

Key Learning in Science: Year 1

Learning can be done throughout the year using the school gardens and the local environment. Plants can be observed to make a link to seasonal change and weather at various different times. Materials could be linked to creative themes taught during Art and DT throughout the year. Key learning can also be covered as a blocked science unit in its own right to introduce or consolidate learning at other times.

Plants: Common Names and Basic Structure	Animals - Humans	Animals - Other Animals
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ▪ <u>Identify and name a variety of common wild and garden plants</u>, including deciduous and evergreen <u>trees</u>. ▪ <u>Identify and describe the basic structure of a variety of common flowering plants, including trees (at least: flower, leaf, root, stem, trunk, seed, branch and petal)</u>. <p>Notes and Guidance (non-statutory):</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. They should become familiar with common names of flowers, examples of deciduous and evergreen trees, and plant structures (including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, stem).</p> <p>Pupils will work scientifically by:</p> <ul style="list-style-type: none"> • Observing closely, perhaps using magnifying glasses. • Comparing and contrasting familiar plants. • Describing how they were able to identify and group them, and • Drawing diagrams showing the parts of different plants including trees. • Keeping records of how plants have changed over time, for example the leaves falling off trees and buds opening. • Comparing and contrasting what they have found out about different plants. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ▪ <u>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</u>. ▫ Recognise that humans are animals. ▫ Compare and describe differences in their own features (eye, hair, skin colour, etc.). ▫ Recognise that humans have many similarities. <p>Notes and Guidance (non-statutory):</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:</p> <ul style="list-style-type: none"> • Compare and contrast animals (humans) at first hand or through videos and photographs. • Using their senses to compare different textures, sounds and smells. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ▪ <u>Identify and name a variety of common animals including some fish, some amphibians, some reptiles, some birds and some mammals</u>. ▪ <u>Identify and name a variety of common animals that are carnivores, herbivores and omnivores (i.e. according to what they eat)</u>. ▪ <u>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, and including pets)</u>. <ul style="list-style-type: none"> ▫ Find out and describe how animals look different to one another. ▫ <u>Group together animals according to their different features</u>. ▫ <u>Recognise similarities between animals:</u> <u>Structure: head, body, way of moving, senses, body covering, tail.</u> ▫ Animals have senses to explore the world around them and to help them to survive. ▫ Recognise that animals need to be treated with care and sensitivity to keep them alive and healthy. ▫ Animals are alive; they move, feed, grow, use their senses and reproduce. <p>Notes and Guidance (non-statutory):</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 fish, amphibians, reptiles, birds and mammals, including those that are kept as pets.</p> <p>Pupils might work scientifically by using their observations to:</p> <ul style="list-style-type: none"> • 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. • Using their senses.

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Material Properties – Everyday Materials

Pupils should be taught to:

Distinguish between an object and the material from which it is made.

Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, rock, brick, paper and cardboard.

Describe the simple physical properties of a variety of everyday materials.

Compare and group together a variety of everyday materials on the basis of their simple physical properties.

Notes and Guidance (non-statutory):

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; opaque and transparent. 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.

Pupils might work scientifically by:

performing simple tests to explore questions, for example:

- ‘What is the best material for an umbrella? ...for lining a dog basket? ...for curtains? ...for a bookshelf? ...for a gymnast’s leotard?’

Light and Astronomy – Seasonal Change

Pupils should be taught to:

Observe and describe changes across the four seasons.

Observe and describe weather associated with the seasons and how day length and temperature varies.

Notes and Guidance (non-statutory):

Pupils should observe and talk about changes in the weather and the seasons.

Note:

Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses.

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.

This unit provides an ideal opportunity for **using data logging equipment to record temperatures**

Year Group Expectations: Year 1

Exploring / Observing	Grouping and Classifying	Questioning	Researching	Modelling	Collaborating
<p><i>KS1 - observing closely</i> Using their observations and ideas to suggest answers to questions</p>	<p><i>KS1 - Compare and contrast a variety of examples linked to KS1 PoS</i></p>	<p><i>KS1 - asking simple questions</i></p>	<p><i>KS1 - finding things out using secondary sources of information</i></p>	<p><i>using dance, drama or a visual aid to represent science in the real world</i></p>	<p><i>interacting effectively as part of a group</i></p>
<ul style="list-style-type: none"> ▪ <u>Begin to use simple scientific language (from yr1 PoS) to talk about or record what they have noticed</u> ▪ Use observations to make suggestions and/or ask questions ▪ <u>Look / observe closely and communicate changes over time</u> ▪ <u>Look / observe closely and communicate the features or properties of things in the real world</u> ▪ <u>Observe</u> closely using their senses 	<ul style="list-style-type: none"> ▪ <u>Name</u>/identify common examples and some common features ▪ With help, decide how to sort and group objects, materials or living things ▪ <u>Name basic features</u> of objects, materials and living things ▪ <u>Say how things are similar or different</u> ▪ <u>Compare</u> and contrast simple <u>observable features / characteristics</u> of objects, materials and living things 	<ul style="list-style-type: none"> ▪ <u>Ask simple questions about what they notice about the world around them</u> ▪ <u>Demonstrate curiosity by the questions they ask</u> 	<ul style="list-style-type: none"> ▪ Ask people questions (e.g. an expert or hot-seating) ▪ <u>Use simple primary and secondary sources</u> (such as objects, books and photographs) to find things out 	<ul style="list-style-type: none"> ▪ With help, follow movements (dance / drama) to act out their Science 	<ul style="list-style-type: none"> ▪ Share ideas in a group and listen to the ideas of others ▪ Work with others on a science task
Planning and Testing <i>KS1 - performing simple tests</i>	Using Equipment and Measures <i>KS1 - Using simple equipment and gathering data to help in answering their questions</i>	Communicating <i>Reporting findings, recording data, presenting findings</i> <i>Read, spell and pronounce scientific vocabulary correctly linked to the relevant Yr Grp</i>	Considering the results of an investigation / writing a conclusion		
			Describing results / Looking for patterns <i>KS1 - Talk about what happened / what they noticed</i>	Explaining results <i>KS1 - talk about what they found out</i>	Trusting results
<ul style="list-style-type: none"> ▪ With help, <u>carry out a simple test/comparative test</u> ▪ With help, make a simple prediction or suggestion about what might happen ▪ Begin to suggest some ideas e.g. choose which equipment to use, choose which materials to test from a selection ▪ <u>Talk</u> about ways of setting up a test 	<ul style="list-style-type: none"> ▪ <u>Measure</u> using <u>non-standard units e.g. how many lolly sticks/cubes/handfuls, etc.</u> ▪ <u>Observe closely, using simple equipment (e.g. hand lenses, egg timers)</u> ▪ use senses to compare different textures, sounds and smells 	<ul style="list-style-type: none"> ▪ Communicate their ideas to a range of audiences in a variety of ways ▪ Complete a pre-constructed table / chart using picture records or simple words ▪ Contribute to a class display ▪ <u>Add annotations to drawings or photographs</u> ▪ <u>Begin to use some simple scientific language from yr1 PoS</u> ▪ <u>Record</u> simple visual representations of observations made 	<ul style="list-style-type: none"> ▪ <u>Use recordings to talk about and describe what happened</u> ▪ Sequence photographs of an event/observation 	<ul style="list-style-type: none"> ▪ <u>Begin to use simple scientific language (from yr1 PoS) to talk about what they have found out or why something happened</u> 	<p>N/A in Y1</p>

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