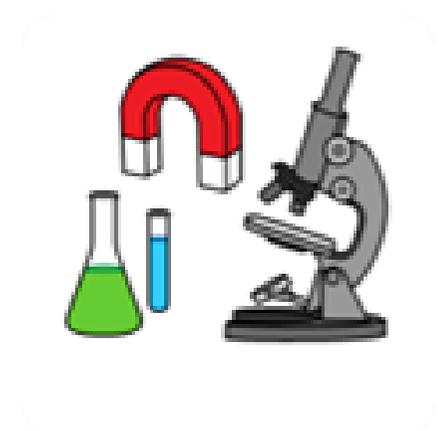


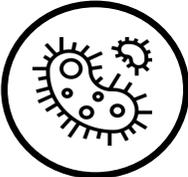
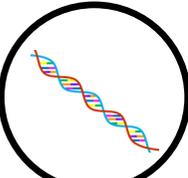
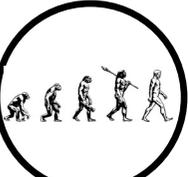


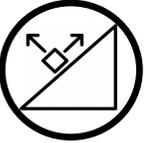
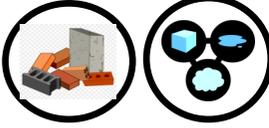
Science Medium Term Planning

Year 4

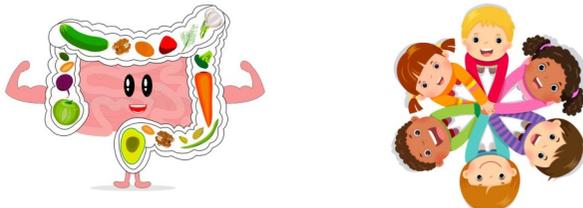
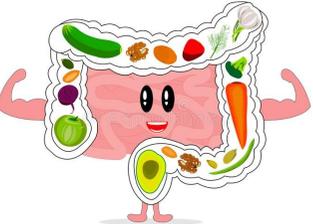
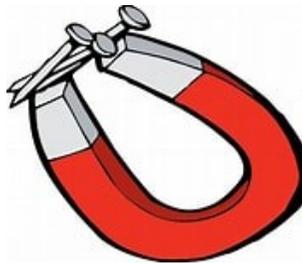


Key Concepts Overview

Key Concepts	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Organisms require a supply of energy and materials.</p>  <p>Organisms require a supply of energy and materials.</p> <p>Genetic information</p>  <p>Organisms require a supply of energy and materials.</p> <p>Evolution</p> 	<p>Seasonal Changes</p> <p>To know the four seasons and describe changes in the weather.</p> <p>To describe how tree and plants change through the seasons.</p>	<p>Seasonal Changes</p> <ul style="list-style-type: none"> Plants Habitats Animals 	<p>Seasonal Changes</p> <ul style="list-style-type: none"> Plants Habitats Animals 	<p>Seasonal Changes</p> <ul style="list-style-type: none"> Plants Habitats Animals 	<p>Seasonal Changes</p> <ul style="list-style-type: none"> Plants Habitats Animals Earth and Space 	<p>Seasonal Changes</p> <ul style="list-style-type: none"> Plants Habitats Animals
	<p>Animals including humans</p> <p>To name different parts of the body - particularly those associated with the five senses.</p> <p>To name and describe common animals.</p>	<p>Animals including humans</p> <p>To explain what humans and animals need to survive and the importance of looking after our bodies.</p>	<p>Animals including humans</p> <p>To explain why we need food to keep us alive.</p> <p>To name and locate key muscles in the body.</p>	<p>Animals including humans</p> <p>To explain the parts of the digestive system.</p> <p>To know the different types of teeth.</p> <p>To describe a variety of food chains.</p>	<p>Animals including humans</p> <p>To describe how our bodies change as we age.</p>	<p>Animals including humans</p> <p>To identify the different parts of the circulatory system.</p> <p>To recognise the impact of healthy lifestyles on our body.</p> <p>To describe how nutrients and water are transported around our body.</p>
		<p>Living things and their habitats</p> <p>To know the differences between living, dead and never lived.</p> <p>To describe adaptations of animals in relation to their habitats.</p> <p>Create simple food chains.</p>		<p>Living things and their habitats</p> <p>To use classification keys to group living things.</p> <p>To recognise and explain the features of different environments.</p>	<p>Living things and their habitats</p> <p>To describe the life cycles of different animal groups.</p> <p>To describe how some animals and plants reproduce.</p>	<p>Living things and their habitats</p> <p>To classify plants and animals and give reasons for their choices based on characteristics.</p>
	<p>Plants</p> <p>To name and describe the simple features of common plants and trees.</p> <p>To name and describe the different parts of flowers and trees.</p>	<p>Plants</p> <p>To know what plants need to grow and stay healthy.</p>	<p>Plants</p> <p>To know the job of each part of the flower in the life cycle of a plant.</p> <p>To know what different plants need to live and grow.</p>			
						<p>Evolution and inheritance</p> <p>To explain that the kind of things on Earth now are different to millions of years ago.</p> <p>Give examples of how living things have adapted.</p> <p>Explain how living things produce offspring which is similar but not identical.</p>

Key Concepts	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Energy 			Light To describe some sources of light. To notice that light can be reflected from surfaces. To describe some simple properties of light including shadows.			Light To explain how light travels and how we see objects. To describe why we see shadows.
				Sound To recognise sound is made by vibrations and describe how the size of these effect pitch and volume.		
			Electricity To construct, draw, label and make predictions about simple circuits. To know some good conductors and insulators. To identify some common appliances that run on electricity.		Electricity To explain the effect of the number of cells on lights and buzzers in a circuit. To give reasons for variations in how different elements of a circuit function.	
Forces 			Forces and Magnets To understand the effect of friction and contact forces. To describe magnetic and non-magnetic materials. To describe a magnetic force.		Forces I understand the force of gravity. I can identify the effects of air resistance. I can use simple mechanisms.	
Materials  States of Matter	Materials To name and describe a variety of materials and their properties. To group materials based on their properties.	Materials To describe the properties and suitability of everyday materials.	Materials (rocks) To group rocks according to simple properties. To know how rocks and fossils are formed. To know what soil is made from.	States of matter To recognise the three common states of matter and understand how some materials can change state. To identify the part played by condensation and evaporation in the water cycle.	Materials To explain how to combine or separate mixtures and solutions. To understand reversible and irreversible changes. To compare and group materials based on more complex properties—including hardness, solubility, transparency, conductivity and response to magnets	
The Earth in relation to the universe  The Earth spins on its axis					Earth and Space To describe the movement of Earth, moon and sun and their relationship to each other and other planets.	

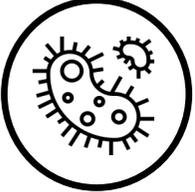
Year 4 Science—Yearly Overview

Autumn	Spring	Summer
<p data-bbox="280 379 595 416">Our Changing World</p> 	<p data-bbox="958 379 1274 416">Our Changing World</p> 	<p data-bbox="1543 379 2056 467">Where Does All That Food Go? & Who Am I?</p> 
<p data-bbox="203 756 674 793">Where Does All That Food Go?</p> 	<p data-bbox="1043 756 1193 793">In a State</p> 	<p data-bbox="1682 756 1917 793">Human Impact</p> 
<p data-bbox="338 1133 533 1169">Switched on</p> 	<p data-bbox="992 1133 1245 1169">Good vibrations</p> 	<p data-bbox="1641 1133 1957 1169">Our Changing World</p> 

Autumn Term

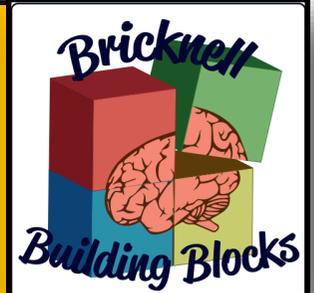
Our Changing World

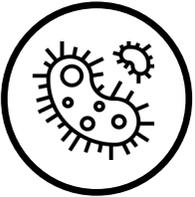
Biology

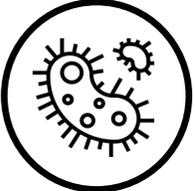
Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Enquiry Type	Resources
 <p>Organisms</p>	Written and oral expression	Lesson 1: How can we classify trees by looking their leaves?	OO: I can explore and use classification keys to help group, identify and name a variety of living things in their local environment LO: I can explore and use classify trees by looking at their leaves. WS: I can record and present findings using simple scientific language, written and oral presentations, drawings, diagrams, keys, bar charts and tables	Grouping and classifying things	Camera, Sets of three different leaves

Where does all that food go?

Biology



<i>Prior Learning</i>	<ul style="list-style-type: none"> • Why is exercise important for humans? • What is the purpose of a skeleton? • What is the purpose of muscles? • What do humans need to survive? • What does a healthy diet look like? 														
<i>End Points</i>	<ul style="list-style-type: none"> • To explain the parts of the digestive system. • To know the different types of teeth. • To describe a variety of food chains. 														
<i>Vocabulary</i>	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Digestive system</td> <td style="width: 50%;">molars</td> </tr> <tr> <td>Oesophagus</td> <td>enamel</td> </tr> <tr> <td>stomach</td> <td>root</td> </tr> <tr> <td>Intestine</td> <td>gum</td> </tr> <tr> <td>incisors</td> <td></td> </tr> </table>					Digestive system	molars	Oesophagus	enamel	stomach	root	Intestine	gum	incisors	
Digestive system	molars														
Oesophagus	enamel														
stomach	root														
Intestine	gum														
incisors															
Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Enquiry Type	Resources										
 Organisms	Responsibility	Lesson 2: Where does food go inside your body?	OO: I can describe the simple functions of the basic parts of the digestive system in humans. LO: I can describe the simple functions of the basic parts of the digestive system in humans and how food travels through the human body. WS: I can ask relevant questions and use different types of scientific enquiry to answer them including comparative and fair tests.	Finding things out using secondary sources of information	Large sheets of paper, poster/ mounting putty, camera, access to the internet										

Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Enquiry Type	Resources
 <p>Organisms</p>	Written and oral expression	Lesson 8: How is food broken down?	OO: I can describe the simple functions of the basic parts of the digestive system in humans. LO: I can describe how digestion takes place in different parts of the digestive system. WS: I can record and present findings using simple scientific language, written and oral presentations, drawings, diagrams, keys, bar charts and tables	Finding things out using secondary sources of information	Fruit, blender, crackers, porridge, digestive enzymes (can be bought at a chemist or health food shop), clear cup or beaker, spoon, video camera, access to the internet or books for research on digestion
		Lesson 9: How can we model the digestive system?	OO: I can describe the simple functions of the basic parts of the digestive system in humans. LO: I can create a model of the digestive system. WS: I can record and present findings using simple scientific language, written and oral presentations, drawings, diagrams, keys, bar charts and tables	n/a	Bowl, scissors, forks, potato masher, blender, socks, plastic bag, empty bottle of digestive enzyme tablets, tights, peppercorns, water, bowl, plastic container with lid, different coloured modelling clay, computer with animation package
	Continuity and Change	Lesson 3: What sort of teeth do we have?	OO: Identify the different types of teeth in humans and their simple functions LO: I can describe the different types of teeth and know how these differ between children and adults. WS: I make careful observations and take accurate measurements using standard units .	Grouping and classifying things	Small plastic mirrors
	Significance	Lesson 4: Why do we have different types of teeth?	OO: Identify the different types of teeth in humans and their simple functions LO: I can describe the functions of different types of teeth. WS: I can identify scientific evidence that has been used to support or refute ideas or arguments	Grouping and classifying things	Scissors, forks, potato mashers, apple segments, long chewy sweets, banana

Switched On

Physics



<i>Prior Learning</i>	<ul style="list-style-type: none"> NEW LEARNING
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<i>End Points</i>	<ul style="list-style-type: none"> To construct, draw, label and make predictions about simple circuits. To know some good conductors and insulators. To identify some common appliances that run on electricity.
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<i>Vocabulary</i>	<table style="width: 100%;"> <tr> <td>buzzer</td> <td>parallel</td> </tr> <tr> <td>conductor</td> <td>insulator</td> </tr> <tr> <td>cell</td> <td>current</td> </tr> <tr> <td>bulb</td> <td>switch</td> </tr> <tr> <td>circuit</td> <td>closed</td> </tr> </table>	buzzer	parallel	conductor	insulator	cell	current	bulb	switch	circuit	closed
buzzer	parallel										
conductor	insulator										
cell	current										
bulb	switch										
circuit	closed										

Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Enquiry Type	Resources
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 Energy	<i>Cause and Consequence</i>	Lesson 1: What makes it work?	OO: I can identify common appliances that run on electricity LO: I can name different sources of electricity. WS: I can identify differences, similarities or changes related to simple scientific ideas and processes	Grouping and classifying	Wind-up torch, solar powered calculator, other solar-powered item (e.g. a light or a toy), sticky notes
	<i>Written and oral expression</i>	Lesson 2: Can you light the bulb?	OO: I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wire, bulbs, switches and buzzers LO: I can name the common component parts of an electrical circuit. WS: I can record and present findings using simple scientific language, written and oral presentations, drawings, diagrams, keys, bar charts and tables	Exploring	Enough cells (AA batteries), bulbs (1.5 volt), bulb holders, wires, buzzers and motors for children to work in pairs
		Lesson 3: How does a circuit work?	OO: I can identify whether or not a lamp will light in a simple series circuit, based on whether a lamp is part of a complete loop with a battery, LO: I can describe how a simple circuit works. WS: I can record and present findings using simple scientific language, written and oral presentations, drawings, diagrams, keys, bar charts and tables	Exploring	Enough cells (AA batteries), bulbs (1.5 volt), bulb holders, wires, buzzers and motors for children to work in pairs on their different challenges



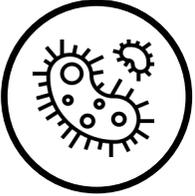
Energy

Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Enquiry Type	Resources
 Energy	<p>Written and oral expression</p>	<p>Lesson 4: Why doesn't it work</p>	<p>OO: I can identify whether or not a lamp will light in a simple series circuit, based on whether a lamp is part of a complete loop with a batter</p> <p>LO: I can recognise correct and incorrect circuits.</p> <p>WS: I can record and present findings using simple scientific language, written and oral presentations, drawings, diagrams, keys, bar charts and tables</p>	<p>Exploration</p>	<p>Enough cells (AA batteries), bulbs (1.5 volt), bulb holders, wires, buzzers and motors for children to work in pairs, magnifiers, digital presenter or microscope</p>
		<p>Lesson 5: What does a switch do?</p>	<p>OO: 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> <p>LO: I understand that a switch stops electricity flowing to all parts of an electrical circuit.</p> <p>WS: I can record and present findings using simple scientific language, written and oral presentations, drawings, diagrams, keys, bar charts and tables</p>	<p>Exploring</p>	<p>Enough cells, wires, bulbs and commercially available switches for paired work (at least one toggle switch needed for demonstration, ideally more), examples of handmade toggle and press (push to make) switches, materials for making switches (as listed on the resource sheets), scissors, wire cutters and strippers, hole punches or card drills and safety mats, rulers</p>
	<p>Responsibility</p>	<p>Lesson 6: What can we use instead of wires?</p>	<p>OO: I can recognise and can explain why materials are good conductors and insulators.</p> <p>LO: I can describe what makes a good conductor and insulator.</p> <p>WS: I can ask relevant questions and use different types of scientific enquiry to answer them including comparative and fair tests</p>	<p>Grouping and classifying</p>	<p>Enough bulbs, cells and wires (3 per circuit) for paired work. Sets of materials to test (1 per table group) which could include: string, plastic drinking straw, milk bottle or jam jar, wooden dowel or ruler, polystyrene, fabric strips, plastic ruler, steel safety ruler or unbent paperclip, aluminium can. (Do not use labelled metal samples and include some materials which are a similar shape to wire. Ensure metal items do not have an insulating coat of paint or varnish.)</p>

Spring Term

Our Changing World

Biology

Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Enquiry Type	Resources
 <i>Organisms</i>	Responsibility	Lesson 2: How can we classify and identify deciduous trees in winter?	OO: I can explore and use classification trees to help group, identify and name a variety of living things in the local and wider environment. LO: I can explore and classify deciduous trees and can identify and discuss any patterns I observe. WS: I can ask relevant questions and use different types of scientific enquiry to answer them including comparative and fair tests	Looking for patterns	N/a

In a state

Chemistry



<i>Prior Learning</i>	<ul style="list-style-type: none"> • Can pupils describe the properties of a range of everyday materials? • Can pupils identify a suitable material for a given purpose?
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<i>End Points</i>	<ul style="list-style-type: none"> • To recognise the three common states of matter and understand how some materials can change state. • To identify the part played by condensation and evaporation in the water cycle.
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<i>Vocabulary</i>	<table style="width: 100%;"> <tr> <td style="width: 50%;">solids</td> <td>dissolve</td> </tr> <tr> <td>liquids</td> <td>vapour</td> </tr> <tr> <td>gases</td> <td>humidity</td> </tr> <tr> <td>condensation</td> <td>soluble</td> </tr> <tr> <td>evaporation</td> <td>dissolve</td> </tr> </table>	solids	dissolve	liquids	vapour	gases	humidity	condensation	soluble	evaporation	dissolve
solids	dissolve										
liquids	vapour										
gases	humidity										
condensation	soluble										
evaporation	dissolve										

Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Enquiry Type	Resources
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 <p style="text-align: right;"><i>States of Matter</i></p>	<i>Cause and Consequence</i>	Lesson 1: What are my properties?	OO: I can describe the characteristics of different states of matter and group materials on this basis. LO: I can explore the properties of solids, liquids and gases. WS: I can identify differences, similarities or changes related to simple scientific ideas and processes	Grouping and classifying	Mini whiteboards and pens; 10–16 sets of: cotton wool, aluminium foil, wood, clear rigid plastic, containers of salt, water, milk, colourless shower gel, ketchup (or materials with similar properties); a range of solids and liquids to include: hard, rigid materials (such as wood, rigid plastic, glass, ceramic, metal, rock), flexible materials (fabric, foil, string, wire), soft and malleable materials (modelling clay, clay, salt dough, tack), sponge, cotton wool, granular and powdery materials (salt, sugar, sand, talcum powder, cornflour, bicarbonate of soda), transparent and opaque materials, liquids of different viscosity (water, milk, shower gel, washing up liquid, hand-wash, undiluted squash, ketchup, syrup); additional containers for pouring; magnifiers; two large sheets of sticky notes
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States of Matter

Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Enquiry Type	Resources
 <p>States of Matter</p>	Responsibility	Lesson 2: What happens to the ice hands?	OO: I can describe how materials change state at different temperatures. LO: I understand that melting and freezing are changes of state. WS: I can ask relevant questions and use different types of scientific enquiry to answer them, including comparative and fair tests	Observing over time leading to fair testing	Ice hands, trays, measuring equipment such as measuring cylinders, rulers, tape measures, string, weighing scales
		Lesson 3: What makes a difference to how fast ice melts?	OO: I can describe how materials change state at different temperatures. LO: I understand that melting and freezing are changes of state. WS: I can ask relevant questions and use different types of scientific enquiry to answer them including comparative and fair tests	Fair test	Ice blocks/shapes appropriate for the different investigations, trays/containers for the ice, measuring equipment as required by children's investigation plans
	Cause and Consequence	Lesson 4: What are melting and freezing?	OO: I can describe how materials change state at different temperatures. LO: I can describe how materials behave when they are heated or cooled. WS: I can identify differences, similarities or changes related to simple scientific ideas and processes	Observing changes over time	Small foil cases (5 or 6 per group depending on how many materials are used), bowls (1 per group), thermometers (1 per group), a source of hot water, small samples of materials for testing (such as chocolate, butter, solid vegetable fat, soft margarine, wax, metal such as a coin)
	Written and oral expression	Lesson 5: Are spaces really empty?	OO: I can describe the characteristics of different states of matter and group materials on this basis. LO: I can describe the properties of air. WS: I can record and present findings using simple scientific language, written and oral presentations, drawings, diagrams, keys, bar charts and tables I can make careful observations and take accurate measurements using standard units	Exploring	Transparent plastic cup, paper towel, transparent container of water (a small fish tank is ideal), food colouring, a bowl of water, a tray, sponges (include some natural ones with large air spaces), digital scales or a metre ruler and string, two identical balloons, one fully inflated the other slightly inflated, raisins, clear plastic cups of lemonade, ping pong balls, folded paper or card fans (or could use number fans from maths resources)

Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Enquiry Type	Resources
 <p data-bbox="331 579 427 643"><i>States of Matter</i></p>	<p data-bbox="477 276 624 339"><i>Cause and Consequence</i></p>	<p data-bbox="651 276 797 296">Lessons 7 and 8:</p> <p data-bbox="651 323 763 376">To be taught together</p> <p data-bbox="651 403 790 456">How can we get dry?</p> <p data-bbox="651 483 768 536">What is evaporation?</p>	<p data-bbox="831 276 1491 328">OO: I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p> <p data-bbox="831 355 1167 376">LO: I understand the term evaporation.</p> <p data-bbox="831 403 1491 456">WS: I can identify differences, similarities or changes related to simple scientific ideas and processes</p> <p data-bbox="831 467 1491 520">I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p>	<p data-bbox="1525 276 1603 296">Fair test</p>	<p data-bbox="1800 276 2134 616">3–5 identical squares of thin cotton fabric per group (it is easier to see whether darker colours are wet or dry), a different sized square of the fabric and a square of a different type of fabric, 1 or 2 table top or floor standing fans, somewhere to hang the fabric squares such as string stretched across the room plus pegs, timers (count up) or a clock, measuring spoons or syringes, thermometers</p> <p data-bbox="1800 627 2134 722">Antiseptic wipes or hand cleaning gel, a small bowl of strong smelling liquid such as vinegar or perfume</p>
	<p data-bbox="477 791 618 818"><i>Significance</i></p>	<p data-bbox="651 791 730 812">Lesson 9:</p> <p data-bbox="651 839 790 860">What is boiling?</p>	<p data-bbox="831 791 1491 876">OO: I can observe that some materials changes state when they are heated or cooled and measure or research the temperature at which this happens in degrees Celsius</p> <p data-bbox="831 919 1245 940">LO: I understand that liquids have boiling points.</p> <p data-bbox="831 951 1491 1003">WS: I can identify scientific evidence that has been used to support or refute ideas or arguments</p>	<p data-bbox="1525 791 1626 812">Exploration</p>	<p data-bbox="1800 791 2134 908">A means of boiling water and observing it, such as a Pyrex pan on portable stove, data logger with temperature sensor, thermometer</p>



Energy

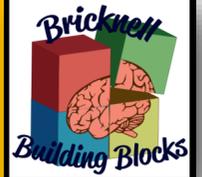
Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Enquiry Type	Resources
 Energy	Written and oral expression	Lesson 4: How can we make a sound louder and quieter?	OO: I can describe the relationship between the volume of a sound, the strength of the vibrations and the distance from its source. LO: I can compare the volume of sound produced of a range of instruments. WS: I can record and present findings using simple scientific language, written and oral presentations, drawings, diagrams, keys, bar charts and tables	Carrying out simple comparative and fair tests	Instruments, paper cups, tins with lids removed, plastic food containers with lids, e.g. margarine tubs, cotton wool, rice, pasta, dried kidney beans, wooden beads, paperclips, data loggers or iPads with an app, e.g. decibel 10th, to measure sound volume
	Continuity and Change	Lesson 5: How do sounds change as we move away from the source?	OO: I can recognise that sounds get fainter as the distance from the sound source increases. LO: I can describe the relationship between the volume of a sound, the strength of the vibrations and the distance from its source. WS: I make careful observations and take accurate measurements using standard units	Carrying out simple comparative and fair tests	PE hoops, PE markers, sound sources, e.g. bell, keys, shakers (from previous lesson), money pot, baby's rattle, maracas, metre sticks, trundle wheels (optional), data loggers
	Written and oral expression	Lesson 6: How can we change the pitch of a plucked note?	OO: I can describe the relationship between the pitch of a sound and the features of its source. LO: I can describe the different ways that the pitch of a sound can be affected. WS: I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	Noticing patterns	Shoe boxes, elastic bands of different thicknesses and lengths, a violin or guitar
		Lesson 7: How can we use air to make music?	OO: I can describe the relationship between the pitch of a sound and the features of its source. LO: I can explore how air can be used to make sounds of different pitches. WS: I can record and present findings using simple scientific language, written and oral presentations, drawings, diagrams, keys, bar charts and tables	Noticing patterns	Pan pipes, singing tubes, slide whistle, straws, scissors, sticky tape, rulers

Summer Term

Where does all that food go?

Who am I?

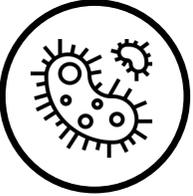
Biology

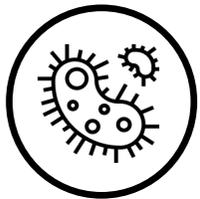


<i>Prior Learning</i>	<ul style="list-style-type: none"> • Can pupils explain how animals obtain food? • Can pupils describe the habitats of some animals? • Can pupils construct simple food chains?
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<i>End Points</i>	<ul style="list-style-type: none"> • To use classification keys to group living things in a variety of ways.
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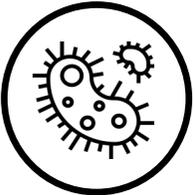
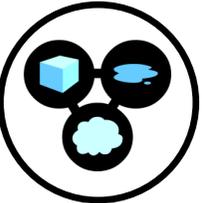
<i>Vocabulary</i>	<p>adaptation</p> <p>classification</p> <p>environment</p> <p>population</p> <p>prey</p>
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Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Enquiry Type	Resources
 Organisms	Responsibility	Lesson 6: What do animals eat?	OO: I can construct and interpret a variety of food chains, identifying producers, predators and prey LO: I can construct and interpret a variety of food chains. WS: I can ask relevant questions and use different types of scientific enquiry to answer them including comparative and fair tests	Finding things out using secondary sources of information	Straws, scissors, string, access to the internet or books or research
	Cause and Consequence	Lesson 7: What do animals' teeth tell us?	OO: I can construct and interpret a variety of food chains, identifying producers, predators and prey LO: I can create a food chain showing what different animals eat in a habitat using arrows to show the flow of energy. WS: I can identify differences, similarities or changes related to simple scientific ideas or processes	Grouping and classifying things	N/a



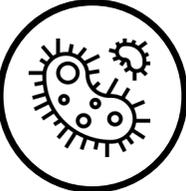
Organisms

Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Enquiry Type	Resources
	<i>Written and oral expression</i>	Lesson 1: Who are you?	OO: I can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment LO: I can observe and identify animals and sort them according to my own classifications. WS: I can make careful observations I can record and present findings using simple scientific language, written and oral presentations, drawings, diagrams, keys, bar charts and tables	Grouping and classifying	Pond/seashore life identification keys, sticky notes
		Lesson 2: Who lives here?	OO: I can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment LO: I can observe and identify animals and sort them according to my own classifications. WS: I can make careful observations I can record and present findings using simple scientific language, written and oral presentations, drawings, diagrams, keys, bar charts and tables	Grouping and classifying	Equipment for collecting and observing animals living in water (nets, trays, magnifiers, etc.), camera, identification charts or keys, glue, large sheets of paper, sticky notes
	<i>Cause and Consequence</i>	Lesson 3: How are vertebrates grouped?	OO: I recognise that living things can be grouped in a variety of ways LO: I can identify and explain why an animal is a fish, amphibian, reptile, bird or mammal. WS: I can identify differences, similarities or changes related to simple scientific ideas and processes	Grouping and classifying	N/a
		Lesson 4: How are invertebrates grouped?	OO: I recognise that living things can be grouped in a variety of ways LO: I can identify the characteristics of a range of invertebrates. WS: I can identify differences, similarities or changes related to simple scientific ideas and processes	Grouping and classifying	Camera, glue, large paper, sticky notes

Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Enquiry Type	Resources
 <p><i>Organisms</i></p>	<p>Written and oral expression</p>	<p>Lesson 4: Why does clearing litter matter?</p>	<p>OO: I recognise that environments can change and that these changes can sometimes pose dangers to living things</p> <p>LO: I can describe the impact that different types of litter have on wildlife.</p> <p>WS: I can record and present findings using simple scientific language, written and oral presentations, drawings, diagrams, keys, bar charts and tables</p>	<p>Finding out things using secondary sources of information</p>	<p>Items of litter/rubbish for each group, to include: drinks can, food tin, plastic bottle or milk container, glass jar, plastic carrier bag, fishing line, plastic can holder, balloon, food packaging (burger box, pre-packed sandwich container). Teacher demonstration item: tin and lid with sharp edges, (handle with care and keep away from children</p>
	<p>Responsibility</p>	<p>Lesson 5: What happens when a food chain is broken?</p>	<p>OO: I recognise that environments can change and that these changes can sometimes pose dangers to living things</p> <p>LO: I understand and appreciate the impact that humans can have on the stability of the food chain.</p> <p>WS: I can ask relevant questions and use different types of scientific enquiry to answer them including comparative and fair tests</p>	<p>Finding out things using secondary sources of information</p>	<p>Poster paper and pens, access to the internet (Challenge 3), microphone (optional)</p>
 <p><i>States of Matter</i></p>	<p>Cause and Consequence</p>	<p>Lesson 10: Where did the water come from?</p>	<p>OO: I can observe that some materials changes state when they are heated or cooled and measure or research the temperature at which this happens in degrees Celsius</p> <p>LO: I can observe and discuss condensation happening in a range of contexts.</p> <p>WS: I can identify differences, similarities or changes related to simple scientific ideas and processes</p>	<p>Exploration</p>	<p>Kettle, glass jars with lids (two per group), ice, cans of soft drink (one per group), mirrors or metal spoons, a metal baking tray and thermometer</p>
	<p>Written and oral expression</p>	<p>Lesson 11: What does rain come from?</p>	<p>OO: I can identify the part played evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</p> <p>LO: I can explain the role of condensation and evaporation in the water cycle.</p> <p>WS: I can record and present findings using simple scientific language, written and oral presentations, drawings, diagrams, keys, bar charts and tables</p>	<p>Exploration and finding things out using secondary sources of information</p>	<p>Clear bowl of warm water, clingfilm or plate, ice, large paper and pens for posters, scissors and glue (for Challenges 1 and 2)</p>

Our Changing World

Biology

Key Concept	Second Order Concepts	Lesson Sequence	Learning Objectives	Enquiry Type	Resources
 <p><i>Organisms</i></p>	<p><i>Written and oral expression</i></p>	<p>Lesson 3: How can we classify plants by looking at their flowers?</p>	<p>OO: I can explore and use classification keys to help group, identify and name a variety of living things in their local environment</p> <p>LO: I can identify a variety of flowers and can construct my own flower classification keys.</p> <p>WS: I can record and present findings using simple scientific language, written and oral presentations, drawings, diagrams, keys, bar charts and tables</p>	<p>Find things out using secondary sources of information</p>	<p>Digital camera, field study guides and identification keys. See Woodland Trust Nature Detectives http://www.naturedetectives.org.uk/packs/pack_spotting.html</p>