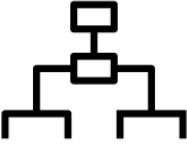











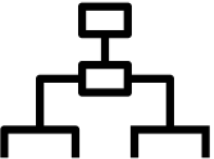






STEM (Science and Design & Technology) – Subject Overview & Progression

Long Term Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	Where do I belong? 	Once upon a time 	Where in the world? 	All creatures great and small 	Growing and farms 	Do you like to be beside the seaside?
Reception	Where do I belong? 	Once upon a time 	Where in the world? 	All creatures great and small 	Growing and farms 	Do you like to be beside the seaside?
KS1 A		How can we help plants grow? (Plants)	Which materials can we make models from? (Materials, DT: Simple Structures)	PSHE: Healthy Me! (Animals including humans)	How are animals adapted to where they live? (Living things & their habitats)	
KS1 B		How can we eat healthily? (Animals including humans, Food & nutrition)	What is each season like? (Seasonal Change)	PSHE: Healthy Me! (Animals including humans, DT: Food & nutrition)	What is it like in Australia? (Animals including humans and Living things & their habitats)	How can we make models move? (DT: Mechanisms) PSHE: Changing Me
Year 3	Nutrition, skeletons and muscles (Animals including humans)	Light (Light)	Rocks fossils and soil (Rocks and soils)	Structures (DT: Stiffening)	Plant Growth (Plants)	Forces and magnets (Forces and magnets, DT: Mechanical Systems)

Year 4	<p>Classification</p>  <p>(Living things and their habitats)</p>	<p>States of matter</p>  <p>(States of matter)</p>	<p>Sound</p>  <p>(Sound)</p>	<p>Simple Circuits</p>  <p>(Electricity, DT: Circuits)</p>	<p>Eating – teeth, digestion & food chains</p>  <p>(Animals including humans)</p>	<p>Textiles</p>  <p>(DT: Textiles)</p>
Year 5	<p>Earth & Space</p>  <p>(Earth & Space)</p>	<p>Bridges</p>  <p>(DT: Structures)</p>	<p>Growing older</p>  <p>(Animals including humans)</p>	<p>Properties & changes of materials</p>  <p>(Properties & changes of materials)</p>	<p>Forces</p>  <p>(Forces, DT: Mechanical Systems)</p>	<p>Masterchef</p>  <p>(DT: Food & Nutrition)</p>
Year 6	<p>Classification</p>  <p>(Living things and their habitats)</p>	<p>Light</p>  <p>(Light)</p>	<p>Evolution & Inheritance</p>  <p>(Evolution & Inheritance)</p>	<p>Heart & Health</p>  <p>(Animals including humans)</p>		<p>More Complex Circuits</p>  <p>(Electricity. DT: Circuits)</p>

Science - Progression in knowledge:

		EYFS		KS1		LKS2		UKS2	
		Nursery	Reception	KS1 Cycle A	KS1 Cycle B	Year 3	Year 4	Year 5	Year 6
Biology – Substantive Knowledge	<p>Understanding the world</p> <ul style="list-style-type: none"> Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. 	<p>Understanding the world</p> <ul style="list-style-type: none"> Explore the natural world around them. Describe what they see, hear and feel whilst outside. Recognise some environments that are different to the one in which they live. Understand the effect of changing seasons on the natural world around them. Explore the natural world around them, making observations and drawing pictures of animals and plants. Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. 	<p>Plants</p> <ul style="list-style-type: none"> identify and name a variety of common wild and garden plants, including deciduous and evergreen trees identify and describe the basic structure of a variety of common flowering plants, including trees observe and describe how seeds and bulbs grow into mature plants find out and describe how plants need water, light and a suitable temperature to grow and stay healthy <p>Living things and their habitats</p> <ul style="list-style-type: none"> explore and compare the differences between things that are living, dead, and things that have never been alive identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other identify and name a variety of plants and animals in their habitats, including microhabitats describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food <p>Animals including humans</p> <ul style="list-style-type: none"> notice that animals, including humans, have offspring which grow into adults find out about and describe the basic needs of animals, including humans, for survival (water, food and air) 	<p>Animals including humans</p> <ul style="list-style-type: none"> identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals identify and name a variety of common animals that are carnivores, herbivores and omnivores describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense [PSHE] describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene [PSHE] 	<p>Plants</p> <ul style="list-style-type: none"> identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant investigate the way in which water is transported within plants explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal <p>Animals including humans</p> <ul style="list-style-type: none"> identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat identify that humans and some other animals have skeletons and muscles for support, protection and movement 	<p>Living things and their habitats</p> <ul style="list-style-type: none"> recognise that living things can be grouped in a variety of ways explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment recognise that environments can change and that this can sometimes pose dangers to living things <p>Animals including humans</p> <ul style="list-style-type: none"> describe the simple functions of the basic parts of the digestive system in humans identify the different types of teeth in humans and their simple functions construct and interpret a variety of food chains, identifying producers, predators and prey 	<p>Living things and their habitats</p> <ul style="list-style-type: none"> describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird describe the life process of reproduction in some plants and animals <p>Animals including humans</p> <ul style="list-style-type: none"> describe the changes as humans develop to old age 	<p>Living things and their habitats</p> <ul style="list-style-type: none"> describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals give reasons for classifying plants and animals based on specific characteristics <p>Animals including humans</p> <ul style="list-style-type: none"> identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function describe the ways in which nutrients and water are transported within animals, including humans Evolution and inheritance recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution 	

	EYFS		KS1		LKS2		UKS2	
	Nursery	Reception	KS1 Cycle A	KS1 Cycle B	Year 3	Year 4	Year 5	Year 6
Chemistry – Substantive Knowledge	<p>Understanding the world</p> <ul style="list-style-type: none"> Talk about the differences between materials and changes they notice. <p>Expressive Arts & Design</p> <ul style="list-style-type: none"> Explore different materials freely, in order to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. Join different materials and explore different textures. 	<p>Creating with materials</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. Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. 	<p>Materials</p> <ul style="list-style-type: none"> distinguish between an object and the material from which it is made identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock describe the simple physical properties of a variety of everyday materials compare and group together a variety of everyday materials on the basis of their simple physical properties identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching 		<p>Rocks</p> <ul style="list-style-type: none"> compare and group together different kinds of rocks on the basis of their appearance and simple physical properties describe in simple terms how fossils are formed when things that have lived are trapped within rock recognise that soils are made from rocks and organic matter 	<p>States of matter</p> <ul style="list-style-type: none"> compare and group materials together, according to whether they are solids, liquids or gases observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature 	<p>Properties and changes of materials</p> <ul style="list-style-type: none"> compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic demonstrate that dissolving, mixing and changes of state are reversible changes explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda 	

	EYFS		KS1		LKS2		UKS2	
	Nursery	Reception	KS1 Cycle A	KS1 Cycle B	Y3	Y4	Y5	Y6
Asking Questions and Carrying Out Fair and Comparative Tests	<p>Children explore the natural world and objects in the environment. They learn to understand questions such as 'why' questions and they begin to ask their own questions about the world around them.</p> <p>Children can:</p> <ul style="list-style-type: none"> • explore how things work. • explore different materials freely, in order to develop their ideas about how to use them and what to make. • explore the natural world around them, making observations and drawing pictures of animals and plants. • understand 'why' questions, like: "Why do you think the caterpillar got so fat?" • ask questions to find out more and to check they understand what has been said to them. 		<p>Asking simple questions and recognising that they can be answered in different ways. Performing simple tests.</p> <p>Children can:</p> <ul style="list-style-type: none"> • explore the world around them, leading them to ask some simple scientific questions about how and why things happen; • begin to recognise ways in which they might answer scientific questions; • ask people questions and use simple secondary sources to find answers; • carry out simple practical tests, using simple equipment; • experience different types of scientific enquiries, including practical activities; • talk about the aim of scientific tests they are working on; • with support, start to recognise a fair test. 		<p>Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple practical enquiries, comparative and fair tests.</p> <p>Children can:</p> <ul style="list-style-type: none"> • start to raise their own relevant questions about the world around them in response to a range of scientific experiences; • start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions; • recognise when a fair test is necessary; • help decide how to set up a fair test, making decisions about what observations to make, how long to make them for and the type of simple equipment that might be used; • set up and carry out simple comparative and fair tests. 		<p>Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Using test results to make predictions to set up further comparative and fair tests.</p> <p>Children can:</p> <ul style="list-style-type: none"> • with growing independence, raise their own relevant questions about the world around them in response to a range of scientific experiences; • with increasing independence, make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions; • explore and talk about their ideas, raising different kinds of scientific questions; • ask their own questions about scientific phenomena; • select and plan the most appropriate type of scientific enquiry to use to answer scientific questions; • make their own decisions about what observations to make, what measurements to use and how long to make them for, and whether to repeat them; • plan, set up and carry out comparative and fair tests to answer questions, including recognising and controlling variables where necessary; • use their test results to identify when further tests and observations may be needed; • use test results to make predictions for further tests. 	

	EYFS		KS1		LKS2		UKS2	
	Nursery	Reception	KS1 Cycle A	KS1 Cycle B	Year 3	Year 4	Year 5	Year 6
Observing and Measuring Changes	<p>Children explore the natural world and objects in the environment.</p> <p>Children can:</p> <ul style="list-style-type: none"> Explore how things work. Describe what they see, hear and feel whilst outside. Talk about the differences between materials and changes they notice. Understand the effect of changing seasons on the natural world around them. Explore the natural world around them, making observations and drawing pictures of animals and plants. 		<p>Observing closely, using simple equipment.</p> <p>Children can:</p> <ul style="list-style-type: none"> observe the natural and humanly constructed world around them; observe changes over time; use simple measurements and equipment; make careful observations, sometimes using equipment to help them observe carefully. 		<p>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p> <p>Children can:</p> <ul style="list-style-type: none"> make systematic and careful observations; observe changes over time; use a range of equipment, including thermometers and data loggers; ask their own questions about what they observe; where appropriate, take accurate measurements using standard units using a range of equipment. 		<p>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p> <p>Children can:</p> <ul style="list-style-type: none"> choose the most appropriate equipment to make measurements and explain how to use it accurately; take measurements using a range of scientific equipment with increasing accuracy and precision; take repeat readings when appropriate; understand why we take an average in repeat readings. 	

	EYFS		KS1		LKS2		UKS2	
	Nursery	Reception	KS1 Cycle A	KS1 Cycle B	Year 3	Year 4	Year 5	Year 6
Identifying, Classifying, Recording and Presenting Data	<p>Children compare objects and measurements in their environment.</p> <p>Children can:</p> <ul style="list-style-type: none"> Compare sizes, weights etc. using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy'. Make comparisons between objects relating to size, length, weight and capacity Compare quantities using language: 'more than', 'fewer than'. Compare length, weight and capacity. 		<p>Identifying and classifying. Gathering and recording data to help in answering questions.</p> <p>Children can:</p> <ul style="list-style-type: none"> use simple features to compare objects, materials and living things; decide how to sort and classify objects into simple groups with some help; record and communicate findings in a range of ways with support; sort, group, gather and record data in a variety of ways to help in answering questions such as in simple sorting diagrams, pictograms, tally charts, block diagrams and simple tables. 		<p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</p> <p>Children can:</p> <ul style="list-style-type: none"> talk about criteria for grouping, sorting and classifying; group and classify things; collect data from their own observations and measurements; present data in a variety of ways to help in answering questions; use, read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge; record findings using scientific language, drawings, labelled diagrams, keys, bar charts and tables. 		<p>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p> <p>Children can:</p> <ul style="list-style-type: none"> independently group, classify and describe living things and materials; use and develop keys and other information records to identify, classify and describe living things and materials; decide how to record data from a choice of familiar approaches; record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar graphs and line graphs. 	

	EYFS		KS1		LKS2		UKS2	
	Nursery	Reception	KS1 Cycle A	KS1 Cycle B	Year 3	Year 4	Year 5	Year 6
Drawing Conclusions, Noticing Patterns and Presenting Findings	<p>Children identify and construct patterns in their environment.</p> <p>Children can:</p> <ul style="list-style-type: none"> Notice patterns and arrange things in patterns. Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc. Extend and create ABAB patterns – stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern. Continue, copy and create repeating patterns. 		<p>Using their observations and ideas to suggest answers to questions.</p> <p>Children can:</p> <ul style="list-style-type: none"> notice links between cause and effect with support; begin to notice patterns and relationships with support; begin to draw simple conclusions; identify and discuss differences between their results; use simple and scientific language; read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1; talk about their findings to a variety of audiences in a variety of ways. <p>Data Handling (Year 2)</p> <ul style="list-style-type: none"> interpret and construct simple pictograms, tally charts, block diagrams and simple tables. ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity ask and answer questions about totalling and comparing categorical data. 		<p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Children can:</p> <ul style="list-style-type: none"> draw simple conclusions from their results; make predictions; suggest improvements to investigations; raise further questions which could be investigated; first talk about, and then go on to write about, what they have found out; report and present their results and conclusions to others in written and oral forms with increasing confidence. <p>Data Handling (Year 3)</p> <ul style="list-style-type: none"> interpret and present data using bar charts, pictograms and tables. use simple scales (for example, 2, 5, 10 units per cm) in pictograms and bar charts with increasing accuracy. <p>Data Handling (Year 4)</p> <ul style="list-style-type: none"> interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. 		<p>Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations.</p> <p>Children can:</p> <ul style="list-style-type: none"> notice patterns; draw conclusions based in their data and observations; use their scientific knowledge and understanding to explain their findings; read, spell and pronounce scientific vocabulary correctly; identify patterns that might be found in the natural environment; look for different causal relationships in their data; discuss the degree of trust they can have in a set of results; independently report and present their conclusions to others in oral and written forms. <p>Data Handling (Year 5)</p> <ul style="list-style-type: none"> present and interpret information in a line graph present and interpret information in a table, including timetables. <p>Data Handling (Year 6)</p> <ul style="list-style-type: none"> interpret and construct pie charts and line graphs know when it is appropriate to find the mean of a data set 	

	EYFS		KS1		LKS2		UKS2	
	Nursery	Reception	KS1 Cycle A	KS1 Cycle B	Year 3	Year 4	Year 5	Year 6
Using Scientific Evidence and Secondary Sources of Information					<p>Identifying differences, similarities or changes related to simple scientific ideas and processes. Using straightforward scientific evidence to answer questions or to support their findings.</p> <p>Children can:</p> <ul style="list-style-type: none"> • make links between their own science results and other scientific evidence; • use straightforward scientific evidence to answer questions or support their findings; • identify similarities, differences, patterns and changes relating to simple scientific ideas and processes; • recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations. 		<p>Identifying scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Children can:</p> <ul style="list-style-type: none"> • use primary and secondary sources evidence to justify ideas; • identify evidence that refutes or supports their ideas; • recognise where secondary sources will be most useful to research ideas and begin to separate opinion from fact; • use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas; • talk about how scientific ideas have developed over time [e.g. the geocentric and heliocentric model]. 	

Design & Technology - Progression in knowledge:

	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, mock-ups 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 mock-ups; • 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; • 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.

	EYFS	KS1	LKS2	UKS2
Make	<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 an 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; 	<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; 	<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; shape and score materials with precision and accuracy;

		<ul style="list-style-type: none"> • 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 • simple decorations. 	<ul style="list-style-type: none"> • demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product; • join textiles with an appropriate sewing technique; <p>begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as hemming, tie-dye, fabric paints and digital graphics.</p>	<ul style="list-style-type: none"> • assemble, join and combine materials and components with accuracy; • demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product; • join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch; • refine the finish using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut after roughly cutting out a shape.
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	EYFS	KS1	LKS2	UKS2
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.

	EYFS	KS1	LKS2	UKS2
Technical Knowledge	<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.

	EYFS	KS1	LKS2	UKS2
Cooking & 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 vegetables 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.