

	Autumn	Spring	Summer
F1	<p><u>Me and my community:</u> In this project children use construction kits to create vehicles with wheels and axles.</p> <p><u>Once Upon a time:</u> In this project children work collaboratively to create structures using various materials including construction kits and up cycled materials . They share their creations and talk about the resources tools and techniques they used . Children explore existing products to make puppet characters .</p> <p><u>Sparkle and shine:</u> In this mini seasonal project children draw and label a design for a celebration light before creating. They are introduced to seasonal food and work with an adult to follow a simple recipe.</p>	<p><u>Starry night:</u> In this project children develop their design and technology skills to create cuddly pets using textiles.</p> <p><u>Puddles and rainbows:</u> In this mini seasonal project children build on their designing and making skills to create rainmakers.</p>	<p><u>Sunshine and sunflowers:</u> In this project children explore existing products to inspire their designs for sun hats and crop Protectors.</p> <p><u>Shadows and reflections:</u> In this mini seasonal project children test adapt and refine their designs when making sun-catchers .</p> <p><u>Big wide world:</u> In this project children create vehicles using a range of resources and construction kits . They develop their experiences of following a recipe from sparkle and shine by making tortilla pizzas.</p> <p><u>Splash:</u> In this mini seasonal project children consolidate their experience and understanding of following recipes independently to make ice lollies.</p>
	<p>PSED</p> <ul style="list-style-type: none"> – select and use activities and resources, with help when needed - this helps them to achieve a goal they have chosen or one which is suggested to them <p>PD</p> <ul style="list-style-type: none"> – use large-muscle movements to wave flags and streamers, paint and make marks – choose the right resources to carry out their own plan, for example, choosing a spade to enlarge a small hole they dug with a trowel – use one-handed tools and equipment, for example, making snips in paper with scissors <p>UtW</p> <ul style="list-style-type: none"> – explore how things work 		
F2	<p><u>Let's explore:</u> In this project children create simple structures using various resources and</p>	<p><u>Long ago:</u> In this project children are introduced to recipes and follow a pictorial</p>	<p><u>Animal safari:</u> In this project children develop their learning from the build it up project And</p>

	<p>construction kits.</p> <p><u>Build it up:</u> In this project children build on learning from lacks explore and work collaboratively and independently to build structures using various resources and construction kits .They look at existing products and structures to inspire their creations and test and adapt these ideas .</p> <p><u>Marvellous machines:</u> In this project children make vehicles with wheels and axles .They explore products that need electricity to make them work . Children develop their understanding of the design process as they construct models and are supported to adapt and refine their work .</p> <p><u>Puppets and pop ups:</u> In this project children explore a variety of joining techniques They create puppets and explore existing products to inspire their creations . They build on skills in marvellous machines To draw designs select resources and adapt their work as they create.</p>	<p>recipe to bake a cake.</p> <p><u>Stories and rhymes:</u> In this project children follow recipes building on experiences from the project long ago .</p>	<p>work collaboratively to make animal shelters. They develop joining techniques introduced in puppets and pop ups And explore folding and curling paper to create animal masks .</p>
<p>PD</p> <ul style="list-style-type: none"> – progress towards a more fluent style of moving, with developing control and grace – develop their small motor skills so that they can use a range of tools competently, safely and confidently - suggested tools include: <p>pencils for drawing and writing paintbrushes scissors knives forks Spoons</p> <ul style="list-style-type: none"> – use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor 			

	<p>EA&D</p> <ul style="list-style-type: none"> - explore, use and refine a variety of artistic effects to express their ideas and feelings - return to and build on their previous learning, refining ideas and developing their ability to represent them - create collaboratively, sharing ideas, resources and skills <p>ELG PD Fine Motor Skills ELG Children at the expected level of development will:</p> <ul style="list-style-type: none"> - Use a range of small tools, including scissors, paint brushes and cutlery; <p>EA&D Creating with Materials ELG Children at the expected level of development will:</p> <ul style="list-style-type: none"> - 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; 		
Y1	<p><u>Shade and shelter</u>: In this design and technology project children learn the names and functions of different shelters Under observe the similarities and differences . Children Revisit The names on properties of materials introduced in the early years and the year one science project everyday materials and decide why they have been used to build a variety of shelters .</p> <p>Children are introduced to design criteria They design and create a prototype shelter to fulfil given criteria . They then design A play den to a set of design criteria and work with a supervised group to build their play den Constructing strengthening and fixing materials carefully and safely . They evaluate their construction verbally and make changes</p>	<p><u>Bright lights big city</u>: This geography project is taught alongside the design and technology project ‘taxi’ And connects with children’s understanding of transport .</p> <p><u>Taxi!</u>: In this design and technology project children revisit parts of a vehicle including wheels axles an chassis’s building on construction activities in the early years . They explore different methods of making axles and fixing wheels to a chassis comparing products and using what they learn to design and create a moving model of a taxi according to a given design criteria .</p>	<p><u>Chop slice and mash</u>: In this design and technology project children learn about foods and their sources . They learn about preparing food and discover that peeling tearing slicing chopping mashing and grating are forms of food preparation They also learn about the importance of good hygiene .</p> <p>The children use preparatory techniques to make a healthy salad before tasting and evaluating their dish . They also design a supermarket sandwich choosing and preparing the ingredients to make them healthy tasty and easy to eat on the go . At the end of the project the children taste and evaluate their products .</p>

	<p>and improvements to their design before evaluating their final product .</p> <p><u>Funny faces and fabulous features:</u> In this design project children explore methods of joining textiles and adding embellishments using glue and simple stitches .</p>		
Y2	<p><u>Remarkable recipes:</u> In this design and technology project children learn more about the origins of foods first explored in year 1 .They learn about the parts of the plants we eat and the variety of foods that come from animal sources . They explore tools used for food preparation and decide which tool is best for a specific task . Children discover why some foods are cooked and learn to read a simple recipe . They choose a new healthy school lunch recipe that fits a set criteria They make Taste and evaluate their chosen recipe and decide if the dish should be included on the school menu .</p>	<p><u>Coastline:</u> This geography project is taught alongside the design and technology project beach Hut And connects with children’s understanding of human features at the coast.</p> <p><u>Uses of materials:</u> This science project is taught alongside the design and technology project beach Hut And connects with children’s understanding of properties and uses of materials .</p> <p><u>Beach Hut:</u> In this design and technology project children learn about methods of strengthening and joining materials and develop their woodworking skills to make box frames . They use this learning to design and build a sturdy and attractive beach Hut structure according to given design criteria .</p>	<p><u>Cut stitch and join:</u> In this design and technology project children build on their knowledge of stitching from the year one project ‘funny faces’ And ‘uses of materials’ studied in the year 2 project uses of materials. They are introduced to the contemporary product designer Cath Kidston And observe the functions and characteristics of the brand. They explore the purpose of a sewing pattern and investigate ways in which fabrics are joined and fastened . Children practise joining fabrics using glue and running stitches . They observe and explore ways to embellish fabrics using simple printing and adding sewn embellishments such as buttons sequins Unapply ke . Children follow a simple pattern to make a sewn bag tag .</p> <p><u>Push and pull:</u> In this design and technology project children learn that machines make work easier and define the term machine component and mechanism . They explore sliders levers and linkages and make moving models of all three using joining and finishing techniques . Children apply that learning to design and make greeting cards with moving parts that use these mechanisms .</p>

	<p>Key stage 1 Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].</p> <p>When designing and making, pupils should be taught to:</p> <p>Design</p> <ul style="list-style-type: none"> – design purposeful, functional, appealing products for themselves and other users based on design criteria generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology <p>Make</p> <ul style="list-style-type: none"> – select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics <p>Evaluate</p> <ul style="list-style-type: none"> – explore and evaluate a range of existing products – evaluate their ideas and products against design criteria <p>Technical knowledge</p> <ul style="list-style-type: none"> – build structures, exploring how they can be made stronger, stiffer and more stable explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. 		
Y3	<p><u>Cook well eat well:</u> In this design and technology project children learn about food groups and the eat well guide . They build on learning about why foods are cooked from year 2 by learning about cooking methods such as boiling steaming roasting baking and slow cooking . They practise these methods by cooking potatoes and ratatouille . The children choose and make a Taco filling according to specific design criteria then evaluate their final product.</p>	<p><u>Forces and magnets:</u> This science project is taught alongside the design and technology project making it move and connects with children’s understanding of contact and non contact forces.</p> <p><u>Making it move:</u> in this design and technology project children revisit knowledge of machines . They recap learning about levels linkages sliders wheels and axles from year 2 . Children are introduced to the Cam mechanism and its parts . They understand that cams can be different shapes and carry out an investigation to describe their movements .</p>	<p><u>Plant nutrition and reproduction:</u> this science project is taught alongside the design and technology project greenhouse and connects with children’s understanding of the requirements of plants for growth and survival.</p> <p><u>Beautiful botanicals:</u> in this project children are introduced to loom weaving and create botanical weavings using found natural materials.</p> <p><u>Greenhouse:</u> in this design and technology project children study greenhouse’s purpose structures materials and design features.</p>

		<p>Children discover that automata are machines that operate mainly by themselves. They use that knowledge of com mechanisms and their cutting joining and finishing skills to design and make a child's automaton toy following design criteria and evaluating their product.</p>	<p>They build on their knowledge of frame structures introduced in year 1 and would work from here too by investigating the use of diagonal struts but joints and triangular corners to strengthen a frame structure.</p> <p>Children also research and compare the work of two famous 'greenhouse' designers from different periods Sir Joseph Paxton and Sir Nicholas Grimshaw. They choose a suitable material for a greenhouse covering based on its properties. Children designer make mini green houses using strengthening finishing and joining techniques. They evaluate their work overtime to see if their designs fit their purpose.</p> <p><u>Light and shadows:</u> this science project is taught alongside the design and technology project greenhouse and connects with children's understanding of light and transparency.</p>
Y4	<p><u>Fresh food, good food:</u> in this design and technology project children learn why food deteriorates overtime including the role played by microorganisms. They study inventions and preservation methods such as drying canning pasteurising and cooling which are used to prolong the shelf life of food. Children learn about the corn ology of food packaging inventions and how these inventions changed peoples everyday lives. Children investigate a range of food packaging looking at how it keeps food fresh the origins of the food and whether the</p>	<p><u>Functional and fancy fabrics:</u> in this design and technology project children revisit the idea of using fabric to create products previously studied in year 2. They explore how fabric products are used in the home and examine the relationship between functionality and decoration. Children study British textile designer William Morris and are inspired to create printed fabrics finishing them with a sewn hem embroidery and embellishments.</p>	<p><u>Ancient civilisations:</u> this history project is taught alongside the design and technology project tomb builders and connects with children's understanding of the significance of ancient buildings.</p> <p><u>Electrical circuits and conductors:</u> in this science project children explore existing products and their design features including comparing electrical and manual products. They learn about programmable technologies used in the home and school and identify the tasks they perform. They explore</p>

	<p>packaging is recyclable. They learn about the factors involved in packaging design including the use of Nets and recyclable materials.</p> <p>Children use that knowledge of healthy eating from previous projects in year 3 and follow recipes to make various healthy snacks before designing and creating a packaged healthy snack that keeps fresh for several hours. They evaluate their snack and packaging highlighting their successes and suggesting improvements.</p> <p><u>Warp and weft</u>: in this art and design project children learn about significant technological advances in weaving. They learn about ancient Egyptian horizontal looms Iron Age vertical looms Anglo Saxon and Viking tablet looms Victorian power driven looms and modern looms with digital technology. Children also investigate the characteristics of natural (animal and plant based) and synthetic yarns for appearance shape texture elasticities and type.</p>		<p>programming using a micro bit creating LED animations and sequencing traffic lights. The user knowledge of design features circuits and programming to design and make Night Lights according to specified design criteria.</p> <p><u>Tomb builders</u>: in this design and technology project children revisit learning about mechanisms from the year 2 project push and pull and the year 3 project making it move by exploring simple machines including pulleys levers wheels axles wedges inclined planes and screws.</p> <p>They also learn how simple machines are used in combination to create compound machines. They use this learning to understand how ancient builders created significant structures then plan and build a machine prototype that may have been useful in the past.</p>
Y5	<p><u>Moving mechanisms</u>: in this design and technology project children learn about pneumatic systems. They use the skills they have learned in this and other projects to plan design and make machine prototype featuring a pneumatic system and a sturdy structure using appropriate materials and joining techniques.</p> <p>They learn about the iterative design process and evaluate and improve their product as it</p>	<p><u>So grow and farms</u>: this geography project is taught alongside the design and technology project eat the seasons and connects with children’s understanding of the seasons and seasonal foods.</p> <p><u>Eat the seasons</u>: in this design and technology project children explore seasonal foods and why they are beneficial for producers sellers and consumers. They use a seasonal calendar to identify soup recipes that can be created</p>	<p><u>Ground breaking Greeks</u>: this history project is taught alongside the design and technology project architecture and connects with children’s understanding of chronology and architectural styles developed in ancient Greece.</p> <p><u>Mixed-media</u>: in this art and design project children use fabric crumb to create fabric collages adding embellishments such as appliqué and sequins.</p>

	<p>progresses. Children also use focus groups to evaluate their finished product using the design criteria to determine their success.</p>	<p>using seasonal produce and use various techniques to prepare and cook a selection of the recipes using skills gained in previous projects. They use what they have learned to plan and make a nutritious seasonal soup evaluating their product for taste appearance and nutritional value.</p>	<p><u>Architecture</u>: in this design and technology project children learn about architectural styles and technology from prehistoric to ancient Egyptian classical gothic renaissance industrial modernism postmodernism and modern day sustainable architecture. They explore Greek architecture in more detail identifying typical materials and features such as columns pediments and friezes. Children use computer aided design to develop their ideas.</p> <p>Children revisit and build on techniques from year three projects for adding strength stability and support for structures. They use these skills and knowledge to design and build an impressive and functional model of a building.</p>
Y6	<p><u>Food for life</u>: in this design and technology projects children learn about processed foods including minimally processed and ultra processed foods. They also learn about food labelling. They compare processed and homemade bread for their number of ingredients nutritional value taste texture and longevity. The children learn about whole an organic foods and their advantages and disadvantages. They make pasta sauces using whole food ingredients and a range of preparation techniques practised in previous projects.</p> <p>The children design a healthy daily menu for an 11 year old child that meets a set of design</p>	<p><u>Electrical circuits and components</u>: in this science project children explore how sensors and monitoring are used in everyday programmable devices and create a programme to switch a light on an off in response to environmental light levels. Children use the knowledge gained throughout the project to design make and evaluate a programmable home device incorporating their circuit and programming knowledge.</p> <p><u>Engineer</u>: in this design and technology projects children learn about the role of an engineer and discover some remarkable structures in history. They studied the form</p>	<p><u>Britain at war</u>: this history project is taught alongside the design and technology project make do and mend and connects children's understanding of the influence of the make do and mend campaign on everyday life during and after the Second World War.</p> <p><u>Make do and mend</u>: in this design technology project children learn about the Second World War campaign make do amend and how it influences everyday life fashion and the war effort. They investigate existing clothing for fabric function features an fastenings and assess the possibilities for re purposing garments. Children revisit and practise stitching techniques from year 4 including</p>

<p>criteria. They justify their choices before preparing one of the meals. At the end of the project the children taste and evaluate their dishes modifying them if needed.</p>	<p>and function of significant bridges learning to identify features such as beams Archers and trusses and white triangles are strong shapes. Children complete a bridge building engineering challenge to create a bridge prototype.</p>	<p>running whip and blanket stitches then use their skills to repair an item of clothing. To conclude the project children complete a sewing challenge to create something new from recycled fabrics.</p>
<p>Key stage 2</p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].</p> <p>When designing and making, pupils should be taught to:</p> <p>Design</p> <ul style="list-style-type: none"> – use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups – generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design <p>Make</p> <ul style="list-style-type: none"> – select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately – select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities <p>Evaluate</p> <ul style="list-style-type: none"> – investigate and analyse a range of existing products – evaluate their ideas and products against their own design criteria and consider the views of others to improve their work – understand how key events and individuals in design and technology have helped shape the world <p>Technical knowledge</p> <ul style="list-style-type: none"> – apply their understanding of how to strengthen, stiffen and reinforce more complex structures – understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] – understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] – apply their understanding of computing to program, monitor and control their products. 		