



Science Overview 2022-2023

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Sycamores	<p><u>Materials</u></p> <p>Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.</p> <p>Describe physical properties of a variety of everyday materials.</p> <p>Compare and group together a variety of materials on the basis of their physical properties.</p> <p><i>Observing</i></p>	<p><u>Season – Winter</u></p> <p>Observe changes across the four seasons</p> <p>Observe and describe weather associated with the season and how day length varies.</p> <p><i>Observing over time, gathering and recording data to help answer questions. Using simple equipment</i></p> <p><u>Animals incl humans part 1</u></p> <p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p> <p><i>Observing; using their observations and ideas to</i></p>	<p><u>Animals including humans part 2</u></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 range of animals.</p> <p>Identify, name, draw and label basic parts of the human body and say which part of the body is associated with each sense.</p> <p><i>Observing; using their observations and ideas to suggest answers to questions.</i></p> <p><i>Observing closely; identifying and classifying; gathering and recording data to help in answering questions.</i></p> <p><u>Season – Spring</u></p> <p>Observe changes across the four seasons</p> <p>Observe and describe weather associated with the season and how day length varies.</p> <p><i>Observing over time, gathering and recording data to help answer questions. Using simple equipment</i></p>	<p><u>Plants</u></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><i>Observing closely, identifying and classifying and using simple equipment. Observing over time, gathering and recording data to help answer questions.</i></p> <p><u>Season – Summer</u></p> <p>Observe changes across the four seasons</p> <p>Observe and describe weather associated with the season and how day length varies.</p> <p><i>Observing over time, gathering and recording data to help answer questions. Using simple equipment</i></p>		



	<p><i>Observing; using their observations and ideas to suggest answers to questions. Asking simple questions and recognizing that they can be answered in different ways; observing closely; using simple equipment and performing simple tests.</i></p> <p><u>Season – Autumn</u></p> <p><i>Observe changes across the four seasons</i></p> <p><i>Observe and describe weather associated with the season and how day length varies.</i></p> <p><i>Observing over time, gathering and</i></p>	<p><i>suggest answers to questions.</i></p>		
--	---	---	--	--



	recording data to help answer questions. Using simple equipment			
Poplars	<p><u>Materials</u></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.</p> <p>To identify, group and classify objects. Observing closely, using simple equipment, performing simple</p>	<p><u>Animals including humans</u></p> <p>Notice that animals, including humans, have offspring which grow into adults. Find out and describe the basic needs of animals, including humans, for survival (water, food and air) Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p>Observing closely, using simple equipment, performing simple tests, gathering and recording data to help answer questions. Seeking patterns</p>	<p><u>Living things and their habitats</u></p> <p>Explore and compare the differences between things that are living, dead and things that have never been alive. 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. Identify and name a variety of plants and animals in their habitats, including microhabitats. 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> <p>Observing closely, using simple equipment, performing simple tests, gathering and recording data to help answer questions.</p>	<p><u>Plants</u></p> <p>Observe and describe how seeds and bulbs grow into mature plants. Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p>Observing closely, using simple equipment, performing simple tests, gathering and recording data to help answer questions.</p>



	tests, gathering and recording data to help answer questions.				
Maple	<p><u>Forces and magnets</u></p> <p>Compare how things move on different surfaces</p> <p>Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance</p> <p>Observe how magnets attract or repel each other and attract some materials and not others</p> <p>Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify</p>	<p><u>Light</u></p> <p>Recognise that they need light in order to see things and that dark is the absence of light</p> <p>Notice that light is reflected from surfaces</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>Recognise that shadows are formed when the light from a light source is blocked by an opaque object</p> <p>Find patterns in the way that the size of shadows change</p> <p>Making systematic and careful observations,</p>	<p><u>Animals including humans</u></p> <p>Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat</p> <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement</p> <p>Classifying and presenting data in a variety of ways to help in answering questions; identifying changes relating to simple</p>	<p><u>Plants</u></p> <p>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk. Leaves and flowers.</p> <p>Explore the requirements of plants for life and growth and how they vary from plant to plant.</p> <p>Investigate the way in which water is transported within plants.</p> <p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<p><u>Rocks</u></p> <p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>Recognise that soils are made from rocks and organic matter</p> <p>Making systematic and careful observations, using results to draw simple conclusions, understanding what a fair test is, Setting up simple practical enquiries, observing over time, taking accurate measurements, recording findings using drawings and labelled diagrams, make predictions for new values.</p>



	<p>some magnetic materials</p> <p>Describe magnets as having 2 poles</p> <p>Predict whether 2 magnets will attract or repel each other, depending on which poles are facing</p> <p>Recording findings using simple scientific language and labelled diagrams, identifying changes to simple scientific ideas and processes, observing carefully. Setting up simple practical enquiries, understanding and carrying out a fair test.</p>	<p>using results to draw simple conclusions with scientific language, understanding what a fair test is, Setting up simple practical enquiries, recording findings using labelled diagrams, Taking accurate measurements, make prediction for new values, seeking patterns, reporting on findings, including oral and written explanations, displays and presentations of results and conclusions.</p>	<p>scientific ideas and processes.</p> <p>Setting up a simple practical enquiry; gathering, recording, and presenting data in a variety of ways, using straightforward scientific evidence to answer questions.</p> <p>Understanding what a fair test is.</p> <p>Asking relevant questions and using different types of scientific enquiries to answer them; making systematic and careful observations; using results to draw simple conclusions; making predictions; suggesting improvements and raising further questions.</p> <p>Pattern seeking.</p>	<p>Setting up simple practical enquiries, gathering data, recording findings in drawings, using straightforward scientific evidence to answer a question, Observing over time. Making systematic and careful observations, recording findings using labelled diagrams, using results to draw simple conclusions</p>	
--	---	--	---	---	--



<p>Elm</p>	<p><u>States of matter</u></p> <p>Compare and group materials together, according to whether they are solids, liquids or gases</p> <p>Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</p> <p><i>Making observations taking accurate measurements using</i></p>	<p><u>Electricity</u></p> <p>Identify common appliances that run on electricity</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</p> <p>Recognise some common conductors and insulators, and associate</p>	<p><u>Living things</u></p> <p>Recognise that living things can be grouped in a variety of ways</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living thing</p> <p><i>Gathering and presenting data in a variety of ways: recording findings using simple scientific language, drawings, labelled diagrams and bar charts</i></p> <p><i>Finding things out using secondary sources of information.</i></p>	<p><u>Sound</u></p> <p>Identify how sounds are made, associating some of them with something vibrating</p> <p>Recognise that vibrations from sounds travel through a medium to the ear</p> <p>Find patterns between the pitch of a sound and features of the object that produced it</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it</p> <p>Recognise that sounds get fainter as the distance from the sound source increases</p>	<p><u>Animals including humans</u></p> <p>Describe the simple functions of the basic parts of the digestive system in humans</p> <p>Identify the different types of teeth in humans and their simple functions</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey</p> <p><i>Gathering, recording, classifying and presenting information in a variety of ways; recording findings using labelled diagrams; using results to draw simple conclusions.</i></p> <p><i>Observing over time.</i></p> <p><i>Reporting on findings from enquiry including oral and written explanations, displays or presentations of results and conclusions.</i></p> <p><i>Researching using secondary sources.</i></p> <p><i>Making careful observations.</i></p>
-------------------	--	---	--	---	--



	<p>standard units.</p> <p>Recording findings in a table.</p> <p>Making systematic and careful observations using a thermometer and data logger.</p> <p>Completing a fair test</p> <p>Observing over time.</p> <p>Setting up simple experiments, reporting findings from enquiries including oral and written explanations</p>	<p>metals with being good conductors</p>	<p>Making careful observations; recording findings using keys</p> <p>Gathering and recording data; identifying changes related to simple scientific ideas and processes, using results to draw simple conclusions, suggest improvements and further questions.</p> <p>Observing over time.</p>		
Hawthorns	<p><u>Space</u></p> <p>Describe the movement of the Earth and other planets relative to the sun in the solar system</p> <p>Describe the movement of the</p>	<p><u>Forces</u></p> <p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p> <p>Identify the effects of air resistance, water</p>	<p><u>Properties and changes of materials</u></p> <p>Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets</p> <p>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p>	<p><u>Animals including humans</u></p> <p>Describe the changes as humans develop to old age</p>	<p><u>Living things</u></p> <p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p>Describe the life process of</p>



	<p>moon relative to the Earth</p> <p>Describe the sun, Earth and moon as approximately spherical bodies</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</p>	<p>resistance and friction, that act between moving surfaces</p> <p>Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect</p>	<p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda</p>		<p>reproduction in some plants and animals</p>
Chestnuts	<p><u>Animals including humans</u></p> <p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans</p>	<p><u>Evolution</u></p> <p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>Recognise that living things produce</p>	<p><u>Living things</u></p> <p>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals</p>	<p><u>Electricity</u></p> <p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</p>	<p><u>Light</u></p> <p>Recognise that light appears to travel in straight lines</p> <p>Use the idea that light travels in straight lines to explain that objects are seen because they give</p>



		<p>offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</p>	<p>Give reasons for classifying plants and animals based on specific characteristics</p>	<p>Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches</p> <p>Use recognised symbols when representing a simple circuit in a diagram</p>	<p>out or reflect light into the eye</p> <p>Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes</p> <p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them</p>
--	--	--	--	---	---