

# Chalfont St Peter Infant School

*"Learning Together and Celebrating Success"*

## Progression of Knowledge and Skills in Science

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

**Aims The national curriculum for science aims to ensure that all pupils:**

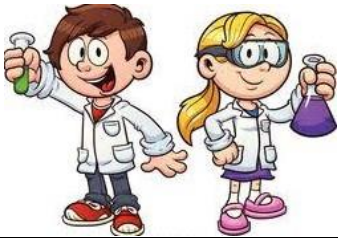
- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

|                                                                                               | Reception                                                                                                                                                                        | Year 1                                                                                                                                                                                 | Year 2                                                                                                                                                                                                                                                    |
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| Plants<br> | To plant seeds and care for them<br>To observe the growth of seeds and talk about changes.<br>To harvest grown fruit and vegetables<br>To try a variety of fruits and vegetables | To know why plants are important to humans and to identify and describe the basic structure of a variety of common flowering plants including trees.<br>To identify some edible plants | To know the parts of flowering plants and understand what each part does, in simple terms.<br>To know that flowering plants produce seeds which grow into new plants.<br>To describe what I observe as new plants grow; record observations in tables and |

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|                                                                                                                     | <p>Through play children find out about</p> <ul style="list-style-type: none"> <li>the natural world</li> <li>plants and how they grow</li> <li>lifecycles of plants</li> <li>a variety of fruit and vegetables</li> </ul> | <p>To name a variety of common wild and garden plants</p> <p>To identify deciduous and evergreen trees</p> <p>To name a variety of different leaves.</p> <p>To know that seeds will germinate in favorable conditions.</p> <p>To discuss and carry out a seed growth experiment.</p>                                                                                                 | <p>use these to draw conclusions.</p> <p>To name plants we eat and know what they need to stay healthy.</p> <p>To recognise that different plants live in the local environment and name some of them.</p>                                                                                                                                                                                                                               |
| <p>Animals, including humans.</p>  | <p>To know about wild and domestic animals</p> <p>To know how to care for pets</p>                                                                                                                                         | <p>To identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</p> <p>To know that there are many different animal types and sort them into groups.</p>                                                                                                                                                         | <p>To recognise that humans need food air and water to stay alive.</p> <p>To recognise there are different food groups and to understand why we need to eat a balanced diet.</p> <p>To understand that exercise is an important part of staying healthy.</p> <p>To recognise the link between good hygiene and health</p> <p>To understand that animals (including humans) produce young and these grow into children and new adults</p> |
|                                                                                                                     | <p>Through play children find out about</p> <ul style="list-style-type: none"> <li>the natural world</li> <li>Animal life cycles</li> <li>A wide variety of animals and their habits e.g. nocturnal</li> </ul>             | <p>To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)</p>                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                                                                                     |                                                                                                                                                                                                                            | <p>To understand how to take care of animals taken from their local environment and the need to return them safely after study.</p> <p>Become familiar with the common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets.</p> <p>To identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| <p>Everyday materials</p>                                                                                   | <p>To know that some things in the world are man-made and some things are natural.</p> <p>Through play children find out about</p> <ul style="list-style-type: none"> <li>• A range of objects that are made from manmade and natural materials</li> <li>• Sorting materials</li> <li>• Hands on experience of a range of different materials.</li> <li>• </li> </ul> | <p>To understand the difference between an object and the material from which it is made.</p> <p>To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</p> <p>To describe the simple physical properties of a variety of everyday materials</p> <p>To sort materials by their properties in different ways</p> | <p>To compare and group together a variety of everyday materials on the basis of their simple physical properties</p> <p>To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p> <p>To identify and discuss the uses of different everyday materials to become familiar with how some materials are used for more than one 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 - recycling</p> <p>Pupils might find out about people who have developed useful new materials</p> |
| <p>Seasonal changes</p>  | <p>Seasonal walks<br/>Forest school<br/>Weather watching</p>                                                                                                                                                                                                                                                                                                          | <p>To observe changes across the 4 seasons</p> <p>To observe and describe weather associated with the seasons and how day length varies</p>                                                                                                                                                                                                                           | <p>To understand seasons and climate in the context of other scientific and geographical study.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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|  | <p>Through play children find out about</p> <ul style="list-style-type: none"> <li>• the signs of Autumn, winter, summer and spring</li> <li>• how to respect and care for the natural environment</li> <li>• the weather</li> </ul> | <p>To know that seasons affect animal behavior - hibernation</p> <p>To recognise changes in the world around us during different season (plants, animals, light).</p> <p>To know what effect the cold has on human behaviour. (Appropriate clothing, heating, foods we eat)</p> <p>To be aware of the dangers of the sun in Summer</p> |  |
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| <p>Living things and habitats</p>  | <p>Through play children find out about</p> <ul style="list-style-type: none"> <li>• where different animals live</li> <li>• habitats in the local area</li> <li>• what different animals eat</li> </ul> | <p>To find out about living things and habitats in the context of other scientific study and exploration.</p>                                                                                                                                                                                                                                                    | <p>To explore and compare the differences between things that are living, dead, and things that have never been alive by thinking about life processes.</p> <p>To identify and name a variety of plants and animals in their habitats.</p> <p>To identify microhabitats and to name a variety of mini beasts in microhabitats.</p> <p>To 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.</p> <p>To identify how animals and plants depend on each other.</p> <p>Describe how animals obtain their food from plants and other animals and name different sources of food by making a variety of food chains</p> |
| <p>Working scientifically</p>    | <p>Through play children explore</p> <ul style="list-style-type: none"> <li>• How things work</li> <li>• Why things change</li> <li>• Observations</li> <li>• Sorting and classifying</li> </ul>         | <p>Can ask simple questions and recognise that they can be answered in different ways.</p> <p>Can observe closely, using simple equipment.</p> <p>Can perform simple tests.</p> <p>Can identify and classify.</p> <p>Can use their observations and ideas to suggest answers to questions.</p> <p>Can gather and record data to help in answering questions.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |