

Science & Environmental Learning Learner Profile (Year 1)

Generate Ideas & Predict (GIP): Observe and explore to generate ideas, define problems and pose questions in order to develop investigations and products.

Working Scientifically 1. I can ask simple questions and recognise that they can be answered in different ways.

Investigate, Observe & Record (IOR): Engage safely in practical investigations and experiments and gather and record evidence by observation and measurement.

Working Scientifically	Plants around us (Plants)	Ourselves and other Animals (Animals)	Everyday Materials (Everyday Materials)	Seasons (Seasonal Changes)
1. I can observe closely, using simple equipment. 2. I can perform simple tests. 3. I can identify and classify.	1. I can identify and name a variety of common plants, including garden plants, wild plants and trees, and those classified as deciduous and evergreen.	1. I can identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates. 2. I can identify and name a variety of common animals that are carnivores, herbivores and omnivores. 3. I can identify, name, draw and label the basic parts of the human body.	1. I can distinguish between an object and the materials from which it is made. 2. I can compare and group together a variety of everyday materials on the basis of their simple physical properties.	1. I can observe changes across the four seasons.

Explain (E): Communicate and model in order to explain and develop ideas, share findings and conclusions.

Working Scientifically	Plants around us (Plants)	Ourselves and other Animals (Animals)	Everyday Materials (Everyday Materials)	Seasons (Seasonal Changes)
1. I can use observations and ideas to suggest answers to questions. 2. I can gather and record data to help in answering questions.	1. I can identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.	1. I can describe and compare the structure of a variety of common animals. 2. I can say which part of the body is associated with each sense.	1. I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock. 2. I can describe the simple physical properties of a variety of everyday materials.	1. I can observe and describe weather associated with the seasons and how day length varies.

Science & Environmental Learning Learner Profile (Year 2)

Generate Ideas & Predict (GIP): Observe and explore to generate ideas, define problems and pose questions in order to develop investigations and products.

Working Scientifically 1. I can ask simple questions and recognise that they can be answered in different ways.

Investigate, Observe & Record (IOR): Engage safely in practical investigations and experiments and gather and record evidence by observation and measurement.

Working Scientifically	Green Fingers (Plants)	Be Healthy (Animals)	Squashing, bending, twisting & stretching (Uses of Everyday Materials)	Living Things Around Us (Living Things & Habitats)
<p>1. I can observe closely, using simple equipment.</p> <p>2. I can perform simple tests.</p> <p>3. I can identify and classify.</p>	<p>1. I can observe and describe how seeds and bulbs grow into mature plants.</p> <p>2. I can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</p>	<p>1. I can notice that animals, including humans, have offspring which grow into adults.</p>	<p>1. I can identify and compare the uses of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard.</p> <p>2. I can find out how the shapes of solid objects can be changed by squashing, twisting, bending and stretching.</p>	<p>1. I can explore and compare the differences between things that are living, dead, and things that have never been alive.</p>

Explain (E): Communicate and model in order to explain and develop ideas, share findings and conclusions.

Working Scientifically	Green Fingers (Plants)	Be Healthy (Animals)	Living Things Around Us (Living Things & Habitats)
<p>1. I can use observations and ideas to suggest answers to questions.</p> <p>2. I can gather and record data to help in answering questions.</p>	<p>1. I can observe and describe how seeds and bulbs grow into mature plants.</p> <p>2. I can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</p>	<p>1. I can find out about and describe the basic needs of animals, including humans, for survival.</p> <p>2. I can describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>	<p>1. I can 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.</p> <p>2. I can identify and name a variety of plants and animals in their habitats, including micro-habitats.</p> <p>3. I can 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>

Science & Environmental Learning Learner Profile (Year 3)

Generate Ideas & Predict (GIP): Observe and explore to generate ideas, define problems and pose questions in order to develop investigations and products.

Working Scientifically 1. I can ask relevant questions and use different types of scientific enquiries to answer them.

Investigate, Observe & Record (IOR): Engage safely in practical investigations and experiments and gather and record evidence by observation and measurement.

Working Scientifically	Flowering Plants (Plants)	Skull & Crossbones (Animals)	Rock Hard! (Rocks)	Shadow Puppets (Light)	May the Force be with you (Forces & Magnets)
<p>1. I can set up simple practical enquiries, comparative and fair tests.</p> <p>2. I can make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p> <p>3. I can gather, record, classify and present data in a variety of ways to help answer questions.</p> <p>4. I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables</p>	<p>1. I can 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>2. I can investigate the way in which water is transported within plants.</p> <p>3. I can explore the part that flowers play in the lifecycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<p>1. I can identify that humans and some animals have skeletons and muscles for support, protection and movement.</p>	<p>1. I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>2. I can recognise that soils are made from rocks and organic matter.</p>	<p>1. I can notice that light is reflected from surfaces.</p> <p>2. I can find patterns that determine the size of shadows and how they change.</p>	<p>1. I can notice that some forces need contact between two objects, but magnetic forces can act at a distance.</p> <p>2. I can observe how magnets attract or repel each other and attract some materials and not others.</p> <p>3. I can 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.</p> <p>4. I can compare how things move on different surfaces.</p>

Explain (E): Communicate and model in order to explain and develop ideas, share findings and conclusions.

<p>1. I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>2. I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p>	<p>1. I can identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers.</p>	<p>1. I can 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>1. I can describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p>	<p>1. I can associate shadows with a light source being blocked by something opaque.</p> <p>2. I can recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>3. I can recognise that I need light in order to see things and that darkness is the absence of light.</p>	<p>1. I can describe magnets as having two poles.</p>
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Evaluate (EV): To continually make systematic evaluations when designing and making, to bring about improvements in processes and outcomes.

1. I can identifying differences, similarities or changes related to simple scientific ideas and processes.
2. I can use straightforward scientific evidence to answer questions or to support findings.

Science & Environmental Learning Learner Profile (Year 4)

Generate Ideas & Predict (GIP): Observe and explore to generate ideas, define problems and pose questions in order to develop investigations and products.

Working Scientifically 1. I can ask relevant questions and use different types of scientific enquiries to answer them.

Investigate, Observe & Record (IOR): Engage safely in practical investigations and experiments and gather and record evidence by observation and measurement.

Working Scientifically	Survival of the Fittest (All Living Things)	Chew Your Food (Animals)	States of Matter (States of Matter)	Making Music (Sound)	Pass it on (Electricity)
<p>1. I can set up simple practical enquiries, comparative and fair tests.</p> <p>2. I can make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p> <p>3. I can gather, record, classify and present data in a variety of ways to help answer questions.</p> <p>4. I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables</p>	<p>1. I can explore and use classification keys to help group, identify and name a variety of living things.</p> <p>2. I can recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<p>1. I can identify the different types of teeth in humans and their simple functions.</p>	<p>1. I can compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>2. I can 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.</p>	<p>1. I can identify how sounds are made, associating some of them with something vibrating.</p> <p>2. I can recognise that vibrations from sounds travel through a medium to the ear.</p> <p>3. I can find patterns between the pitch of a sound and features of the object that produced it.</p> <p>4. I can find patterns between the volume of a sound and the strength of the vibrations that produced it.</p>	<p>1. I can construct a simple series circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>2. I can 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 the battery.</p> <p>3. I can recognise some common conductors and insulators, and associate metals with being good conductors.</p>

Explain (E): Communicate and model in order to explain and develop ideas, share findings and conclusions.

<p>1. I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>2. I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p>	<p>1. I can recognise that living things can be grouped in a variety of ways.</p>	<p>1. I can describe the simple functions of the basic parts of the digestive system in humans.</p> <p>2. I can construct and interpret a variety of food chains, identifying producers, predators and prey.</p>	<p>1. I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>1. I can recognise that sounds get fainter as the distance from the sound source increases.</p>	<p>1. I can identify common appliances that run on electricity.</p> <p>2. I can 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>
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Evaluate (EV): To continually make systematic evaluations when designing and making, to bring about improvements in processes and outcomes.

- I can identifying differences, similarities or changes related to simple scientific ideas and processes.
- I can use straightforward scientific evidence to answer questions or to support findings.

Science & Environmental Learning Learner Profile (Year 5)

Generate Ideas & Predict (GIP): Observe and explore to generate ideas, define problems and pose questions in order to develop investigations and products.

Working Scientifically 1. I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.

Investigate, Observe & Record (IOR): Engage safely in practical investigations and experiments and gather and record evidence by observation and measurement.

Working Scientifically	Changing States (Properties & materials)	Resistance (Forces)
<p>1. I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p> <p>2. I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p> <p>3. I can use test results to make predictions to set up further comparative and fair tests.</p>	<p>1. I can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>2. I can compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, transparency, conductivity, and response to magnets.</p>	<p>1. I can identify the effects of air resistance, water resistance and friction, that act between moving surfaces.</p> <p>2. I can recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.</p>

Working Scientifically	Life Cycles (All Living Things)	Growing up (Animals)	Changing States (Properties & Materials)	Space Explorers (Earth & Space)	Resistance (Forces)
<p>1. I can 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.</p>	<p>1. I can describe the differences in the life cycle of a mammal, an amphibian, an insect and a bird.</p> <p>2. I can describe the life process of reproduction in some plants and animals.</p>	<p>1. I can describe the changes as humans develop from birth to old age.</p>	<p>1. I can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials.</p> <p>2. I can demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>3. I can 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>4. I can understand that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from solution.</p>	<p>1. I can describe the movement of the Earth, and other planets, relative to the sun in the solar system.</p> <p>2. I can describe the movement of the Moon relative to the Earth.</p> <p>3. I can describe the Sun, Earth and Moon as approximately spherical bodies.</p> <p>4. I can use the idea of the Earth's rotation to explain day and night.</p>	<p>1. I can explain that unsupported objects fall towards Earth because of the force of gravity acting between the Earth and the falling object.</p>

Evaluate (EV): To continually make systematic evaluations when designing and making, to bring about improvements in processes and outcomes.

Working Scientifically: 1. I can identifying scientific evidence that has been used to support or refute ideas or arguments.

Science & Environmental Learning Learner Profile (Year 6)

Generate Ideas & Predict (GIP): Observe and explore to generate ideas, define problems and pose questions in order to develop investigations and products.

Working Scientifically 1. I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.

Investigate, Observe & Record (IOR): Engage safely in practical investigations and experiments and gather and record evidence by observation and measurement.

Working Scientifically	Fitting In (All Living Things)	Looking After Yourself (Animals)	Evolution (Evolution & Inheritance)	Shadow Play (Light)	Changing Circuits (Electricity)
<p>1. I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p> <p>2. I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p> <p>3. I can use test results to make predictions to set up further comparative and fair tests.</p>	<p>1. I can 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>2. I can give reasons for classifying plants and animals based on specific characteristics.</p>	<p>1. I can recognise the impact of diet, exercise, drugs and lifestyle on the way our bodies function.</p>	<p>1. I can 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>2. I can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p>		<p>1. I can use recognised symbols when representing a simple circuit in a diagram.</p> <p>2. I can compare and give reasons for variations in how components function, including the brightness of bulbs, loudness of buzzers and on/off positions of switches.</p>

Explain (E): Communicate and model in order to explain and develop ideas, share findings and conclusions.

<p>1. I can 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.</p>		<p>1. I can identify and name the main parts of the human circulatory system, and explain the functions of the heart, blood vessels and blood.</p> <p>2. I can describe the ways in which nutrients and water are transported within animals, including humans.</p>	<p>1. I can identify how plants and animals are adapted to suit their environment in different ways and that adaptation may lead to evolution</p>	<p>1. I can recognise that light travels in straight lines.</p> <p>2. I can 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.</p> <p>3. I can explain that we see things because light travels from a light source to our eyes or from light sources to objects and then to our eyes.</p> <p>4. I can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>	<p>1. I can explain how the number of voltage of cells affects bulbs, buzzers or motors in a circuit.</p>
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Evaluate (EV): To continually make systematic evaluations when designing and making, to bring about improvements in processes and outcomes.

1. I can identify scientific evidence that has been used to support or refute ideas or arguments.