



### Science Overview 2023/24 – Oldfield Primary School

Year Group/Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Reception</b>	Habitats	Planting bulbs	Habitats	Space	Floating and sinking; Materials	Minibeasts
<b>Year 1</b>	All about me	Animals	Materials	Weather and Seasons	Plants	Trees and Woodlands
<b>Year 2</b>	Materials Part 1- Properties of Materials	Animals including humans Part 1- What do humans need to survive?	Living things and their habitats	Animals including humans Part 2- Animal groups and their Life Cycles.	Materials Part 2- using materials for a purpose Life Cycles	Plants
<b>Year 3</b>	Rocks and Soils	Human skeleton	Food	Forces and Magnets	Plants	Lights and Shadows
<b>Year 4</b>	Electricity	Sound	States of Matter	Teeth and Digestive System	Food Chains	Living Things and their Habitats
<b>Year 5</b>	Animals	Earth and Space; Our Solar System	Characteristics of Materials	Forces	Life Cycles, Plants and Living Things	Animals Including Humans Properties of Materials
<b>Year 6</b>	Evolution and Inheritance  Fossils	Circulatory System  Function of the Heart  Healthy Lifestyle	Micro-organisms	Electricity  Light		Genetics



### **Science Early Years Overview 2023/24 – Oldfield Primary School**

<b>Term</b>	<b>Topic/Unit</b>	<b>Key Knowledge</b>	<b>Key Skills</b>	<b>Suggestions – resources, websites, trips etc.</b>
Autumn 1	Habitats	Describing home environment Learning where to find things in school environment	Ask simple questions about immediate environment.  Talk about similarities and differences.	
Autumn 2	Planting bulbs	Understand the key features of the life cycle of a plant and animal.	Explore objects, materials and resources designed to model scientific processes.	
Spring 1	Habitats	Begin to understand the need to care for our local environment.	Listen and respond to stories about scientific related events.	
Spring 2	Space	Explore and discuss the force of gravity. Features of the different planets.		
Summer 1	Floating and sinking Materials	Explore and talk about different forces that they can feel. Finding out about sea creatures Explore a collection of every day materials. Describe what they can see, hear and feel when outside.	Create drawings and models of their environment.  Understand the key features of the life cycle of a plant and animal.  Begin to understand the need to care for our local environment.	
Summer 2	Minibeasts	Explore the natural world around them. Describe what they see, hear and feel whilst outside. Children to go on a minibeast hunt to search for minibeasts.	Explore a collection of every day materials.  Describe what they can see, hear and feel when outside. Explore and discuss different forces they can feel.	



### Science Year 1 Overview 2023/24 – Oldfield Primary School

Term	Topic/Unit	Key Knowledge	Key Skills	Suggestions – resources, websites, trips etc.
Autumn 1	All about me	Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	Asking simple questions and recognising that they can be answered in different ways.	
Autumn 2	Animals	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).	Observe 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.	Walk to Braywick Nature Centre Jeanne Villepreux-Power
Spring 1	Materials	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, and rock. 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.		
Spring 2	Weather and Seasons	Observe changes across the four seasons. Describe weather associated with the four seasons. Observe the variety in day lengths.		
Summer 1	Plants	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.  Identify and describe the basic structure of a variety of common flowering plants, including trees.		
Summer 2	Trees and Woodlands			Andy Goldsworthy Greta Thunberg



### Science Year 2 Overview 2023/24 – Oldfield Primary School

Term	Topic/Unit	Key Knowledge	Key Skills	Suggestions – resources, websites, trips etc.
Autumn 1	Materials	Find out how the shapes of some solid objects can be changed by squashing, bending, twisting and stretching.	Asking simple questions and recognising that they can be answered in different ways.	
Autumn 2	Animals including humans	Understand what animals including humans need to survive. Describe the importance for humans of exercise, hygiene and diet.	Observe closely, using simple equipment.  Performing simple tests.  Identifying and classifying.	
Spring 1	Living things and their habitats	Make comparisons between things that are living, dead and never been alive. Describe how habitats provide the basic needs for different types of animals. Identify and name a variety of plants and animals in their habitats. Describe how animals obtain their food from plants and other animals.	Using their observations and ideas to suggest answers to questions.  Gathering and recording data to help in answering questions.	
Spring 2	Animals including humans	Notice that animals, including humans, have offspring that grow into adults. Identify names of animals' young (eg dog and puppy; cat and kitten).		Frogs and tadpoles; butterflies
Summer 1	Materials	Identify the suitability of everyday materials (including		Maria Beasley Charles Macintosh

		plastic, metal, paper, wood, brick and rock) for particular uses.		
Summer 2	Plants	Observe how seeds and bulbs grow into plants. Describe how plants need water, light and a suitable temperature to grow.		



### **Science Year 3 Overview 2023/24 – Oldfield Primary School**

<b>Term</b>	<b>Topic/Unit</b>	<b>Key Knowledge</b>	<b>Key Skills</b>	<b>Suggestions – resources, websites, trips etc.</b>
Autumn 1	Rocks and soils	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rocks and organic matter.	Asking relevant questions and using different types of scientific enquiries to answer them.  Setting up simple practical enquiries, comparative and fair tests.  Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.	Visit to Amersham Field Centre
Autumn 2	Human skeleton	Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.  Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.  Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	
Spring 1	Food	Identify that animals, including humans, need the right types and amount of nutrition.		
Spring 2	Forces and magnets	Compare how things move on different surfaces. Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Observe how magnets attract or repel each other and attract some materials and not others. Compare and group together a variety of everyday		William Gilbert Sir Isaac Newton

		<p>materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.</p> <p>Describe magnets as having two poles and predict whether two magnets will attract or repel each other.</p>	<p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p>	
Summer 1	Plants	<p>Identify and describe the functions of different parts of flowering plants.</p> <p>Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) 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>Using straightforward scientific evidence to answer questions or to support their findings.</p>	Visit to Rushell Farm
Summer 2	Light and shadows	<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>		





### Science Year 4 Overview 2023/24 – Oldfield Primary School

Term	Topic/Unit	Key Knowledge	Key Skills	Suggestions – resources, websites, trips etc.
Autumn 1	Electricity	Identify common appliances that run on electricity. Construct a simple circuit and name the main component. Recognise that a switch opens and closes a circuit. Recognise some common conductors and insulators of electricity.	Asking relevant questions and using different types of scientific enquiries to answer them.  Setting up simple practical enquiries, comparative and fair tests.	Benjamin Franklin
Autumn 2	Sound	Identify how sounds are made. Recognise that vibrations travel through a medium to the ear. Find patterns between the pitch and volume of the sound and the vibration that made it. Recognise that sounds become fainter as the distance from the sound source grows.	Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.  Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.	Thomas Edison
Spring 1	States of matter	Compare and group materials, based on whether they are a solid, liquid or gas.	Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.	Archimedes
Spring 2	Teeth and digestive system	Identify the different types of human teeth and their basic functions.		

		Describe the functions of basic parts of the digestive system.	Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	
Summer 1	Food chains	Construct and interpret a variety of food chains. Identify producers, prey and predators in a food chain.	Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Identifying differences, similarities or changes related to simple scientific ideas and processes.	David Attenborough
Summer 2	Living things and their habitats	Recognise that living things can be grouped in a variety of ways. Explore and use classification keys. Recognise how changes in an environment can pose dangers to living things.	Using straightforward scientific evidence to answer questions or to support their findings.	Visit to Braywick Nature Centre



### Science Year 5 Overview 2023/24 – Oldfield Primary School

Term	Topic/Unit	Key Knowledge	Key Skills	Suggestions – resources, websites, trips etc.
Autumn 1	Animals	Classify non-vertebrate animals with a key. Design a key. Identify and construct food chains.	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	David Attenborough  Reptile Road Show visit
Autumn 2	Earth and Space	Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. Describe the movement of the Moon relative to the Earth. Describe the Sun, Earth and Moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night.	Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.  Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.	Katherine Johnson Tim Peake Visit from Astronomy Roadshow
Spring 1	Characteristics of materials	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. Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases to decide	Using test results to make predictions to set up further comparative and fair tests.  Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.	Walter Lincoln Hawkins Ruth Benerito

		<p>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.</p>	<p>Identifying scientific evidence that has been used to support or refute ideas or arguments.</p>	
Spring 2	Forces	<p>Explain that unsupported objects fall towards the Earth because of the force of gravity.</p> <p>Identify the effects of air resistance, water resistance and friction.</p> <p>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>		
Summer 1	Life Cycles; plants and living things	<p>Describe the life process of reproduction in some plants and animals.</p> <p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p>		
Summer 2	Animals including humans	<p>Describe the changes as humans develop to old age.</p>		



### **Science Year 6 Overview 2023/24 – Oldfield Primary School**

<b>Term</b>	<b>Topic/Unit</b>	<b>Key Knowledge</b>	<b>Key Skills</b>	<b>Suggestions – resources, websites, trips etc.</b>
Autumn 1	Evolution and Inheritance	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.  Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.  Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.	Visit to Braywick Nature Centre  Charles Darwin
Autumn 2	Circulatory System	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Describe the ways in which nutrients and water are transported within animals, including humans.	Using test results to make predictions to set up further comparative and fair tests.  Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.	Daniel Hale Williams
Spring 1	Micro-organisms	To name different types of micro-organisms. To recognise why correct food storage is important.		Joseph Lister Louis Pasteur

		<p>To observe changes in foods caused by micro-organisms.</p> <p>To compare micro-organisms with animals including humans.</p>	<p>Identifying scientific evidence that has been used to support or refute ideas or arguments.</p>	
Spring 2	Electricity and Light	<p>Recognise that light appears to travel in straight lines.</p> <p>Explain that objects are seen because they give out or reflect light into the eye.</p> <p>Explain that we see things because light travels from light sources to our eyes.</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>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>		
Summer 1				
Summer 2	Genetics	<p>To identify common ancestors of humans and other mammals.</p> <p>To make comparisons between humans and their ancestors.</p>		Mary Anning

