

Science Progression Document

(Working Scientifically) Characteristics of learning/Creative and thinking critically:

Early Years (Nursery and Reception):

Having their own ideas:

- I can think of ideas
- I can find ways to solve problems
- I can find new ways to do things

Making links:

- I can make links and notice patterns in my experience
- I can make predictions
- I can test my ideas
- I can develop ideas of grouping, sequences, cause and effect

Choosing ways to do things:

- I can plan, make decisions about how to approach a task, solve a problem and reach a goal
- I can check how well my activities are going
- I can change strategy as needed
- I can review how well the approach worked

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| Nursery | <u>Seasonal Change: (Autumn)</u> Talk about what they see, using a wide vocabulary. Explore how things work, Use all their senses in hands-on | <u>Seasonal Change: (Winter)</u> Talk about what they see, using a wide vocabulary. Explore how things work, Use all their senses in hands-on | <u>Materials:</u> Explore collections of materials with similar and/or different properties. | <u>Seasonal Change: (Spring)</u> Talk about what they see, using a wide vocabulary. <u>Plants:</u> Plant seeds and care for growing plants. | <u>Living things and their habitats.</u> Begin to understand the need for respect and care for the natural environment and all living things. <u>Plants:</u> | <u>Seasonal Change: (Summer)</u> Talk about what they see, using a wide vocabulary. <u>Forces:</u> Explore and talk about different forces they can feel e.g. magnets. |

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| | exploration of natural materials. | exploration of natural materials. | | | Understand the key features of the life cycle of a plant and animal. | |
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| Reception | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| | <u>Seasonal change: (Autumn)</u> Explore the natural world around them. Understand the effect of the natural world around them. Describe what they see, hear and feel whilst outside. | <u>Seasonal change: (Winter)</u> Explore the natural world around them. Understand the effect of the natural world around them. Describe what they see, hear and feel whilst outside. <u>Plants and animals:</u> ELG - Know some similarities and differences between the | <u>Natural world:</u> Understand some important processes and changes in the natural world around them, including changing states of matter. | <u>Seasonal change: (Spring)</u> Explore the natural world around them. Understand the effect of the natural world around them. Describe what they see, hear and feel whilst outside. <u>Plants and animals</u> ELG – Explore the natural world around them, making observations and | <u>Plants and animals:</u> ELG - Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read. | <u>Seasonal change: (Summer)</u> Explore the natural world around them. Understand the effect of the natural world around them. Describe what they see, hear and feel whilst outside. |



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| | | natural world around them and contrasting environments, drawing on their experiences and what has been read. | | drawing pictures of animals and plants. | | |
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Working Scientifically skills which will be taught throughout the year

Key Stage One (Years 1 and 2)

- asking simple questions and recognising that they can be answered in different ways
- observing closely, using simple equipment
- performing simple tests
- identifying and classifying
- using their observations and ideas to suggest answers to questions
- gathering and recording data to help in answering questions.

| Year 2 | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| | <p><u>Animals including humans</u></p> <p>I can notice that animals, including humans, have offspring which grow into adults</p> <p>I can find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> | <p><u>Animals including humans</u></p> <p>I can describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</p> | <p><u>Living things and their habitats</u></p> <p>I can explore and compare the differences between things that are living, dead, and things that have never been alive.</p> <p>I 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.</p> | <p><u>Living things and their habitats</u></p> <p>I can identify and name a variety of plants and animals in their habitats, including micro-habitats.</p> <p>I 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.</p> | <p><u>Everyday materials</u></p> <p>I 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.</p> <p>I can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p> | <p><u>Plants</u></p> <p>I can observe and describe how seeds and bulbs grow into mature plants</p> <p>I can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> |

Working Scientifically skills which will be taught throughout the year.

Key Stage 2 (Years 3 and 4)

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- 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
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| Year 3 | <p><u>Forces</u></p> <p>I can compare how things move on different surfaces.</p> <p>I can notice that some forces need contact between two objects, but magnetic forces can act at a distance.</p> | <p><u>Forces</u></p> <p>I can observe how magnets attract or repel each other and attract some materials and not others describe magnets as having two poles. I can predict whether two magnets will attract or repel each other, depending on which poles are facing.</p> | <p><u>Animals including humans</u></p> <p>I can 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>I can identify that humans and some other animals have</p> | <p><u>Plants</u></p> <p>I can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>I can 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.</p> | <p><u>Rocks</u></p> <p>I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>I can describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> | <p><u>Light</u></p> <p>I can recognise that they need light in order to see things and that dark is the absence of light.</p> <p>I can notice that light is reflected from surfaces.</p> <p>I can recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> |

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| | | <p>I can 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.</p> | <p>skeletons and muscles for support, protection and movement.</p> | <p>I can investigate the way in which water is transported within plants.</p> <p>I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> | <p>I can recognise that soils are made from rocks and organic matter.</p> | <p>I can recognise that shadows are formed when the light from a light source is blocked by a solid object.</p> <p>I can find patterns in the way that the size of shadows change.</p> |
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| Year 4 | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| | <p><u>Electricity</u></p> <p>I can identify common appliances that run on electricity.</p> <p>I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>I can 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.</p> | <p><u>Electricity</u></p> <p>I can recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>I can recognise some common conductors and insulators, and associate metals with being good conductors.</p> | <p><u>Living things and their habitats</u></p> <p>I can recognise that living things can be grouped in a variety of ways</p> <p>I can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environments.</p> <p>I can recognise that environments</p> | <p><u>Animals including humans</u></p> <p>I can describe the simple functions of the basic parts of the digestive system in humans.</p> <p>I can identify the different types of teeth in humans and their simple functions</p> <p>I can construct and interpret a variety of food chains, identifying</p> | <p><u>States of Matter</u></p> <p>I can compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>I can observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens</p> | <p><u>Sound</u></p> <p>I can identify how sounds are made, associating some of them with something vibrating.</p> <p>I can recognise that vibrations from sounds travel through a medium to the ear.</p> <p>I can find patterns between the pitch of a sound and features of the object that produced it.</p> |

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| | | | <p>can change and that this can sometimes pose dangers to living things.</p> | <p>producers, predators and prey.</p> | <p>in degrees Celsius (°C).</p> <p>I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p> | <p>I can find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>I can recognise that sounds get fainter as the distance from the sound source increases.</p> |
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