



	Autumn	Spring	Summer
EY	<p><u>Structures: Junk modelling</u> Explore and learn about various types of permanent and temporary join using a combination of materials and joining techniques.</p> <p><u>Mechanism: Sliding Santa chimneys</u> Explore a simple paper slider mechanism as part of a practical example and then apply it to create their own sliding Santa chimney picture.</p>	<p><u>Structures: Boats</u> Explore what is meant by 'waterproof', 'floating' and 'sinking', then experiment and make predictions with various materials to carry out a series of tests. Different features of boats and ships before investigating their shape and structures to build their own.</p>	<p><u>Textiles: ladybird/flower bookmark</u> Threading and weaving techniques using various materials and objects. They look at the history of the bookmark from Victorian times versus modern-day styles. The pupils apply their knowledge and skills to design and sew their own bookmarks.</p> <p><u>Cooking and Nutrition: Summer rainbow salad</u> Refresh knowledge of fruits and vegetables and explore what it means to have a healthy balanced diet. Design and prepare the ingredients to create their rainbow salad. Taste and evaluate their rainbow salad.</p>



	Autumn	Spring	Summer
KS1 Year A	<p><u>Mechanisms: Wheels and axles</u></p> <ul style="list-style-type: none"> •Designing a vehicle that includes wheels, axles and axle holders, which will allow the wheels to move. •Creating clearly labelled drawings that illustrate movement. •Adapting mechanisms. •Testing mechanisms, <p>Linked with history transport unit</p> <p><u>Textiles: Puppets</u></p> <ul style="list-style-type: none"> •Using a template to create a design for a puppet. •Cutting fabric neatly with scissors. •Using joining methods to decorate a puppet. •Sequencing steps for construction. •Reflecting on a finished product, explaining likes and dislikes. <p>Linked with Christmas</p>	<p><u>Mechanism: Easter – mechanical animals</u></p> <ul style="list-style-type: none"> •Creating a design criteria for a moving monster as a class. •Designing a moving monster for a specific audience in accordance with a design criteria. •Making linkages using card for levers and split pins for pivots. •Experimenting with linkages adjusting the widths, lengths and thicknesses of card used. •Cutting and assembling components neatly. •Evaluating own designs against design criteria. •Using peer feedback to modify a final design. <p>Linked with Easter</p>	<p><u>Structures: Constructing a windmill</u></p> <ul style="list-style-type: none"> •Finding the middle of an object. •Puncturing holes. •Adding weight to a structure. •Creating supporting structures. •Cutting evenly and carefully. •Evaluating and improving a product. <p><u>Cooking and Nutrition: Smoothies</u></p> <ul style="list-style-type: none"> •Designing smoothie carton packaging by hand. •Chopping fruit and vegetables safely to make a smoothie. •Juicing fruits to make a smoothie. •Identifying if a food is a fruit. •Learning where and how fruits and vegetables grow. •Tasting and evaluating different foods. •Describing appearance, smell and taste. •Suggesting information to be included on packaging. <p>Linked with Seasonal Change</p>
KS1 Year B	<p><u>Mechanism: Moving Christmas Card</u></p> <ul style="list-style-type: none"> •Explaining how to adapt mechanisms, using bridges or guides to control the movement. •Designing a moving card for a given audience. •Following a design to create moving models that use levers and sliders. •Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed. •Reviewing the success of a product by testing it with its intended audience. <p><u>Textiles: Pouches</u></p> <ul style="list-style-type: none"> • Designing a pouch. •Selecting and cutting fabrics for sewing. •Decorating a pouch using fabric glue or running stitch. •Threading a needle. •Sewing running stitch, with evenly spaced, neat, even stitches to join fabric. •Neatly pinning and cutting fabric using a template. •Troubleshooting scenarios posed by teacher. •Evaluating the quality of the stitching on others' work. <p>Linked with Christmas</p>	<p><u>Mechanisms: London Eye</u></p> <ul style="list-style-type: none"> •Using a simple design brief that outlines the intended use, target user, and key features of the product, to create simple design criteria. •Knowing that a design brief helps to decide what to make. •Knowing that design criteria are the steps for making a product successful. •Creating ideas with design criteria in mind. •Referring to specific parts of existing products when generating ideas. •Knowing that the design criteria help when thinking of ideas. <p>Linked with Wonders of the World</p>	<p><u>Structures: Exploring Stability</u></p> <ul style="list-style-type: none"> •Generating and communicating ideas using sketching and modelling. •Learning about different types of structures, found in the natural world and in everyday objects. •Making a structure according to design criteria. •Creating joints and structures from paper/card and tape. •Building a strong and stiff structure by folding paper. •Exploring the features of structures. •Comparing the stability of different shapes. •Testing the strength of their own structures. <p><u>Cooking and Nutrition: Tasty Wraps</u></p> <ul style="list-style-type: none"> •Chopping foods safely to make a wrap. •Grating foods to make a wrap. •Snipping smaller foods instead of cutting. •Spreading soft foods to make a wrap. •Identifying the five food groups. •Learning about a balanced diet. •Tasting and evaluating different food combinations. •Describing appearance, smell and taste.



<p>LKS2 Year A</p>	<p><u>Mechanical Systems: Sling shot car</u></p> <ul style="list-style-type: none"> Designing a shape that reduces air resistance. Drawing a net to create a structure from. Measuring, marking, cutting and assembling with increasing accuracy. Making a model based on a chosen design. Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance. <p>Linked with Science - forces</p> <p><u>Structures: 3D Christmas Card or decoration</u></p> <ul style="list-style-type: none"> Designing a card or decoration with key features to appeal to a specific person/purpose. Drawing and labelling a castle design using 2D shapes. Designing and/or decorating on CAD software. Constructing a range of 3D geometric shapes using nets. Creating special features for individual designs. Suggesting points for modification of the individual designs. <p>Linked with Christmas</p>	<p><u>Digital World: Mindful Minutes Timer</u></p> <ul style="list-style-type: none"> Writing design criteria for a programmed timer (Micro:bit). Exploring different mindfulness strategies and using this research to inform my design criteria. Developing a prototype case for my mindful moment timer. Using and manipulating shapes and clipart and using computer-aided design (CAD) to produce a logo. Following a list of design requirements. Developing a prototype case for my mindful moment timer. Creating a 3D structure using a net. Programming a Micro:bit to time a set number of seconds/minutes upon button press. Show all <p>Linked with Science - Computing</p>	<p><u>Textiles: Egyptian Collar</u></p> <ul style="list-style-type: none"> Designing and making a template for an Egyptian collar and applying individual design criteria. Following their design criteria to create an Egyptian collar.. Sewing cross stitch to decorate or join fabric. Decorating fabric using appliqué, beads (or other embellishments), ribbon and pinking scissors. Evaluating an end product. <p>Linked with 'What do pyramids tell us about Ancient Egypt?'</p> <p><u>Cooking and Nutrition: Eating Seasonally</u></p> <ul style="list-style-type: none"> Describing how climate affects where foods grow. Identifying seasonal ingredients from the UK. Tasting seasonal ingredients. Describing the texture and flavour of ingredients. Peeling foods by hand or with a peeler. Cutting ingredients safely. Choosing ingredients based on a design brief. Following the instructions within a recipe. <p>Linked with science - Animals including humans - healthy diet</p>
<p>LKS2 Year B</p>	<p><u>Mechanical Systems: Pneumatic toys</u></p> <ul style="list-style-type: none"> Designing a toy that uses a pneumatic system. Developing design criteria from a design brief. Generating ideas using thumbnail sketches and exploded diagrams. Creating a pneumatic system to create a desired motion. Building secure housing for a pneumatic system. Using syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic toy. <p><u>Textiles: Fastenings</u></p> <ul style="list-style-type: none"> Writing design criteria for a product, articulating decisions made. Making and testing a paper template with accuracy and in keeping with the design criteria. Measuring, marking and cutting fabric using a paper template. Selecting a stitch style to join fabric. Sewing neatly using small regular stitches. <p>Linked with Christmas</p>	<p><u>Electrical systems: Torches</u></p> <ul style="list-style-type: none"> Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas. Making a torch with a working electrical circuit and switch. Using appropriate equipment to cut and attach materials. Assembling a torch according to the design and success criteria. Evaluating electrical products. Testing and evaluating the success of a final product. <p>Linked with Science - Electricity</p>	<p><u>Structures: Bandstand</u></p> <ul style="list-style-type: none"> Designing a stable bandstand structure that is aesthetically pleasing and selecting materials to create a desired effect. Building frame structures designed to support weight. Creating a range of different shaped frame structures. Selecting appropriate materials to build a strong structure and for the cladding. Reinforcing corners to strengthen a structure. Creating a design in accordance with a plan. <p>Linked with 'What makes Whitby wonderful?'</p> <p><u>Cooking and Nutrition: Adapting a recipe</u></p> <ul style="list-style-type: none"> Evaluating and comparing a range of products. Following a baking recipe. Understanding safety and hygiene rules. Identifying a target audience. Designing a biscuit within a given budget. Suggesting modifications. Adapting a recipe. Conducting market research. <p>Linked with cultural capital</p>



<p>UKS2 Year A</p>	<p><u>Mechanical Systems: Pop up Christmas cards</u></p> <ul style="list-style-type: none"> Designing a pop-up card which uses a mixture of structures and mechanisms. Making mechanisms and/or structures using sliders, pivots and folds to produce movement. Using layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result. Evaluating the work of others and receiving feedback Suggesting points for improvement. <p><u>Electrical Systems: Doodles</u></p> <ul style="list-style-type: none"> Developing design criteria based on findings from investigating existing products. Altering a product's form and function by tinkering with its configuration. Constructing a product with consideration for the design criteria. Carry out a product analysis to look at the purpose of a product along with its strengths and weaknesses. Linked with Christmas 	<p><u>Digital World: Navigating World</u></p> <ul style="list-style-type: none"> Developing design criteria to fulfil the client's request. Developing a product idea through annotated sketches. Placing and manoeuvring 3D objects, using CAD. Changing the properties of, or combine one or more 3D objects, using CAD. Considering materials and their functional properties, especially those that are sustainable and recyclable (for example, cork and bamboo). Explaining material choices and why they were chosen as part of a product concept. <p>Linked with Computing</p>	<p><u>Structures: Bird boxes</u></p> <ul style="list-style-type: none"> Designing a bird box featuring a variety of different structures, giving consideration to how the structures will be used. Considering effective and ineffective designs. Measuring, marking and cutting wood to create a range of structures. Improving a design plan based on peer evaluation. <p>Linked to Saltholme</p> <p><u>Cooking and Nutrition: Developing recipe</u></p> <ul style="list-style-type: none"> Explaining the farm-to-fork process. Researching existing recipes. Suggesting alternative ingredients. Analysing nutritional content. Writing an alternative recipe. Understanding cross-contamination. Using preparation skills. Designing a jar label.
<p>UKS2 Year B</p>	<p><u>Mechanical Systems: Automata Moving Toy</u></p> <ul style="list-style-type: none"> Noticing wider-reaching problems or needs in the community. Coming up with a broader range of ideas and deeper innovation, requiring pupils to think critically about their ideas' practicality and originality. Beginning to use more complex annotated sketches, such as cross-sectional and exploded diagrams and pattern pieces in design. <p>Linked with Christmas or WWII topic</p> <p><u>Electrical Systems: Steady Hand Game</u></p> <ul style="list-style-type: none"> Designing a steady hand game, identifying and naming the components required. Drawing a design from three different perspectives. Modelling ideas through prototypes. Understanding the purpose of products (toys), including what is meant by 'fit for purpose' and 'form over function'. Constructing a stable base for a game. Accurately cutting, folding and assembling a net. Decorating the base of the game to a high-quality finish. <p>Linked with maths (NETS), science Electricity, Christmas</p>	<p><u>Digital World: Monitoring Devices</u></p> <ul style="list-style-type: none"> Developing design criteria based on research. Generating multiple housing ideas using building bricks. Understanding what a virtual model is and the pros and cons of traditional and CAD modelling. Placing and manoeuvring 3D objects, using CAD. Changing the properties of, or combining one or more, 3D objects using CAD. Understanding the functional and aesthetic properties of plastics. Programming to monitor the ambient temperature and coding an (audible or visual) alert when the temperature moves out of a specified range. <p>Linked with Is world trade fair? Science living things and their habitats, computing.</p>	<p><u>Structures: Bridges</u></p> <ul style="list-style-type: none"> Designing a stable structure that is able to support weight. Creating a frame structure with focus on triangulation. Making a range of different shaped beam bridges. Using triangles to create truss bridges that span a given distance and support a load. Building a wooden bridge structure. <p>Links with local history/geography topic</p> <p><u>Cooking and Nutrition: Come Dine with Me</u></p> <ul style="list-style-type: none"> Writing a menu, planning the key steps, method and ingredients. Following a recipe, including using the correct quantities of each ingredient. Adapting a recipe based on research. Working to a given timescale. Working safely and hygienically with independence. Evaluating a recipe, considering: taste, smell, texture and origin of the food group. Taste testing and scoring final products. <p>Linked with cultural capital</p>



	EYFS	KS1	LKS2	UKS2
Design	<p>Children can:</p> <ul style="list-style-type: none"> Select appropriate resources Use gestures, talking and arrangements of materials and components to show design Use contexts set by the teacher and themselves Use language of designing and making (join, build, shape, longer, shorter, heavier etc.) 	<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.</p> <p>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>Children design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>They generate, develop, model and communicate their ideas through talking, drawing, templates, prototypes and, where appropriate, information and communication technology.</p> <p>Children can:</p> <ul style="list-style-type: none"> use their knowledge of existing products and their own experience to help generate their ideas; design products that have a purpose and are aimed at an intended user explain how their products will look and work through talking and simple annotated drawings; design models using simple computing software; plan and test ideas using templates and prototypes; understand and follow simple design criteria work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment. 	<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.</p> <p>They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].</p> <p>Children 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.</p> <p>They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design.</p> <p>Children can:</p> <ul style="list-style-type: none"> identify the design features of their products that will appeal to intended customers; use their knowledge of a broad range of existing products to help generate their ideas; design innovative and appealing products that have a clear purpose and are aimed at a specific user; explain how particular parts of their products work; use annotated sketches and cross-sectional drawings to develop and communicate their ideas; when designing, explore different initial ideas before coming up with a final design; when planning, start to explain their choice of materials and components including function and aesthetics; test ideas out through using prototypes; I use computer-aided design to develop and communicate their ideas (see note on p. 1); develop and follow simple design criteria; work in a broader range of relevant contexts, for example entertainment, the home, school, leisure, food industry and the wider environment 	<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.</p> <p>They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].</p> <p>Children 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.</p> <p>They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design.</p> <p>Children can:</p> <ul style="list-style-type: none"> use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at a target market; use their knowledge of a broad range of existing products to help generate their ideas; design products that have a clear purpose and indicate the design features of their products that will appeal to the intended user; explain how particular parts of their products work; use annotated sketches, cross-sectional drawings and exploded diagrams (possibly including computer-aided design) to develop and communicate their ideas; generate a range of design ideas and clearly communicate final designs; consider the availability and costings of resources when planning out designs; work in a broad range of relevant contexts, for example conservation, the home, school, leisure, culture, enterprise, industry and the wider environment.



<p>Make</p>	<p>Children can:</p> <ul style="list-style-type: none"> Construct with a purpose, using a variety of resources Use simple tools and techniques Build / construct with a wide range of objects Select tools & techniques to shape, assemble and join Replicate structures with materials / components Discuss how to make <u>an</u> activity safe and hygienic Record experiences by drawing, writing, voice recording Understand different media can be combined for a purpose 	<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 making.</p> <p>Children select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].</p> <p>They select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p> <p>Children can:</p> <p><u>Planning</u></p> <ul style="list-style-type: none"> with support, follow a simple plan or recipe; begin to select from a range of hand tools and equipment, such as scissors, graters, zesters, safe knives, juicer; select from a range of materials, textiles and components according to their characteristics; <p><u>Practical skills and techniques</u></p> <ul style="list-style-type: none"> learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures; use a range of materials and components, including textiles and food ingredients; with help, measure and mark out; cut, shape and score materials with some accuracy; assemble, join and combine materials, components or ingredients; demonstrate how to cut, shape and join fabric to make a simple product; manipulate fabrics in simple ways to create the desired effect; use a basic running stitch cut, peel and grate ingredients, including measuring and weighing ingredients using measuring cups; begin to use simple finishing techniques to improve the appearance of their product, such as adding <ul style="list-style-type: none"> simple decorations 	<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 making.</p> <p>Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] accurately.</p> <p>They 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> <p>Children can:</p> <p><u>Planning</u></p> <ul style="list-style-type: none"> with growing confidence, carefully select from a range of tools and equipment, explaining their choices; select from a range of materials and components according to their functional properties and aesthetic qualities; place the main stages of making in a systematic order; <p><u>Practical skills and techniques</u></p> <ul style="list-style-type: none"> learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedures; use a wider range of materials and components, including construction materials and kits, textiles and mechanical and electrical components; with growing independence, measure and mark out to the nearest cm and millimetre; cut, shape and score materials with some degree of accuracy; assemble, join and combine material and components with some degree of accuracy; demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product; join textiles with an appropriate sewing technique; begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as hemming 	<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 making.</p> <p>Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] accurately.</p> <p>They 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> <p>Children can:</p> <p><u>Planning</u></p> <ul style="list-style-type: none"> independently plan by suggesting what to do next; with growing confidence, select from a wide range of tools and equipment, explaining their choices; select from a range of materials and components according to their functional properties and aesthetic qualities; create step-by-step plans as a guide to making; <p><u>Practical skills and techniques</u></p> <ul style="list-style-type: none"> learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures; independently take exact measurements and mark out, to within 1 millimetre; use a full range of materials and components, including construction materials and kits, textiles, and mechanical components; cut a range of materials with precision and accuracy <ul style="list-style-type: none"> shape and score materials with precision and accuracy;
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Evaluate	<p>Children can:</p> <ul style="list-style-type: none"> Adapt work if necessary Dismantle, examine, talk about existing objects/structures Consider and manage some risks Practise some appropriate safety measures independently Talk about how things work Look at similarities and differences between existing objects / materials / tools Show an interest in technological toys Describe textures 	<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.</p> <p>Children explore and evaluate a range of existing products. They evaluate their ideas and products against design criteria.</p> <p>Children can:</p> <ul style="list-style-type: none"> explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations; explain positives and things to improve for existing products; explore what materials products are made from; talk about their design ideas and what they are making; as they work, start to identify strengths and possible changes they might make to refine their existing design; evaluate their products and ideas against their simple design criteria; start to understand that the iterative process sometimes involves repeating different stages of the process. 	<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.</p> <p>Children investigate and analyse a range of existing products.</p> <p>They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>They understand how key events and individuals in design and technology have helped shape the world.</p> <p>Children can:</p> <ul style="list-style-type: none"> explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose; explore what materials/ingredients products are made from and suggest reasons for this; consider their design criteria as they make progress and are willing to alter their plans, sometimes considering the views of others if this helps them to improve their product; evaluate their product against their original design criteria; evaluate the key events, including technological developments, and designs of individuals in design and technology that have helped shape the world. 	<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.</p> <p>Children investigate and analyse a range of existing products.</p> <p>They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>They understand how key events and individuals in design and technology have helped shape the world.</p> <p>Children can:</p> <ul style="list-style-type: none"> complete detailed competitor analysis of other products on the market; critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make; evaluate their ideas and products against the original design criteria, making changes as needed.
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<p>Technical Knowledge</p>	<p>Children can:</p> <ul style="list-style-type: none"> use a range of tools, e.g. scissors, hole punch, stapler, woodworking tools, rolling pins, pastry cutters. Discover how everyday objects work by dismantling things. 	<p>Children build structures, exploring how they can be made stronger, stiffer and more stable. They explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p> <p>Children can:</p> <ul style="list-style-type: none"> build simple structures, exploring how they can be made stronger, stiffer and more stable; talk about and start to understand the simple working characteristics of materials and components; explore and create products using mechanisms, such as levers, sliders and wheels. 	<p>Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</p> <p>They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].</p> <p>They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].</p> <p>They apply their understanding of computing to program, monitor and control their products.</p> <p>Children can:</p> <ul style="list-style-type: none"> understand that materials have both functional properties and aesthetic qualities; apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products; understand and demonstrate how mechanical and electrical systems have an input and output process; make and represent simple electrical circuits, such as a series and parallel, and components to create functional products; explain how mechanical systems such as levers and linkages create movement; use mechanical systems in their products 	<p>Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</p> <p>They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].</p> <p>They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].</p> <p>They apply their understanding of computing to program, monitor and control their products.</p> <p>Children can:</p> <ul style="list-style-type: none"> apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products; understand and demonstrate that mechanical and electrical systems have an input, process and output; explain how mechanical systems, such as cams, create movement and use mechanical systems in their products; apply their understanding of computing to program, monitor and control a product.
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Cooking and Nutrition	<p>Children can:</p> <ul style="list-style-type: none"> • Begin to understand some food preparation tools, techniques and processes • Practise stirring, mixing, pouring, blending • Discuss how to make an activity safe and hygienic • Discuss use of senses • Understand need for variety in food • Begin to understand that eating well contributes to good health 	<p>Children use the basic principles of a healthy and varied diet to prepare dishes.</p> <p>They understand where food comes from.</p> <p>Children can:</p> <ul style="list-style-type: none"> • explain where in the world different foods originate from; • understand that all food comes from plants or animals; • understand that food has to be farmed, grown elsewhere (e.g. home) or caught; • name and sort foods into the five groups in the Eatwell Guide; • understand that everyone should eat at least five portions of fruit and vegetable every day and start to explain why; • use what they know about the Eatwell Guide to design and prepare dishes. 	<p>Children understand and apply the principles of a healthy and varied diet.</p> <p>They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p> <p>Children can:</p> <ul style="list-style-type: none"> • start to know when, where and how food is grown (such as herbs, tomatoes and strawberries) in the UK, Europe and the wider world; • understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically; • with support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven; • use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking; • explain that a healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide and be able to apply these principles when planning and cooking dishes; • understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body; • prepare ingredients using appropriate cooking utensils; • measure and weigh ingredients to the nearest gram and millilitre; • start to independently follow a recipe; • start to understand seasonality. 	<p>Children understand and apply the principles of a healthy and varied diet.</p> <p>They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p> <p>Children can:</p> <ul style="list-style-type: none"> • know, explain and give examples of food that is grown (such as pears, wheat and potatoes), reared (such as poultry and cattle) and caught (such as fish) in the UK, Europe and the wider world; • understand about seasonality, how this may affect the food availability and plan recipes according to seasonality; • understand that food is processed into ingredients that can be eaten or used in cooking; • demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source; • demonstrate how to use a range of cooking techniques, such as griddling, grilling, frying and boiling; • explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes; • adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma; • alter methods, cooking times and/or temperatures; • measure accurately and calculate ratios of ingredients to scale up or down from a recipe; • independently follow a recipe.
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