



### Science Overview 2024/25 – Oldfield Primary School

| Year Group/Term  | Autumn 1                                  | Autumn 2   | Spring 1                         | Spring 2  | Summer 1  | Summer 2                         |
|------------------|---|--|----------------------------------|---|---|----------------------------------|
| <b>Reception</b> | Habitats                                  | Planting bulbs   | Habitats                         | Space   | Floating and sinking; Materials                             | Minibeasts                       |
| <b>Year 1</b>    | All about me                              | Animals  | Materials                        | Weather and Seasons   | Plants  | Trees and Woodlands              |
| <b>Year 2</b>    | Materials Part 1- Properties of Materials | Animals including humans Part 1- What do humans need to survive?         | Living things and their habitats | Animals including humans Part 2- Animal groups and their Life Cycles. | Materials Part 2- using materials for a purpose Life Cycles | Plants                           |
| <b>Year 3</b>    | Rocks and Soils                           | Human skeleton   | Food                             | Forces and Magnets  | Plants  | Lights and Shadows               |
| <b>Year 4</b>    | Electricity                               | Sound  | States of Matter                 | Teeth and Digestive System  | Food Chains   | Living Things and their Habitats |
| <b>Year 5</b>    | Forces                                    | Earth and Space; Our Solar System  | Properties of Materials          | Properties of Materials   | Living Things and their Habitats                            | Animals Including Humans         |
| <b>Year 6</b>    | Evolution and Inheritance<br><br>Fossils  | Circulatory System<br><br>Function of the Heart<br><br>Healthy Lifestyle | Micro-organisms                  | Electricity<br><br>Light  |   | Genetics                         |



## Science Early Years Overview 2024/25 – Oldfield Primary School

| <b>Term</b> | <b>Topic/Unit</b>                 | <b>Key Knowledge</b>  | <b>Key Skills</b>  |
|-------------|-----------------------------------|---|--|
| Autumn 1    | Habitats                          | Describing home environment<br>Learning where to find things in school environment  | Ask simple questions about immediate environment.<br><br>Talk about similarities and differences.  |
| Autumn 2    | Planting bulbs                    | Understand the key features of the life cycle of a plant and animal.  | Explore objects, materials and resources designed to model scientific processes.   |
| Spring 1    | Habitats                          | Begin to understand the need to care for our local environment.   | Listen and respond to stories about scientific related events.   |
| Spring 2    | Space                             | Explore and discuss the force of gravity. Features of the different planets.  | Create drawings and models of their environment.   |
| Summer 1    | Floating and sinking<br>Materials | Explore and talk about different forces that they can feel.<br>Finding out about sea creatures<br>Explore a collection of every day materials.<br>Describe what they can see, hear and feel when outside. | Understand the key features of the life cycle of a plant and animal.<br><br>Begin to understand the need to care for our local environment.                        |
| Summer 2    | Minibeasts                        | Explore the natural world around them.<br>Describe what they see, hear and feel whilst outside.<br>Children to go on a minibeast hunt to search for minibeasts.   | Explore a collection of every day materials.<br><br>Describe what they can see, hear and feel when outside.<br>Explore and discuss different forces they can feel. |



### Science Year 1 Overview 2024/25 – Oldfield Primary School

| <b>Term</b> | <b>Topic/Unit</b> | <b>Key Knowledge</b>   | <b>Key Skills</b>   |
|-------------|-------------------|--|---|
| Autumn 1    | All about me      | Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.   | Asking simple questions and recognising that they can be answered in different ways.<br><br>Observe closely, using simple equipment.  |
| Autumn 2    | Animals           | Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.<br>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.<br>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).     | Performing simple tests.<br><br>Identifying and classifying.<br><br>Using their observations and ideas to suggest answers to questions.<br><br>Gathering and recording data to help in answering questions. |
| Spring 1    | Materials         | Distinguish between an object and the material from which it is made.<br>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.<br>Describe the simple physical properties of a variety of everyday materials.<br>Compare and group together a variety of everyday materials on the basis of |   |

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|          |                     | their simple physical properties.   |  |
| Spring 2 | Weather and Seasons | Observe changes across the four seasons.<br>Describe weather associated with the four seasons.<br>Observe the variety in day lengths.   |  |
| Summer 1 | Plants              | Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.<br><br>Identify and describe the basic structure of a variety of common flowering plants, including trees. |  |
| Summer 2 | Trees and Woodlands | Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.<br><br>Identify and describe the basic structure of a variety of common flowering plants, including trees. |  |



### Science Year 2 Overview 2024/25 – Oldfield Primary School

| <b>Term</b> | <b>Topic/Unit</b>                | <b>Key Knowledge</b>  | <b>Key Skills</b>   |
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| Autumn 1    | Materials                        | Find out how the shapes of some solid objects can be changed by squashing, bending, twisting and stretching.  | Asking simple questions and recognising that they can be answered in different ways.<br><br>Observe closely, using simple equipment.    |
| Autumn 2    | Animals including humans         | Understand what animals including humans need to survive.<br>Describe the importance for humans of exercise, hygiene and diet.  | Performing simple tests.<br><br>Identifying and classifying.  |
| Spring 1    | Living things and their habitats | Make comparisons between things that are living, dead and never been alive.<br>Describe how habitats provide the basic needs for different types of animals.<br>Identify and name a variety of plants and animals in their habitats.<br>Describe how animals obtain their food from plants and other animals. | Using their observations and ideas to suggest answers to questions.<br><br>Gathering and recording data to help in answering questions. |
| Spring 2    | Animals including humans         | Notice that animals, including humans, have offspring that grow into adults.  |   |

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|          |           | Identify names of animals' young (eg dog and puppy; cat and kitten).  |  |
| Summer 1 | Materials | Identify the suitability of everyday materials (including plastic, metal, paper, wood, brick and rock) for particular uses. |  |
| Summer 2 | Plants    | Observe how seeds and bulbs grow into plants.<br>Describe how plants need water, light and a suitable temperature to grow.  |  |



### Science Year 3 Overview 2024/25 – Oldfield Primary School

| <b>Term</b> | <b>Topic/Unit</b>  | <b>Key Knowledge</b>   | <b>Key Skills</b>   |
|-------------|--------------------|--|---|
| Autumn 1    | Rocks and soils    | Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.<br>Describe in simple terms how fossils are formed when things that have lived are trapped within rock.<br>Recognise that soils are made from rocks and organic matter. | Asking relevant questions and using different types of scientific enquiries to answer them.<br><br>Setting up simple practical enquiries, comparative and fair tests.<br><br>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. |
| Autumn 2    | Human skeleton     | Identify that humans and some other animals have skeletons and muscles for support, protection and movement.   |   |
| Spring 1    | Food               | Identify that animals, including humans, need the right types and amount of nutrition.   | Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.  |
| Spring 2    | Forces and magnets | Compare how things move on different surfaces.<br>Notice that some forces need contact between two objects, but magnetic forces can act at a distance.   | Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.   |

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|          |                   | <p>Observe how magnets attract or repel each other and attract some materials and not others.</p> <p>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>Describe magnets as having two poles and predict whether two magnets will attract or repel each other.</p>   | <p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>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.</p> |
| Summer 1 | Plants            | <p>Identify and describe the functions of different parts of flowering plants.</p> <p>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>Investigate the way in which water is transported within plants.</p> <p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> | <p>Using straightforward scientific evidence to answer questions or to support their findings.</p>   |
| Summer 2 | Light and shadows | <p>Recognise that they need light in order to see things and that dark is the absence of light.</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 their eyes.</p>   |  |



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|  |  | <p>Recognise that shadows are formed when the light from a light source is blocked by an opaque object.</p> <p>Find patterns in the way that the size of shadows change.</p> |  |
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### Science Year 4 Overview 2024/25 – Oldfield Primary School

| <b>Term</b> | <b>Topic/Unit</b> | <b>Key Knowledge</b>  | <b>Key Skills</b>   |
|-------------|-------------------|---|---|
| Autumn 1    | Electricity       | <p>Identify common appliances that run on electricity.</p> <p>Construct a simple circuit and name the main component.</p> <p>Recognise that a switch opens and closes a circuit.</p> <p>Recognise some common conductors and insulators of electricity.</p>                                       | <p>Asking relevant questions and using different types of scientific enquiries to answer them.</p> <p>Setting up simple practical enquiries, comparative and fair tests.</p>  |
| Autumn 2    | Sound             | <p>Identify how sounds are made.</p> <p>Recognise that vibrations travel through a medium to the ear.</p> <p>Find patterns between the pitch and volume of the sound and the vibration that made it.</p> <p>Recognise that sounds become fainter as the distance from the sound source grows.</p> | <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>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.</p> |

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| Spring 1 | States of matter                 | Compare and group materials, based on whether they are a solid, liquid or gas.  | Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.   |
| Spring 2 | Teeth and digestive system       | Identify the different types of human teeth and their basic functions.<br>Describe the functions of basic parts of the digestive system.  | Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.  |
| Summer 1 | Food chains                      | Construct and interpret a variety of food chains.<br>Identify producers, prey and predators in a food chain.  | Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.  |
| Summer 2 | Living things and their habitats | Recognise that living things can be grouped in a variety of ways.<br>Explore and use classification keys.<br>Recognise how changes in an environment can pose dangers to living things. | Identifying differences, similarities or changes related to simple scientific ideas and processes.<br><br>Using straightforward scientific evidence to answer questions or to support their findings. |



### Science Year 5 Overview 2024/25 – Oldfield Primary School

| <b>Term</b> | <b>Topic/Unit</b>       | <b>Key Knowledge</b>  | <b>Key Skills</b>   |
|-------------|-------------------------|---|---|
| Autumn 1    | Forces                  | <p>Explain that unsupported objects fall towards the Earth because of the force of gravity.</p> <p>Identify the effects of air resistance, water resistance and friction.</p> <p>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>               | <p>Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p>   |
| Autumn 2    | Earth and Space         | <p>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>Describe the movement of the Moon relative to the Earth.</p> <p>Describe the Sun, Earth and Moon as approximately spherical bodies.</p> <p>Use the idea of the Earth's rotation to explain day and night.</p> | <p>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p> <p>Using test results to make predictions to set up further comparative and fair tests.</p> <p>Reporting and presenting findings from enquiries, including conclusions, causal relationships and</p> |
| Spring      | Properties of materials | <p>Compare and group together everyday materials on the basis of their properties,</p>  |   |

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|          |                                  | <p>including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.</p> <p>Know 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 uses of everyday materials, including metals, wood and plastic.</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>Explain that some changes result in the formation of new materials.</p> | <p>explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.</p> <p>Identifying scientific evidence that has been used to support or refute ideas or arguments.</p> |
| Summer 1 | Living things and their habitats | <p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Classify non-vertebrate animals with a key.</p> <p>Design a key.</p> <p>Identify and construct food chains.</p>   |   |
| Summer 2 | Animals including humans         | <p>Describe the changes as humans develop to old age.</p>  |   |

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|  |  | Describe the life process of reproduction in some animals. |  |
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### Science Year 6 Overview 2024/25 – Oldfield Primary School

| <b>Term</b> | <b>Topic/Unit</b>         | <b>Key Knowledge</b>   | <b>Key Skills</b>  |
|-------------|---------------------------|--|--|
| Autumn 1    | Evolution and Inheritance | <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.</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p> | <p>Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p> <p>Recording data and results of increasing complexity</p> |
| Autumn 2    | Circulatory System        | <p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>Describe the ways in which nutrients and water are</p>  | <p>using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p> <p>Using test results to make predictions to set up further comparative and fair tests.</p> <p>Reporting and presenting findings from enquiries, including conclusions, causal</p>  |

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|          |                       | transported within animals, including humans.   | relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.<br><br>Identifying scientific evidence that has been used to support or refute ideas or arguments. |
| Spring 1 | Micro-organisms       | To name different types of micro-organisms.<br>To recognise why correct food storage is important.<br>To observe changes in foods caused by micro-organisms.<br>To compare micro-organisms with animals including humans.   |  |
| Spring 2 | Electricity and Light | Recognise that light appears to travel in straight lines.<br>Explain that objects are seen because they give out or reflect light into the eye.<br>Explain that we see things because light travels from light sources to our eyes.<br>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.<br>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.<br>Use recognised symbols when representing a simple circuit in a diagram. |  |
| Summer 1 |                       |   |  |
| Summer 2 | Genetics              | To identify common ancestors of humans and other mammals.<br>To make comparisons between humans and their ancestors.  |  |

