



Science Medium Term Plan 2023-2024



Year 1	Knowledge	Skills
Autumn 1 Exploring Everyday Materials 1	Children will know: <ul style="list-style-type: none">properties of a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.	Children will be able to: <ul style="list-style-type: none">distinguish between an object and the material from which it is made;compare and group together a variety of everyday materials on the basis of their simple physical propertiesdescribe the simple physical properties of a variety of everyday materials;identify and classify everyday materials;use observations and ideas to suggest answers to questions;perform simple tests.
Autumn 2 Animals including Humans – About Me	Children will know: <ul style="list-style-type: none">the basic parts of the human body;which part of the body are associated with each sense.	Children will be able to: <ul style="list-style-type: none">identify and classify human body parts;perform simple tests to identify the link between body parts and senses;gather and record data to help answer key questions;
Spring 1 Animals including Humans – About Animals	Children will know: <ul style="list-style-type: none">the terms: carnivore, herbivore and omnivore;what different types of animals (wild and pets) need to survive;the name and how to identify a variety of common animals including fish, amphibians, reptiles, birds and mammals.	Children will be able to: <ul style="list-style-type: none">group and classify animals according to what they eat;identify a variety of animals found in our local environment (London and Essex);use observations to compare and contrast animals (through videos and photographs);answer questions through observing animals over time.
Spring 2 Plants	Children will know: <ul style="list-style-type: none">the conditions needed for healthy plant growth;names of different types of plants;the parts of the plant.	Children will be able to: <ul style="list-style-type: none">grow a plant from seed in the right conditions;make predictions about conditions needed for growth;carry out a simple investigation;observe and describe plant growth.
Summer 1 Seasonal Changes	Children will know: <ul style="list-style-type: none">how the day length varies throughout the year;the four seasons and describe at least one key feature for each.	Children will be able to: <ul style="list-style-type: none">observe changes across the four seasons;perform simple tests to observe and describe weather associated with the seasons;



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		<ul style="list-style-type: none">gather data to help answer questions about weather associated with the seasons;discuss different types of weather.
Summer 2 Exploring Everyday Materials 2	<p>Children will know:</p> <ul style="list-style-type: none">a range of materials and their uses;how magnets work;key vocabulary	<p>Children will be able to:</p> <ul style="list-style-type: none">predict, test and observe the properties of materials;build models using materials;group and classify materials.



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Year 2	Knowledge	Skills
Autumn 1 Everyday Materials	Children will know: <ul style="list-style-type: none">• how some solid objects can be manipulated;• materials are suitable for different task;• key vocabulary.	Children will be able to: <ul style="list-style-type: none">• identify and compare the suitability of a variety of everyday materials;• make observations and suggest answers to questions about everyday materials;• perform simple tests to test manipulation of solid objects;• gather and record data to help answer questions.
Autumn 2 Animals including Humans – Growth	Children will know: <ul style="list-style-type: none">• the life cycles of a small range of animals;• the changes that happen as we grow and why those changes happen.	Children will be able to: <ul style="list-style-type: none">• draw diagrams and create visual presentations;• measure and record findings in graph form;• describe the journey through life of some animals.
Spring 1 Living Things and their Habitats	Children will know: <ul style="list-style-type: none">• the difference between things that are living, dead and things that have never been alive;• animals obtain their food from plants and another animals.	Children will be able to: <ul style="list-style-type: none">• explain a simple food chain• perform simple tests;• identify, sort and classify living and non-living things;• use observations to describe how animals obtain their food.
Spring 2 Plants	Children will know: <ul style="list-style-type: none">• conditions required for healthy plant growth;• key vocabulary.	Children will be able to: <ul style="list-style-type: none">• observe seeds and bulbs and investigate how they grow into plants;• perform fair tests, with variables;• observe closely, using simple equipment;• compare the growth of plants under different conditions.
Summer 1 Living Things and their Habitats – Habitats around	Children will know: <ul style="list-style-type: none">• why animal lives in its particular habitats;• key features of different habitats around the world;• dangers and problems relating to different habitats.	Children will be able to: <ul style="list-style-type: none">• gather and record data to help answer questions about different habitats;• report on findings from enquiries on different issues affecting habitats;• use observations and ideas to suggest answers to questions about animals and their habitats.



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the world		
Summer 2 Animals including Humans – Life Cycles	<p>Children will know:</p> <ul style="list-style-type: none">• animals have offspring that grow into adults;• stages of the human life cycle;• life cycles of a variety of animals.	<p>Children will be able to:</p> <ul style="list-style-type: none">• identify and classify different stages of life cycles;• use their observations and ideas to suggest answers to questions about the life cycles of different animals;• report on findings from enquiries through presentation of results and conclusions made from observations.



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Year 3	Knowledge	Skills
Autumn 1 Scientific Enquiry	Children will know: <ul style="list-style-type: none">scientific experiments are carried out to answer a question;names of different types of scientific equipment and talk about their use;the different types of scientific skills they will need to apply during Key Stage 2.	Children will be able to: <ul style="list-style-type: none">create scientific questions;make predictions;set up simple practical enquiries, comparative and fair tests;make systematic and careful observations;use scientific evidence to answer questions or to support their findings;record findings;use results to draw simple conclusions.
Autumn 2 Rocks	Children will know: <ul style="list-style-type: none">the formation of igneous, sedimentary and metamorphic rocks;how fossils are formed;the process of weathering and its effects on different types of rocks.	Children will be able to: <ul style="list-style-type: none">make observations;report on findings from enquiries using a variety of presentation types;develop conclusions;identify differences, similarities and changes related to simple scientific ideas and processes.
Spring 1 Animals including Humans	Children will know: <ul style="list-style-type: none">the 5 key food groups and how they provide us with nutrition;features of the human skeleton and skeletons of some other animals;the role of muscles.	Children will be able to: <ul style="list-style-type: none">gather data in a variety of ways to help answer questions;record findings using simple scientific language and present it in a range of forms;use scientific evidence to support their findings.
Spring 2 Plants	Children will know: <ul style="list-style-type: none">functions of different parts of a flowering plant;how water is transported within plants;the part that flowers play in the life cycle of flowering plants.	Children will be able to: <ul style="list-style-type: none">make systematic and careful observations;report on findings from enquiries and present these in a variety of ways;use results to draw simple conclusions and raise further questions.
Summer 1 Light	Children will know: <ul style="list-style-type: none">the meaning of transparent and opaque;what UV rays are and how they can be harmful;how shadows are formed.	Children will be able to: <ul style="list-style-type: none">set up simple practical enquires to investigate the effect of light from the Sun;observe light and shadow and record findings using simple scientific language;find patterns in the way that the size of shadows changes.
Summer 2	Children will know: <ul style="list-style-type: none">magnets have different uses;	Children will be able to: <ul style="list-style-type: none">perform simple tests;



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Forces and Magnets	<ul style="list-style-type: none">• what magnetic fields are and the law of attraction;	<ul style="list-style-type: none">• make predictions about the attraction of magnets;• compare movement and friction of different surfaces.• classify, record and present data;
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Year 4	Knowledge	Skills
Autumn 1 States of Matter	Children will know: <ul style="list-style-type: none">• differences between solids, liquids or gases;• some materials change state when they are heated or cooled;• the part played by evaporation and condensation in the water cycle;	Children will be able to: <ul style="list-style-type: none">• compare and group materials together, according to whether they are solids, liquids or gases;• make systematic observations and gather and record data of materials changing state as a result of heating or cooling;• take measurements using standard units;• record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables;• use straightforward scientific evidence to answer questions or to support their findings.
Autumn 2 Animals including Humans	Children will know: <ul style="list-style-type: none">• the different parts and functions of the digestive system;• how to keep the digestive system healthy;	Children will be able to: <ul style="list-style-type: none">• set up a simple practical enquiry;• report on findings of enquiries through presentations and diagrams;• create and build models to represent the digestive system;• construct and interpret a variety of food chains.
Spring 1 Living Things and their Habitats	Children will know: <ul style="list-style-type: none">• living things can be grouped in a variety of ways;• names of a variety of living things;• names of living things within their local area.	Children will be able to: <ul style="list-style-type: none">• identify differences, similarities or changes between living things;• gather, record, classify and interpret data to help answer questions;• record findings using simple scientific language;• use classification keys to help identify and name a variety of living things.
Spring 2 Conservation	Children will know: <ul style="list-style-type: none">• environments can change and that this can sometimes pose dangers to living things;• examples of human impact (positive and negative) on environments;• changes that can be made to help the negative human impact to different environments.	Children will be able to: <ul style="list-style-type: none">• gather and record information to suggest improvements to environments;• research a man-made disaster that seriously impacted the environment and present findings;• conduct fair tests to investigate air pollution levels and compare the results.
Summer 1 Sound	Children will know: <ul style="list-style-type: none">• how sounds are made;	Children will be able to: <ul style="list-style-type: none">• set up simple practical enquiries to observe how sound is made;



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	<ul style="list-style-type: none">vibrations from sounds travel through a medium to the ear;patterns between then pitch of a sound and features of the object that produced it.	<ul style="list-style-type: none">make observations and take accurate measurements using a range of equipment;record findings using simple scientific language.
Summer 2 Electricity	<p>Children will know:</p> <ul style="list-style-type: none">parts of a basic series circuit;what makes a good conductor and insulator;how to use electricity safely.	<p>Children will be able to:</p> <ul style="list-style-type: none">set up a simple practical enquiry;report on findings of enquiries through presentations and diagrams;construct a simple series electrical circuit.



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Year 5	Knowledge	Skills
Autumn 1 Properties of Materials	Children will know: <ul style="list-style-type: none">• some materials will dissolve in liquid to form a solution;• how mixtures might be separated.	Children will be able to: <ul style="list-style-type: none">• plan scientific enquiries;• record data in a variety of ways;• use test results to make predictions to set up further comparative and fair tests;• compare and group together everyday materials based on evidence.
Autumn 2 Changes of Materials	Children will know: <ul style="list-style-type: none">• differences between physical and chemical change;• the meaning of dissolve and solution;• how to recover a substance from a solution.	Children will be able to: <ul style="list-style-type: none">• take measurements using a range of scientific equipment with increasing accuracy;• investigate and identify chemical changes;• identify scientific evidence that has been used to support or refute ideas or arguments.
Spring 1 Studying Living Things	Children will know: <ul style="list-style-type: none">• influential leaders in the study of living things and how they have helped us learn about the world around us;• the differences in the life cycles of a variety of animals;• the different types of reproduction in plants and animals.	Children will be able to: <ul style="list-style-type: none">• plan a scientific enquiry to describe the life process of reproduction in some plants;• report and present findings from enquiries in oral and written forms;• write a scientific report to present findings about the reproduction process of plants and animals.
Spring 2 Animals including Humans – Human Life Cycle	Children will know: <ul style="list-style-type: none">• some different life cycles of living things;• changes that affect humans from birth to old age;• what puberty is and how it causes physical changes in boys and girls.	Children will be able to: <ul style="list-style-type: none">• report and present findings and explanations;• record data and results using scientific diagrams and labels;• use a timeline to indicate stages in growth development.
Summer 1 Earth and Space	Children will know: <ul style="list-style-type: none">• the movement of the Earth in space;• characteristics of the planets in our solar system;• the idea of the Earth's rotation to explain day and night.	Children will be able to: <ul style="list-style-type: none">• identify scientific evidence that has been used to support or refute ideas;• use test results to make predictions to set up further comparative fair tests;• report and present findings from enquiries.
Summer 2 Forces	Children will know: <ul style="list-style-type: none">• how different forces act;• the impact of natural and applied forces;	Children will be able to: <ul style="list-style-type: none">• plan different types of scientific enquiries;• use test results to make predictions and set up comparative and fair tests;



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		<ul style="list-style-type: none">• present information using graphs and diagrams;• create models to represent an understanding of forces.
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Year 6	Knowledge	Skills
Autumn 1 The Heart and Health	Children will know: <ul style="list-style-type: none">the main parts of the human circulatory system;describe the functions of the heart, blood vessels and blood;the impact of diet, exercise, and lifestyle on the way their body's function;ways in which nutrients and water are transported within including humans.	Children will be able to: <ul style="list-style-type: none">identify scientific evidence that has been used to support or refute ideas;record data and results using scientific diagrams, keys and graphs;present findings from enquiries that include drawing conclusions;check their heart rate before and after exercise.
Autumn 2 Living Things and their Habitat	Children will know: <ul style="list-style-type: none">how living things are classified;specific characteristics for classifying living things.	Children will be able to: <ul style="list-style-type: none">recording data and results using scientific diagrams, keys and graphs;plan different types of enquiries to answer questions;identify scientific evidence that has been used to support or refute ideas.
Spring 1 Electricity	Children will know: <ul style="list-style-type: none">parts of a circuit and their functions;the impact of adding to, or removing components from, a circuit;voltage of cells used in a circuit is associated the brightness of an object.	Children will be able to: <ul style="list-style-type: none">build and create circuit models;take measurements, using a range of scientific equipment;test results to make predictions for further comparative and fair tests.
Spring 2 Looking after our Environment	Children will know: <ul style="list-style-type: none">ways to reduce landfill and energy consumption;what happens when fuels are burnt;	Children will be able to: <ul style="list-style-type: none">recording data and results using scientific diagrams, keys and graphs;identify scientific evidence that has been used to support or refute ideas;use test results to make predictions;compare data associated with the weather.
Summer 1 Light	Children will know: <ul style="list-style-type: none">how light travels;how we see things in relation to light;why shadows have the same shape as the objects that cast them.	Children will be able to: <ul style="list-style-type: none">make and record observations to explore how light behaves;generate predictions and undertake investigations of a range of phenomena;take measurements;record data to identify trends when investigating shadows.
Summer 2	Children will know: <ul style="list-style-type: none">that living things have changed over time.	Children will be able to:



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Evolution and Inheritance	<ul style="list-style-type: none">• fossils provide us with information of how living things have changed;• the process of genetic modification; why animals can look different to their parents.	<ul style="list-style-type: none">• identify scientific evidence that has been used to support or refute ideas or arguments; observe and recognise changes over time.
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