



**Long Term Planning**  
**Science**  
**Year Two**

| INTENT   | IMPLEMENTATION   |
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| Our children work scientifically by: <ul style="list-style-type: none"> <li>- investigating</li> <li>- enquiring</li> <li>- experimenting</li> </ul> | We map the National Curriculum content onto each half term and deliver Science lessons through our own pathway.<br>Science lessons are practical and relatable to real-life. |

|                  | Autumn 1  | Autumn 2   | Spring 1  | Spring 2   | Summer 1   | Summer 2   |
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| <b>Year 2</b>    | Plants  | Animals, including humans  | Living things and their habitats  | Uses of everyday materials   | Animals, including humans  | Living things and their habitats   |
| <b>Overview</b>  | <p>Pupils should use the local environment throughout the year to observe how different plants grow.</p> <p>Pupils should be introduced to the requirements of plants for germination, growth and survival, as well as to the processes of reproduction and growth in plants.</p> | <p>Pupils should be introduced to the basic needs of animals for survival, as well as the importance of exercise and nutrition for humans.</p> <p>They should also be introduced to the processes of reproduction and growth in animals. The focus at this stage should be on questions that help pupils to recognise growth</p> | <p>Pupils should be introduced to the idea that all living things have certain characteristics that are essential for keeping them alive and healthy.</p> <p>They should raise and answer questions that help them to become familiar with the life processes that are common to all living things.</p> <p>Pupils should be introduced to the terms 'habitat' and 'micro-habitat'</p> <p>Pupils should compare animals in familiar habitats with animals found in less familiar habitats, for example, on the seashore, in woodland, in the ocean, in the rainforest.</p> | <p>Pupils should identify and discuss the uses of different everyday materials so that they become familiar with how some materials are used for more than one thing or different materials are used for the same thing.</p> <p>They should think about the properties of materials that make them suitable or unsuitable for particular purposes and they should be encouraged to think about unusual and creative uses for everyday materials.</p> <p>Pupils might find out about people who have developed useful new materials, for example John Dunlop, Charles Macintosh or John McAdam.</p> | <p>Explore and compare the differences between things that are living, dead, and things that have never been alive.</p> <p>Pupils should be introduced to the basic needs of animals for survival, as well as the importance of exercise and nutrition for humans.</p> | <p>Pupils should be introduced to the idea that all living things have certain characteristics that are essential for keeping them alive and healthy.</p> <p>They should raise and answer questions about the local environment that help them to identify and study a variety of plants and animals within their habitat and observe how living things depend on each other, for example, plants serving as a source of food and shelter for animals.</p> <p>Pupils should compare animals in familiar habitats with animals found in less familiar habitats, for example, on the seashore, in woodland, in the ocean, in the rainforest.</p> |
| <b>Knowledge</b> | <b>(PZAZ 2.10)</b><br>To know and observe and   | <b>PZAZ (2.1)</b><br>To know that animals, including humans,   | <b>(PZAZ 2.12)</b><br>To know, identify and name a variety of plants  | <b>(PZAZ 2.6/2.7)</b><br>To know, identify and compare the suitability   | <b>(PZAZ 2.4)</b>  | <b>PZAZ (2.11)</b>   |

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|  | <p>describe how seeds and bulbs grow into mature plants.<br/><b>Children discuss the term germination and how all seeds and bulbs need to germinate to start growth.</b><br/><b>Set up investigation for conditions seeds &amp; bulbs need.</b></p> <p><b>(PZAZ 2.14)</b><br/>To know and find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.<br/><b>Seeds and bulbs need water to grow but most do not need light; seeds and bulbs have a store of food inside them.</b><br/><b>Children identify needs based on previous investigation (PZAZ 2.14)</b><br/>To know and find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.<br/><b>Based on what they have learned, children design investigation to keep their plant healthy.</b></p> | <p>have offspring which grow into adults.<br/><b>Study the life-cycle of a frog (PZAZ 2.2)</b><br/>To know and find out about and describe the basic needs of animals, including humans, for survival.<br/><b>All animals need food water and air to survive.</b><br/><b>They need secondary conditions such as shelter, warmth and camouflage.</b><br/><b>Key Questions:</b><br/>What would happen if you did not get enough water to drink?<br/>Why do humans wear clothes?<br/>How do animals get their food?<br/>What is in the air that animals need?</p> | <p>and animals in their habitats, including micro-habitats.<br/><b>Making a micro habitat outside</b><br/>To know and identify that most living things live in habitats to which they are suited.</p> <p>To know 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>of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.<br/><b>Testing the strength of materials</b><br/>To know and find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p> <p>To know about people who have developed useful materials (ie. John Dunlop- rubber, Charles Macintosh – waterproof raincoat, or John McAdam - tarmac</p> | <p>To know and describe the importance for humans of exercise.<br/><b>You also need to make sure you exercise regularly to keep your heart (pumps blood and oxygen around body to muscles), lungs (to carry oxygen into blood to help burn food into energy) and muscles strong and healthy.</b><br/>MRS GREN<br/><b>(PZAZ 2.3)</b><br/>To know the different food groups.<br/><b>Carbohydrates, protein, fruits, vegetables, dairy, fats, oils</b></p> <p>To know and describe the importance for humans to eat the right amounts of different types of food.<br/><b>(PZAZ 2.5)</b><br/>To know and describe the importance for humans of hygiene.<br/><b>Teeth</b><br/><b>Washing</b><br/><b>Catch It Kill It Bin It</b><br/><b>Food preparation</b></p> | <p>To know, explore and compare the differences between things that are living, dead, and things that have never been alive.<br/><b>Alive – reacts to its surroundings, needs air, feeds, grows and reproduces, gets rid of waste.</b><br/><b>Dead – no longer reacts to its surroundings, needs air, feeds, grows and reproduces, gets rid of waste.</b><br/><b>Never been alive – never able to breathe, grow, reproduce or get rid of waste.</b><br/><b>(PZAZ 2.13)</b><br/>To know and describe how animals obtain their food from plants and other animals, using the idea of a simple food chain.<br/><b>Plants make food using energy from the sun. They are called producers.</b><br/><b>Animals are called consumers because they eat plants and other animals.</b><br/><b>Animals that eat other animals are called predators.</b><br/><b>The animals that are eaten are called prey.</b></p> <p>To know and identify and name different sources of food in food chains.</p> |
| <p><b>Skills</b></p> <p>Pupils work scientifically by:</p> | <p>Observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb.</p>   | <p>Observing, through video or first-hand observation and measurement, how different animals, including humans, grow (PZAZ 2.2)</p> <p>Asking questions about what things animals</p>  | <p>They could describe the conditions in different habitats and micro-habitats (under log, on stony path, under bushes) and find out how the conditions affect the number and type(s) of plants and animals that live there.</p>  | <p>Comparing the uses of everyday materials in and around the school with materials found in other places (at home, the journey to school, on visits, and in stories, rhymes and songs)</p>  | <p>Asking questions about what things animals need for survival and what humans need to stay healthy.</p> <p>Suggesting ways to find answers to their questions</p>  | <p>Sorting and classifying things according to whether they are living, dead or were never alive, and recording their findings using charts.</p> <p>They should describe how they decided where to place things, exploring questions for example: 'Is a flame alive? Is a deciduous tree dead in winter?' and</p>  |

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|                              | <p>Observing similar plants at different stages of growth</p> <p>Setting up a comparative test to show that plants need light and water to stay healthy</p>  | <p>need for survival and what humans need to stay healthy (PZAZ 2.2)</p> <p>Suggesting ways to find answers to their questions</p>  |                 | <p>Observing closely, identifying and classifying the uses of different materials, and recording their observations.</p>  |                 | <p>talk about ways of answering their questions.</p> <p>They could construct a simple food chain that includes humans (e.g. grass, cow, human).</p> |
| <p><b>Prior Learning</b></p> | <p>To know, identify and name a variety of common wild and garden plants, including deciduous and evergreen trees<br/><b>dandelion, daisy, buttercup, nettles, ivy, rose, clover, bramble fuchsia, pansy, sweet pea, sunflower, rose, lavender, iris. oak, cedar, chestnut</b></p> <p>To know, identify and describe the basic structure of a variety of common flowering plants, including trees.<br/><b>leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, stem</b></p> | <p>To know, identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>To know, describe and compare the structure of a variety of common animals.<br/><b>fish, amphibians, reptiles, birds and mammals, including pets</b></p> | <p>New Unit</p> | <p>To know, identify and name a variety of everyday materials.<br/><b>wood, plastic, glass, metal, water, and rock</b></p> <p>To know and describe the simple physical properties of a variety of everyday materials.<br/><b>Previous vocabulary + flexible not-flexible see-through not-see-through</b></p> <p>To know, compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> | <p>New Unit</p> | <p>New Unit</p>   |