Our Science Pathway

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Science Progression Overview

	Biology				Physics				Chemistry
	Animals	**Habitats**	**Humans**	**Plants**	**Electricity**	**Forces**	**Earth and Space**	**Light and Sound**	**Materials & States of Matter**
Year 3	Animals, including humans		Animals, including humans	Plants: growth and pollination		Forces and magnets	Geology (rocks and soils)	Light and Shadow	
Year 4	Animals, including humans (digestive system)	Living things and their habitats			Electricity			Sound	States of matter
Year 5	Living things and their environments (life cycles)		Human biology			Forces	Earth and Space (our solar system)		Properties and changes of materials
Year 6	Classification of living things (animals) Evolution and Inheritance	Classification of living things (habitat / biome link)	The human body (circulation) Human reproduction Evolution and Inheritance	Classification of living things (pants) Evolution and inheritance	Electricity			Light and Reflection	

Working Scientifically Progression Overview

	Working Scientifically – Lower School Statements Year 3 and Year 4		**Working Scientifically – Upper School Statements** Year 5 and Year 6
WSL 1	asking relevant questions and using different types of scientific enquiries to answer them.	**WSU 1**	planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
WSL 2	setting up simple practical enquiries, comparative and fair tests.	**WSU 2**	taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
WSL 3	making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.	**WSU 3**	recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
WSL 4	gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.	**WSU 4**	using test results to make predictions to set up further comparative and fair tests.
WSL 5	recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.	**WSU 5**	reporting and presenting 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.
WSL 6	reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	**WSU 6**	identifying scientific evidence that has been used to support or refute ideas or arguments.
WSL 7	using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.		
WSL 8	identifying differences, similarities or changes related to simple scientific ideas and processes.		
WSL 9	using straightforward scientific evidence to answer questions or to support their findings.		

Please see the next page for the plan of where these statements will be covered in our curriculum.

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	Unit Title	Working Scientifically - Year 3 and Year 4									Working Scientifically - Year 5 and Year 6					
		WSL 1	WSL 2	WSL 3	WSL4	WSL 5	WSL 6	WSL 7	WSL 8	WSL 9	WSU 1	WSU 2	WSU 3	WSU 4	WSU 5	WSU 6
Year 3	Autumn 1 Context: **Animals: Movement and Nutrition**		✓	✓	✓	✓	✓		✓	✓	-	-	-	-	-	-
	Autumn 2 Context: **Forces and Magnets**	✓	✓	✓	✓	✓		✓	✓	✓	-	-	-	-	-	-
	Spring 1 Context: **Rocks and Soils**	✓	✓	✓	✓	✓	✓	✓		✓	-	-	-	-	-	-
	Spring 2 Context: **Light and Shadows** ★	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	-
	Summer 1 Context: **Plants** ★		✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	-
	Summer 2 Context: **Making Connections**	✓		✓	✓	✓	✓	✓		✓	-	-	-	-	-	-
Year 4	Autumn 1 Context: **Animals including humans: digestion & food**	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	-
	Autumn 2 Context: **Electricity**	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	-
	Spring 1 Context: **States of Matter**	✓	✓	✓	✓	✓	✓	✓		✓	-	-	-	-	-	-
	Spring 2 Context: **Sound and Vibrations**	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	-
	Summer 1 Context: **Classification and Changing Habitats** ★			✓	✓	✓			✓	✓	-	-	-	-	-	-
	Summer 2 Context: **Making Connections** ★	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	-
Year 5	Autumn 1 Context: **Materials - Mixtures and Separations**	-	-	-	-	-	-	-	-	-	✓	✓	✓		✓	
	Autumn 2 Context: **Materials - Properties and Changes**	-	-	-	-	-	-	-	-	-	✓	✓	✓		✓	
	Spring 1 Context: **Earth and Space** ★	-	-	-	-	-	-	-	-	-						✓
	Spring 2 Context: **Living things and their habitats** ★	-	-	-	-	-	-	-	-	-	✓	✓		✓		
	Summer 1 Context: **Imbalanced Forces**	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓	✓
	Summer 2 Context: **Making Connections** ★	-	-	-	-	-	-	-	-	-						
Year 6	Autumn 1 Context: **Classification**	-	-	-	-	-	-	-	-	-			✓			✓
	Autumn 2 Context: **Light and Reflection**	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓	✓
	Spring 1 Context: **Evolution and Inheritance**	-	-	-	-	-	-	-	-	-	✓		✓	✓	✓	✓
	Spring 2 Context: **Electricity** ★	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓	✓
	Summer 1 Context: **Animals including humans : circulation**	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓	✓
	Summer 2 Context: **Making Connections** ★	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓	✓

★ **Ambitious Learners**

Every half term, the children participate in the Ranvilles SMSC 'Big Debate', which brings together threads from different curriculum subjects to create a line of enquiry, which, when evaluated by the children, strengthens and connects the children's knowledge and understanding. This star represents topics that would make a significant contribution to the 'Big Debate'.

Our Science Pathway – Year 3

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Year 3

Focus The contextual focus for the pupils' learning.		**Purpose** The importance of the topic in our curriculum.		**Our SMSC 'Big Debate' Links** *The purple '**Ambitious Learners**' star illustrates where there are planned focus links to support the children's knowledge and understanding in exploring 'The Big Debate'.*	
Autumn 1 Context: **Animals: Movement and Nutrition**		In order to develop the children's knowledge and understanding of the human body, before looking at the various nutritional needs of humans to what makes a balanced diet.		**Making a difference as an individual is more important than as a team.**	
Step 1	**Step 2**	**Step 3**	**Step 4**	**Step 5**	**Step 6**
To explain the role of a skeleton. Working scientifically: To group animals based on their physical properties.	**To recognise the main bones in the body.** Working scientifically: To measure and sort data.	**To explain how muscles are used for movement.** Working scientifically: To explore scientific advances.	**To explain how food is an essential energy source for animals.** Working scientifically: To gather and compare data to answer questions.	**To identify the main nutrient groups and their simple functions.** Working scientifically: To record information using secondary sources.	**To explain what makes a balanced diet.** Working scientifically: To explore how different jobs use this information.
Autumn 2 Context: **Forces and Magnets**		In order to explore the forces that affect our world, before exploring the different properties, effects and uses of magnets.		**Making a positive contribution in the world is your responsibility, not mine.**	
Step 1	**Step 2**	**Step 3**	**Step 4**	**Step 5**	**Step 6**
To describe the effects of contact forces. Working scientifically: To label a diagram using arrows and scientific vocabulary.	**To recognise the effects and uses of forces.** Working scientifically: To write a scientific conclusion identifying cause and effect.	**To recognise the effects and uses of forces.** Working scientifically: To write a scientific conclusion identifying cause and effect.	**To describe the effects of magnets.** Working scientifically: To write a method.	**To compare the properties of different types of magnets.** Working scientifically: To display data using a bar chart.	**To explain the uses of magnets.** Working scientifically: To research the uses of magnets.
Spring 1 Context: **Rocks and Soils**		In order to explore the physical properties of our planet through investigating rocks, before exploring how fossils and soils have been created over time.		**What we have achieved in this century is more significant than the past.**	
Step 1	**Step 2**	**Step 3**	**Step 4**	**Step 5**	**Step 6**
To group rocks using their appearance. Working scientifically: To observe the appearance of rocks closely, using a magnifying glass.	**To group rocks using their physical properties.** Working scientifically: To make predictions, suggest improvements and explain observations over time.	**To describe the process of fossil formation.** Working scientifically: To present research on fossil formation.	**To identify fossils and group rocks accordingly.** Working scientifically: To use the fossil record to answer questions about the past.	**To compare soils and how they were formed.** Working scientifically: To record the drainage rate for different soils in a bar chart.	**To describe a soil sample using sedimentation.** Working scientifically: To draw and label a diagram.
Spring 2 Context: **Light and Shadows**		In order to develop the children's knowledge and understanding of light and how shadows are made and change, before they apply their knowledge in the form of a shadow puppet show.		**What is more important, physical, social, emotional or mental well-being?**	
Step 1	**Step 2**	**Step 3**	**Step 4**	**Step 5**	**Step 6**
To explain the role of light sources. Working scientifically: To plan and draw a results table.	**To compare light reflecting on different surfaces.**	**To recognise which materials cast a shadow.** Working scientifically: To ask testable questions and plan how to answer them.	**To summarise how shadows change throughout the day.** Working scientifically: To evaluate a method.	**To investigate how the distance of the light source affects the size of its shadow.** Working scientifically: To find patterns in data and form conclusions.	**To apply my knowledge light and shadow for a purpose.** Context: to tell a story using shadow puppets.
Summer 1 Context: **Plants**		In order to understand how plants grow, survive and reproduce, pupils will develop scientific enquiry skills that help them care for living things, make sense of the natural world and thrive as curious, resilient learners who contribute positively to their community.		**Embracing diversity enhances understanding and appreciation of the world.**	
Step 1	**Step 2**	**Step 3**	**Step 4**	**Step 5**	**Step 6**
To identify the growth and survival needs of plants. Working scientifically: To pose relevant questions.	**To describe the relationship between structure and function in plants.** Working scientifically: To design simple results tables.	**To investigate how water is transported in plants.** Working scientifically: To plan a simple enquiry.	**To explore the role of flowers in the life cycle of a plant.** Working scientifically: To complete, read and interpret data.	**To apply knowledge of plant life and growth.** Working scientifically: To identify and suggest changes to an enquiry.	**To explore seed dispersal methods.** Working scientifically: To use results to draw conclusions.
Summer 2 Context: **Making Connections**		Our 'Making Connections' units take skills and knowledge learned throughout the academic year and give cross-conceptual opportunities for pupils to apply this in a scientific enquiry. This build's children's confidence as a scientist and allows them the independence to follow their own lines of enquiry. This unit focuses on grip strength.		**I'm Ok – You're OK! Differences are good.**	
Step 1	**Step 2**	**Step 3**	**Step 4**	**Step 5**	
To plan a pattern seeking enquiry.	**To gather and record data.**	**To conclude and evaluate the investigation.**	**To use sets of data to inform design.**	**To report and present my findings.**	

Our Science Pathway – Year 4

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Year 4

Focus The contextual focus for the pupils' learning.	Purpose The importance of the topic in our curriculum.	Our SMSC 'Big Debate' Links *The purple '**Ambitious Learners**' star illustrates where there are planned focus links to support the children's knowledge and understanding in exploring 'The Big Debate'.*
Autumn 1 Context: **Animals including humans: digestion & food**	In order to develop the children's knowledge and understanding of human digestion, including how to care for our own teeth, before reflecting on what this means for animals and how the diet of animals affects their digestion.	**Identity and self-worth are influenced more by change than by context and culture.**

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
To describe the function of the human digestive system. Working scientifically: To evaluate a model.	**To recognise the different types of human teeth and their roles in eating.** Working scientifically: To accurately observe and record evidence.	**To explain how to care for our teeth.** Working scientifically: To plan an enquiry by considering which variables should be changed, measured and controlled.	**To recognise that differences in teeth relate to an animal's diet.** Working scientifically: To classify animals based on their diet.	**To recognise producers, predators and prey in food chains.** Working scientifically: To analyse trends in line graphs and form conclusions using scientific knowledge.	**To recognise that animal poo can give us clues about digestion, teeth and diet.** Working scientifically: To construct a results table for recording observations.

Autumn 2 Context: **Electricity**	In order to develop the children's knowledge and understanding of electricity by introducing them to circuits and various components.	**Being powerful is more important than being different.**

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
To recognise how electrical appliances are powered. Working scientifically: To record and classify qualitative data.	**To construct an electrical circuit.** Working scientifically: To draw a scientific diagram.	**To explain the use of switches in a circuit.**	**To explain the use of materials as electrical conductors or insulators.** Working scientifically: To write a method.	**To investigate what affects bulb brightness.** Working scientifically: To pose questions and plan ways to test them.	**To explain how to be safe around electricity.**

Spring 1 Context: **States of Matter**	In order to develop the children's knowledge and understanding in the simple changes of properties of materials, and how specifically water can be each of the three elements: gas, liquid and solid.	**Keeping safe spiritually, mentally and emotionally is all our responsibility physically and online.**

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
To identify solids using their properties. Working scientifically: To ask relevant questions about the properties of solids.	**To identify liquids and gases using their properties.** Working scientifically: To use results to draw simple conclusions about the properties of liquids.	**To describe melting and freezing.** Working scientifically: To use thermometers to take accurate measurements before and after melting.	**To describe condensing and evaporating.** Working scientifically: To make predictions for new values about evaporation rates.	**To describe the different stages of the water cycle.** Working scientifically: To record the stages of the water cycle using a labelled diagram.	**To describe how temperature affects evaporation rates and the water cycle.** Working scientifically: To research climate change and the water cycle.

Spring 2 Context: **Sound and Vibration**	In order to develop the children's knowledge and understanding of sound, volume, pitch and vibrations and how these are inexricably linked.	**We have the right to learn from our mistakes without being judged.**

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
To describe how sounds are made. Working scientifically: To observe closely how different instruments create a sound.	**To describe how sounds are heard through different mediums.** Working scientifically: To research how whales and dolphins communicate underwater.	**To describe the relationship between vibration strength and volume.** Working scientifically: To present scientific results.	**To describe the relationship between volume and distance.** Working scientifically: To suggest which variables to measure and for how long.	**To describe pitch and how to change it.** Working scientifically: To design simple results tables.	**To explain how insulating materials can be used to muffle sound.** Working scientifically: To identify when results or observations do not match predictions.

Summer 1 Context: **Classification and Changing Habitats** ★	In order to understand how living things are grouped and how habitats support life, pupils will develop observation, classification and research skills that help them recognise the impact of human and natural changes on the environment and thrive as curious, responsible learners who achieve success and contribute positively to their community.	**Our behaviour should always positively reflect how we value others.**

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
To group animals in various ways. Working scientifically: To record data in different ways.	**To group plants in various ways.** Working scientifically: To apply and create classification keys.	**To make careful observations, informing my creation of a classification key.**	**To recognise and describe different habitats and inhabitants.** Working scientifically: To gather, record, classify and present data.	**To recognise the impact humans can have on habitats.** Working scientifically: To conduct scientific research.	**To recognise the impact of natural disasters on habitats.**

Summer 2 Context: **Making Connections** ★	Our 'Making Connections' units take skills and knowledge learned throughout the academic year and give cross-conceptual opportunities for pupils to apply this in a scientific enquiry. This build's children's confidence as a scientist and allows them the independence to follow their own lines of enquiry. This unit focuses on investigating the viscosity of different liquids.	**We are all responsible for our environment and natural world to ensure lives are impacted positively.**

Step 1	Step 2	Step 3	Step 4	Step 5
To plan a comparative test.	To gather and record data.	To conclude and evaluate the investigation.	To observe carefully and apply these observations to problem solve.	To report on my findings.

Our Science Pathway – Year 5

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Year 5

Focus The contextual focus for the pupils' learning.	Purpose The importance of the topic in our curriculum.	Our SMSC 'Big Debate' Links *The purple '**Ambitious Learners**' star illustrates where there are planned focus links to support the children's knowledge and understanding in exploring 'The Big Debate'.*
Autumn 1 Context: **Materials - Mixtures and Separations**	In order to develop the children's knowledge and understanding in scientific processes and how materials combine and separate from each other.	**Belonging - we should all be free to move between countries.**

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
To describe mixtures. Working scientifically: To research using a range of secondary resources.	**To explain the process of sieving.** Working scientifically: To draw and annotate a diagram to explain a concept.	**To explain the process of filtering.** Working scientifically: To identify testable questions and how to answer them.	**To describe solutions and how they can be identified.** Working scientifically: To make observations about solutions.	**To identify which factors affect the time taken to dissolve.** Working scientifically: To plan a fair test with consideration of variables and measurements.	**To describe the process of evaporation.**

Autumn 2 Context: **Materials - Properties and Changes**	In order to develop the children's knowledge and understanding of materials further, linking to their Y4 work on States of Matter, to reflect on how materials can be reversibly and irreversibly changed.	**Being remembered for making a difference is more important than making a difference.**

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
To determine the hardness of materials and link this to their uses. Working scientifically: To evaluate the hardness test to determine the degree of trust in the results.	**To determine the transparency of different materials and link this to their uses.** Working scientifically: To plan and draw a table of results.	**To determine the conductivity of different materials and link this to their uses.** Working scientifically: To write a detailed, organised method which is easy to follow.	**To demonstrate reversible changes.** Working scientifically: To write a prediction using prior knowledge of the states of matter.	**To demonstrate irreversible changes.** Working scientifically: To analyse observations about rusting and use them to support a conclusion.	**To demonstrate irreversible changes.** Working scientifically: To measure the circumference of a balloon accurately.

Spring 1 Context: **Earth and Space**	In order to develop the children's knowledge and understanding in our solar system; specifically the orbits of the Earth around the sun and moon around the Earth, and what impact this has for the human race.	**Making a difference to the world is critical for the future.**

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
To compare the contributions of Ptolemy, Alhazen and Copernicus to models of the Solar system. Working scientifically: To pose testable questions about the solar system.	**To describe the movement and shapes of the celestial bodies in our Solar System.** Working scientifically: To develop a model to represent the Solar System.	**To describe the movement of the Moon relative to the Earth.** Working scientifically: To design and draw a table.	**To explain the causes of day and night and the seasons.** Working scientifically: To draw a diagram to explain day and night.	**To devise a sundial to tell the time.** Working scientifically: To calibrate and use a sundial to measure time.	**To describe some uses of satellites and the problems posed by space junk.** Working scientifically: To use temperature data to make predictions about climate change.

Spring 2 Context: **Living things and their habitats**	In order to develop the children's knowledge and understanding in the life cycle of animals, linking to the children's knowledge of human reproduction and age from PSHE.	**The voice of a child is as important and valuable as that of an adult.**

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
To describe the life cycle of a plant, including the reproductive stage. Working scientifically: To observe and compare equivalent parts in different flowers.	**To describe the life cycle of a mammal.** Working scientifically: To research the life cycles of different mammals.	**To describe the life cycle of a bird and compare it with that of a mammal.** Working scientifically: To pose questions to compare the life cycles of different birds.	**To describe the life cycle of an amphibian.** Working scientifically: To suggest how temperature may affect egg hatching.	**To describe the life cycle of an insect and compare it with that of an amphibian.** Working scientifically: To use data to describe a relationship and make predictions.	**To describe asexual reproduction in plants.** Working scientifically: To represent root growth over time on a line graph.

Summer 1 Context: **Unbalanced Forces**	In order for pupils to understand how forces affect the movement of objects in everyday life, so that they can explain how gravity, resistance, friction and simple machines work, helping them belong as confident scientists and thrive as curious, resilient learners.	**Being financially safe is just as important as being emotionally safe.**

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
To describe gravity and its effects. Working scientifically: To analyse data and write a conclusion.	**To describe air resistance and its effects.** Working scientifically: To plan a fair test to investigate air resistance.	**To describe water resistance and its effects.** Working scientifically: To design a results table.	**To describe friction and its effects.** Working scientifically: To evaluate a method.	**To describe the effects of levers, pulleys and simple machines on movement.** Working scientifically: To draw and label a diagram.	**To describe the relationship between level length and effort.** Working scientifically: To use graphs to present my results.

Summer 2 Context: **Making Connections**	Our 'Making Connections' units take skills and knowledge learned throughout the academic year and give cross-conceptual opportunities for pupils to apply this in a scientific enquiry. This build's children's confidence as a scientist and allows them the independence to follow their own lines of enquiry. This unit focuses on investigating the impact of size of the asteriod on a potential impact crater.	**Learning together and from our mistakes leads to significant personal growth.**

Step 1	Step 2	Step 3	Further Science education in PSHE:
To plan a comparative test.	To gather and record data.	To conclude and evaluate the investigation.	1. To describe how humans change from babies through to old age. 2. To identify changes in males and females as a result of puberty. 3. To explore the gestation periods of humans.

Our Science Pathway – Year 6

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Year 6

Focus The contextual focus for the pupils' learning.	Purpose The importance of the topic in our curriculum.	Our SMSC 'Big Debate' Links *The purple '**Ambitious Learners**' star illustrates where there are planned focus links to support the children's knowledge and understanding in exploring 'The Big Debate'.*
Autumn 1 Context: **Classification**	In order to develop the children's knowledge and understanding in the common characteristics of animals.	**It is important that some personal information is in the public domain.**

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
To explain how organisms are classified using the Linnaean system.	**To classify the cold-blooded vertebrate groups using their common characteristics.** Working scientifically: To use a classification key.	**To classify the warm-blooded vertebrate groups using their common characteristics.** Working scientifically: To use a classification key.	**To classify invertebrates.** Working scientifically: To use a classification key.	**To describe how the plant kingdom is organised.** Working scientifically: To produce a working classification key.	**To describe and classify micro-organisms.** Working scientifically: To use a classification key.

Autumn 2 Context: **Light and Reflection**	In order to develop the children's knowledge and understanding in light waves, and how these influence what we can see and how humans have learnt to manipulate these for different purposes.	**Change always has a positive impact.**

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
To describe the pathway of light. Working scientifically: To use evidence to form conclusions.	**To describe how we see.** Working scientifically: To draw scientific diagrams.	**To explain how shadows change.** Working scientifically: To pose questions.	**To investigate what affects the angle of the reflected ray.** Working scientifically: To record results as a line graph.	**To explain how a periscope works.**	**To explore different jobs or inventions that depend on reflection.**

Spring 1 Context: **Evolution and Inheritance**	In order to develop the children's knowledge and understanding of theories of evolution – where did we come from, and how have the plants and animals that exist today evolved?	**It is possible to break the cycle of injustice.**

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
To explain why there are differences within a species. Working scientifically: To group factors.	**To recognise the inheritance of characteristics in plants and animals.**	**To explain why adaptation is necessary.**	**To model how natural selection affects population size.** Working scientifically: To evaluate the degree of trust and pose new questions for further enquiry.	**To describe the theory of evolution.** Working scientifically: To consider evidence used to inform theories.	**To recognise evidence that can be used for evolution.** Working scientifically: To consider the degree of trust in the evidence used.

Spring 2 Context: **Electricity**	In order to develop the children's knowledge and understanding of electricty, including how components are used practically for different uses of electricity.	**Together we can make our world more sustainable for everyone.**

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
To use recognised symbols for electrical components.	**To predict and present results for electrical circuits.** Working scientifically: To use standardised symbols when drawing diagrams.	**To recognise a link between the number of components and resistance.** Working scientifically: To explain results using scientific knowledge.	**To identify ways to change voltage within an electrical circuit.** Working scientifically: To design a results table.	**To investigate how voltage affects bulb brightness.** Working scientifically: To plan an enquiry.	**To apply knowledge of circuits and components to a practical solution.** Science in action: To recognise that scientific knowledge can solve a problem.

Summer 1 Context: **Animals including humans: circulation and health**	In order to understand how the body keeps us healthy and active, pupils will develop their knowledge of the circulatory system and the impact of lifestyle choices on health, while using scientific evidence to investigate, analyse and communicate findings, helping them to achieve success, belong as informed citizens and thrive as responsible, healthy learners.	**Fair trade is fair.**

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
To identify factors that affect our health and how to reduce their negative impact. Working scientifically: To evaluate sources of information.	**To summarise the key structures and purpose of the circulatory system.**	**To identify the key roles of blood.** Working scientifically: To evaluate a scientific model.	**To explore the relationship between animal size and heart rate.** Working scientifically: To interpret patterns in data.	**To investigate the relationship between exercise and heart rate.** Working scientifically: To write a method.	**To describe the relationship between heart rate and fitness.** Working scientifically: To present scientific results using graphs and charts.

Summer 2 Context: **Making Connections**	Our 'Making Connections' units take skills and knowledge learned throughout the academic year and give cross-conceptual opportunities for pupils to apply this in a scientific enquiry. This build's children's confidence as a scientist and allows them the independence to follow their own lines of enquiry. This unit focuses on investigating which materials used in sunglasses are the safest.	**Every individual can leave a positive legacy.**

Step 1	Step 2	Step 3	Step 4	Step 5
To plan a comparative test.	To gather and record data.	To conclude and evaluate the investigation.	The use further data to inform a conclusion.	To present my findings and report scientific conclusions.