

Progression of skills for Science

EYFS Checkpoints	The Natural World
Autumn 1	<p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p>
Autumn 2	<p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Understand the effect of changing seasons on the natural world around them.</p>
Spring 1	<p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Understand the effect of changing seasons on the natural world around them.</p>
Spring 2	<p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Understand the effect of changing seasons on the natural world around them.</p> <p>Knows about similarities and differences in relation to materials</p>
Summer 1	<p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Understand the effect of changing seasons on the natural world around them.</p>
Summer 2	<p>Explore the natural world around them, making observations and drawing pictures of animals and plants</p> <p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>

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Progression in Substantive Knowledge			
	Year R	Year 1	Year 2
Animals (including humans)	<p>Explore the natural world around them, making observations and drawing pictures of animals.</p> <p>Makes observations of animals and explains why some things occur, and talks about changes.</p>	<p>Identify and name a variety of common animals including, fish, amphibians, reptiles, birds and mammals</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)</p> <p>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>Notice that animals, including humans, have offspring which grow into adults</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>
Plants	<p>Explore the natural world around them, making observations and drawing pictures of plants.</p> <p>Makes observations of plants and explains why some things occur, and talks about changes.</p>	<p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees</p>	<p>Observe and describe how seeds and bulbs grow into mature plants</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>
Materials	<p>Knows about similarities and differences in relation to places, objects, materials and living things</p>	<p>Distinguish between an object and the material from which it is made</p>	<p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses</p>

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		<p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</p> <p>Describe the simple physical properties of a variety of everyday materials</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties</p>	<p>Compare how things move on different surfaces.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p>
Seasonal change	<p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>	<p>Observe changes across the 4 seasons</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>	
Living things and their habitats	<p>Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.</p> <p>Talks about the features of their own immediate environment and how environments might vary from one another</p>		<p>Explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>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>Identify and name a variety of plants and animals in their habitats, including microhabitats</p> <p>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>

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EYFS Working Scientifically (Disciplinary knowledge)	Characteristics of effective learning	Early Learning Goals
	<ul style="list-style-type: none"> • Show curiosity about objects, events and people • Questions why things happen • Engage in open-ended activity • Take a risk, engage in new experiences and learn by trial and error • Find ways to solve problems / find new ways to do things / test their ideas • Develop ideas of grouping, sequences, cause and effect • Comment and asks questions about aspects of their familiar world such as the place where they live or the natural world • Use senses to explore the world around them • Make links and notice patterns in their experiences • Create simple representations of events, people and objects • Build up vocabulary that reflects the breadth of their experience 	<ul style="list-style-type: none"> • Choose the resources they need for their chosen activities • Handle equipment and tools effectively • Answer how and why questions about their experiences • Make observations • Develop their own narratives and explanations by connecting ideas or events • Explain why some things occur and talk about changes

Working Scientifically (Disciplinary knowledge)	Year 1	Year 2
Plan	<ul style="list-style-type: none"> • Ask simple questions when prompted • Suggest ways of answering a question 	<ul style="list-style-type: none"> • Ask simple questions • Recognise that questions can be answered in different ways
Do	<ul style="list-style-type: none"> • Make relevant observations using simple equipment • Conduct simple tests, with support • Identify and classify with guidance 	<ul style="list-style-type: none"> • Observe closely, using simple equipment • Perform simple tests • Identify and classify
Record	<ul style="list-style-type: none"> • Gather and record data 	<ul style="list-style-type: none"> • Record and communicate their findings in a range of ways and begin to use simple scientific language • Gather and record data to help answer questions
Review	<ul style="list-style-type: none"> • Recognise findings • Use their observations and ideas to suggest answers to simple questions 	<ul style="list-style-type: none"> • Use their observations and ideas to suggest answers to simple questions

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Observation over time enquiries

	Explore	Plan	Do	Review
EYFS	This stage provides an opportunity for exploration	<ul style="list-style-type: none"> I notice and am curious about things that change. With help, I ask questions about things changing. With help, I talk about my ideas for finding how things change. 	<ul style="list-style-type: none"> I use my senses to observe changes. With help, I use simple equipment to observe and record changes, e.g. magnifiers, string. With help, I make simple records of how things change, in drawings, or using a camera. I can make suggestions for what change will happen next. 	<ul style="list-style-type: none"> I talk about what I have done and the changes that I noticed. With help, I present my findings in simple ways.
KS1		<ul style="list-style-type: none"> With help, I ask questions about how and why things change. With help, I identify changes to observe and measure and suggest what to do 	<ul style="list-style-type: none"> I make observations and use simple equipment, including cameras, to record changes using non-standard measures. I record my observations in words or pictures, or in simple prepared formats such as tables and charts. I make suggestions for what change will happen next, based on what I have observed. 	<ul style="list-style-type: none"> With help, I present my findings in logs, simple images and graphs. I identify simple changes I sequence the changes. I use simple science vocabulary to talk about changes that I have observed. I talk about whether the change was what I expected. I respond to prompts to apply what I have found out through observing over time.

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Identification and classification enquiries

	Explore	Plan	Do	Review
EYFS	This stage provides an opportunity for exploration	<ul style="list-style-type: none"> I notice and am curious about similarities and differences. With help, I ask questions about these. With help, I talk about my ideas for how to group things; I suggest criteria. 	<ul style="list-style-type: none"> I use my senses to group and match. I use simple equipment to magnifying equipment to make observations. I match things that are the same. I find things that are similar or different using given criteria. I decide how to group things. With help, I use simple equipment to group things, e.g. boxes, hoops. With help, I record my groupings in drawings or photographs. 	<ul style="list-style-type: none"> I talk about how I matched and identified things. I sometimes use drawings and simple labels to communicate my matching and grouping.
KS1		<ul style="list-style-type: none"> With help, I ask questions about how things are similar or different. With help, I recognise features that will help me to name things. I suggest resources that will help me to name things. With help, I decide what observable features to use to group things. 	<ul style="list-style-type: none"> I make comparisons between observable features, behaviours and properties of living things and materials to name and group them. I classify things using simple Venn diagrams or tables. With help, I carry out simple tests to group materials according to simple properties. I use spotter sheets, simple books and electronic media to name living things and materials. I draw, photograph or list what I have found or named. 	<ul style="list-style-type: none"> I use simple science vocabulary to talk about how things are similar or different. I communicate my identification or classification in words, labelled pictures or photographs and simple tables. I respond to prompts to apply what I have found out through identifying and classifying.

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Comparative and fair testing enquiries

	Explore	Plan	Do	Review
EYFS	This stage provides an opportunity for exploration	<ul style="list-style-type: none"> I notice and am curious about how things behave. With help, I ask questions about things I can test. I talk about my ideas for testing how things behave and what I might find out. 	<ul style="list-style-type: none"> I use my senses to observe how things behave. I use simple equipment to observe and record. I carry out simple tests. With help, I make simple records of what I notice. 	<ul style="list-style-type: none"> I talk about what I have done and what I noticed. With help, I present my findings in simple ways.
KS1		<ul style="list-style-type: none"> I ask why and how questions. I make comparisons about how things behave. With help, I notice links between cause and effect. With help, I plan a simple comparative test. With help, I identify simple variables to change and measure. With help, I make suggestions about what will happen. 	<ul style="list-style-type: none"> I make observations and use simple equipment to record data using non-standard measures. I record in words or pictures, or in simple prepared formats such as tables and tally charts. 	<ul style="list-style-type: none"> With help, I present my data in a simple bar chart. I use comparative data to rank materials or objects. I use simple science vocabulary to describe simple casual relationships With help, I can state the variables that I kept the same. I say if the relationship was what I expected.

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Pattern seeking enquiries

	Explore	Plan	Do	Review
EYFS	This stage provides an opportunity for exploration	<ul style="list-style-type: none"> I notice and am curious about patterns. With help, I ask questions about patterns. I talk about my ideas for finding out about patterns and the patterns that I might find. 	<ul style="list-style-type: none"> I use my senses to observe patterns. I use simple equipment to observe patterns. I observe more than one thing at a time. With help, I make simple records of patterns. 	<ul style="list-style-type: none"> I talk about what I have done and the patterns I noticed. With help, I present my findings in simple ways.
KS1		<ul style="list-style-type: none"> With help, I ask questions about patterns. With help, I decide what patterns to observe and measure and suggest how to do it. With help, I make suggestions about patterns I might find. 	<ul style="list-style-type: none"> I make observations and use simple equipment to collect data using non-standard measures. I record data in non-standard units, words or pictures, using simple prepared formats such as tables, tally charts and maps. 	<ul style="list-style-type: none"> With help, I present data in pictograms or simple block graphs. I talk about simple patterns between two sets of data. With help, I use science vocabulary to talk about patterns. I talk about whether the patterns were what I expected.

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Research enquiries

	Explore	Plan	Do	Review
EYFS	This stage provides an opportunity for exploration	<ul style="list-style-type: none"> I notice and am curious about things in my surroundings and the jobs that people do. With help, I ask questions that I can answer by asking another person or by using secondary sources. 	<ul style="list-style-type: none"> I listen carefully. I talk to people about what they do and how things work. I know that information in books and electronic media can be used to answer questions. I find pictures of things. With help, I record what I have found out in simple ways. 	<ul style="list-style-type: none"> I talk about things I found out. With help, I present my findings in simple ways.
KS1		<ul style="list-style-type: none"> With help, I ask questions about how things are, the way things work and the jobs that people do. With help, I make suggestions about how to find things out by asking another person or by using other information sources. 	<ul style="list-style-type: none"> I use simple books and electronic media to find things out. I ask other people questions to find things out. I record what I find out in words and pictures. 	<ul style="list-style-type: none"> I present my findings in simple ways. With help, I use appropriate science vocabulary to talk about what I found out. I talk about whether the information source was useful.