

Big idea	Aspect	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Humankind	Human body	<p>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> <p>covered optional x 2</p>	<p>Notice that animals, including humans, have offspring which grow into adults.</p> <p>Know key facts about puberty and the changing adolescent body, particularly from age 9 through to age 11, including physical and emotional changes.</p> <p>covered</p>	<p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p>covered</p>	<p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>covered optional x 5</p>	<p>Describe the life process of reproduction in some plants and animals.</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>covered</p>
	Staying safe	<p>Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.</p> <p>breadth</p> <p>Know about safe and unsafe exposure to the sun, and how to reduce the risk of sun damage, including skin cancer.</p>	<p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</p>	<p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>Know about safe and unsafe exposure to the sun, and how to reduce the risk of sun damage, including skin cancer.</p> <p>covered</p>	<p>Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.</p> <p>optional breadth</p>	<p>Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.</p> <p>breadth</p>	<p>Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.</p> <p>breadth</p>
	Healthy lifestyle	<p>Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.</p> <p>breadth</p> <p>Know about personal hygiene and germs including bacteria, viruses, how they are spread and treated, and the importance of handwashing.</p>	<p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p>Know the risks associated with an inactive lifestyle (including obesity).</p> <p>Know what constitutes a healthy diet (including understanding calories and other nutritional content).</p> <p>Know the characteristics of a poor diet and risks associated with unhealthy eating (including, for example, obesity and tooth decay) and other behaviours (e.g. the impact of alcohol on diet or health).</p> <p>Know the importance of sufficient good quality sleep for good health and that a lack of sleep can affect weight, mood and ability to learn.</p> <p>Know about dental health and the benefits of good oral hygiene and dental flossing, including regular check ups at the dentist.</p> <p>Know about personal hygiene and germs including bacteria, viruses, how they are spread and treated, and the importance of handwashing.</p> <p>covered</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>Know what constitutes a healthy diet (including understanding calories and other nutritional content).</p>	<p>Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.</p> <p>breadth</p> <p>Know the characteristics of a poor diet and risks associated with unhealthy eating (including, for example, obesity and tooth decay) and other behaviours (e.g. the impact of alcohol on diet or health).</p> <p>Know about dental health and the benefits of good oral hygiene and dental flossing, including regular check ups at the dentist.</p> <p>covered x 3 optional x 3</p>	<p>Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.</p> <p>breadth</p> <p>Know about personal hygiene and germs including bacteria, viruses, how they are spread and treated, and the importance of handwashing.</p> <p>Know key facts about puberty and the changing adolescent body, particularly from age 9 through to age 11, including physical and emotional changes.</p>	<p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>Know the benefits of physical exercise, time outdoors, community participation, voluntary and service-based activity on mental wellbeing and happiness.</p> <p>Know the risks associated with an inactive lifestyle (including obesity).</p> <p>Know what constitutes a healthy diet (including understanding calories and other nutritional content).</p> <p>Know the characteristics of a poor diet and risks associated with unhealthy eating (including, for example, obesity and tooth decay) and other behaviours (e.g. the impact of alcohol on diet or health).</p> <p>Know the facts about legal and illegal harmful substances and associated risks, including smoking, alcohol use and drug taking.</p> <p>covered</p>

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Processes	Pattern seeking	Observe changes across the four seasons. covered x 2	Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. breadth	Find patterns in the way that the size of shadows change. covered optional	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. covered	Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. covered	Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. covered x 2
		Changes	Observe and describe weather associated with the seasons and how day length varies. covered	Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. covered x 4 optional x 4	Describe in simple terms how fossils are formed when things that have lived are trapped within rock. covered x 2	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). covered optional x 3	Demonstrate that dissolving, mixing and changes of state are reversible changes. 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. covered x 2 optional x 2
Earth		Observe and describe weather associated with the seasons and how day length varies.	Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. breadth	Recognise that soils are made from rocks and organic matter. covered	Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. covered	Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. covered optional x 2 Describe the movement of the Moon relative to the Earth. covered	Recognise that light appears to travel in straight lines. covered optional Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. covered x 2 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. covered x 2
		Phenomena	Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. breadth	Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. breadth	Recognise that they need light in order to see things and that dark is the absence of light. covered Recognise that shadows are formed when the light from a light source is blocked by a solid object. covered optional	Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. covered x 2	Describe the Sun, Earth and Moon as approximately spherical bodies. covered optional
Forces		Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. breadth	Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. covered optional breadth	Notice that some forces need contact between two objects, but magnetic forces can act at a distance. covered	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. covered	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. covered optional x 3	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. covered



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	Modelling	Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. covered x 2 breadth	Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. optional breadth	Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. breadth	Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. covered x 2 optional x 2	Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. covered optional	Use recognised symbols when representing a simple circuit in a diagram. covered
Creativity	Report and conclude	Use their observations and ideas to suggest answers to questions. covered x 3 optional x 8	Use their observations and ideas to suggest answers to questions. covered x 3 optional x 5	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. Use straightforward scientific evidence to answer questions or to support their findings. covered x 2 optional	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. Use straightforward scientific evidence to answer questions or to support their findings. covered x 9 optional x 4	Use test results to make predictions to set up further comparative and fair tests. Report and present 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. Identify scientific evidence that has been used to support or refute ideas or arguments. covered x 8 optional x 3	Use test results to make predictions to set up further comparative and fair tests. Report and present 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. Identify scientific evidence that has been used to support or refute ideas or arguments. covered x 3 optional x 7
	Gather and record data	Gather and record data to help in answering questions. covered x 2 optional	Gather and record data to help in answering questions. covered optional x 9	Gather, record, classify and present data in a variety of ways to help in answering questions. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. covered x 7 optional x 8	Gather, record, classify and present data in a variety of ways to help in answering questions. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. covered x 4 optional x 15	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. covered x 5 optional x 8	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. covered x 8 optional
Investigation	Questioning	Ask simple questions and recognise that they can be answered in different ways. covered x 2	Ask simple questions and recognise that they can be answered in different ways. covered x 2 optional	Ask relevant questions and using different types of scientific enquiries to answer them. optional	Ask relevant questions and using different types of scientific enquiries to answer them. covered x 2 optional x 4	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. covered x 4 optional x 2
	Measurement	Observe closely, using simple equipment. covered x 2 optional	Observe closely, using simple equipment. covered x 5 optional x 3	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. optional	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. covered x 2	Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. covered x 2 optional	Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. covered optional
	Investigation	Perform simple tests. covered x 4 optional x 2	Perform simple tests. covered x 5 optional x 3	Set up simple practical enquiries, comparative and fair tests. covered x 4 optional	Set up simple practical enquiries, comparative and fair tests. covered optional x 5	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. covered x 7 optional x 3	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. covered x 9 optional



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	Observation	Identify and classify. covered x 5 optional	Identify and classify. covered x 7 optional x 2	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Identify differences, similarities or changes related to simple scientific ideas and processes. covered x 9 optional x 5	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Identify differences, similarities or changes related to simple scientific ideas and processes. covered x 2 optional x 2	Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. covered x 2 optional	Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. covered optional x 3
Materials	Identification and classification	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. covered optional x 2	Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. covered x 2 optional x 2 breadth	Notice that light is reflected from surfaces. covered	Compare and group materials together, according to whether they are solids, liquids or gases. covered x 2 optional	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. covered optional Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. covered	Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. breadth
	Properties and uses	Describe the simple physical properties of a variety of everyday materials. covered optional	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. covered x 3 optional	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. covered optional Observe how magnets attract or repel each other and attract some materials and not others. covered x 2 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. covered x 2	Recognise some common conductors and insulators, and associate metals with being good conductors. covered	Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. covered optional Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. covered optional x 2	Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. breadth
Nature	Identification and classification	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. covered x 2 Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. covered optional x 5	Identify and name a variety of plants and animals in their habitats, including microhabitats. covered x 7 optional x 2 Notice that animals, including humans, have offspring which grow into adults.	Identify that humans and some other animals have skeletons and muscles for support, protection and movement. optional	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. covered x 2	Describe the life process of reproduction in some plants and animals.	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. covered x 2 optional x 4

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	Parts and functions	Identify and describe the basic structure of a variety of common flowering plants, including trees. covered Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). covered x 4	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. covered x 2 optional x 3	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. covered optional x 2 Investigate the way in which water is transported within plants. covered	Identify the different types of teeth in humans and their simple functions. covered x 3	Describe the life process of reproduction in some plants and animals.	Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents covered x 3
	Nutrition	Identify and name a variety of common animals that are carnivores, herbivores and omnivores. covered x 3	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. covered	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. covered x 5 optional x 2	Construct and interpret a variety of food chains, identifying producers, predators and prey. covered optional	Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. covered x 2 optional breadth	Describe the ways in which nutrients and water are transported within animals, including humans. covered
	Survival	Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. covered x 2 optional x 4 breadth	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). covered x 2 optional x 3	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. covered	Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. covered x 2 breadth	Describe the life process of reproduction in some plants and animals. covered	Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. covered x 4 optional x 3
Place	Habitats	Use their observations and ideas to suggest answers to questions. covered x 3 optional x 2	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. covered optional	Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. breadth	Recognise that environments can change and that this can sometimes pose dangers to living things. optional	Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. breadth	Give reasons for classifying plants and animals based on specific characteristics. covered optional x 2
Comparison	Physical things	Compare and group together a variety of everyday materials on the basis of their simple physical properties. covered	Explore and compare the differences between things that are living, dead, and things that have never been alive. covered	Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing. covered x 2	Identify common appliances that run on electricity. covered	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. covered x 2	Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. breadth
	Phenomena	Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. breadth	Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. breadth	Compare how things move on different surfaces. covered	Recognise that sounds get fainter as the distance from the sound source increases. covered	Identify the effects of air resistance, water resistance and friction, that act between moving surfaces. covered optional	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. covered
Change	Living things	Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. covered optional breadth	Observe and describe how seeds and bulbs grow into mature plants. covered x 3 optional x 2	Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. covered	Recognise that environments can change and that this can sometimes pose dangers to living things. covered optional x 2	Describe the changes as humans develop to old age. required coverage Know key facts about puberty and the changing adolescent body, particularly from age 9 through to age 11, including physical and emotional changes.	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. covered optional x 2



