

Science Curriculum Map (LTP) 2020-2021

	KS1		LKS2		UKS2	
	Foundation	Year 1	Year 2	Year 3	Year 4	Year 5
<p>Working Scientifically</p> <p>30-50 months >Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world. >Can talk about some of the things they have observed such as plants, animals, natural and found objects. >Talks about why things happen and how things work. >Developing an understanding of growth, decay and changes over time. >Shows care and concern for living things and the environment.</p> <p>40-60 months >Looks closely at similarities, differences, patterns and change.</p> <p>Early Learning Goals Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes.</p>	<p>> Ask simple questions and recognise that they can be answered in different ways (seasonal changes, animals including humans, working scientifically set 1 & 2) > Use simple equipment to observe closely (plants, everyday materials, working scientifically set 1 & 2) > Perform simple tests (animals including humans, everyday materials, working scientifically set 1 & 2) > Identify and classify (plants, seasonal changes, animals including humans, everyday materials, working scientifically set 1 & 2) > Use his/her observation and ideas to suggest answers to questions (plants, seasonal changes, animals including humans, working scientifically set 1 & 2) > Gather and record data to help in answering questions (seasonal changes, animals including humans, working scientifically set 1 & Set 2)</p>	<p>> Ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum (working scientifically, uses of everyday materials) > Use simple equipment to observe closely including changes over time (working scientifically, animals including humans, living things and their habitats, plants) > Communicate his/her ideas, what he/she does and what he/she finds out in a variety of ways (working scientifically, uses of everyday materials, plants) > Perform simple comparative tests (working scientifically, uses of everyday materials, plants) > Identify, group and classify (animals, including humans, living things and their habitats) > Use his/her observations and ideas to suggest answers to questions noticing similarities, differences and patterns (working scientifically, uses of everyday materials, animals including humans, living things and their habitats, plants) > Gather and record data to help in answering</p>	<p>> Ask relevant questions and use different types of scientific enquires to answer them (animals including humans, working scientifically, forces & magnets, plants) > Set up simple practical enquires, comparative and fair tests (rocks, working scientifically, forces and magnets, plants) > Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers (rocks, animals including humans, working scientifically) > Gather, record, classify and present data in a variety of ways to help in answering questions (animals including humans, working scientifically, light, plants) > Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables (animals including humans, plants) > Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions (rocks, animals including humans)</p>	<p>> Ask relevant questions and use different types of scientific enquires to answer them (sound, living things and their habitats, Electricity) > Set up simple practical enquires, comparative and fair tests (animals including humans, working scientifically, sound, living things and their habitats, states of matter) > Make systematic and careful observations and where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers (Working Scientifically, sound, living things and their habitats, states of matter) > Gather, record, classify and present data in a variety of ways to help in answering question (animals including humans, working scientifically, living things and their habitats, electricity) > Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables (animals including humans, working scientifically, electricity, states of matter) > Report on findings from enquiries, including oral and written explanations,</p>	<p>> Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary (Properties and changes of materials, living things and their habitats, forces and magnets) > Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate (Working Scientifically, animals, including humans, forces and magnets) > Record data and results of increasingly complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs (Properties and changes of materials, Working Scientifically, Living things and their habitats) > Use test results to make predictions to set up further comparative and fair tests (Properties and changes of materials, forces and magnets) > Report and present findings from enquires, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentation (Working Scientifically,</p>	<p>> Plan different types of scientific enquiries to answer their own or others' questions, including recognising and controlling variables where necessary (Electricity, Working Scientifically & Light) > Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate (Evolution and Inheritance, Electricity, Living Things and their Habitats, Animals including Humans, Working Scientifically & Light) > Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs (Evolution and Inheritance, Electricity, Living Things and their Habitats, Animals including Humans, Working Scientifically & Light) > Use test results to make predictions to set up further comparative and fair tests (Evolution and Inheritance, Electricity, Animals including humans & Light) > Report and present findings from enquiries, including conclusions, causal relationships and explanations of and</p>

			<p>questions including from secondary sources of information (working scientifically, animals including humans, living things and their habitats, plants)</p> <p>> Use results to draw simple conclusion, make prediction for new values, suggest improvement and raise further questions (Animals including humans, working scientifically)</p> <p>> Identify differences, similarities or changes related to simple scientific ideas and processes (rocks, working scientifically, light, forces & magnets)</p> <p>> Use straightforward scientific evidence to answer questions or to support his/her findings (rocks, animals including humans, working scientifically, light, forces & magnets, plants)</p>	<p>displays or presentations of results and conclusions (animals including humans, working scientifically, sound, electricity)</p> <p>> Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further question (working scientifically, sound, living things and their habitats)</p> <p>> Identify differences, similarities or change related to simple scientific ideas and processes (animals including humans, working scientifically, sound, living things and their habitats, states of matter)</p> <p>> Use straightforward scientific evidence to answer questions or to support his/her findings (animals including humans, Working Scientifically, sound, living things and their habitats, electricity, states of matter)</p>	<p>Earth and space, living thing and their habitats, animals including humans, forces and magnets)</p> <p>> Identify scientific evidence that has been used to support or refute ideas or arguments (properties and changes of materials, Working Scientifically, Earth and Space, living things and their habitats, animals, including humans)</p>	<p>degree of trust in results, in oral and write forms such as displays and other presentations (Evolution and Inheritance, Electricity, Animals including Humans & Light)</p> <p>> Identify scientific evidence that has been used to support or refute ideas or arguments (Evolution and Inheritance, Living Things and their Habitats, Animals including Humans, Working Scientifically & Light)</p> <p>> Describe and evaluate their own and other people's scientific ideas related to topics in the national curriculum (including ideas that have changed over time), using evidence from a range of sources (Animals including Humans & Working Scientifically)</p> <p>> Group and classify things and recognise patterns (Living Things and their Habitats & Light)</p> <p>> Find things out using a wide range of secondary sources of information (Evolution and Inheritance & Working Scientifically)</p> <p>> Use appropriate scientific language and ideas from the national curriculum to explain, evaluate and communicate his/her method and findings (Electricity)</p>	
Term 1	Foundation My Body	Year 1 Superheroes	Year 2 The scented garden	Year 3 Tribal Tales	Year 4 Burps, Bottoms and Bile	Year 5 Alchemy Island	Year 6 ID

	Working Scientifically	Plants	Rocks	Animals including humans	Materials	Evolution and inheritance
<p>> Finding out about the different parts of my body.</p> <p>> Talking about how I have changed as I have grown up by looking back at my baby photo.</p> <p>> Learning about and using my five senses to investigate the area around me.</p> <p>> Experiments with the 5 senses, including: 'feely boxes' to guess what is inside; scented paints to smell, and using my sense of taste to try different fruit; listening to different sounds and guessing what they are.</p>		<p>Year 1 Curriculum</p> <p>> Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>> Identify and describe the basic structure of a variety of common flowering plants, including trees</p> <p>Year 2 Curriculum</p> <p>> Observe and describe how seeds and bulbs grow into mature plants</p> <p>> Describe how plants need water, light and a suitable temperature to grow and stay healthy, and describe the impact of changing these</p>	<p>> Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>> Describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>> Recognise that soils are made from rocks and organic matter</p>	<p>Year 3 Curriculum</p> <p>> Identify that humans and some other animals have skeletons and muscles for support, protection and movement</p> <p>> 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</p> <p>Year 4 Curriculum</p> <p>> Describe the simple functions of the basic parts of the digestive system in humans</p> <p>> Construct and interpret a variety of food chains, identifying producers, predators and prey</p> <p>> Identify the different types of teeth in humans and their simple functions</p>	<p>Year 4 Curriculum</p> <p>States of Matter</p> <p>> Compare and group materials together, according to whether they are solids, liquids or gases</p> <p>> 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</p> <p>> Identify the part played by evaporative and condensation in the water cycle and associate the rate of evaporating with temperature</p> <p>Year 5 Curriculum</p> <p>Materials</p> <p>> 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</p> <p>> Recognise that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p> <p>> Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>> Give reasons, based on evidence from comparative and fair tests, for the particular</p>	<p>> Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>> Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>> Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</p>

						uses of everyday materials, including metal, 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	
Science Oxford							Shows and workshops: • Crime scene science
Term 2	Foundation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	The Changing Seasons	Memory Box	Muck, Mess & Mixtures	Predators	Traders & Raiders	Pestilence	Victorian Revolution
		Working Scientifically	Materials	Animals including humans (Year 2)	Working Scientifically	Working Scientifically	Electricity
	<p>>Thinking about Harvest and what this means, talking about what I might see in the fields at this time of the year.</p> <p>>Being involved in discussions about what it is like now that it is winter time and how the outside area looks different (frost etc) and how to keep myself warm.</p> <p>>Looking at ice and talking about how it is made and what happens to it.</p> <p>>Taking part in an investigation – where shall we put the ice for it to melt the quickest?</p> <p>>Talking about winter and hibernation.</p> <p>>Listening and commenting on stories which explain how</p>		<p>> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</p> <p>> Describe how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p>	<p>Year 2 Curriculum</p> <p>> Understand that animals, including humans, have offspring which grow into adults</p> <p>> Describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>> Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</p> <p>Year 3 Curriculum</p> <p>> Identify that humans and some other animals have skeletons and muscles for support, protection and movement</p> <p>> Identify that animals, including humans, need the right types and amount of nutrition, and</p>			<p>> Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</p> <p>> Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches</p> <p>> Use recognised symbols when representing a simple circuit in a diagram</p>

	animals hibernate in winter and why. >Discussing how to make shadows and how to make the shadow bigger and smaller.			that they cannot make their own food; they get nutrition from what they eat			
Science Oxford			Shows and Workshops: Discover materials		Shows and Workshops: • Sound of science (show and workshop)		Kit loan: Circuit detectives
Term 3	Foundation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Moon Zoom	Land Ahoy	Heroes & Villains	Playlist	Stargazers	Frozen Kingdom
	Materials	Materials	Working Scientifically Year 1 – Seasonal Changes	Working Scientifically	Sound	Forces and Magnets Earth and Space	Living thing and their habitats
	>Gingerbread Men science experiments – floating and sinking/changing states. >Science investigations – property of materials – making 3 little pig houses/wrapping up Humpty Dumpty, evaluating which house is the best and why?	> 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	Year 1 Curriculum Seasonal Changes > Observe changes across the four seasons > Observe and describe weather associated with the seasons and how day length varies		> Identify how sounds are made, associating some of them with something vibrating > Recognise that vibrations from sounds travel through a medium to the ear > Find patterns between the pitch of a sound and features of the object that produced it > Find patterns between the volume of a sound and the strength of the vibrations that produced it > Recognise that sounds get fainter as the distance from the sound source increases	Forces and Magnets > Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object Earth and Space > Describe the movement of the Earth, and other planets, relative to the Sun in the solar system > Describe the movement of the moon relative to the earth > Describe the sun, earth and moon approximately, spherical bodies > Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky	Year 5 Curriculum > 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 Year 6 Curriculum > 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
Science Oxford			Kit loan: • Slime • Bubbles				
Term 4	Foundation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Dinosaur Planet	Wriggle & Crawl	Gods & Mortals	Blue Abyss	Child's war	Blood heart
	Change in State/Our Planet	Animals, including humans	Animals, including humans	Light	Living things and their habitats	Living things and their habitats	Animals, including humans
	> Bubbling planets and craters on the Moon – changing states.	> Identify and name a variety of common animals including fish,	Year 1 Curriculum > Identify and name a variety of common animals including fish,	> Recognise that he/she needs light in order to see things and that dark is the absence of light	> Recognise that living things can be grouped in a variety of ways	Year 4 Curriculum > Recognise that living things can be grouped in a variety of ways	Year 5 Curriculum > Describe the changes as humans develop to old age

	<p>> Talking about what planet we live on and where on the planet we live.</p> <p>> Talking about our planet and how we can look after our planet, looking at a globe.</p> <p>> Talking about Spring time and the things I can see happening around me, talking about what has changed.</p>	<p>amphibians, reptiles, birds and mammals</p> <p>> Group animals according to what they eat</p> <p>> Identify and name a variety of common animals that are carnivore, herbivores and omnivores</p> <p>> Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> <p>> Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</p> <p>> Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p>	<p>amphibians, reptiles, birds and mammals</p> <p>> Group animals according to what they eat</p> <p>> Identify and name a variety of common animals that are carnivore, herbivores and omnivores</p> <p>> Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> <p>> Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</p> <p>> Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> <p>Year 2 Curriculum</p> <p>> Understand that animals, including humans, have offspring which grow into adults</p> <p>> Describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>> Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</p>	<p>> Notice that light is reflected from surfaces</p> <p>> Recognise that light from the sun can be dangerous and that there are ways to protect eyes</p> <p>> Recognise that shadows are formed when the light from a light source is blocked by a solid object</p> <p>> Find patterns in the way that the size of shadows changes</p>	<p>> Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p> <p>> Recognise that environments can change and that this can sometimes pose dangers and have an impact on living things</p>	<p>> Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p> <p>> Recognise that environments can change and that this can sometimes pose dangers and have an impact on living things</p> <p>Year 5 Curriculum</p> <p>> Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p>> Describe the life process of reproduction in some plants and animals</p>	<p>Year 6 Curriculum</p> <p>> Identify and name the main parts of the human circulatory system, and describe the function of the heart, blood vessels and blood</p> <p>> Describe the ways in which nutrients and water are transported within animals, including humans</p> <p>> Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p>
Science Oxford		Shows and workshops:	Shows and workshops				
		• Amazing animals	• Craft rafts				
Term 5	Foundation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Enchanted Woodland	Beachcombers	Tremors	Misty Mountain Sierra	Time Traveller	Hola Mexico
	Working Scientifically	Seasonal Changes/Plants	Living things and their habitats	Forces & Magnets	States of matter	Animals including humans	Light

		<p>Seasonal Changes</p> <ul style="list-style-type: none"> > Observe changes across the four seasons > Observe and describe weather associated with the seasons and how day length varies <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 	<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 micro-habitats > 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 	<ul style="list-style-type: none"> > Compare how things move on different surfaces > Notice that some forces need contact between two objects, but magnetic forces can act at a distance > Observe how magnets attract or repel each other and attract some materials and not others > Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials > Describe magnets as having two poles > Predict whether two magnets will attract or repel each other, depending on which poles are facing 	<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 > Identify the part played by evaporative and condensation in the water cycle and associate the rate of evaporating with temperature 	<ul style="list-style-type: none"> > Describe the changes as humans develop to old age 	<ul style="list-style-type: none"> > Recognise that light appears to travel in straight lines > Use the ideas that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye > Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes > Use the ideas that light travels in straight lines to explain why shadows have the same shape as the object that cast them
Science Oxford					<p>Shows and materials</p> <ul style="list-style-type: none"> • Changing materials 	<p>Kit loan:</p> <ul style="list-style-type: none"> • Data loggers 	
Term 6	Foundation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Splendid Skies	Towers, Tunnels & Turrets	Flow	I am warrior!	Scream Machine	You are Awesome
	Animals and life cycles	Working Scientifically	Materials	Plants	Electricity	Forces and Magnets	Working Scientifically
	<ul style="list-style-type: none"> > Learning about different environments by comparing Sandhills to the farm at Farmer Gowns. > Talking about holidays and trips to the seaside, the weather and the things you might do when you are there. > Learning about the life cycles of animals, plants and mini-beasts. > Learning about farm animals. Talking about the life of a farmer and how to look after the animals. Talking about 		<ul style="list-style-type: none"> > Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses > Describe how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching 	<ul style="list-style-type: none"> > Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers > Explore and describe 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 <ul style="list-style-type: none"> > Explore the part that flowers play in the life cycle of flowering 	<ul style="list-style-type: none"> > Identify common appliance that run on electricity > Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers > Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery > Recognise that a switch opens and closes a circuit 	<ul style="list-style-type: none"> > Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object > Identify the effects of air resistance, water resistance and friction, that act between moving surfaces > Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect 	<p>Year 5 Curriculum</p> <p>Forces and Magnets</p> <ul style="list-style-type: none"> > Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object > Identify the effects of air resistance, water resistance and friction, that act between moving surfaces > Recognise that some mechanisms, including levers, pulleys and gears,

	the names of their offspring.			plants, including pollination, seed formation and seed dispersal	and associate this with whether or not a lamp lights in a simple series circuit > Recognise some common conductors and insulators, and associate metals with being good conductors		allow a smaller force to have a greater effect
Science Oxford						Kit loan: <ul style="list-style-type: none"> • Marble mazes • Knex Shows and materials: <ul style="list-style-type: none"> • Joining forces 	

Links:

The HUB	https://hub.cornerstoneseducation.co.uk
Explorify	https://explorify.wellcome.ac.uk/en/activities
STEM	https://www.stem.org.uk/primary-science
Science Sparks (has FOUNDATION plans!!)	https://www.science-sparks.com/category/early-years-science-2/
Science Oxford	https://scienceoxford.com/schools/primary-schools/