Science overview 2023-24

Year 3	Animals Including Humans	Rocks	Light	Plants	Forces and Magnets
	Identify that animals, including humans, need the right types and amounts of nutrition, and that they cannot make their own food; they get nutrition from what they eat. Identify that humans and other animals have skeletons and muscles for support, protection and movement. RSE -Identify the scientific names of external body parts	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.	Recognise that they need light in order to see things and that dark is the absence of light. Understand that light is reflected from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Recognise that shadows are formed when the light from a light source is blocked by a solid object. Find patterns in the way that the size of a shadow change.	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. Explore the requirement of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	Compare how things move on different surfaces. Understand that some forces need contact between 2 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 materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. Describe magnets as having 2 poles Predict whether 2 magnets will attract or repel each other, depending on which poles are facing.
Year 3 Working scientifically	Ask relevant questions and use different types of scientific enquiries to answer them.	Set up simple practical enquiries, comparative and fair tests. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.	Gather, record, classify and present data in a variety of ways to help in answering questions. Gather, record, classify and present data in a variety of ways to help in answering questions.	Identify differences, similarities or changes related to simple scientific ideas and processes. Use straightforward scientific evidence to answer questions or to support his/her findings.	Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.

Science overview 2023-24

Year 4	Living Things and their Habitats	Animals including Humans	Electricity	States of Matter	Sound
	-Recognise that living things can be grouped in a variety of ways. -Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. -Recognise that environments can change and that this can sometimes pose dangers and have an impact on living things.	-Describe the simple functions of the basic parts of the digestive system in humans. -Identify the different types of teeth in humans and their simple functions. -Construct and interpret a variety of food chains, identifying producers, predators and prey. RSE - To understand and explain the differences in male and female bodies - To understand puberty changes for girls	-Identify common appliances that run on electricity. -Construct a simple series electrical circuit, identifying and naming basic parts, including cells, wires, bulbs switches and buzzers. -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. -Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. -Recognise some common conductors and insulators, and associate metals with being good conductors.	-Compare and group materials together, according to whether they are solids, liquids or gases. -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. -Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	-Identify how sounds are made, associating some of them with something vibrating. -Recognise that vibrations from sounds travel through a medium to the ear. -Find patterns between the pitch of a sound and features of the object that produced it. -Find patterns between the volume of a sound and the strength of the vibrations that produced it. -Recognise that sounds get fainter as the distance from the sound source increases.
Year 4 Working Scientifically	-Gather, record and present data in a variety of ways to help in answering questions. - To use straightforward scientific evidence to answer questions and to support findings. - Ask relevant questions and use different types of scientific enquiries to answer them. - Identify differences, similarities or changes related to simple scientific ideas and processes. -Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.	- Record findings using simple scientific language, drawings and labelled diagrams - Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. -Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. - Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions - Set up simple practical enquiries, comparative and fair tests.	- Identify differences, similarities or changes related to simple scientific ideas and processes. - Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. - Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. -Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. -Set up simple practical enquiries, comparative and fair tests.	-Identify differences, similarities or changes related to simple scientific ideas and processes. -Ask relevant questions and use different types of scientific enquiries to answer them. -Set up simple practical enquiries, comparative and fair tests. -Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. -Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. -Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. -Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.	-Ask relevant questions and use different types of scientific enquiries to answer them. -Set up simple practical enquiries, comparative and fair tests. -Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. -Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.

Science overview 2023-24

					-Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
Year 4 Enquiry Types	-Identifying, grouping and classifying -Problem Solving -Research using secondary resources	-Observation over time -Fair testing -Problem Solving -Research using secondary resources	-Identifying, grouping and classifying -Problem Solving - Identifying, grouping and classifying -Research using secondary resources	-Identifying, grouping and classifying -observation over time -fair testing and comparative testing	-Pattern seeking -Fair and comparative testing -Problem Solving -Research using secondary resources
Year 5	**Earth and Space** To describe the movement of the Earth, moon and other planets relative to the solar system. To describe the planets, moon, and sun as a spherical body. To investigate and explain how the Earth rotates causing night and day. Identify scientific evidence that has been used to support or refute ideas or arguments. Report and present findings from enquiries in oral and written forms, including conclusions, explanations of how things happen and how far I trust the results found.	**Forces** To investigate and ask questions about gravity. To identify, observe and explain the effects of air and water resistance, and friction. To observe, measure and explain how some mechanisms allow a smaller force to have a stronger effect. Report and present findings from enquiries in oral and written forms such as displays and other presentations. Including conclusions, explanations on how things happen and how far results are trusted. Identify scientific evidence that has been used to support or refute ideas or arguments. Take measurements, with increasing accuracy, taking repeat readings when appropriate. Record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar, and line graphs.	**Properties and Changes of Materials** Compare, contrast and group everyday materials on the basis of their properties. To recognise and explain how some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. To explain and investigate how solids, liquids and gases can be separated including filtering, sieving and evaporating. To investigate and explain dissolving, mixing and changes of state are reversible changes. To recognise and explain changes in the formation of new materials, and changes are not always reversible. Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Take measurements, with increasing accuracy, taking	**Living Things and their Habitats** To describe differences in the life cycles of a mammal, an amphibian, an insect and a bird. To describe and explain the life process of reproduction in some plants and animals. Identify scientific evidence that has been used to support or refute ideas or arguments. Report and present findings from enquiries in oral and written forms, including conclusions, explanations of how things happen and how far I trust the results found.	**Animals Including Humans** To describe and explain changes as humans develop to old age. Identify scientific evidence that has been used to support or refute ideas or arguments. Report and present findings from enquiries in oral and written forms, including conclusions, explanations of how things happen and how far I trust the results found. RSE - Describe how the body changes during puberty

Science overview 2023-24

			repeat readings when appropriate. Record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar, and line graphs.		
Year 6	**Electricity** Present findings in written forms Recording data Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. 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. Use recognised symbols when representing a simple circuit in a diagram.	**Light** Make fair tests Take measurements, using a range of scientific equipment, with increasing accuracy, taking repeat readings when appropriate. Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Recognise that light appears to travel in straight lines. Use the idea that light travels in straight lines to explain that objects are seen because they give out of reflect light into the eyes. 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. Use the idea that light travels in straight lines to explain why shadows have the same shape as the object that cast them.	**Evolution and Inheritance** Identify scientific evidence that has been used to support or refute ideas or arguments. 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 and are not identical to their parents. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	**Animals Including Humans** Present findings in written forms Recording data Interpret data Take measurements, using a range of scientific equipment, with increasing accuracy, taking repeat readings when appropriate. Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Use test results to make predictions to set up further comparative and fair tests. Report and present findings from enquiries in oral and written forms such as displays and other presentations. This includes drawing conclusions, and explaining how things happen and how far I trust the results found. Identify scientific evidence that has been used to support or refute ideas or arguments. 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 RSE Describe and explain the changes that occur during puberty	**Living Things and their habitats** Report and present findings from enquiries in oral and written forms such as displays and other presentations. This includes drawing conclusions, and explaining how things happen and how far I trust the results found. 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. Give reasons for classifying plants and animals based on specific characteristics