the final products against the intended purpose and, drawing on the design criteria previously agreed. To be able to use appropriate, targeted technical vocabulary Children will be taught to: Design Use research and develop design criteria to inform the design of innovative, functional products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion, annotated sketches, diagrams and prototypes. Make Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, joining and finishing], accurately

	To be able to use the food preparation and cooking techniques by making a food product using an existing recipe. To be able to discuss the purpose of the products that the children will be designing, making, and evaluating and who the products will be for. To be able to apply learning from science (materials) and maths (measurement) to design and make products that work. To be able to follow a stepped plan to create a given produce. To be able to measure, mark out, cut and shape materials with some accuracy. To be able to discuss and evaluate what others think of the product when considering how the work might be improved. To be able to generate a range of ideas encouraging realistic responses. To be able to use discussion, annotated sketches and information and communication technology if appropriate to develop and communicate ideas.	Order the main stages of making in logical steps. Follow procedures for safety Use an extensive range of materials and components e.g. textiles, wood and electrical components Measures, marks out, cuts and shapes materials and components with accuracy. Accurately assembles, joins and combines most materials. Accurately apply several finishing techniques Identify the strengths and areas for development in their ideas and products. Consider the views of others, including intended user, to improve their work. Refer to their design criteria as they design and make. Use their design criteria to evaluate and improve their completed products. Investigate and analyse: how well products have been designed and made; why materials have been chosen; what methods of construction were used; how well the products worked; whether they achieved their purpose and the needs/wants of the users. Recognise several inventors and engineers, who have been influential in the design and technology industries. Pupils use learning from science to help design and make products that work. They understand that materials have functional and aesthetic qualities Apply this thinking successfully to their own products.	Select from and use a wider range of materials and components, according to their functional properties. Evaluate 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 Technical knowledge Apply their understanding of computing to program and control their products
Resources			http://wiki.dtonline.org/index.php/Class_1_Lever https://quatr.us/egypt/build-shaduf-ancient-egypt-projects.htm

Year 5 Term	Autumn	Spring	Summer
Theme N.C PoS	Frame Structures Design a working model of a Viking Long Houses	Cooking Using knowledge of the Mexican culture to design a traditional dish	Computer Aided Design Application of knowledge of Greek architecture to design Greek temples.
Skills to be covered	To have consumer awareness, organisation and motivation. To know and use relevant technical vocabulary. o use technologies for research purposes and be discerning when evaluating. To compare and group together everyday materials on the basis of their properties. Spoken language – ask relevant questions, formulate and express opinions, give well structured descriptions and explanations. Generate, develop and model innovative ideas Use strategies to build their vocabulary. Use and develop drawing skills for prototypes and annotated drawings. problem-solving teamwork, negotiation Persuasion, leadership, perseverance To understand how to strengthen, stiffen and reinforce 3-D frameworks. problem-solving teamwork, negotiation Persuasion, leadership, perseverance To recognise, describe and build simple 3-D shapes. Apply understanding and skill to carry out accurate measuring using standard units i.e. cm/mm. problem-solving teamwork negotiation organisation motivation persuasion leadership perseverance problem-solving teamwork negotiation organisation motivation persuasion leadership perseverance Teamwork, negotiation, consumer awareness, organisation, motivation, Persuasion, leadership, perseverance Problem solving, Teamwork, negotiation,	To explore the Ancient Mayan culture, to understand that food can be grown and then consumed without today's processes. To explore different foods that the pupils may not have encountered before such as avocados, chillies, butternut squash. To look at existing products and explore what could be changed to make them better? To question and make thoughtful observations about starting points and select ideas and processes to use in their work. To explore the differences in the Ancient Mayan diet and today's diet. To use a variety of skills including cutting using different grips, heating with close supervision and measuring using a jug. To work independently and to work compliantly with others. To develop ideas incorporating elements from existing recipes and knowledge of Ancient Mayan produce such as squash, maize and chillies. To compare ideas, methods and approaches in their own and others' work and say what they think and feel about them. To adapt their work according to their views and describe how they might develop it further and implement this.	Children will be taught to: Design Use research and develop design criteria to inform the design of innovative, functional products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion, annotated sketches, diagrams and prototypes. Make Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, joining and finishing], accurately Select from and use a wider range of materials and components, according to their functional properties. Evaluate 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 Technical knowledge Apply their understanding of computing to program and control their products. To be able to communicate and generate ideas, contributing to a design brief for their product. To be able to use sketches and annotated diagrams to contribute to their CAD. To be able to apply learning from history into creating their design To be able to use a Computer Aided Design programme to design and construct a building To be able to evaluate the final products against the intended purpose and, drawing on the design criteria previously agreed. To be able to use appropriate, targeted technical

	consumer awareness, motivation, Persuasion, leadership, perseverance		vocabulary.
Resources (Texts/Visual Resources)			https://www.historyforkids.net/ancient-greek-architecture.html https://www.matterhackers.com/articles/how-to-use-tinkercad-3d-modeling-software

Year 6 Term	Autumn	Spring	Summer
Theme N.C PoS	Cams and frame structures. Using knowledge of typical Victorian toys to design a cam-based moving toy suitable for a child of the era	Textiles. Knowledge of the 'Make do and mend' wartime ethos is applied to create thrifty garments and accessories.	Digital Control. Knowledge of digital circuitry and design is applied to programme 'Crumble' vehicles and lights.

Skills to be covered	Investigative and Evaluative Activities § Use research and develop design criteria to inform the design of innovative, functional products that are fit for purpose, aimed at particular individuals or groups. ...create an exploded diagram depicting and explaining my idea. To apply prior knowledge of the design process to develop a design specification for a secret 'code-making' nightlight (purpose) for use by a spy (user). To generate, develop and communicate ideas through discussion, annotated sketches and pictorial representations of electrical circuits or circuit diagrams. To apply knowledge of instructional texts to formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. To apply knowledge of electrical systems to develop an electrical element for use in their product: competently selecting, accurately assembling materials, and securely connecting electrical components to produce a reliable, functional product. To apply their knowledge of computing to program and control their product: creating and modifying a computer control program to enable their product to flash on and off in a specific way. To apply prior knowledge of the evaluation process to evaluate and modify the working	Carry out research e.g. surveys, interviews, questionnaires and web-based resources, to identify users' needs, wants and preferences. Gather information about the needs and wants of particular individuals and groups. Develop detailed design specifications to guide their thinking and planning. Use annotated sketches, cross-sectional drawings, exploded diagrams and computer-aided design packages, to develop and communicate ideas. Indicate design features of their products that will appeal to intended users. Generate realistic ideas, focussing on the needs of the user. Use annotated sketches, cross-sectional drawings, exploded diagrams and computer-aided design packages, to develop and communicate ideas. Indicate design features of their products that will appeal to intended users. Formulate step-by-step plans as guide to making. Generate realistic ideas, focussing on the needs of the user. Confidently select tools and equipment suitable to the task. Produce appropriate lists of tools, equipment and materials that they will need. Measures, marks out, cuts and shapes materials and components with accuracy. Accurately assembles, joins and combines materials. Confidently identify the strengths and areas for development in their ideas and products. Consider the views of others, including intended users, to improve their work. Refer to their design criteria as they design and make. Use their design criteria to evaluate and improve their completed products	Children will be taught to: Use research and develop design criteria to inform the design of innovative, functional products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion, annotated sketches, diagrams and prototypes. Make Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, joining and finishing], accurately Select from and use a wider range of materials and components, according to their functional properties. Evaluate 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 Technical knowledge Apply their understanding of computing to program and control their products. Investigative and Evaluative Activities Use research and develop design criteria to inform the design of innovative, functional products that are fit for purpose, aimed at particular individuals or groups. To apply prior knowledge of the design process to develop a design specification for a secret 'code-making' nightlight (purpose) for use by a spy (user). To generate, develop and communicate ideas through discussion, annotated sketches and pictorial representations of electrical circuits or circuit diagrams. To apply knowledge of instructional texts to formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. To apply knowledge of electrical systems to develop an electrical element for use in their product: competently selecting, accurately assembling materials, and securely connecting electrical components to produce a reliable, functional product. To apply their knowledge of computing to program and control their

	features of the product: testing the system to demonstrate its effectiveness for the intended user and purpose.		product: creating and modifying a computer control program to enable their product to flash on and off in a specific way. To apply prior knowledge of the evaluation process to evaluate and modify the working features of the product: testing the system to demonstrate its effectiveness for the intended user and purpose.

Year 6 Term	Autumn	Spring	Summer
Theme N.C PoS	Cams and frame structures Using knowledge of typical Victorian toys to design a cam-based moving toy suitable for a child of the era	Digital Control Knowledge of digital circuitry and design is applied to programme 'Crumble' spy lamp.	Textiles Knowledge of the reduce, reuse and recycle during wartime applying to thrifty garments and accessories.

Skills to be covered	Investigative and Evaluative Activities § Use research and develop design criteria to inform the design of innovative, functional products that are fit for purpose, aimed at particular individuals or groups. ...create an exploded diagram depicting and explaining my idea. To apply prior knowledge of the design process to develop a design specification for a secret 'code-making' nightlight (purpose) for use by a spy (user). To generate, develop and communicate ideas through discussion, annotated sketches and pictorial representations of electrical circuits or circuit diagrams. To apply knowledge of instructional texts to formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. To apply knowledge of electrical systems to develop an electrical element for use in their product: competently selecting, accurately assembling materials, and securely connecting electrical components to produce a reliable, functional product. To apply their knowledge of computing to program and control their product: creating and modifying a computer control program to enable their product to flash on and off in a specific way. To apply prior knowledge of the evaluation process to evaluate and modify the working features of the product: testing the system to demonstrate its effectiveness for the intended user and purpose.	Children will be taught to: Use research and develop design criteria to inform the design of innovative, functional products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion, annotated sketches, diagrams and prototypes. Make Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, joining and finishing], accurately Select from and use a wider range of materials and components, according to their functional properties. Evaluate 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 Technical knowledge Apply their understanding of computing to program and control their products. Investigative and Evaluative Activities Use research and develop design criteria to inform the design of innovative, functional products that are fit for purpose, aimed at particular individuals or groups. To apply prior knowledge of the design process to develop a design specification for a secret 'code-making' nightlight (purpose) for use by a spy (user). To generate, develop and communicate ideas through discussion, annotated sketches and pictorial representations of electrical circuits or circuit diagrams. To apply knowledge of instructional texts to formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. To apply knowledge of electrical systems to develop an electrical element for use in their product: competently selecting, accurately	Carry out research e.g. surveys, interviews, questionnaires and web-based resources, to identify users' needs, wants and preferences. Gather information about the needs and wants of particular individuals and groups. Develop detailed design specifications to guide their thinking and planning. Use annotated sketches, cross-sectional drawings, exploded diagrams and computer-aided design packages, to develop and communicate ideas. Indicate design features of their products that will appeal to intended users. Generate realistic ideas, focussing on the needs of the user. Use annotated sketches, cross-sectional drawings, exploded diagrams and computer-aided design packages, to develop and communicate ideas. Indicate design features of their products that will appeal to intended users. Formulate step-by-step plans as guide to making. Generate realistic ideas, focussing on the needs of the user. Confidently select tools and equipment suitable to the task. Produce appropriate lists of tools, equipment and materials that they will need. Measures, marks out, cuts and shapes materials and components with accuracy. Accurately assembles, joins and combines materials. Confidently identify the strengths and areas for development in their ideas and products. Consider the views of others, including intended users, to improve their work. Refer to their design criteria as they design and make. Use their design criteria to evaluate and improve their completed products

		assembling materials, and securely connecting electrical components to produce a reliable, functional product. To apply their knowledge of computing to program and control their product: creating and modifying a computer control program to enable their product to flash on and off in a specific way. To apply prior knowledge of the evaluation process to evaluate and modify the working features of the product: testing the system to demonstrate its effectiveness for the intended user and purpose.	