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Area	Nursery	Reception	Year 1	Year 2	End of Key Stage Expectations	Year 3
Working Scientifically	Understand 'why' questions. Ask questions to find out more and to check they understand what has been said to them. Make observations using their senses of the natural environment Begin to mark make or draw as a way of recording Talk about what they see, using a wide vocabulary. Use all their senses in	Record their observations by drawing, taking photographs, using sorting rings or boxes and on simple tick sheets. Talk about what they are doing and have found out using a wide range of vocabulary. Begin to identify, sort and group e.g in terms of what something is, how it feels etc, C&L, LAU - Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions. Make comments about what they have heard and ask questions to	WS1 asking simple questions and recognising that they can be answered in different ways WS2 observing closely, using simple equipment and measurement WS3 performing simple tests WS4 identifying and classifying WS5 using their observations and ideas to suggest answers to questions WS6 gathering and recording data to help in answering questions.	WS1 asking simple questions and recognising that they can be answered in different ways **including use of scientific language from the National Curriculum.** WS2 observing closely, using simple equipment and measurement, **including changes over time.** WS3 performing simple **comparative** tests WS4 identify, **group** and classify WS5 using their observations and ideas to suggest answers to questions, **noticing similarities, differences and patterns.** WS6 gathering, recording and **communicating** data **and findings** to help in answering questions.	KS1 Working Scientifically Pupils will be taught to use the following practical scientific methods, processes and skills: WS1 asking simple questions and recognising that they can be answered in different ways WS2 observing closely, using simple equipment and measurement WS3 performing simple tests WS4 identifying and classifying WS5 using their observations and ideas to suggest answers to questions WS6 gathering, recording and communicating data and findings to help in answering questions.	WS1 asking relevant questions and using different types of scientific enquiries to answer them WS2 setting up simple practical enquiries, comparative and fair tests WS3 making systematic and careful observations, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers WS4 gathering, recording, classifying and presenting data in a variety of ways to help in answering questions WS5 recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables WS6 reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions WS7 using results to draw simple conclusions, make

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	hands-on exploration of natural materials	clarify their understanding. C&L, S - Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate. Express their ideas and feelings about their experiences using full sentences, including use of past, present and future tenses and making use of conjunctions, with modelling and support from their teacher				predictions for new values, suggest improvements and raise further questions WS8 identifying differences, similarities or changes related to simple scientific ideas and processes WS9 using straightforward scientific evidence to answer questions or to support their findings.

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Animals including humans	Talk about members of their immediate family and community. Name and describe people who are familiar to them. Describe what they see, hear, and feel whilst outside.	UTW, NW - Explore the natural world around them, making observations and drawing pictures of animals and plants. Begin to make sense of their own life-story and family's history. Use all their senses in hands-on exploration of natural materials. Understand the key features of the life cycle of a plant and an animal.	• Can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. • Can identify and name a variety of common animals that are carnivores, herbivores and omnivores • Can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). • Can identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	• 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) • Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	AH1 identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals AH2 identify and name a variety of common animals that are carnivores, herbivores and omnivores AH3 describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) AH4 identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	AH1 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 AH2 identify that humans and some animals have skeletons and muscles for support, protection and movement

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Living things and their habitats	Explore the natural world around them. Describe what they see, hear, and feel whilst outside. Begin to understand the need to respect and care for the natural environment and all living things.	UTW, NW - 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. Use all of their senses in hands-on exploration of natural materials. Recognise some environments that are different to the one in which they live.		• Can explore and compare the differences between things that are living, dead, and things that have never been alive. • Can 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 • Can identify and name a variety of plants and animals in their habitats, including micro-habitats. • Can 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.	LH1 explore and compare the differences between things that are living, dead, and things that have never been alive LH2 identify that most living things live in habitats to which they are suited LH3 describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other LH4 identify and name a variety of plants and animals in their habitats, including micro-habitats LH5 describe how animals obtain their food from plants and other animals LH6 understand a simple food chain, and identify and name different sources of food.	LH1 recognise that living things (including those in the locality) can be grouped in a variety of ways LH2 explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment LH3 recognise that environments can change and that this can sometimes pose dangers to living things.
Everyday materials	Explore the natural world around them. Describe what they see, hear and feel whilst outside.	Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties.	• Can distinguish between an object and the material from which it is made • Can identify and name a variety of everyday materials,	• Can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. • Can find out how the shapes of solid objects made from	EM1 distinguish between an object and the material from which it is made EM2 identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock	**States of Matter – Year 4** SM1 compare and group materials together, according to whether they are solids, liquids or gases SM2 observe that some materials change state when

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		Talk about the differences between materials and changes they notice.	including wood, plastic, glass, metal, water, and rock. • Can describe the simple physical properties of a variety of everyday materials. • Can compare and group together a variety of everyday materials on the basis of their simple physical properties.	some materials can be changed by squashing, bending, twisting and stretching	EM3 describe the simple physical properties of a variety of everyday materials EM4 compare and group together a variety of everyday materials on the basis of their simple physical properties.	they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) SM3 identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

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Plants	Explore the natural world around them. Begin to understand the need to respect and care for the natural environment and all living things.	UTW, NW - Explore the natural world around them, making observations and drawing pictures of animals and plants. Plant seeds and, with the assistance of adults, care for growing plants. Understand the key features of the life cycle of a plant and an animal.	Can identify and name a variety of common wild and garden plants, including deciduous and evergreen. • Can identify and describe the basic structure of a variety of common flowering plants, including trees.	• Can observe and describe how seeds and bulbs grow into mature plants • Can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy	P1 identify and name a variety of common wild and garden plants, including deciduous and evergreen trees P2 identify and describe the basic structure of a variety of common flowering plants, including trees.	P1 identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers P2 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 P3 investigate the way in which water is transported within plants P4 explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.
Seasonal changes	Explore the natural world around them and begin to notice change e.g weather	UTW, NW - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.	Can observe changes across the four seasons. • Can observe and describe weather associated with the seasons and how day length varies.	N/A	SC1 observe changes across the four seasons SC2 observe and describe weather associated with the seasons and how day length varies	
Rocks						R1 compare and group together different kinds of rocks (including those in the locality) on the basis of appearance and simple physical properties

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						R2 describe in simple terms how fossils are formed when things that have lived are trapped within rock R3 recognise that soils are made from rocks and organic matter
Light						L1 recognise that they need light in order to see things and that dark is the absence of light L2 notice that light is reflected from surfaces L3 recognise that light from the sun can be dangerous and that there are ways to protect their eyes L4 recognise that shadows are formed when the light from a light source is blocked by a solid object L5 find patterns in the way that the size of shadows change.
Forces and Magnets		Explore and talk about different forces they can feel.				FM1 compare how things move on different surfaces FM2 notice that some forces need contact between two objects, but magnetic forces can act at a distance FM3 observe how magnets attract or repel each other and attract some materials and not others FM4 compare and group together a variety of everyday materials on the basis of whether they are attracted to a

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						magnet, and identify some magnetic materials FM5 describe magnets as having two poles FM6 predict whether two magnets will attract or repel each other, depending on which poles are facing.
Changes of State	Experience some changes of state e.g baking, ice.	UTW, NW - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.				