


Year 1 Science Curriculum

	Autumn	
Curriculum focus/links	Animals Including Humans	Seasonal Changes - Autumn to Winter
Scientist / Inventor Study	Sir David Attenborough Significant individual Timeline of key events and fact file.	
Key Vocabulary	<ul style="list-style-type: none"> • Names of animal groups: fish, amphibians, reptiles, birds, mammals. • Animal diets: carnivore, herbivore, omnivore. • Human and animal body parts: e.g. body, head, neck, arms, elbows, legs, knees, face, ears, eyes, nose, hair, mouth, teeth, hands, feet, tail, wings, feathers, fur, beak, fins, gills. • Human senses: sight, hearing, touch, smell, taste. • Exploring senses: loud, quiet, soft, rough. other human animal pet	<ul style="list-style-type: none"> • Seasons: spring, summer, autumn, winter, seasonal change. • Weather: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast. • Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge. Day length: night, day, daylight.
Substantive Concepts	<p>Scientific Knowledge</p> <p>Children can identify and match several animal offspring and their adult forms. They can describe the main characteristics of the offspring found in different animal groups.</p> <p>Children can describe the main stages of at least two different animal life cycles. They start to compare these life cycles.</p> <p>Children can identify several ways that humans grow and develop through each life cycle stage.</p> <p>Children can name the three basic needs of all animals to survive. They can describe the specific needs of a given animal.</p> <p>Children can describe the effects of exercise and begin to explain the importance of exercise for the human body.</p> <p>Children can identify several foods according to the basic food groups and can talk about the importance of a balanced diet. They can explain how to be hygienic and why this is important.</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals; • identify and name a variety of common animals that are carnivores, herbivores and omnivores; • describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets); • 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>Children understand and are able to explain the differences between the four seasons, giving examples of things from each season.</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • observe changes across the 4 seasons but the change on change between Autumn and Winter <p>observe and describe weather associated with the seasons and how day length varies.</p>

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Scientific Enquiry

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:

Asking simple questions and recognising that they can be answered in different ways.

Observing closely, using simple equipment.

Performing simple tests identifying and classifying

Using their observations and ideas to suggest answers to questions

Gathering and recording data to help in answering questions.

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 (for example, 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.

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	<h2 style="margin: 0;">Spring</h2>	
<p style="text-align: center;">Curriculum focus/links</p>	<p style="text-align: center;">Seasonal Changes - Winter to Spring</p>	<p style="text-align: center;">Plants British Science Week https://www.britishsociety.org/british-science-week</p>
<p style="text-align: center;">Scientist / Inventor Study</p>	<p>Significant individual Timeline of key events and fact file.</p> <p>Mae Jamison -En.gineer and astronaut. First African-American to travel into space Neil Armstrong - First man to walk on the moon</p>	
<p style="text-align: center;">Key Vocabulary</p>	<ul style="list-style-type: none"> · Seasons: spring, summer, autumn, winter, seasonal change. trees, flowers, wildlife, hibernate, buds. · Weather: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast. · Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge. <p><u>Day length:</u> night, day, daylight.</p>	<p>Children 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 style="text-align: center;">Substantive Concepts</p>	<p>Children understand and are able to explain the differences between the four seasons, giving examples of things from each season.</p> <p>Pupils should be taught to: Observe changes over the four seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies. This ‘Seasonal Changes (Winter and Spring)’ unit will teach the class about the four seasons, with a particular focus on Winter and Spring. Children will use a class weather station to observe, measure and record the weather across the seasons. They will also observe changes across the seasons by exploring the signs of autumn and winter through nature and wildlife. A range of learning activities are used in this unit including observation, discussion and learning outside.</p> <p>Children also work scientifically by collecting, recording and interpreting simple data. We will also record and observe the changes in a sycamore tree at the front</p>	<p>Pupils should be taught to:</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>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> <ul style="list-style-type: none"> • To describe and compare plants, seeds and bulbs. • To name and compare the parts of a plant. • To identify and name some common garden and wild plants • To identify and name some common trees. (deciduous and evergreen trees) • To name, sort and compare some common fruit and vegetables plants. • Identify and name and compare a variety of common wild and garden plants, including evergreen and deciduous.

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	of school through the seasons.	
<p>Scientific Enquiry</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: asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment, performing simple tests , identifying and classifying, using their observations and ideas to suggest answers to questions. gathering and recording data to help in answering questions.</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 (for example, 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. 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>	<p>Observing over Time</p> <p>Observe plant growth over time.</p> <p>Pattern Seeking</p> <p>Look at whether all plants have the same parts, e.g. leaves/produce fruit/a stem. (Lesson 2)</p> <p>Investigate if all plants that grow from bulbs have the same leaf structure. (Lesson 2)</p> <p>Identify where wild plants grow compared to garden plants to see if there is a pattern. (Lesson 3)</p> <p>Investigate if there is a pattern between the fruit humans can and cannot eat. (Lesson 4 and 5)</p> <p>Look at leaves of evergreen and deciduous trees and investigate if there is a pattern based on their appearance/structure.</p> <p>Identifying, Grouping and Classifying</p> <p>Identify features of plants to make comparisons between them.</p> <p>Identify plants, seeds and bulbs.</p> <p>Identify the parts of a plant.</p> <p>Group plants.</p> <p>Identify garden and wild plants.</p> <p>Identify parts of a tree.</p> <p>Identify trees based on their leaves and other features.</p> <p>Group leaves.</p> <p>Identify plants that produce fruit/vegetables.</p> <p>Group fruit/vegetables.</p> <p>Group fruit/vegetables based on what part of it we eat.</p> <p>Comparing plants and deciding on criteria to sort them into groups.</p> <p>Comparative Testing</p> <p>Measure plants/parts of a plant to find out which is the tallest/has the longest leaves</p> <p>Count the petals on different flowers</p> <p>Pupils might work scientifically by: observing closely, perhaps using magnifying glasses, and comparing and contrasting familiar plants; describing how they were</p>

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able to identify and group them, and drawing diagrams showing the parts of different plants including trees. 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 what they have found out about different plants.

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	<h2 style="color: white;">Summer</h2>	
<p>Curriculum focus/links</p>	<p>Seasonal Changes- Spring to Summer</p>	<p style="text-align: center;">Everyday Materials</p> <p>This unit aims to teach the children about a range of materials used in day to day life. Identify materials in the classroom and around the school. Natural and man-made materials. Matching materials. Magnets and metal. Sorting objects. Floating and sinking. Link it to 3 little pigs and make 3 houses out of different materials to test durability</p>
<p>Scientist / Inventor Study</p>		
<p>Key Vocabulary</p>	<ul style="list-style-type: none"> • Seasons: spring, summer, autumn, winter, seasonal change, trees, flowers, wildlife, hibernate, buds. • Weather: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, storm, wind, thunder, weather forecast. • Measuring weather: temperature, rainfall, wind direction, thermomete gauge. <p><u>Day length:</u> night, day, daylight.</p>	<p><i>object, hard, soft, shiny, dull, stretchy, bendy, see-through, wood, metal, water, plastic, rock, glass, brick, paper, cardboard, fabric, rubber material, properties, stiff, rough, smooth, recycle, waste transparent, opaque, waterproof, absorbent, natural, human-made, environmentally friendly</i></p>
<p>Substantive Concepts</p>	<p>Children understand and are able to explain the differences between the four seasons, giving examples of things from each season.</p> <p>Children can confidently describe the weather associated with each season and make some simple comparisons.</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • observe changes across the 4 seasons; <p>observe and describe weather associated with the seasons and how day length varies</p>	<p>Pupils should be taught to:</p> <p>identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. Compare suitability of materials for particular uses; observe changes under certain conditions</p> <ul style="list-style-type: none"> • To identify objects and materials, to name specific objects, to identify the materials that objects are made of. To use my observations to answer an enquiry question. • To identify the materials of objects and decide which groups they should be sorted into for recycling.

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		<ul style="list-style-type: none"> • To describe the properties of materials. • To identify material, to choose words that describe what materials look and feel like. To compare materials. (feely board with description labels) • Testing for absorbency and testing materials to find out if materials are transparent or opaque. • To carry out a comparative test, testing three materials to find out whether or not they are waterproof, to see which material would be the best to fix Ted's shelter with.
<p>Scientific Enquiry</p>	<p>Children can decide how to sort and classify features of seasons into simple groups with some help and record classification tasks using simple tables or sorting diagrams.</p> <p>Observing over time Recognise how things may change throughout the four seasons. Explore how elements such as trees, plants and the weather change from winter to spring. Learn about changes of the seasons from spring to summer. Observe the weather over a period of a week to find out the most and least common type of weather. Observe seasonal changes in nature in the local area or school grounds.</p> <p>Pattern Seeking Identify if there is a pattern in the types of plants that grow in spring compared to winter. Use the weather observation results to spot patterns in the weather. For example, do hotter days have the least rainfall or is the wind stronger when it is cloudy? When observing the wind, see if the wind always blows in the same direction. Investigate if all trees blossom at the same time. For example, do smaller or bigger trees blossom first? Investigate if all daffodils flower at the same time.</p> <p>Identifying, Grouping and Classifying Sort features of winter and spring into groups. Identify and name types of weather. Go on a walk in the school grounds or local area to spot signs of the seasons and identify what is found. Sort signs of the seasons into groups, such as flowers and animals, found in each season or the locations that they were found in. Sort and group features of seasons into Venn diagrams to find out if all the seasons are the same.</p> <p>Comparative Testing</p>	<p>Sorting and classifying materials; describing simple properties; using senses and basic tools</p> <p>Plan use their scientific experiences to raise questions about the world around them help decide what observations or measurements they might make, how long they will make them for and the equipment they might use</p> <p>Do make systematic and careful observations take accurate measurements using standard units use a range of equipment, including thermometers and data loggers set up and carry out simple comparative and fair tests identify, group and classify things, using simple keys when appropriate</p> <p>Record gather, record and present measurements in a variety of ways to help answer questions, e.g. tables and bar charts record classification tasks in a variety of ways to help answer questions, e.g. simple keys, tables or Venn diagrams use and apply mathematical skills at a level consistent with this age and key stage.</p>

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When observing the weather, take measurements from thermometers set up in different places to compare the temperatures recorded in different locations.

Researching

Use the Seasonal Changes eBook to find out about the four seasons including winter and spring.

Use the Seasonal Changes eBook to find out about what happens in summer.

Research how people stay safe in countries that have very hot summers.

Research temperature and rainfall in different seasons.

Use the Seasonal Changes eBook to find out about what happens in spring.

Use the identification key to name signs of spring.

Use the Seasonal Changes eBook to research daylight hours in each season.

Use the Seasonal Changes eBook to research the seasons and make comparisons between them.