

Whole School Science Curriculum Map

Year Group	Unit of Work	Autumn 1 & 2	Spring 1 & 2	Summer 1	Summer 2
Year 1	Unit of Work	Animals, Including Humans	Everyday Materials	Plants	Seasonal Changes
	Key Vocabulary	Amphibians, birds, fish, mammals, reptiles, carnivores, herbivore, omnivore, sight, hearing, touch, taste, smell, head, neck, ear, mouth, shoulder, hand, fingers, leg, foot, thumb, eye, nose, knee, toes, teeth, elbow	Hard, soft, stretchy, stiff, shiny, dull, rough, smooth, bendy/not bendy, waterproof/not waterproof, absorbent, opaque,	Leaves, blossom, petals, roots, buds, bulb, trunk, branches, stem, evergreen, garden plants, deciduous, wild plants, seeds, wild plants, garden plants.	Seasons, spring, summer, autumn, winter, windy, sunny, overcast, snow, rain, temperature,
	Prior Knowledge	<ul style="list-style-type: none"> •Children should be able to identify different parts of their body. •Have some understanding of healthy food and the need for variety in their diets. •Be able to show care and concern for living things. •Know the effects exercise has on their bodies. • Have some understanding of growth and change. Can talk about things they have observed including animals.	<ul style="list-style-type: none"> •Children should be able to ask questions about the place they live. •Talk about why things happen and how things work. •Discuss the things they have observed such as natural and found objects. •Manipulates materials to achieve a planned effect. 	<ul style="list-style-type: none"> •Develop an understanding of growth. •Shows care and concern for living things and the environment. •Make observations of plants and explain why some things occur, and talk about changes. Can talk about some of the things they have observed, such as plants.	<ul style="list-style-type: none"> •Developing and understanding of change. • Observe and explain why certain things may occur (e.g leaves falling off trees, weather changes). •Look closely at similarities, differences, patterns and change. Comments and questions about the place they live or the natural world.
	Sticky Knowledge	Know how to classify a range of animals by amphibian, reptile, mammal, fish and birds Know and classify animals by what they eat (carnivore, herbivore and omnivore)	Know the name of the materials an object is made from Know about the properties of everyday materials	Know and name a variety of common wild and garden plants Know and name the petals, stem, leaves and root of a plant <input type="checkbox"/> Know and name the roots, trunk, branches and leaves of a tree	Name the seasons and know about the type of weather in each season

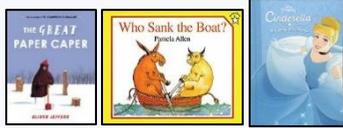
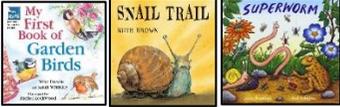
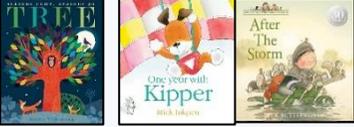
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		Know how to sort by living and non-living things			
		Know the name of parts of the human body that can be seen			
Year 1	Working Scientifically	<ul style="list-style-type: none"> • I can ask simple questions and recognise that they can be answered in different ways • I can observe closely, using simple equipment • I can perform simple tests • I can identify and classify • I can use my observations and ideas to suggest answers to questions • I can gather and record data to help in answering questions. 			
	Skills to be taught/applied (taken from subject skills progression map)	<p>I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p> <p>I can identify and name a variety of common animals that are carnivores, herbivores and omnivores describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</p> <p>I can 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>I can distinguish between an object and the material from which it is made.</p> <p>I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</p> <p>I can describe the simple physical properties of a variety of everyday materials.</p> <p>I can compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>	<p>I can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p> <p>I can identify and describe the basic structure of a variety of common flowering plants, including trees</p>	<p>I can observe changes across the four seasons.</p> <p>I can observe and describe weather associated with the seasons and how day length varies.</p>
	Learning Sequence	<p>Rising Stars Diagnostic Assessment</p> <p>1. To identify, name, draw and label the basic parts of the human body.</p>	<p>Rising Stars Diagnostic Assessment</p> <p>1. To identify and name a variety of everyday materials.</p>	<p>Rising Stars Diagnostic Assessment</p> <p>1. To identify and describe the basic structure of a variety of common flowering plants.</p>	<p>Rising Stars Diagnostic Assessment</p> <p>1. To observe and describe how day length varies.</p>

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<p>Year 1</p>		<ol style="list-style-type: none"> 2. To say which part of the body is associated with each sense. 3. To know how to use observations and ideas to suggest answers to questions 4. To perform simple tests linked to the senses. 5. To know how to carry out simple practical tests, using simple equipment; 6. To know how to gather and record data to help in answering questions 7. To know how to identify and name a variety of common animals. 8. To know how to ask simple questions and recognise that they can be answered in different ways 9. To know how to describe and compare the structure of a variety of common animals. 10. To know how to identify and name a variety of common animals that are carnivores, herbivores and omnivores. 11. To know how to identify and classify data 12. To know how to gather and record data organisms found in a local habitat. 	<ol style="list-style-type: none"> 2. To distinguish between an object and the material from which it is made. 3. To distinguish between an object and the material from which it is made. 4. To describe the simple physical properties of a variety of everyday materials. 5. To know how to make close observations 6. To know how to perform simple tests 7. To use observations and ideas to suggest answers to questions 8. To compare and group together a variety of everyday materials on the basis of their simple physical properties. 9. To know how to ask simple questions and recognise that they can be answered in different ways 10. To know how to identify and classify data 11. To know how to gather and record data 12. To know how to begin to draw simple conclusions based on data <p>End of unit assessment (Rising Stars)</p>	<ol style="list-style-type: none"> 2. To identify and name a variety of common wild plants. 3. To identify and name a variety of common garden plants. 4. To identify and name a variety of common wild and garden plants. 5. To identify and describe the basic structure of a variety of common flowering plants. 6. To use their observations and ideas to suggest answers to questions. <p>End of unit assessment (Rising Stars)</p>	<ol style="list-style-type: none"> 2. To observe and describe weather associated with the seasons. 3. To observe changes across the four seasons. 4. To observe and describe how day length varies. 5. To observe and describe weather associated with the seasons. 6. To observe and describe weather associated with the seasons. <p>End of unit assessment (Rising Stars)</p>
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<h2>Year 1</h2>	<p>End of unit assessment (Rising Stars)</p>				
	<p>Suggested Linked Texts (Reading Across the Curriculum)</p>	<p>Handa's Surprise (Eileen Brown)</p> <p>Peace at Last (Jill Murphy)</p> <p>The Growing Story (Ruth Krauss and Helen Oxenbury)</p> <p>Look Out! How We Use Our Five Senses! (Leon Read and Sean Sims)</p>	<p>The Great Paper Caper (Oliver Jeffers)</p> <p>Who Sank the Boat (Pamela Allen)</p> <p>The Story of Cinderella (Walt Disney)</p>	<p>RSPB: My First Book of Garden Birds (Mike Unwin and Sarah Whittley)</p> <p>Snail Trail (Ruth Brown)</p> <p>Superworm (Julia Donaldson & Axel Scheffler)</p>	<p>Tree: Seasons Come, Seasons Go (Patricia Hegarty and Britta Teckentrup)</p> <p>One Year with Kipper (Mick Inkpen)</p> <p>After the Storm (Nick Butterworth)</p>
					

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Year Group	Unit of Work	Autumn 1 & 2	Spring 1 & 2	Summer 1	Summer 2
Year 2	Unit of Work	Uses of Everyday Materials	Animals, Including Humans	Plants	Living Things and their Habitats
	Key Vocabulary	Waterproof, fabric, rubber, John McAdam, John Dunlop, Charles Macintosh, cars, rock, paper, cardboard, wood, metal, plastic, glass, brick, twisting, squashing, bending, matches, cans, spoons,	Mammals, birds, reptiles, amphibians, hatchling, chick, gills, toddler, child, teenager, adult, elderly, hygiene, baby, pregnancy, egg, spawn, tadpole, lungs,	Observation, growth, compare, record, seeds, bulbs, temperature, roots, stem, predict, leaf, flower, measure, diagram, measure, comparative tests, life cycle, life process, germinate, grain.	Living, dead, never alive, habitats, micro-habitats, food, food chain, leaf litter, shelter, sea shore, woodland, ocean, rainforest, conditions, desert, damp, shade
	Prior Knowledge	<ul style="list-style-type: none"> •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. •Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple physical properties. 	<ul style="list-style-type: none"> •Should be able to name a variety of common animals including fish, amphibians, reptiles, birds and mammals •Can name a variety of common animals that are carnivores, herbivores and omnivores. • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants. Identify and name the roots, trunk, branches and leaves of a tree.	Comments and questions about the place they live or the natural world. Shows care and concern for living things and the environment. Can talk about things they have observed such as plants and animals. Notices features of objects in their environment. Comments and asks questions about their familiar world.
Sticky Knowledge	Know why a material might or might not be used for a specific job Know how materials can be changed by squashing, bending, twisting and stretching	Name some different sources of food for animals Know about and explain a simple food chain Know the basic stages in a life cycle for animals, including humans	Know and explain how seeds and bulbs grow into plants Know what plants need in order to grow and stay healthy (water, light and suitable temperature)	Classify things by living, dead or never lived Know how a specific habitat provides for the basic needs of things living there (plants and animals).	

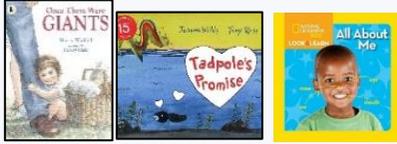
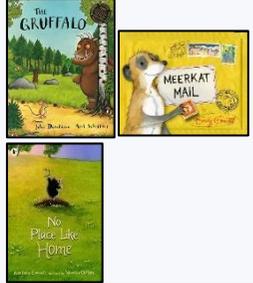
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Year 2			Know why exercise, a balanced diet and good hygiene are important for humans		Match living things to their habitat
	Working Scientifically	<ul style="list-style-type: none"> • I can ask simple questions and recognise that they can be answered in different ways • I can observe closely, using simple equipment • I can perform simple tests • I can identify and classify • I can use my observations and ideas to suggest answers to questions • I can gather and record data to help in answering questions. 			
	Skills to be taught/applied <i>(taken from subject skills progression map)</i>	<p>I can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>I can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>I can notice that animals, including humans, have offspring which grow into adults.</p> <p>I can find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</p> <p>I can describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>	<p>I can observe and describe how seeds and bulbs grow into mature plants.</p> <p>I can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>I can explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>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>I can identify and name a variety of plants and animals in their habitats, including microhabitats</p> <p>I can describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and</p>

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Year 2	Learning Sequence	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> 1. To identify and classify the uses of everyday materials. 2. To know how to identify and group the uses of everyday materials. 3. To know how to ask simple questions. 4. To know how to gather and record data to help in answering questions, 5. To know how to make close observations using simple equipment 6. To know how to carry out simple practical tests, using simple equipment 7. To know how to compare the suitability of different everyday materials. 8. To know how to sort, group, gather and record data in a variety of ways 9. To know how to explain how the shapes of objects made from some materials can be changed. 10. To know how to explain the process of recycling. 11. To know about people who have developed new materials. 12. To begin to draw simple conclusions; <p>End of unit assessment (Rising Stars)</p>	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> 1. To describe how animals change as they grow. 2. To know how to sort and classify objects into simple groups 3. To know how to describe how humans change as they grow. 4. To know how to perform simple tests 5. To know how to describe the basic needs of humans and animals. 6. To know how to ask simple questions and recognise that they can be answered in different ways, 7. To know how to identify healthy and unhealthy foods. 8. To know how to use observations and ideas to suggest answers to questions 9. To know how to describe the importance for humans of exercise. 10. To know how to gather and record data to help in answering questions 11. To describe the importance for humans of hygiene. 12. To know how to make close observations, using simple equipment <p>End of unit assessment (Rising Stars)</p>	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> 1. To observe closely using simple equipment. 2. To observe and describe how seeds and bulbs grow into mature plants. 3. To know how to explain the life cycle of plants. 4. To find out and describe what plants need to stay healthy. 5. To know how to describe what plants need to grow and stay healthy. 6. To know how to observe and describe the growth of different plants. <p>End of unit assessment (Rising Stars)</p>	<p>identify and name different sources of food.</p> <p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> 1. To explore and compare the differences between things that are living, dead, and things that have never been alive. 2. To know how to map a habitat and identify what is in it. 3. To know how to identify animals in their habitats. 4. To know how to describe a habitat and identify animals live in it. 5. To know how to identify and explain how an animal is suited to its habitat. 6. To know how to describe how animals get their food. <p>End of unit assessment (Rising Stars)</p>

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<p style="text-align: center; color: blue; font-size: 1.2em;">Year 2</p>	<p style="text-align: center;">Suggested Linked Texts (Reading Across the Curriculum)</p>	<p>The Three Little Pigs (Traditional Tales)</p> <p>The Tin Forest (Helen Ward)</p> <p>Traction Man (Mini Grey)</p> 	<p>Once There Were Giants (Martin Waddell and Penny Dale)</p> <p>Tadpole's Promise (Jeanne Willis and Tony Ross)</p> <p>Look and Learn: All About Me (National Geographic Kids)</p> 	<p>Jack and the Beanstalk (Richard Walker)</p> <p>Ten Seeds (Ruth Brown)</p> <p>A Seed Is Sleepy (Dianna Aston)</p> 	<p>The Gruffalo (Julia Donaldson)</p> <p>Meerkat Mail (Emily Gravett)</p> <p>No Place Like Home (Jonathon Emmett)</p> 
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Year Group		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1 & 2
Year 3	Unit of Work	Animals, Including Humans	Rocks	Light	Plants	Forces and Magnets
	Key Vocabulary	Nutrients, nutrition, carbohydrates, protein, fats, vitamins, minerals, water, fibre, skeleton, bones, joints, endoskeleton, exoskeleton, hydrostatic skeleton, vertebrates, invertebrates, muscles, contract, relax,	Rocks, igneous, metamorphic, sedimentary, anthropic, permeable, impermeable, chemical fossil, body fossil, trace fossil, Mary Anning, cast fossil, mould fossil, replacement fossil, extinct, organic matter, top soil, sub soil, base rock.	Light source, dark, reflect, ray, mirror, bounce, visible, beam, sun, glare, travel, straight, opaque, shadow, block, transparent, translucent.	Air, Light, Water, Nutrients, Soil, Reproduction, Transportation, Dispersal, Pollination, Flower. Photosynthesis Energy Growth Carbon dioxide Oxygen Sugar material	Force, push, pull, friction, surface, magnet, magnetic, magnetic field, pole, north, south, attract, repel, compass.
	Prior Knowledge	<ul style="list-style-type: none"> •Should be able to notice that animals, including humans, have offspring which grow into adults. •Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Describe the importance for humans of exercise, eating the right amounts of different 	<ul style="list-style-type: none"> •May have some understanding of a variety of different rocks in the natural world. •Some understanding of what soil is. (how to identify soil etc) May have some knowledge of what a fossil is. 	<ul style="list-style-type: none"> •May have some knowledge of where light comes from. •Will most likely have seen their shadows and may know they appear when it is sunny. •Some understanding of a reflection. May understand they need light to be able to see things. 	<p>Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<ul style="list-style-type: none"> •May have an awareness of how to make things stop and start.

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Year 3		types of food, and hygiene.				
	Sticky Knowledge	<p>Know about the importance of a nutritious, balanced diet</p> <p>Know how nutrients, water and oxygen are transported within animals and humans</p> <p>☐ Know about the skeletal and muscular system of a human</p>	<p>☐ Compare and group rocks based on their appearance and physical properties, giving a reason</p> <p>Know how some forces require contact and some do not, giving examples</p> <p>Know how soil is made and fossils formed</p> <p>☐ Know about and explain the difference between sedimentary, metamorphic and igneous rock</p>	<p>Know what dark is the absence of light</p> <p>Know that light is needed in order to see and is reflected from a surface</p> <p>Know and demonstrate how a shadow is formed and explain how a shadow changes shape</p> <p>Know about the danger of direct sunlight and describe how to keep protected</p>	<p>Know the function of different parts of flowing plants and trees</p> <p>Know how water is transported within plants</p> <p>Know the plant life cycle, especially the importance of flowers</p>	<p>Know how a simple pulley works and use making lifting an object simpler</p> <p>Know about and explain how objects attract and repel in relation to objects and other magnets</p> <p>Predict whether magnets will attract or repel and give a reason</p> <p>Know about and describe how objects move on different surfaces</p>
	Working Scientifically	<ul style="list-style-type: none"> • I can ask relevant questions and using different types of scientific enquiries to answer them • I can set up simple practical enquiries, comparative and fair tests • 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 • I can gather, record, classify and present data in a variety of ways to help in answering questions • I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • I can identify differences, similarities or changes related to simple scientific ideas and processes • I can use straightforward scientific evidence to answer questions or to support their findings. 				

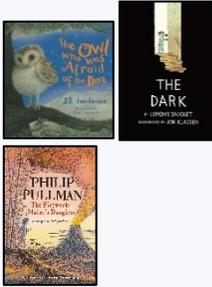
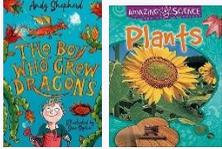
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<p>Year 3</p>	<p>Skills to be taught/applied (taken from subject skills progression map)</p>	<p>I can identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.</p> <p>I can identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p>I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>I can describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p> <p>I can recognise that soils are made from rocks and organic matter.</p>	<p>I can recognise that they need light in order to see things and that dark is the absence of light.</p> <p>I can notice that light is reflected from surfaces.</p> <p>I can recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>I can recognise that shadows are formed when the light from a light source is blocked by an opaque object.</p> <p>I can find patterns in the way that the size of shadows change.</p>	<p>I can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>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>I can investigate the way in which water is transported within plants.</p> <p>I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<p>I can compare how things move on different surfaces.</p> <p>I can notice that some forces need contact between two objects, but magnetic forces can act at a distance.</p> <p>I can observe how magnets attract or repel each other and attract some materials and not others.</p> <p>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>I can describe magnets as having two poles.</p> <p>I can predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>
	<p>Learning Sequence</p>	<p>Rising Stars Diagnostic Assessment</p> <p>1. To know how to explain how</p>	<p>Rising Stars Diagnostic Assessment</p> <p>1. To know how to compare</p>	<p>Rising Stars Diagnostic Assessment</p> <p>1. To know how to recognise that light is needed</p>	<p>Rising Stars Diagnostic Assessment</p> <p>1. To know how to name the different parts</p>	<p>Rising Stars Diagnostic Assessment</p> <p>1. To know how to identify the forces acting on objects. 2. To know how to ask relevant questions.</p>

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<p style="text-align: center; color: blue; font-weight: bold;">Year 3</p>		<p>living things obtain food.</p> <ol style="list-style-type: none"> 2. To know how to compare and group animals by their diet. 3. To know how to identify and sort animals based on their skeletons. 4. To know how to identify and name bones. 5. To know how to identify and explain the three main functions of a skeleton. 6. To know the why we need muscles to move. <p>End of unit assessment (Rising Stars)</p>	<p>different types of rocks.</p> <ol style="list-style-type: none"> 2. To know how to make systematic and careful observations. 3. To know how to explain how fossils are formed. 4. To know how to identify changes related to simple scientific ideas. 5. To know how to explain how soil is formed. 6. To know how to observe carefully and systematically the permeability of different soils. <p>End of unit assessment (Rising Stars)</p>	<p>to see things, and that dark is the absence of light.</p> <ol style="list-style-type: none"> 2. To know how to investigate which surfaces reflect light. 3. To know how to use a mirror to reflect light and explain how mirrors work. 4. To know that light from the sun can be dangerous and that there are ways we can protect our eyes. 5. To know how to investigate which materials block light to form shadows. 6. To know how to find patterns when investigating how shadows change size. <p>End of unit assessment (Rising Stars)</p>	<p>of flowering plants and explain their jobs.</p> <ol style="list-style-type: none"> 2. To know how to investigate what plants need to grow well. 3. To know how to record observations based on an investigation. 4. To know how to investigate how water is transported in plants. 5. To know how to name the different parts of a flower and explain their role in pollination and fertilisation. 6. To understand and order the stages of the life cycle of a flowering plant. <p>End of unit assessment (Rising Stars)</p>	<ol style="list-style-type: none"> 3. To know how to investigate and compare how things move on different surfaces. 4. To know how to make systematic and careful observations 5. To know how to record findings using scientific language. 6. To know how to sort magnetic and non-magnetic materials. 7. To know how to compare and group materials 8. To know how to investigate the strength of magnets. 9. To know how to gather, record, classify and present data in a variety of ways 10. To know how to use results to draw simple conclusions 11. To know how to explore magnetic poles. 12. To know how to observe how magnets attract some materials. <p>End of unit assessment (Rising Stars)</p>

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<p>Year 3</p>	<p>Suggested Linked Texts (Reading Across the Curriculum)</p>	<p>Funnybones (Janet and Allan Ahlberg)</p> <p>I Will Never Not Ever Eat a Tomato (Lauren Child)</p> <p>Goldilocks and the Three Bears (Samantha Berger)</p> 	<p>The Pebble in My Pocket (Meredith Hooper)</p> <p>Stone Girl, Bone Girl (Laurence Anholt)</p> <p>The Street Beneath My Feet (Charlotte Guillain & Yuval Zommer)</p> <p>This Little Pebble (Anna Claybourne & Sally Garland)</p> 	<p>The Owl Who Was Afraid of the Dark (Jill Tomlinson)</p> <p>The Dark (Lemony Snicket)</p> <p>The Firework-Maker's Daughter (Philip Pullman)</p> 	<p>The Boy Who Grew Dragons (Andy Shepherd & Sara Ogilvie)</p> <p>Plants: Amazing Science (Sally Hewitt)</p> 	<p>The Iron Man (Ted Hughes)</p> <p>Mrs Armitage: Queen of the Road (Quentin Blake)</p> <p>Mr Archimedes' Bath (Pamela Allen)</p> 
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Year Group	Unit of Work	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1 & 2
Year 4	Unit of Work	Animals, Including Humans	States of Matter	Sound	Electricity	Living Things and their Habitats
	Key Vocabulary	Digestive system, tongue, mouth, teeth, oesophagus, stomach, gall bladder, small intestine, pancreas, rectum, anus, large intestine, liver, duodenum, tooth, canine, incisor, molar, premolar, producer, consumer.	Solid, liquid, gas, particles, state, materials, properties, matter, melt, freeze, water, ice, temperature, process, condensation, evaporation, water vapour, energy, precipitation, collection,	Amplitude, volume, quiet, loud, ear, pitch, high, low, particles, instruments, wave.	Electricity, neutrons, protons, electrons, nucleus, atom, electric current, appliances, mains, crocodile clips, wires, bulb, battery cell, battery holder, motor, buzzer, switch, conductor, electrical insulator.	Environment, flowering, non-flowering, plants, animals, vertebrates, fish, amphibians, reptiles, mammals, invertebrate, human impact, nature reserves, deforestation
	Prior Knowledge	<ul style="list-style-type: none"> •Should be able to notice that animals, including humans, have offspring which grow into adults. •Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). •Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. 	<ul style="list-style-type: none"> •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. •Describe the simple physical properties of a variety of everyday materials. •Compare and group together a variety of everyday materials on the basis of their 	<ul style="list-style-type: none"> •May have some understanding that objects make different sounds. •Some understanding that they use their ears to hear sounds. <p>Know about their different senses.</p>	<ul style="list-style-type: none"> •May have some understanding that objects need electricity to work. <p>May understand that a switch will turn something on or off.</p>	<ul style="list-style-type: none"> •Comments and questions about the place they live or the natural world. •Shows care and concern for living things and the environment. •Can talk about things they have observed such as plants and animals. •Notices features of objects in their environment. •Comments and asks questions about their familiar world. •Explore and compare the differences between things that are living, dead, and things that have never been alive. •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.

Whole School Science Curriculum Map

Year 4		<ul style="list-style-type: none"> 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. Identify that humans and some other animals have skeletons and muscles for support, protection and movement. 	<p>simple physical properties.</p> <ul style="list-style-type: none"> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 			<ul style="list-style-type: none"> Identify and name a variety of plants and animals in their habitats, including microhabitats. <p>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>
	Sticky Knowledge	<p>Use classification keys to group, identify and name living things</p> <p>Identify and name the parts of the human digestive system</p> <p>Know the functions of the organs in the human digestive system</p>	<p>Know about and explore how some materials can change state</p> <p>Group materials based on their state of matter (solid, liquid, gas)</p> <p>Know the temperature at which materials change state</p>	<p>Know how sound is made associating some of them with vibrating</p> <p>Know how sound travels from a source to our ears</p> <p>Know the correlation between pitch and the object producing a sound</p> <p>Know the correlation between the volume of a sound and the</p>	<p>Construct a series circuit</p> <p>Identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers)</p> <p>Predict and test whether a lamp will light within a circuit</p>	<p>Know how changes to an environment could endanger living things</p>

Whole School Science Curriculum Map

		Identify and know the different types of teeth that humans have		strength of the vibrations that produced it	Know the function of a switch in a circuit	
		Know the functions of different human teeth		Know what happens to a sound as it travels away from its source	Know the difference between a conductor and an insulator; giving examples of each	
		Use and construct food chains to identify producers, predators and prey		Identify and name appliances that require electricity to function		
Year 4	Working Scientifically	<ul style="list-style-type: none"> I can ask relevant questions and using different types of scientific enquiries to answer them I can set up simple practical enquiries, comparative and fair tests 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 I can gather, record, classify and present data in a variety of ways to help in answering questions I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions I can identify differences, similarities or changes related to simple scientific ideas and processes <p>I can use straightforward scientific evidence to answer questions or to support their findings.</p>				
	Skills to be taught/applied (taken from subject skills progression map)	I can describe the simple functions of the basic parts of the digestive system in humans.	I can compare and group materials together, according to whether they are solids, liquids or gases.	I can identify how sounds are made, associating some of them with something vibrating.	I can identify common appliances that run on electricity.	I can recognise that living things can be grouped in a variety of ways.
		I can identify the different types of teeth in humans and their simple functions.	I can observe that some materials change state when they are heated or cooled, and measure or research the	I can recognise that vibrations from sounds travel through a medium to the ear.	I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs,	I can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.
						I can recognise that environments can change and that this can sometimes pose dangers to living things.

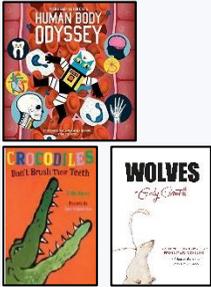
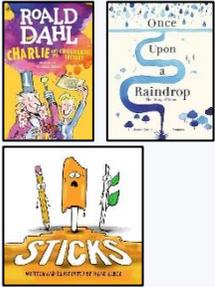
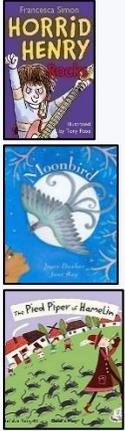
Whole School Science Curriculum Map

Year 4		<p>I can construct and interpret a variety of food chains, identifying producers, predators and prey.</p>	<p>temperature at which this happens in degrees Celsius (°C).</p> <p>I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>I can find patterns between the pitch of a sound and features of the object that produced it.</p> <p>I can find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>I can recognise that sounds get fainter as the distance from the sound source increases.</p>	<p>switches and buzzers.</p> <p>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 a battery.</p> <p>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>I can recognise some common conductors and insulators, and associate metals with being good conductors.</p>	
	Learning Sequence	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> To know how to identify and name parts of the human digestive system. To know how to explain the 	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> To know how to compare and group materials together. To know how to investigate gases and 	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> To know how to describe and explain sound sources. To know how to explain how 	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> To know how to explain ways that electricity is generated. To know how to identify electrical 	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> To know how to group living things in a range of ways. To know how to use a range of methods to sort living things. To know how to generate questions to use in a classification key. To know how to identify vertebrates by observing their similarities and differences.

Whole School Science Curriculum Map

<p>Year 4</p>		<p>functions of the digestive system.</p> <p>3. To know how to identify the types and functions of teeth.</p> <p>4. To know how to ask scientific questions and choose a scientific enquiry to answer them.</p> <p>5. To know how to make careful observations, record results and use them to develop further investigations.</p> <p>6. To know how to construct and interpret food chains.</p> <p>End of unit assessment (Rising Stars)</p>	<p>explain their properties.</p> <p>3. To know how to investigate materials as they change state.</p> <p>4. To know how to explore how water changes state.</p> <p>5. To know how to investigate how water evaporates.</p> <p>6. To know how to identify and describe the different stages of the water cycle.</p> <p>End of unit assessment (Rising Stars)</p>	<p>different sounds travel.</p> <p>3. To know how to explore ways to change the pitch of a sound.</p> <p>4. To know how to investigate ways to absorb sound.</p> <p>5. To know how to investigate ways to absorb sound.</p> <p>6. To know how to recognise that vibrations from sounds travel through a medium to the ear.</p> <p>End of unit assessment (Rising Stars)</p>	<p>appliances and the types of electricity they use.</p> <p>3. To know how to identify complete and incomplete circuits.</p> <p>4. To know how to identify and sort materials into electrical conductors or insulators.</p> <p>5. To know how to identify and sort materials into electrical conductors or insulators.</p> <p>6. To know how to record and report on an investigation.</p> <p>End of unit assessment (Rising Stars)</p>	<p>5. To know how to use a key to identify invertebrates.</p> <p>6. To know how to use evidence to answer questions</p> <p>7. To know how to create a classification key.</p> <p>8. To know how to gather, record, classify and present data in a variety of ways</p> <p>9. To know how to recognise positive and negative changes to the local environment.</p> <p>10. To know how to record my observations in different ways</p> <p>11. To know how to describe environmental dangers to endangered species.</p> <p>12. To know how to present findings orally and in writing.</p> <p>End of unit assessment (Rising Stars)</p>
	<p>Suggested Linked Texts (Reading Across the Curriculum)</p>	<p>Human Body Odyssey (Werner Holzwarth)</p> <p>Crocodiles Don't Brush Their Teeth (Colin Fancy)</p>	<p>Charlie and the Chocolate Factory (Roald Dahl)</p> <p>Once Upon a Raindrop: The Story of Water (James Carter)</p>	<p>Horrid Henry Rocks by Francesca Simon</p> <p>Moonbird (Joyce Dunbar)</p> <p>The Pied Piper of Hamelin</p>	<p>Until I Met Dudley (Roger McGough)</p> <p>Oscar and the Bird: A Book about Electricity (Geoff Waring)</p>	<p>The Vanishing Rainforest (Richard Platt)</p> <p>The Morning I Met a Whale (Michael Morpurgo)</p> <p>Journey to the River Sea (Eva Ibbotson)</p>

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<p>Year 4</p>		<p>Wolves (Emily Gravett)</p> 	<p>Sticks (Diane Alber)</p> 	<p>(Natalia Vasquez)</p> 	<p>Electrical Wizard: How Nikola Tesla Lit the World (Sch)</p> 	
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Whole School Science Curriculum Map

Year Group	Unit of Work	Autumn 1	Autumn 2	Spring 1 & 2	Summer 1	Summer 2
Year 5	Unit of Work	Properties and Changes of Materials	Animals including Humans	Earth and Space	Living Things and their Habitats	Forces
	Key Vocabulary	Material, conductor, dissolve, insoluble, suspension, chemical, physical, irreversible, solution, reversible, separate, mixture, insulator, transparent, flexible, permeable, soluble, property, magnetic, hard.	Foetus, Embryo, Womb, Gestation, Baby, Toddler, Teenager, Elderly, Growth, Development, Puberty	Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune) spherical, solar system, rotates, star, orbit, planets, day, night, rotate, axis, geocentric, heliocentric.	Sexual, asexual, reproduction, cell, fertilisation, pollination, male, female, pregnancy, gestation, young, mammal, metamorphosis, amphibian, insect, egg, embryo, bird, plant.	Force, push, pull, opposing, gravity, air resistance, water resistance, friction, streamline, brake, gear, mechanism, lever, cog, pulley, machine.
	Prior Knowledge	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. Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their	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.	May have some knowledge about space. Have some understanding about how the earth orbits the sun.	Comments and questions about the place they live or the natural world. Shows care and concern for living things and the environment. Can talk about things they have observed such as plants and animals. Notices features of objects in their environment. Comments and asks questions about their familiar world.	May have an awareness of how to make things stop and start. Compare how things move on different surfaces. Notice that some forces need contact between two 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

Whole School Science Curriculum Map

<p style="text-align: center; color: blue; font-weight: bold;">Year 5</p>		<p>simple physical properties. Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 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 (°C).</p>			<p>Explore and compare the differences between things that are living, dead, and things that have never been alive. 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. Identify and name a variety of plants and animals in their habitats, including microhabitats. 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. 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</p>	<p>everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>
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Whole School Science Curriculum Map

Year 5					local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things.	
	Sticky Knowledge	<p>Know and can demonstrate that some changes are reversible and some are not</p> <p>Know how some changes result in the formation of a new material and that this is usually irreversible</p> <p>Compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity, [electrical & thermal], and response to magnets</p> <p>Know how a material dissolves to form a solution; explaining the process of dissolving</p>	<p>Create a timeline to indicate stages of growth in humans</p> <p>Know the differences between different life cycles</p>	<p>Know about and explain the movement of the Earth and other planets relative to the Sun</p> <p>Know about and explain the movement of the Moon relative to the Earth</p> <p>Know and demonstrate how night and day are created</p> <p>Describe the Sun, Earth and Moon (using the term spherical).</p>	<p>Know the process of reproduction in plants</p> <p>Construct and interpret a variety of food chains, identifying producers, predators</p> <p>Know the life cycle of different living things, e.g. mammal, amphibian, insect bird</p> <p>Know the process of reproduction in animals</p>	<p>Identify and know the effect of friction</p> <p>Explain how levers, pulleys and gears allow a smaller force to have a greater effect</p> <p>Know what gravity is and its impact on our lives</p> <p>Identify and know the effect of air and water resistance</p>

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		<p>Know and demonstrate how some materials can be separated (e.g. through filtering, sieving and evaporating)</p> <p>Know and show how to recover a substance from a solution</p>				
Year 5	Working Scientifically	<ul style="list-style-type: none"> • I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • I can use test results to make predictions to set up further comparative and fair tests • 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 • I can identify scientific evidence that has been used to support or refute ideas or arguments. 				
	Skills to be taught/applied <i>(taken from subject skills progression map)</i>	<p>I can 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.</p> <p>I know that some materials will</p>	<p>I can describe the changes as humans develop to old age.</p>	<p>I can describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>I can describe the movement of the Moon relative to the Earth.</p> <p>I can describe the Sun, Earth and Moon as approximately spherical bodies.</p> <p>I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p>	<p>I can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>I can describe the life process of reproduction in some plants and animals.</p>	<p>I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>I can identify the effects of air resistance, water resistance and friction, that act between moving surfaces.</p>



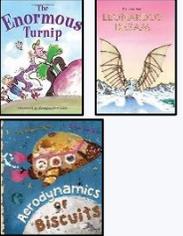
Whole School Science Curriculum Map

<p>Year 5</p>		<p>dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>I can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>I can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p> <p>I can demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>I can explain that some changes result in the formation of new materials, and that this kind of change is not usually</p>				<p>I can recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>
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Whole School Science Curriculum Map

Year 5		reversible, including changes associated with burning and the action of acid on bicarbonate of soda.				
	Learning Sequence	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> 1. To know how to compare materials according to their properties. 2. To know how to investigate thermal conductors and insulators. 3. To know how to investigate which electrical conductors make a bulb shine brightest. 4. To know how to investigate materials which will dissolve. 5. To know how to use different processes to separate mixtures of materials 6. To know how to identify and 	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> 1. To describe the changes as humans develop to old age. 2. To know the life cycle of different living things. 3. To know the differences between different life cycles. 4. To know the process of reproduction in plants. 5. To know the process of reproduction in animals. 6. To know how to record complex data using graphs and models. 	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> 1. To know how to explain why we know the Sun, Earth and Moon are spherical. 2. To know how to identify scientific evidence which does or does not provide evidence for an idea or argument. (context of how ideas changed from a flat earth view) 3. To name and describe features of the planets in the solar system. 4. To know how to order the planets in the Solar System. 5. To know how to explain how planets move in our solar system. 6. To know how to identify scientific evidence which does or does not provide evidence for an idea or argument. (context of the shift from heliocentric models of the solar system to geocentric models) 7. To know how to explain day and night and the apparent movement of the sun across the sky. 8. To know how to identify scientific evidence which does or does not provide evidence for an idea or argument. (context of the evidence for the Earth's rotation) 	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> 1. To describe how some plants reproduce. 2. To describe how some plants reproduce. 3. To know how to describe the life cycles of different mammals. 4. To know how to describe the life process of reproduction in some plants and animals. 5. To know how to compare the life cycles of amphibians and insects. 6. To know how to compare the life cycles of plants, mammals, amphibians, insects and birds. <p>End of unit assessment (Rising Stars)</p>	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> 1. To know how to identify forces acting on objects. 2. To know how to explore the effect gravity has on objects and how gravity was discovered. 3. To know how to investigate the effects of air resistance. 4. To know how to explore the effects of water resistance. 5. To know how to investigate the effects of friction. 6. To know how to explore and design mechanisms. <p>End of unit assessment (Rising Stars)</p>

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		<p>explain irreversible chemical changes.</p> <p>End of unit assessment (Rising Stars)</p>	<p>End of unit assessment (Rising Stars)</p>	<p>9. To know how to investigate night and day in different parts of the Earth.</p> <p>10. To know how to plan a scientific enquiry.(context of investigating night and day)</p> <p>End of unit assessment (Rising Stars)</p> <p>11. To know how to report and present findings from enquiries. (context of investigating night and day)</p> <p>12. To know how to explain the movement of the Moon</p> <p>End of unit assessment (Rising Stars)</p>		
Year 5	<p>Suggested Linked Texts (Reading Across the Curriculum)</p>	<p>Itch (Simon Mayo)</p> <p>Kensuke's Kingdom (Michael Morpurgo)</p> <p>The BFG (Roald Dahl)</p> 	<p>Hair in Funny Places (Babette Cole)</p> <p>Giant (Kate Scott)</p> <p>You're Only Old Once! (Dr. Seuss)</p> 	<p>The Skies Above My Eyes (Charlotte Guillain & Yuval Zommer)</p> <p>George's Secret Key to the Universe (Lucy and Stephen Hawking with Christophe Galfard)</p> <p>The Way Back Home (Oliver Jeffers)</p> 	<p>Charlotte's Web (E.B. White)</p> <p>The Land of Neverbelieve (Norman Messenger)</p> <p>Mummy Laid an Egg (Babette Cole)</p> 	<p>The Enormous Turnip (Katie Daynes)</p> <p>Leonardo's Dream (Hans de Beer)</p> <p>The Aerodynamics of Biscuits (Clare Helen Welsh)</p> 

Whole School Science Curriculum Map

Year Group	Unit of Work	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1 & 2
Year 6	Unit of Work	Electricity	Light	Animals, Including Humans	Evolution and Inheritance	Living Things and their Habitats
	Key Vocabulary	Electricity, electric current, Thomas Edison, Nikola Tesla, Alessandro Volta, alternating current, direct current, battery, cell, bulb, wire, open switch, closed switch, motor, buzzer, circuit, voltage, brightness, loudness.	Shadow, light, filter, colour, reflect, absorb, refract, spectrum, wavelength, prism, visible, lens, angle, incidence, straight, ray, beam, wave, photon, energy.	Oxygenated, Deoxygenated, Valve, Exercise, Respiration Circulatory system, heart, lungs, blood vessels, blood, artery, vein, pulmonary, alveoli, capillary, digestive, transport, gas exchange, villi, nutrients, water, oxygen, alcohol, drugs, tobacco.	Evolution, adaptation, inherited traits, inheritance, adaptive traits, natural selection, Charles Darwin, Alfred Wallace, DNA, genes, variation, parent, offspring, fossil, environment, habitat, fossilisation, plants, animals, living things.	Classify, compare, bacteria, characteristics, classification, microorganism, organism, invertebrates, vertebrates, flowering, non-flowering, Linnaean.
	Prior Knowledge	Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Identify whether or not a lamp will light in a simple series circuit, based on	Recognise that they need light in order to see things and that dark is the absence of light. Notice 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	Know the life cycle of different living things, e.g. Mammal, amphibian, insect bird. □ Know the differences between different life cycles. □ Know the process of reproduction in plants. □ Know the process of reproduction in animals.	Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Describe the changes as humans develop to old age. Describe the life process of reproduction in some plants and animals. Recognise that environments can change and that this	Comments and questions about the place they live or the natural world. Shows care and concern for living things and the environment. Can talk about things they have observed such as plants and animals. Notices features of objects in their environment. Comments and asks questions about their familiar world. Explore and compare the differences between things that are living, dead, and things that have never been alive. Identify that most living things live in habitats to which they are suited and

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<p>Year 6</p>		<p>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.</p>	<p>when the light from a light source is blocked by an opaque object. Find patterns in the way that the size of shadows change.</p>		<p>can sometimes pose dangers to living things. Notice that animals, including humans, have offspring which grow into adults.</p>	<p>describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. Identify and name a variety of plants and animals in their habitats, including microhabitats. 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. 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 to living things. To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals.</p>
	<p>Sticky Knowledge</p>	<p>Compare and give reasons for why components work and do not work in a circuit Draw circuit diagrams using correct symbols Know how the number and voltage of cells in a circuit</p>	<p>Know how light travels Know why shadows have the same shape as the object that casts them Know how simple optical instruments work, e.g. periscope, telescope, binoculars,</p>	<p>Identify and name the main parts of the human circulatory system Know the function of the heart, blood vessels and blood Know and demonstrate how we see objects</p>	<p>Know how animals and plants are adapted to suit their environment Link adaptation over time to evolution Give reasons for classifying plants and animals in a specific way</p>	<p>Classify living things into broad groups according to observable characteristics and based on similarities and differences Know how living things have been classified Know how the Earth and living things have changed over time</p>

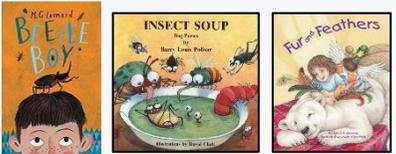
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		links to the brightness of a lamp or the volume of a buzzer	mirror, magnifying glass etc	<p>Know the impact of diet, exercise, drugs and lifestyle on health</p> <p>Know the ways in which nutrients and water are transported in animals, including humans</p>	<p>Know about evolution and can explain what it is</p> <p>Know how fossils can be used to find out about the past</p> <p>Know about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents)</p>	
Year 6	<p>Working Scientifically</p>	<ul style="list-style-type: none"> • I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • I can use test results to make predictions to set up further comparative and fair tests • 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 • I can identify scientific evidence that has been used to support or refute ideas or arguments. 				
	<p>Skills to be taught/applied (taken from subject skills progression map)</p>	<p>I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>I can compare and give reasons for variations in how</p>	<p>I can recognise that light appears to travel in straight lines.</p> <p>I can use the idea that light travels in straight lines to explain that objects are seen because they give out or</p>	<p>I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>I can recognise the impact of diet,</p>	<p>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>I can describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals.</p> <p>I can give reasons for classifying plants and animals based on specific characteristics.</p>

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		<p>components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.</p> <p>I can use recognised symbols when representing a simple circuit in a diagram.</p>	<p>reflect light into the eye.</p> <p>I can 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.</p>	<p>exercise, drugs and lifestyle on the way their bodies function.</p> <p>I can describe the ways in which nutrients and water are transported within animals, including humans.</p>	<p>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>I can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	
<p>Year 6</p>	<p>Learning Sequence</p>	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> 1. To know how to explain the importance of the major discoveries of electricity. 2. To know how to observe and explain the effects of differing volts in a circuit. (1) 3. To know how to observe and explain the effects of differing volts in a circuit. (2) 	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> 1. To know how to explain that light travels in straight lines 2. To know how to understand how mirrors reflect light, and how they can help us see objects. 3. To know how to investigate how refraction changes the direction in which light travels. 	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> 1. To know how to identify and name the parts of the human circulatory system. 2. To know how to describe the functions of the main parts of the circulatory system. 3. To know how to explain how water and nutrients are transported within the body. 4. To know how to describe how diet 	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> 1. To know how to explain the scientific concept of inheritance. 2. To know how to demonstrate understanding of the scientific meaning of adaptation. 3. To know how to identify the key ideas of the theory of evolution. 	<p>Rising Stars Diagnostic Assessment</p> <ol style="list-style-type: none"> 1. To know how to give reasons for classifying animals based on their similarities and differences. 2. To know how to describe how living things are classified into groups. 3. To know how to identify the characteristics of different types of animals. 4. To know how to plan own classification. 5. To know how to classify a creature based on its characteristics. 6. To know how to describe and investigate helpful and harmful microorganisms. 7. To know how to set up an investigation into harmful microorganisms. 8. To know how to identify the characteristics of different types of microorganisms.

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		<p>4. To know how to plan an investigation. 5. To know how to conduct an investigation. 6. To know how to investigate results. End of unit assessment (Rising Stars)</p>	<p>4. To know how to investigate how a prism changes a ray of light. 5. To know how to investigate how light enables us to see colours. 6. To know how to explain why shadows have the same shape as the object that casts them. End of unit assessment (Rising Stars)</p>	<p>and exercise impact on human bodies. 5. To know how to plan a scientific enquiry. 6. To know how to explain the impact of drugs and alcohol on the body. End of unit assessment (Rising Stars)</p>	<p>4. To know how to identify evidence for evolution from fossil records. 5. To know how to understand how human beings have evolved. 6. To know how to explain how adaptations can result in both advantages and disadvantages. End of unit assessment (Rising Stars)</p>	<p>9. To know how to classify organisms found in a local habitat. 10. To know how to explain the classification of organisms found in a local habitat. End of unit assessment (Rising Stars)</p>
<p>Year 6</p>	<p>Suggested Linked Texts (Reading Across the Curriculum)</p>	<p>Goodnight Mister Tom (Michelle Magorian)</p> <p>Blackout (John Rocco)</p> <p>Hitler's Canary (Sandi Toksvig)</p> 	<p>Letters from the Lighthouse (Emma Carroll)</p> <p>The Gruffalo's Child (Julia Donaldson)</p> <p>The King Who Banned the Dark (Emily Haworth-Booth)</p> 	<p>Pig-Heart Boy (Malorie Blackman)</p> <p>Skellig (David Almond)</p> <p>A Heart Pumping Adventure (Heather Manley)</p> 	<p>One Smart Fish (Christopher Wormell)</p> <p>The Molliebird (Jules Pottle)</p> <p>Our Family Tree (Lisa Westberg Peters)</p> 	<p>Beetle Boy by M G Leonard</p> <p>Insect Soup (Barry Louis Polisar)</p> <p>Fur and Feathers (Janet Halfmann)</p> 

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