



Design and Technology Overview

	Unit 1 Autumn Term	Unit 2 Autumn Term	Unit 3 Autumn Term
Year 1	Stable Structure	Moving Minibeasts	Eat more fruit and vegetables
Year 2	Puppets	Vehicles	Perfect pizza
Year 3	Storybooks	British Inventors	Light up signs
Year 4	Seasonal Stockings	Making Mini Greenhouses	Seasonal Food
Year 5	Building Bridges	Chinese Inventions	Fashion and Textiles
Year 6	Bird House Builders	Burgers	

Progression of skills

EYFS

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 1	Year 2	Year 3	Year 4	Year 5	Year 6
Cooking and Nutrition	<ul style="list-style-type: none"> • I can name a variety of fruits and vegetables. • I can use adjectives to describe the taste, smell and texture of a variety of fruits and vegetables. • I know that some fruits and vegetables need to be washed, cut, cored, peeled or grated before they can be eaten. • I understand basic food hygiene, e.g. washing hands, tying long hair back and keeping surfaces clean. • I can use a knife to cut some fruits and vegetables in different ways. • I can grate an apple and a carrot. • I can peel a banana, apple and cucumber. 	<ul style="list-style-type: none"> • I can name a variety of pizza toppings. • I can use the model of the balanced plate to evaluate how healthy different pizzas are. • I can explore different types of bread and evaluate which would work best for a pizza base. • I can identify which food group a variety of pizza toppings belong to. • I can sort pizza toppings into groups based on different criteria, e.g. animal vs plant products. • I can explain why each of the food groups is important for a balanced diet. • I can design and make a healthy pizza 		<ul style="list-style-type: none"> • I can explain what the term 'seasonal food' means. • I know that different parts of the world have different seasonal food. • I can discuss the benefits and problems of unseasonal food being available in shops all year round. • I know that some foods, like wheat, are available all year round in the UK. • I can practise cooking skills including slicing, dicing, beating, whisking, folding, sieving, rolling and grating. • I can follow a recipe to make fairy cakes. • I can describe the cycle of wheat production in the UK. • I can distinguish between fruits that are grown 		<ul style="list-style-type: none"> • I know that most foods we buy have nutrition labels to help us make informed choices about what we eat. • I know that calories come from fats, proteins and carbohydrates. • I can evaluate how healthy a burger is based on its nutrition label. • I can compare different burgers and assess which is healthiest. • I can explain some of the different ways in which burger patties are cooked. • I can follow a recipe to make a beef, turkey or vegetable burger patty. • I can add ingredients to a basic

		<p>following given criteria.</p> <ul style="list-style-type: none"> • I can evaluate my finished pizza, saying what I think and feel about it. 		<p>in the UK and those that are grown abroad.</p> <ul style="list-style-type: none"> • I know how food producers can speed up or slow down the ripening process to make fruits and vegetables available all year round. • I can follow a recipe to make fruit tarts using seasonal fruit. • I can follow a recipe to make stuffed peppers. • I know some of the nutrients we get from fruits, vegetables, meat, fish and dairy products. • I know when certain meats are in season in the UK and which are available all year round. • I can follow a recipe to make meatballs. • I know some vegetarian options that provide the same nutrients as meat. • I can explain how fish are caught or reared, processed 		<p>burger patty to reflect global cuisine.</p> <ul style="list-style-type: none"> • I can follow a recipe to make different burger sauces, including salsa, tzatziki and barbecue sauce. • I can design a burger menu to incorporate different patties, sides and sauces. • I can explore, taste and assess different types of bread and their suitability for a burger bun. • I can offer suggestions for some alternatives for bread. • I can add mixtures of herbs and spices to a basic bread dough to make flavoured burger buns. • I can design a burger for a particular purpose. • I can design a burger for someone with particular dietary requirements. • I can make and evaluate a burger, following my recipe and design.
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				and used in healthy meals. <ul style="list-style-type: none"> • I can use what I have learnt about seasonal food to design healthy meals and menus. 		
Stable Structures	<ul style="list-style-type: none"> • I can identify the features of toy garages. • I know what the word 'stable' means. • I can make changes to the design of a stable structure to make it fit for purpose. • I can explore a range of materials and evaluate the usefulness of their properties for a particular project. • I can explore how to make stable structures that hold a given object. • I can follow a design to make a stable structure. • I know some ways to make a structure more stable. • I can evaluate my finished structure against a set of given criteria. 		<ul style="list-style-type: none"> • I can explain how concrete is used to make structures more stable. • I can create a structure strong enough to hold a dictionary using just newspaper and tape 	<p>I know what a greenhouse is and how they work.</p> <ul style="list-style-type: none"> • I can explore a range of different greenhouses. • I know how greenhouses are used today. • I can explain how the shape of a structure affects its stability. • I know that the weight of the structure needs to be evenly spread on the base to make it secure. • I know that the wider a structure's base is, the more stable it will be. • I can use 3D nets to explore potential structures for a greenhouse, assessing their stability. • I can investigate ways of making a 	<ul style="list-style-type: none"> • I know what beams and pillars are and how they are used in bridge construction. • I can predict which beams will be strongest from their cross-section. • I can test the strength of different beam shapes using paper and card. • I can explain what a truss is and how trusses make bridges stronger. • I can identify the three types of trusses commonly used in bridge design. • I can build a truss bridge spanning a width of 40cm using paper straws. • I can use a fair test to evaluate the strength of my truss bridge. • I can explain how arches work to make bridges stronger. 	<p>I can investigate the appearance and function of a variety of different bird houses.</p> <ul style="list-style-type: none"> • I can identify what materials have been used to construct a variety of bird houses and suggest how the parts have been joined together. • I know what a flat pack diagram is and can use it to identify each part of a structure. • I can create a flat pack diagram of a constructed bird house. • I can draw an exploded diagram. • I can identify the tools associated with basic woodworking. • I can measure, clamp, saw, sand and join wood. • I can use a hand drill to drill a hole in a

				<p>structure more stable, e.g. by inserting dowelling or adding triangles at the joins.</p> <ul style="list-style-type: none"> • I can experiment with a range of materials to test which would be most appropriate for making the structure of a mini greenhouse. • I can design a mini greenhouse using specific design criteria. • I can select appropriate tools and materials to make a mini greenhouse. • I can follow my design to make a mini greenhouse. • I can evaluate my finished mini greenhouse for stability, effectiveness and visual appeal. 	<ul style="list-style-type: none"> • I can test the arch heights to see which can bear the most load. • I can make an arch frame. • I can explain how suspension bridges use tension forces to work. • I can design, make and evaluate a prototype suspension bridge using a scale of 1:100 according to specific design criteria. 	<p>piece of wood. • I know the safety rules I need to follow when doing woodworking.</p> <ul style="list-style-type: none"> • I can design a bird house for a particular bird, taking into account the bird's needs • I can select appropriate tools and materials to use when making a bird house. • I can create a sturdy bird house frame using wood. • I can evaluate my finished bird house, taking into account the views of others to improve my work. • I can use observation to evaluate the effectiveness of my bird house.
Programming and electrical systems			<ul style="list-style-type: none"> • I can explore and analyse illuminated signs. • I can create a simple circuit with incandescent bulbs and a switch. • I can describe the difference between 			<p>I can explain how computers and computer programs are used in a variety of products. • I can explain how modern memory chips work to store information.</p>

			<p>an LED and an incandescent light bulb.</p> <ul style="list-style-type: none"> • I can create a simple circuit with an LED bulb and a resistor. • I can make a circuit with a string of LED lights. • I can design an illuminated light box against a set of design criteria. • I can select materials, tools and components to create a free-standing structure. • I can make a stable, free-standing structure to house an electrical circuit. • I can strip, twist and join wire to make permanent connections. • I can insert an electrical circuit into a free-standing structure to create an illuminated light box. • I can evaluate the effectiveness of my finished product against the design criteria. 			<ul style="list-style-type: none"> • I can write an algorithm to suggest how various appliances might work. • I know what a computer engineer is and what they do. • I can describe some examples of how computer hardware and software specialists work together to create new products. • I can develop and build a prototype pedestrian crossing using computer programming. • I can develop, model and communicate ideas for an embedded system which monitors and controls a door, room or both. • I can describe the typical design process for computer-controlled electronic products. • I can debug errors in an algorithm. • I can suggest ways to change an
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						<p>algorithm to improve a system.</p> <ul style="list-style-type: none"> • I can select and use electronic components to construct a prototype of an embedded computer-controlled room system. • I can evaluate my design for a computer-controlled system and consider the views of others to improve my work.
Mechanical Systems	<ul style="list-style-type: none"> • I can make a sliding mechanism out of card. • I know what a pivot and lever are. • I can use a pivot and lever mechanism using card and a split pin. • I can make a wheel mechanism using card and a split pin. • I can match a mechanism to the type of movement they produce. • I can design a moving minibeast picture to include a variety of moving mechanisms. • I can follow a design to create a 	<ul style="list-style-type: none"> • I can investigate a range of vehicles, identifying and labelling their features. • I know what an axle is. • I know what a chassis is. • I can explore different ways of using axles, chassis and wheels to create a moving base. • I can design a vehicle with wheels, axles and chassis, as well as a body. • I can follow a design to make a moving vehicle. 	<p>I can explore moving parts in storybooks, suggesting how they work and what purpose they serve.</p> <ul style="list-style-type: none"> • I can explain what the words 'linkage', 'pivot', 'rotate' and 'lever' mean. • I can use a paper concertina to make an object pop out of a book. • I can arrange and stick paper between pages to create a pop-out. • I can use levers to create moving parts. • I can create moving wheel mechanisms to create different effects. 		<ul style="list-style-type: none"> • I explore how different transmissions create different movements. • I can use a crank to change the motion on a transmission from circular to linear motion. 	

	<p>moving minibeast picture for a particular purpose.</p> <ul style="list-style-type: none"> • I can evaluate my finished moving minibeast picture by identifying things that worked well and things that could be improved. 	<ul style="list-style-type: none"> • I can evaluate my finished moving vehicle. 	<ul style="list-style-type: none"> • I can experiment with different fonts and graphic design features. • I can design pages of a storybook to include moving mechanisms and appropriate graphic features. • I can follow my designs to create a storybook with moving mechanisms. • I can evaluate how well my moving mechanisms work. • I can evaluate the overall effectiveness of my storybook 			
Textiles		<ul style="list-style-type: none"> • I can explore a variety of puppets, identifying and labelling their features. • I can cut out felt using a simple template. • I can stick pieces of felt together to make a finger puppet. • I can add pieces of felt and other materials to a finger puppet to create features, such as eyes, hats and mouths. 		<p>I can explain the difference between the function and visual appeal of a product.</p> <ul style="list-style-type: none"> • I can evaluate the function and visual appeal of a variety of Christmas stockings. • I can use pins to temporarily fasten two pieces of fabric together. • I can use a running stitch, back stitch, overstretch and zigzag stitch to join two 	<p>I can explain the process of turning raw cotton into cloth.</p> <ul style="list-style-type: none"> • I know that products that are woven together are called textiles. • I know that different textiles have different properties, and can match these to their purpose. • I can identify straight stitch, zigzag stitch, whip/blanket stitch, blind stitch, buttonhole stitch and 	

		<ul style="list-style-type: none"> • I can use a running stitch to join two pieces of fabric together. • I can use overstitch to join two pieces of fabric together. • I can sew a button onto a piece of fabric. • I can design a glove puppet for a particular purpose. <ul style="list-style-type: none"> • I can follow a design to make a glove puppet by sewing two pieces of fabric together and adding decorations. • I can evaluate my finished glove puppet by identifying what went well and what could be improved. 		<p>pieces of fabric together.</p> <ul style="list-style-type: none"> • I can hide the finishing knot. <ul style="list-style-type: none"> • I can identify a variety of decorative techniques that have been used to decorate Christmas stockings. • I can sew a button, bead, sequin or pipe cleaner onto a piece of fabric. • I can embroider shapes and patterns into a piece of fabric. • I can use appliqué to add decoration to a piece of fabric. • I can design a Christmas stocking incorporating a range of decorative techniques. • I can use a template to cut out front and back pattern pieces. <ul style="list-style-type: none"> • I can follow a design to create a Christmas stocking. • I can evaluate the function and visual appeal of my finished Christmas stocking. 	<p>overlock stitch on a variety of ready-made garments.</p> <ul style="list-style-type: none"> • I can describe what the job of a fashion designer entails • I can sew a basting stitch. <ul style="list-style-type: none"> • I can sew a whip stitch. • I can sew a hem. • I can sew back stitch. • I can sew an appliqué decoration. • I can use back stitch to embroider. <ul style="list-style-type: none"> • I know what a pattern piece is and why they are important when designing a garment. • I can design a drawstring bag, including the necessary pattern pieces. <ul style="list-style-type: none"> • I can use pattern pieces to measure, mark, cut and sew fabric. <ul style="list-style-type: none"> • I can sew design elements according to design criteria. • I can join two pieces of fabric by hand sewing, using an appropriate stitch. 	
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					<ul style="list-style-type: none"> • I can evaluate my finished product against a set of design criteria. 	
Inventions and achievements			<p>I can explain about the invention of the mackintosh.</p> <ul style="list-style-type: none"> • I can investigate ways of making fabric waterproof. • I can explain about the invention of the world wide web. • I can describe how the invention of the internet has changed the world. 		<ul style="list-style-type: none"> • I can explain how the invention of paper helped shape the world. • I can explain the traditional method for making paper • I can test a variety of types of paper for strength, absorbency, opacity, etc. • I can make recycled paper. • I know how gunpowder was invented. • I can explain how the invention of gunpowder helped shape the world • I can explain how the invention of the compass changed the world. <p>I can make a hanging/floating compass.</p> <ul style="list-style-type: none"> • I can design and label my own compass. • I can explain what water-powered machines are and 	

					<p>how they helped change the world.</p> <ul style="list-style-type: none">• I can explain why kites were first invented and how they were made.• I can make a variety of kite prototypes and test their effectiveness.• I can design, make and evaluate a kite according to specific design criteria.	
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