

*By the end of Year 1 most pupils should be able to do work which requires them to:*

<b>WORKING SCIENTIFICALLY</b>	
<p><b>STATUTORY</b></p> <p>During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> <li>▪ asking simple questions and recognising that they can be answered in different ways</li> <li>▪ observing closely, using simple equipment</li> <li>▪ performing simple tests</li> <li>▪ identifying and classifying</li> <li>▪ using their observations and ideas to suggest answers to questions</li> <li>▪ gathering and recording data to help in answering questions.</li> </ul>	<p><b>NON-STATUTORY</b></p> <p>Pupils in years 1 and 2 should explore the world around them and raise their own questions. They should experience different types of scientific enquiries, including practical activities, and begin to recognise ways in which they might answer scientific questions. They should use simple features to compare objects, materials and living things and, with help, decide how to sort and group them, observe changes over time, and, with guidance, they should begin to notice patterns and relationships. They should ask people questions and use simple secondary sources to find answers. They should use simple measurements and equipment (e.g. hand lenses, egg timers) to gather data, carry out simple tests, record simple data, and talk about what they have found out and how they found it out. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language.</p> <p>These opportunities for working scientifically should be provided across years 1 and 2 so that the expectations in the programme of study can be met by the end of year 2. Pupils are not expected to cover each aspect for every area of study.</p>

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<i>Plants</i>	
<p><b>STATUTORY</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>▪ identify and name a variety of common plants, including garden plants, wild plants and trees, and those classified as deciduous and evergreen</li> <li>▪ identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.</li> </ul>	<p><b>NON-STATUTORY</b></p> <p>Pupils should use the local environment throughout the year to explore and answer questions about plants growing in their habitat. Where possible, they should observe the growth of flowers and vegetables that they have planted.</p> <p>They should become familiar with common names of flowers, examples of deciduous and evergreen trees, and plant structures (trees: trunk, roots, branches, leaves, flowers (blossom), fruit; garden and wild plants: flower, petals, stem, leaves, roots, fruit, bulb and seed).</p> <p>Pupils might work scientifically by: observing closely, perhaps using magnifying glasses, and comparing and contrasting familiar plants; describing how they were able to identify and group them, and drawing diagrams showing the parts of different plants and trees.</p> <p>Pupils might keep records of how plants have changed over time, for example the leaves falling off trees and buds opening; and compare and contrast how different plants change overtime.</p>

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<i>Animals, including humans</i>	
<p><b>STATUTORY</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>▪ identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates</li> <li>▪ identify and name a variety of common animals that are carnivores, herbivores and omnivores</li> <li>▪ describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, and including pets)</li> <li>▪ identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> </ul>	<p><b>NON-STATUTORY</b></p> <p>Pupils should use the local environment throughout the year to explore and answer questions about animals in their habitat. They should understand how to take care of animals taken from their local environment and the need to return them safely after study. Pupils should become familiar with the common names of birds, fish, amphibians, reptiles, mammals and invertebrates, including pets.</p> <p>Pupils should have plenty of opportunities to learn the names of the main body parts (including head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth) through games, actions, songs and rhymes.</p> <p>Pupils might work scientifically by: using their observations to compare and contrast animals at first hand or through videos and photographs, describing how they identify and group them; grouping animals according to what they eat; and using their senses to compare different textures, sounds and smells.</p>

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<i>Everyday materials</i>	
<p><b>STATUTORY</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>▪ distinguish between an object and the material from which it is made</li> <li>▪ identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</li> <li>▪ describe the simple physical properties of a variety of everyday materials</li> <li>▪ compare and group together a variety of everyday materials on the basis of their simple physical properties</li> <li>▪ find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> </ul>	<p><b>NON-STATUTORY</b></p> <p>Pupils should explore, name, discuss and raise and answer questions about everyday materials so that they become familiar with the names of materials and properties such as: hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent. Pupils should explore and experiment with a wide variety of materials, not only those listed in the programme of study, but including for example: brick, paper, fabrics, elastic, foil.</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>Pupils might work scientifically by: performing simple tests to explore questions such as: ‘What is the best material for an umbrella? ... for lining a dog basket? ... for curtains? ... for a bookshelf? ... for a gymnast’s leotard?’</p>

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<b>Light</b>	
<p><b>STATUTORY</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• observe and name a variety of sources of light, including electric lights, flames and the Sun</li> <li>• associate shadows with a light source being blocked by something.</li> </ul>	<p><b>NON-STATUTORY</b></p> <p>Pupils should explore materials to raise questions that will help them to understand the differences between materials that are transparent, translucent and opaque (though these words do not need to be used at this stage). They should observe shadows being formed in everyday contexts, such as when they play outside or shine torches indoors.</p> <p><b>Note:</b> Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses.</p> <p>Pupils might work scientifically by exploring shiny things and grouping them according to whether they shine in the dark or not.</p> <p>They can go on a shadow hunt and think about what is similar about the places where shadows are found (that is, that there is a light source and something is blocking it).</p>
<b>Seasonal Changes</b>	
<p><b>STATUTORY</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>▪ observe changes across the four seasons</li> <li>▪ observe and describe weather associated with the seasons and how day length varies.</li> </ul>	<p><b>NON-STATUTORY</b></p> <p>Pupils should observe and talk about changes in the weather and the seasons</p> <p>Pupils might work scientifically by: making tables and charts about the weather; and making displays of what happens in the world around them, including day length, as the seasons change.</p>