

Science – Hedgehogs (Year 1 and Year 2)

	Term 1 – 7 weeks	Term 2 – 7 weeks	Term 3 – 5 weeks	Term 4 – 6 weeks	Term 5 – 6 weeks	Term 6 – 7 weeks
NC Objectives	Seasonal Changes Plants - trees	Animals including humans (1)	Seasonal changes Revisit Animals including humans	Everyday Materials	Seasonal changes Plants	Revisit Plants Animals including humans Seasonal changes
	<u>Seasonal changes</u> Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. <u>Plants</u> 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, including trees.	Identify and name a variety of common animals, including fish, amphibians, reptiles, birds and mammals. 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). Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	<u>Seasonal changes</u> Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. <u>Animals including Humans</u> Identify and name a variety of common animals, including fish, amphibians, reptiles, birds and mammals. 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). Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	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.	<u>Seasonal changes</u> Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. <u>Plants</u> 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, including trees.	<u>Plants</u> 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, including trees. <u>Animals including Humans</u> Identify and name a variety of common animals, including fish, amphibians, reptiles, birds and mammals. 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). Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. <u>Seasonal changes</u> Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.
	1. To be able to identify the four different seasons and the months of the year the seasons fall in. 2. To understand that the weather changes in the seasons and identify how this typically changes, identifying different weather symbols. 3. To make a careful observational drawing of the Oak tree and explain what has happened to the tree to show it is autumn. 4. To understand that the earth spins on its axis and that this takes 24 hours (1 day). To understand how this causes day and night. 5. To label the different parts of a tree and 1make observations	1. To recognise that animals move freely, eat other living things and need water and understand how animals differ from plants. 2. To identify features of mammals and birds 3. To identify features of amphibians and fish. 4. To classify animals based on their similarities and differences, focusing on characteristics of mammals, amphibians, fish and birds. 5. To understand that animals can be either carnivores, herbivores or omnivores and what this means. 6. To understand why humans are animals.	1. To recap the four seasons and which months these fall in. 2. To classify activities and clothing for each of the four seasons, based on typical weather. 3. To make an observational drawing of the school oak tree in winter and state the changes they can see from the tree compared to their observations in autumn. 4. To revisit what an amphibian, mammal, fish and bird is. 5. To research similarities and differences between different animals from the same and from different animal groups.	1. To recognise what is meant by a material and recognise different materials around them. 2. To recognise different materials in the school environment. 3. To identify different properties of materials to describe them. 4. To understand the word waterproof and carry out a fair test to find out which materials are waterproof. 5. To understand the words transparent and opaque and identify materials which are transparent and opaque. 6. To consider why different materials are used for	1. To recap the four seasons and the months of the year the different seasons fall in. To consider photos and suggest a season for when the photo was taken, explaining your answer. 2. To make an observational drawing of the school oak tree in spring, describing how it is different to their drawing in autumn and winter. 3. To identify the main parts of a plant, observe how plants have different leaves and recognise that trees are plants. 4. To understand where wild plants grow, name some common wild plants and	1. To recap the vocabulary deciduous and evergreen, the different parts of a tree and look at the shape of different trees and consider why the crown is shaped the way it is. 2. To identify different trees in the school and village and explain what type of fruits or nuts the trees produce. 3. To recap the different characteristics an animal has and explain how these features make humans animals as well. 4. To recap the different senses and set up an enquiry to identify different objects through

NC Objectives

Small steps progression

	<p>about the shape, size, and texture of different trees.</p> <p>6. To identify different types of tree and recognise fruit or nuts that grow on the tree. To observe differences in size/texture of the different nuts and fruits and suggest reasons for this.</p> <p>7. To notice that some trees lose their leaves in autumn (deciduous trees) and some trees keep their leaves all year round (evergreen trees).</p>	<p>7. To explore our senses and understand which parts of our bodies we use for each sense.</p>		<p>different purposes based on their properties.</p>	<p>observe wild plants in the school and village.</p> <p>5. To understand where garden plants grow and name some common garden plants and observe different garden plants in the school and village.</p> <p>6. To identify and classify different plants based on what they look like, where they grow, what shape their leaves are, their colour, their height etc.</p>	<p>taste, smell, touch, hear and see.</p> <p>5. To recap that the earth spins on its axis once every 24 hours (one day) and this causes day and night. To consider a globe and begin to understand that not all countries have day and night at the same time.</p> <p>6. To make an observational drawing of the school oak tree in summer and compare it to their drawings of the same tree in autumn, winter and spring. How does the tree differ throughout the different seasons?</p>
Specific lessons	<p>What are the four seasons? 1 week</p> <p>What's the weather like in autumn, winter, spring and summer? 1 week</p> <p><u>What does our school oak tree look like in autumn and why? 1 week</u></p> <p>Why does day become night? 1 week</p> <p>What makes a tree? 1 week</p> <p>What types of tree are there? (trees in school and village) 1 week</p> <p>What's the difference between trees? 1 week</p>	<p>What is an animal? 1 week</p> <p>What types of animals are there? 2 weeks</p> <p>What is similar and what is different? 1 week</p> <p>What does food tell us about an animal? 1 week</p> <p>What makes me an animal? 1 week</p> <p>What senses do I have? 1 week</p>	<p>What are the four seasons? 1 week</p> <p>What's the weather like in autumn, winter, spring and summer? 1 week</p> <p><u>What does our school oak tree look like in winter and what has changed since autumn? 1 week</u></p> <p>What types of animals are there? 1 week</p> <p>What is similar and what is different? 1 week</p>	<p>What are materials? 1 week</p> <p>What are things made of in school? 1 week</p> <p>How can I describe materials? 1 week</p> <p>Which materials are waterproof and which are not? 1 week</p> <p>Which materials are transparent and which are opaque? 1 week</p> <p>What's the best material for the job? Why? 1 week</p>	<p>What's the weather like in autumn, winter, spring and summer? 1 week</p> <p><u>What does our school oak tree look like in spring and what has changed since autumn and winter? 1 week</u></p> <p>What are the parts of a plant? 1 week</p> <p>What are wild plants and where do you find them? 1 week</p> <p>What are garden plants and where do you find them? 2 weeks</p>	<p>What makes a tree? 1 week</p> <p>What types of tree are there? (trees in school and village) 1 week</p> <p>What's the difference between trees? 1 week</p> <p>What makes me an animal? 1 week</p> <p>What senses do I have? 1 week</p> <p>Why does day become night? 1 week</p> <p><u>What does our school oak tree look like in summer and what has changed since spring, autumn and winter? 1 week</u></p>
Enquiry Types and Working Scientifically Skills	<p>Enquiries</p> <p>Identifying and classifying</p> <p>Observation over time</p> <p>Skills</p> <p>Observe carefully, record results, draw conclusions</p>	<p>Enquiries</p> <p>Identifying and classifying</p> <p>Pattern seeking</p> <p>Research</p> <p>Skills</p> <p>Observe carefully, record results, interpret results, draw conclusions.</p>	<p>Enquiries</p> <p>Identifying and classifying</p> <p>Observations over time</p> <p>Research</p> <p>Skills</p> <p>Observe carefully, record results, interpret results, draw conclusions.</p>	<p>Enquiries</p> <p>Identifying and classifying</p> <p>Comparative and fair tests</p> <p>Skills</p> <p>Predictions, setting up an enquiry, observing closely, recording results, interpreting results, drawing conclusions.</p>	<p>Enquiries</p> <p>Observation over time</p> <p>Identifying and classifying</p> <p>Research</p> <p>Skills</p> <p>Observing carefully, recording results, drawing conclusions.</p>	<p>Enquiries</p> <p>Observations over time</p> <p>Comparative and fair tests</p> <p>Research</p> <p>Skills</p> <p>Predictions, setting up an enquiry, recording results, drawing conclusions</p>
Vocabulary	<p>Seasonal Changes</p> <p>Weather – sunny, snowy, rainy, windy etc</p> <p>Seasons – spring, summer, autumn, winter</p> <p>Sun, sunrise, sunset, day length</p> <p>Plants</p> <p>Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud.</p> <p>Names of trees in local area.</p> <p>Names of garden and wild flowering plants in the local area.</p>	<p>Animals including humans</p> <p>Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feather fur, beak, paw, hooves.</p> <p>Other body parts linked to PSHE learning.</p> <p>Senses – touch, see, smell, taste, hear, skin, eyes, nose, ear, tongue.</p>	<p>Seasonal Changes</p> <p>Weather – sunny, snowy, rainy, windy etc</p> <p>Seasons – spring, summer, autumn, winter</p> <p>Sun, sunrise, sunset, day length</p> <p>Animals including humans</p> <p>Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feather fur, beak, paw, hooves.</p> <p>Other body parts linked to PSHE learning.</p> <p>Senses – touch, see, smell, taste, hear, skin, eyes, nose, ear, tongue.</p>	<p>Everyday Materials</p> <p>Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, tears, rough, smooth, shiny, dull, transparent, opaque.</p>	<p>Seasonal Changes</p> <p>Weather – sunny, snowy, rainy, windy etc</p> <p>Seasons – spring, summer, autumn, winter</p> <p>Sun, sunrise, sunset, day length</p> <p>Plants</p> <p>Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud.</p> <p>Names of trees in local area.</p> <p>Names of garden and wild flowering plants in the local area.</p>	<p>Plants</p> <p>Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud.</p> <p>Names of trees in local area.</p> <p>Names of garden and wild flowering plants in the local area.</p> <p>Animals including humans</p> <p>Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feather fur, beak, paw, hooves.</p> <p>Other body parts linked to PSHE learning.</p>

					<div>Senses – touch, see, smell, taste, hear, skin, eyes, nose, ear, tongue.</div> <div>Seasonal Changes</div> <div>Weather – sunny, snowy, rainy, windy etc</div> <div>Seasons – spring, summer, autumn, winter</div> <div>Sun, sunrise, sunset, day length</div>
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NC Objectives

Small steps progression

Term 1 – 7 weeks	Term 2 – 7 weeks	Term 3 – 5 weeks	Term 4 – 6 weeks	Term 5 – 6 weeks	Term 6 – 7 weeks
Light	States of Matter	States of Matter	Animals including Humans (3)	Electricity	Living Things and Their Habitats
<p>Recognise that they need light in order to see things, and that dark is the absence of light.</p> <p>Notice that light is reflected from surfaces</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>Recognise that shadows are formed when the light from a light source is blocked by an opaque object.</p> <p>Find patterns in the way that the size of shadows change.</p>	<p>Compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>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>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>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food – they get nutrition from what they eat.</p> <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p>Why do we see objects as a particular colour?</p>	<p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts including cells, wires, bulbs, switches and buzzers.</p> <p>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>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>Recognise some common conductors and insulators, and associate metals with being good conductors.</p>	<p>Recognise that living things can be grouped in a variety of ways.</p> <p>Explain and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p>
<ol style="list-style-type: none"> To identify different light sources. To understand that the moon, windows and shiny objects like mirrors or tin foil are not light sources. To understand that if there is no light, we cannot see anything, so dark is the absence of light. To observe shadows as being the same shape as the object which formed them. To understand that opaque objects block the light, causing a shadow. To observe your own shadow as you stand still and move around. To set up and carry out a fair test to observe how shadows change when the light source is closer to the object or at a different angle. To understand that light from the sun can be dangerous and that we need to protect our eyes and not look directly at the sun. 	<ol style="list-style-type: none"> To understand that matter is something which takes up space, for instance, water, ice and air. To understand that matter has volume and weight. To understand that state refers to whether the matter is a solid, liquid or a gas. To understand that all matter is made up of particles and that these particles behave differently depending on whether they are a solid, liquid or a gas. To understand the different properties of a solid, liquid and gas. To identify and classify a range of different objects as solids, liquids and gases. To observe how raisins (a sloid) behave in lemonade (liquid and gas) and explain how this shows the properties of the different states. To understand that melting happens when heat is applied and changes the state from a solid to a liquid. To carry out a fair test to show that melting will happen at different speeds with different temperatures. To understand that condensing is when a liquid turns into a gas when heated. To carry out a fair test to see the best place for washing to 	<ol style="list-style-type: none"> To understand that a gas will condense when it is cooled and gather as a liquid on a surface. To consider different types of condensation in everyday life (e.g. after having a shower, boiling a kettle, cooking). To be able to explain how a liquid changes to a gas or a solid and a gas changes to a liquid and a solid changes to a liquid. To carry out a fair test to observe how different liquids freeze (e.g. water, salt water, fairy liquid, milk, honey, golden syrup etc.). To understand the process of the water cycle and how the water changes state through heating and cooling through the different stages of the cycle. 	<ol style="list-style-type: none"> To understand that humans need food and need a balanced diet. To recognise that humans cannot make their own food like plants can. To know where humans skeletons are and understand the purpose of the skeleton for movement, support and protection. To name some bones in the human skeleton To compare human skeletons with those of other animal groups, noticing similarities and differences between them. To recognise that we have muscles which help us to move and that these work in pairs. These muscles are controlled by our brain and are voluntary. To recognise that some muscles, help our organs to work, such as in the digestive system and pumping blood around our bodies. These are involuntary muscles. To name some muscles in the human body. 	<ol style="list-style-type: none"> To recognise which appliances use electricity. To identify and classify whether the appliances use mains electricity or a battery or both. To identify and name the components in a simple series circuit (wires, battery, cell, bulb, buzzer, switch) To make a series circuit and understand that when the switch is open, the bulb/buzzer will not work as the circuit is incomplete, but when it is closed they will work as the circuit is complete. To understand what is meant by the words conductor and insulator and explain that conductors will allow electricity to travel through, but insulators won't. To carry out a fair test to identify which materials are electrical conductors and which are insulators by including these materials to make a complete series circuit. To use a battery and a bulb and another material which is a conductor to make a bulb light (no wires given to the children.) 	<ol style="list-style-type: none"> To understand the different characteristics of living things and that all living things have movement, respiration, sensitivity, growth, reproduction excretion and nutrition. To understand the vocabulary vertebrate and invertebrate and be able to classify animals using this vocabulary. To recognise patterns within the groups mammals, amphibians, birds, fish, insects for whether they are vertebrates or invertebrates. To classify plants into flowering and non-flowering. To understand how to use a classification key to identify both animals and flowers. To understand how habitats can change both naturally and as a result of humans. To understand how ecosystems are affected by these changes. To consider ways to reduce the impact of these changes. To consider the impact of pollution on the environment and the

		dry and to observe how a puddle changes throughout the day based on the temperature.				dangers of this for animals and plants.
Specific lessons	Do we need light to see things? 2 weeks How are shadows formed? 2 weeks What happens to the size of a shadow when the object moves closer to, or further away from, the light source? 3 weeks	What is matter and what does state mean? 1 week What are solids, liquids and gases? 4 weeks Melting: How do materials change state? 1 week Evaporating: How do materials change state? 1 week	Condensing: How do materials change state? 1 week How do materials change their state of matter? 1 week <u>What is the water cycle and how does it work?</u> 2 weeks	What effect does the food we eat have? 2 weeks Where is my skeleton and what does it do? 2 weeks Where are my muscles and what do they do? 2 weeks	What appliance use electricity? 1 week What sort of power makes them work? 1 week How can we be safe with electricity? 1 week What are the components in a simple series circuit? 1 week <u>What materials are conductors and what materials are insulators?</u> 1 week <u>How can you make a bulb light without any wires?</u> 1 week	What are the characteristics of living things? 1 week What animals are vertebrates? 1 week What animals are invertebrates? 1 week What groups are plants classified in? 1 week What is classification and how is a classification key used? 2 weeks What happens if the environment in a habitat changes? 1 week
Enquiry Types and Working Scientifically Skills	Enquiry Comparative and fair test Observations over time Skills Predictions, setting up enquiry, gathering results, drawing conclusions, evaluating	Enquiry Identifying and classifying Research Comparative and fair tests Observations over time. Skills Predictions, setting up enquiry, gathering results, drawing conclusions, evaluating	Enquiry Research Comparative and fair tests Skills Predictions, setting up enquiry, gathering results, drawing conclusions, evaluating	Enquiry Research Pattern Seeking Skills Predictions, setting up an enquiry, measuring accurately, recording results, drawing conclusions, evaluating.	Enquiry Identifying and classifying Comparative and fair tests Skills Predictions, setting up an enquiry, measuring accurately, recording results, drawing conclusions, evaluating.	Enquiry Identifying and classifying Research Skill Predictions, setting up an enquiry, recording results, drawing conclusions, evaluating.
Vocabulary	Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous.	Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, condensation, temperature, water cycle.	Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, condensation, temperature, water cycle.	Nutrition, nutrients, carbohydrates, sugars, proteins, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine.	Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connection, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal.	Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate.

NC Objectives

Small steps progression

Specific lessons

	Term 1 – 7 weeks	Term 2 – 7 weeks	Term 3 – 5 weeks	Term 4 – 6 weeks	Term 5 – 6 weeks	Term 6 – 7 weeks
	Properties and Changes of Materials	Properties and Changes of Materials	Animals including Humans (5)	Electricity	Living things and their habitats (5)	Light
	<p>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>Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p>	<p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.</p>	<p>Describe the changes as humans develop to old age.</p>	<p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in a circuit.</p> <p>Compare and give reasons for variations on how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>	<p>Describe the differences in life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p>	<p>Recognise that light appears to travel in straight lines.</p> <p>Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.</p> <p>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>Use the idea that light travels in straight lines to explain why shadows have the same shape as the object that cast them.</p>
	<ol style="list-style-type: none"> To consider the properties of a range of different materials and recap previously taught vocabulary, such as conductor and insulator, transparent, translucent and opaque. To consider the purpose of different materials based on their properties and identify and classify these materials accordingly. To understand the terms solution and mixture and explain the difference between them. To understand what is meant by the word dissolve and carry out a fair test to see which ingredients dissolve in water to form a solution. Children to develop their own enquiry question based on a fair test about dissolving e.g. would coffee dissolve quicker in hotter water or colder water? To consider different solutions made from dissolving. And use evaporation to separate these. 	<ol style="list-style-type: none"> To use knowledge of the properties of materials using sieving, magnetism and filtration to separate different mixtures. To consider reversible changes caused by melting, freezing, boiling e.g. melting. Chocolate or butter, freezing water etc. To test and carry out reversible changes by melting, freezing, evaporating, condensing. To consider irreversible changes caused by heating/burning e.g. toast, marshmallows, wood on a fire etc. To carry out some irreversible changes by heating/burning. 	<ol style="list-style-type: none"> To consider how humans change throughout their lives, from babies, to toddlers, children, teenagers and old age. To understand how our bodies change during puberty and how we develop into adults. To research whether all animals have the same gestation period. To use research to produce a line graph in order to answer the pattern seeking enquiry question ‘Do larger mammals have a longer gestation period?’ 	<ol style="list-style-type: none"> To understand how electricity is made up from atoms, which have protons, neutrons, electrons and a nucleus. To explore static electricity, showing that the charge has transferred from one object to another, which is how electricity works in circuits. To recap the names of the different components in a series circuit and learn the symbols which represent each component in diagrams. To consider a range of questions using fair tests in a series circuit, involving adding or taking away more components. <ul style="list-style-type: none"> What happens to the brightness of the bulb if I add more batteries/add more bulbs? Does a bigger battery always make the bulb light up the brightest? Does adding a battery effect the volume of a buzzer? etc. 	<ol style="list-style-type: none"> To recap what a mammal is and then learn the stages of a mammals life cycle. To recap what an amphibian is and then learn the stages of an amphibians life cycle. To compare the similarities and differences between the life cycles of a mammal and an amphibian. To recap what an insect is and then learn the stages of an insects life cycle. To recap what a bird is and then learn the stages of a birds life cycle. To compare the life cycles of a mammal, an amphibian, an insect and a bird. To research Maria Merion – who is she and what is she famous for? To consider how a range of living things reproduce. To learn about the life cycle of a plant, including how plants reproduce. 	<ol style="list-style-type: none"> To explain how light travels in straight lines, using different light sources to prove this (tea light, images of the sun/solar eclipse). To understand that light is made up of the seven colours of the rainbow. To understand that when we see light it is because it has been reflected off an object at an angle in straight lines. To set up and carry out a fair test to find out which surface reflects light the best. To understand that white light can be split and this then allows us to see objects in different colours, e.g. blue objects absorb all colours and only reflect the blue light in the spectrum. To observe that things appear to bend when they are placed in water. To understand that water as a liquid is denser than air as a gas, so light bends, or refracts, when it hits water making it appear like the object has bent.
	What properties do materials have? 2 week	How can we separate materials from a mixture? 1 week	What is the human timeline? 1 week How do we change into adults? 2 weeks	What is electricity and how does it work? 2 weeks	Life Cycles: What’s the difference between a mammals and an amphibians?	How does light travel? 1 week What colour is light made of? 1 week

Enquiry Types and Working Scientifically Skills	How do we use different materials based on their properties? 1 week What is a solution and what is a mixture? 1 week <u>What will dissolve? 1 week</u> <u>Fair test – children to create own question building from previous weeks fair test. 1 week</u> How can we separate materials from a solution? 1 week	What properties do materials have and how do we use them? (Revisited, looking back at results of fair tests) 1 week. What changes are reversible? 2 weeks What changes are irreversible? 2 weeks	How does human and animal gestation and lifespan compare? 2 weeks	What are the components in a series circuit? 1 week What are the effects and consequences of changing the components in a series circuit? 3 weeks	Lie cycles: What’s the difference between an insect and a bird? What is similar and what is different between the life cycles of a mammal, an insect, an amphibian and a bird? Summer birds: Who was Maria Merion and what did she do? The Science of life: How do living things reproduce? Plants: What’s the life process of reproduction?	Reflection – How does light help us to see objects? 1 week Which surfaces reflect light the best? 1 week Why do we see objects as a particular colour? 1 week Refraction - What happens to the appearance of objects when placed in water? 1 week
	Enquiries Identifying and classifying Comparative and fair tests Observations over time Skills Predictions, Setting up an enquiry, Writing an enquiry question, Measuring accurately, Recording results, Drawing conclusions	Enquiries Identifying and classifying Comparative and fair tests Observations over time Skills Predictions, Setting up an enquiry, Writing an enquiry question, Measuring accurately, Recording results, Drawing conclusions	Enquiry Research Observations over time (photos) Pattern seeking Skills Presenting information	Enquiry Comparative and fair tests Research Skills Predictions, Setting up an enquiry, Asking questions, Presenting results, Drawing conclusions, Evaluating	Enquiry Research Identifying and classifying Observations over time Skills Presenting information, Setting up enquiries, Presenting results, Drawing conclusions, Evaluating	Enquiry Comparative and fair tests Research Skills Predictions, Setting up enquiries, Presenting results, Drawing conclusions, Evaluating
	Thermal/electrical conductor/insulator, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material.	Thermal/electrical conductor/insulator, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material.	Embryo, foetus, baby, toddler, child, teenager, adult, older adult, adolescence, puberty, gestation, life expectancy	Circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage.	Life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings.	Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, refract, mirror, sunlight, straight lines, light rays.