



## Forwards Centre Science: LONG-TERM OVERVIEW

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Green Room Cycle A	Animals including humans	Seasonal Changes And Everyday materials	Seasonal Changes	Animals including humans	Plants	Seasonal Changes
Green Room Cycle B	Uses of everyday materials	Animals including humans	Living things and their habitats		Plants	
Blue and Burgundy Room Cycle A	Plants	Light	Rocks		Animals, including humans	Forces and Magnets
Blue and Burgundy Room Cycle B	Living things and their habitats	States of Matter	Sound	Electricity	Animals, including humans	
Purple Orange Yellow and Turquoise Room Cycle A	Animals including Humans	Electricity	Living things and their habitats	Light	Evolution and Inheritance	
Purple Orange Yellow and Turquoise Room Cycle B	Earth and Space	Properties and changes of matter	Forces		Living things and their habitats	Animals including humans

		<b>Biology</b>		
		<b>Green Room</b>	<b>Blue and Burgundy Room</b>	<b>Purple Orange Yellow and Turquoise Room</b>
<b>Animals including Human</b>		<ul style="list-style-type: none"> <li>I can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</li> <li>I can identify, name, draw and label the basic parts of the human body (including head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth) and say which part of the body is associated with each sense</li> <li>I can use my senses to compare different textures, sounds and smells</li> <li>I can ask a simple question and recognise that it can be answered in different ways</li> <li>I can perform a simple test</li> <li>I can name and identify a variety of common animals including fish, amphibians, reptiles, birds and mammals</li> <li>I can name and identify a variety of common animals that are carnivores, herbivores and omnivores</li> <li>I can identify and classify animals by what they eat (carnivores, herbivores and omnivores)</li> <li>I can identify and classify common animals (birds fish amphibians reptiles' mammals and invertebrates)</li> <li>I can explore my local environment to find out about animals in their natural habitats</li> <li>I know that animals including humans have offspring</li> <li>I know that offspring grow into adults</li> <li>I can describe the basic needs of animals including humans</li> <li>I can describe what animals need to survive (water, food and air)</li> <li>I can describe why exercise; eating the right amount of different types of food and hygiene are important for humans</li> <li>I can describe the life cycle of some living things e.g., egg, chick chicken or egg, caterpillar, pupa, butterfly or lamb, sheep or baby, toddler, child, teenager, adult</li> <li>I can ask a simple question for example about what things an animal needs to survive and what humans need to stay healthy</li> <li>I can suggest a way to find answers to the question</li> </ul>	<ul style="list-style-type: none"> <li>I know that animals, including humans, need the right types and amount of nutrition,</li> <li>I know that animals (including humans) cannot make their own food and get nutrition from what they eat.</li> <li>I can identify that humans and some other animals, have skeletons and muscles for support, protection and movement.</li> <li>I can gather, record, classify and present data in a variety of ways to help in answering questions for example, can identify and group animals with and without skeletons and observe and compare their movement;</li> <li>I can ask relevant questions and use different types of scientific enquires to answer them, for example exploring ideas about what would happen if humans did not have skeletons; comparing and contrasting the diets of different animals (including their pets) and decide ways of grouping them according to what they eat; or researching different food groups and how they keep us healthy- designing meals based on what they find out.</li> <li>I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.</li> <li>I can describe the simple function of the basic parts of the digestive system in humans (for example, mouth, tongue, teeth, oesophagus, stomach and small and large intestine)</li> <li>I can identify the different types of teeth in humans and their simple functions</li> <li>I can construct and interpret a variety of food chains, identifying producers, predators and prey</li> <li>I can report findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions for example comparing the teeth of carnivores and herbivores, and suggesting reasons for differences or finding out what damages teeth and how to look after them</li> <li>I can gather, record, classify and presenting data in a variety of ways to help in answering questions for example finding out what damages teeth and how to look after them for example comparing the teeth of carnivores and herbivores, and suggesting reasons for differences or finding out what damages teeth and how to look after them</li> <li>I can use straight forward scientific evidence to answer questions or to support my finding for example comparing the teeth of carnivores and herbivores, and suggesting reasons for differences or finding out what damages teeth and how to look after them</li> </ul>	<ul style="list-style-type: none"> <li>I can identify and name the main parts of the human circulatory system</li> <li>I can describe the functions of the heart, blood vessels and blood</li> <li>I can recognise the impact of diet, exercise, drugs and lifestyle on the way that my body functions</li> <li>I can describe the ways in which nutrients and water are transported within animals, including humans</li> <li>I can report and present findings from enquiries, including conclusions, casual relationships and explanations of results in oral and written forms such as displays and other presentations for example I can identify scientific evidence that has been used to support or refute ideas or arguments for example I can explore the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health</li> <li>I can describe the changes as humans develop to old age</li> <li>I can create a timeline to indicate stages of growth in humans</li> <li>I can explain about the changes experienced in puberty</li> <li>I can report and present findings from enquiries, including conclusions, casual relationships and explanations of results in oral and written forms such as displays and other presentations - for example researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows.</li> </ul>

Plants	<ul style="list-style-type: none"> <li>• I can name, identify and describe the petal, flower, blossom, fruit, stem, leaf, bulb, seed, trunk, branch and root of a plant and / or tree</li> <li>• I can identify and name a variety of common wild and garden plants including deciduous and evergreen trees in the local environment</li> <li>• I can observe closely using simple equipment - compare and contrast different plants using a magnifying glass</li> <li>• I can draw diagrams showing the parts of different plants including trees</li> <li>• I can identify and classify plants explaining the way that I have grouped them</li> <li>• I can keep a record of how plants change over time (plant diary) for examples leaves falling off trees, or buds opening and compare / contrast what I have found out about different plants</li> <li>• I can describe what plants need to grow and stay healthy (water, light and a suitable temperature)</li> <li>• I can observe and describe how seeds and bulbs grow into mature plants</li> <li>• I can perform a simple test for example setting up a comparative test to show that plants need light and water to stay healthy</li> <li>• I can gather and record data to answer a question for example observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing similar plants at different stages of growth</li> </ul>	<ul style="list-style-type: none"> <li>• I can identify and describe the functions of different parts of plants (roots stem/trunk, leaves and flowers)</li> <li>• 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</li> <li>• I can investigate the ways in which water is transported within plants</li> <li>• I can explore the part that flowers play in the life cycle of flowering plants including pollination, seed formation and seed dispersal.</li> <li>• I can ask relevant questions and use different types of scientific enquires to answer them for example exploring questions that focus on the role of the roots and stem in nutrition and support, leaves for nutrition and flowers for reproduction</li> <li>• I can set up a simple practical enquiry, comparative and fair test for example comparing the effect of different factors on plant growth, for example, the amount of light, the amount of fertiliser; or they might observe how water is transported in plants, for example, by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers</li> <li>• I can use straightforward scientific evidence to answer questions or to support their findings for example comparing the effect of different factors on plant growth, for example, the amount of light, the amount of fertiliser; or they might observe how water is transported in plants, for example, by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers</li> <li>• I can report findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions for example comparing the effect of different factors on plant growth, for example, the amount of light, the amount of fertiliser; or they might observe how water is transported in plants, for example, by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers</li> <li>• I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. for example, comparing the effect of different factors on plant growth, for example, the amount of light, the amount of fertiliser; or they might observe how water is transported in plants, for example, by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers</li> </ul>	
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Living Things

- I can explore and compare the differences between things that are living, dead and things that have never been alive
- I can identify that most living things live in habitats (a natural environment or home of a variety of plants and animals) 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
- I can identify and name a variety of plants and animals in their habitats, including microhabitats (a very small habitat, for example for woodlice under stones, logs or leaf litter).
- I can describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.
- I can raise and answer questions about the local environment that help me to identify and study a variety of plants and animals within their habitat and observe how living things depend on each other, for example, plants serving as a source of food and shelter for animals.
- I can observe different habitats and microhabitats closely, using simple equipment, to describe and find out how the conditions affect the number and type(s) of plants and animals that live there
- I can sort and classify things according to whether they are living, dead or were never alive, and record my findings using charts.
- I can describe how I have decided where to place things, exploring questions for example: 'Is a flame alive? Is a deciduous tree dead in winter?'
- I can construct a simple food chain that includes humans (grass, cow, human)

- I can recognise that living things can be grouped in a variety of ways e.g. begin to put vertebrate animals into groups such as fish, amphibians, reptiles, birds, and mammals; and invertebrates into snails and slugs, worms, spiders, and insects Plants can be grouped into categories such as flowering plants (including grasses) and non-flowering plants, such as ferns and mosses.
- I can explore and use a classification key to help group, identify and name a variety of living things in my local and wider environment e.g. animals and flowering plants and non-flowering plants.
- I recognise that environments change and that this can sometimes pose dangers to living things for example looking at human impact (both positive and negative) on environments, for example, the positive effects of nature reserves, ecologically planned parks, or garden ponds, and the negative effects of population and development, litter or deforestation.
- I can make systematic and careful observations e.g., identify how the habitat changes throughout the year
- I can gather, record, classify and presenting data in a variety of ways to help in answering questions e.g., pupils could use and make simple guides or keys to explore and identify local plants and animals; making a guide to local living things; raising and answering questions based on their observations of animals and what they have found out about other animals that they have researched.
- I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
- I can report 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 use straightforward scientific evidence to answer questions or to support their findings

- I can describe and compare the life cycles of a range of animals, including humans, amphibians, insects and birds (for example observing and comparing the life cycles of plants and animals in the local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities and differences)
- I can talk with knowledge about birth, reproduction and death of familiar animals or plants
- I can explore the work of well know naturalists and animal behaviourists (David Attenborough and Jane Goodall)
- I can report and present findings from enquiries, including conclusions, casual relationships and explanations of results in oral and written forms such as displays and other presentations (For example trying to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs. Or observe changes in an animal over a period of time (for example, by hatching and rearing chicks), comparing how different animals reproduce and grow)
- I can identify scientific evidence that has been used to support or refute ideas or arguments
- I can explain how living things are classified into broad groups according to common observable characteristics and based on similarities and differences (including micro-organisms, plants and animals) For example commonly found invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals).
- I can give reasons for classifying plants and animals based on specific characteristics (e.g., they should discuss reasons why living things are placed in one group and not another)
- I can report and present findings from enquiries, including conclusions, casual relationships and explanations of 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
- I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bars and line graphs for example using classification systems and keys to identify some animals and plants in the immediate environment.

Name \_\_\_\_\_

Year started \_\_\_\_\_

Class started in \_\_\_\_\_

Highlight when covered  
Highlighted and dated when  
achieved

<b>Evolution</b>			<ul style="list-style-type: none"> <li>• I can recognise that living things have changed over time</li> <li>• I know that fossils provide information about living things that inhabited the Earth millions of years ago</li> <li>• I know that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</li> <li>• I can identify how animals and plants are adapted to suit their environment in different ways and that adaptations may lead to evolution</li> <li>• I can report and present findings from enquiries, including conclusions, casual relationships and explanations of results in oral and written forms such as displays and other presentations</li> </ul> <p>I can identify scientific evidence that has been used to support or refute ideas or argument</p>
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<b>Chemistry</b>			
	<b>Green Room</b>	<b>Blue and Burgundy Room</b>	<b>Purple Orange Yellow and Turquoise Room</b>
<b>Rocks Soil and Fossils</b>		<ul style="list-style-type: none"> <li>• I can compare and group together different kinds of rocks based on their simple physical properties and their appearance</li> <li>• I can describe in simple terms how fossils are formed when things that have lived are trapped within rocks</li> <li>• I can recognise the soils are made from rocks and organic matters</li> <li>• I can explore different kinds of rocks and soils,</li> <li>• I can observe rocks, including those used in buildings and gravestones, and exploring how and why they might have changed over time.</li> <li>• I can make careful observations, using a hand lens or microscope to help me identify and classify rocks according to whether they have grains or crystals, and whether they have fossils in them.</li> <li>• I can research and discuss the different kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed.</li> <li>• I can explore different soils and identify similarities and differences between them and investigate what happens when rocks are rubbed together or what changes occur when they are in water.</li> <li>• I can ask relevant questions about the way soils are formed and use different types of scientific enquires to answer them</li> </ul>	
<b>Everyday Materials – classifying and grouping materials / changing materials/ state of matter</b>	<ul style="list-style-type: none"> <li>• I can distinguish between an object and the material from which it is made</li> <li>• I can identify and name a range of everyday materials (wood rock plastic metal water glass brick, paper, fabrics, elastic, foil)</li> <li>• I can describe the simple physical properties of a variety of everyday materials (e.g., hard/soft, stretch/stiff, shiny/dull, rough/smooth, bendy/not bendy, waterproof/not waterproof, absorbent/not absorbent opaque/transparent)</li> <li>• I can compare and group together a variety of everyday materials on the basis of their simple physical properties</li> <li>• I can explain what material, objects are made from</li> <li>• I can sort materials into groups by a given criteria</li> <li>• I can perform a simple test to explore questions, for example: 'What is the best material for an umbrella? Or for lining a dog basket? ...for curtains? ...for a bookshelf? ...for a gymnast's leotard?</li> </ul>		<ul style="list-style-type: none"> <li>• I can compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical) and response to magnets</li> <li>• I can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials including wood, plastic and metals</li> <li>• I can demonstrate that dissolving, mixing and changes of state are reversible changes</li> <li>• I know that some materials will dissolve in liquid to form a solution</li> <li>• I can describe how to recover a substance from a solution</li> <li>• I can use my knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</li> <li>• I can explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving,</li> <li>• I can recognise that melting and dissolving are different processes.</li> </ul>

	<ul style="list-style-type: none"> <li>• I can identify and compare the suitability of a range of everyday materials (wood metal plastic glass brick/ rock paper/cardboard) for particular uses</li> <li>• I can explore how the shapes of solid objects made out of some materials can be changed by squashing bending twisting stretching</li> <li>• I know that some materials are used for more than one thing (metal can be used for coins, cans, cars and table legs; wood can be used for matches, floors, and telegraph poles)</li> <li>• I know that different materials are used for the same thing (spoons can be made from plastic, wood, metal, but not normally from glass).</li> <li>• I can think about the properties of materials and why that makes them / suitable or unsuitable for particular purposes</li> <li>• I can identify and classify materials</li> <li>• I can compare the uses of everyday materials in and around school with materials found in other places such as those found at home, and / or in stories</li> <li>• I can observe materials closely, identifying and classifying the uses of different materials,</li> <li>• I can record my observations.</li> </ul>		<ul style="list-style-type: none"> <li>• I can explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda.</li> <li>• I can describe changes using scientific words (evaporation / condensation)</li> <li>• I can correctly use the terms reversible and irreversible</li> <li>• I know (through observation) that some conductors produce a brighter bulb in a circuit than others and that some materials will feel hotter than others when a heat source is placed against them.</li> <li>• I can plan a scientific enquiry (a test) to answer questions, for example, 'Which materials would be the most effective for making a warm jacket / for wrapping ice cream to stop it melting / for making blackout curtains/to make a switch on a circuit?'</li> <li>• I can report and present findings from enquiries, including conclusions and explanations of results in oral and written forms such as displays and other presentations</li> </ul>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">States of matter</p>		<ul style="list-style-type: none"> <li>• I can compare and group materials based on their states of matter according to whether they are liquids, solids or gases</li> <li>• I know that solids hold their shape; liquids form a pool not a pile; gases escape from an unsealed container.</li> <li>• I can observe that some materials (for example – water) change state when they are heated or cooled and measure/research the temperature at which this happens (degrees C) –</li> <li>• I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</li> <li>• I can make systematic and careful observations when exploring the effect of temperature on substances such as chocolate, butter, cream (for example, to make food such as chocolate crispy cakes and ice-cream for a party) and can report my findings and conclusions</li> <li>• I can group and classify a variety of different materials; recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.</li> </ul>	

Physics			
	Green Room	Blue and Burgundy Room	Purple Orange Yellow and Turquoise Room
Light	<ul style="list-style-type: none"> <li>I can observe changes across the 4 seasons</li> <li>I can observe and describe the weather associated with the seasons and how day length varies</li> <li>I can gather and record data to help answer the questions what is the weather like in the UK? Is the weather always the same throughout the year? Is it always day light for the same number of hours each day?</li> <li>I can present my findings by making charts about the weather; and making displays of what happens to the day length, as the seasons change.</li> </ul>	<ul style="list-style-type: none"> <li>I know that we need light in order to see things</li> <li>I know that dark is the absence of light</li> <li>I can observe that light is reflected from surfaces</li> <li>I know that light from the sun can be dangerous and that there are ways to protect my eyes</li> <li>I can explain how shadows are formed</li> <li>I can find patterns in the way that the size of shadows changes</li> <li>I can set up a simple practical enquiry to look for and measure shadows - Finding out how they are formed and what might cause them to change.</li> <li>I can make systematic and careful observations of shadows and take accurate measurements using standard units, using a range of equipment</li> <li>I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables</li> <li>I can look for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes.</li> <li>I can explore what happens when light reflects off a mirror or other reflective surfaces</li> </ul>	<ul style="list-style-type: none"> <li>I know that light appears to travel in straight lines</li> <li>I can use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye</li> <li>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</li> <li>I can use the idea that light travels in straight lines to explain why shadows have the same shapes as the objects that cast them</li> <li>I can plan a scientific enquiry to answer, where to place rear-view mirror in a car</li> <li>I can investigate and then conclude my findings – reporting and presenting them in either oral and written forms such as displays and other presentations</li> <li>I can design and make a periscope explaining how it works by using the idea that light appears to travel in straight lines</li> </ul>
Sound		<ul style="list-style-type: none"> <li>I can identify how sounds are made associating some of them with something vibrating</li> <li>I can recognise that vibrations from sounds travel through a medium to the ear</li> <li>I can find patterns between the pitch of a sound and features of the object that produced it</li> <li>I can find patterns between the volume of a sound and the strength of the vibrations that produced it</li> <li>I can recognise that sounds get fainter as the distance from the sound source increases</li> <li>I can predict whether the size of an object (e.g., saucepan lid) will influence the pitch or volume of a sound</li> <li>I can set up a simple practical enquiry, comparative and fair test to investigate and explore different objects such as saucepan lids of different sizes to see if they impact the pitch or volume of the sound</li> <li>I can use results to draw simple conclusions, and suggest patterns relating to the size of the saucepan lid and the pitch / volume /sounds that they make.</li> <li>I can report findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</li> </ul>	
Forces and Magnets		<ul style="list-style-type: none"> <li>I can compare how things move on different surfaces</li> <li>I can observe that some forces need contact between 2 objects (for example opening a door or pushing a swing), but magnetic forces can act at a distance</li> <li>I can observe that some magnets attract / repel each other and attract some materials and not others</li> </ul>	<ul style="list-style-type: none"> <li>I can explain that unsupported objects fall towards Earth because of the force of gravity acting between the Earth and the falling object</li> <li>I can identify the effects of air resistance (by exploring falling objects e.g., paper cones or cup-cake cases parachutes and sycamore seeds) water resistance and friction (by exploring the effects of friction on movement and find out how it slows or stops</li> </ul>



		<ul style="list-style-type: none"> <li>• I can classify (compare and group) a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</li> <li>• I can describe that magnets have 2 poles</li> <li>• I can predict whether 2 magnets will attract or repel each other, depending on which poles are facing.</li> <li>• I can ask relevant questions; set up a simple practical enquiry, to find out how far things move on different surfaces and what effects the distance that it travels.</li> <li>• I can gather, record and present the data that I have found to help answer my question.</li> <li>• I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables</li> </ul>	<p>moving objects, for example, by observing the effects of a brake on a bicycle wheel)., that act between moving surfaces</p> <ul style="list-style-type: none"> <li>• I can recognise that some mechanisms, including levers, pulleys and gears allow a smaller force to have a greater effect</li> <li>• I can plan different types of scientific enquiries to answer questions, reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of results in oral and written forms such as displays and other presentations</li> </ul> <p>For example I can design and make a variety of parachutes; carrying out fair tests to determine which designs are the most effective and present my findings drawing any appropriate scientific conclusions</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Earth and Space</p>			<ul style="list-style-type: none"> <li>• I can describe the movement of the Earth and other planets relative to the Sun in the solar system</li> <li>• I know that the sun is a star at the centre of our solar system</li> <li>• I know that our solar system has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006)</li> <li>• I know that a moon is a celestial body that orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).</li> <li>• I can describe the movement of the Moon relative to the Earth</li> <li>• I can describe the Sun, Earth and Moon as approximately spherical bodies</li> <li>• 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.</li> <li>• I can use my scientific knowledge to construct a simple shadow clock / sundial, and calibrate it to show midday</li> </ul>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Electricity</p>		<ul style="list-style-type: none"> <li>• I can identify everyday appliances which use electricity</li> <li>• I can recognise that electricity is an important source of light</li> <li>• I can explain how bulbs work in an electrical circuit</li> <li>• I can construct a simple series electrical circuit</li> <li>• I can identify and name basic parts of an electrical circuit – cells (not batteries), wires, bulbs, switches and buzzers</li> <li>• I can draw the circuit that I have made as a pictorial representation, (NB it is not necessary to use conventional circuit symbols at this stage)</li> <li>• 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</li> <li>• 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.</li> <li>• I can recognise some common conductor and insulators and associate metals with being good conductors</li> <li>• I can use straightforward scientific evidence to answer the question "will the bulb get brighter if more cells are added?"</li> </ul>	<ul style="list-style-type: none"> <li>• I know that the brightness of a lamp or the volume of a buzzer are linked to the number and voltage of cells used in the circuit</li> <li>• I can compare and give reasons for variation in how components function, including bulb brightness, buzzer volume and / off position of switches</li> <li>• I can use recognised symbols when representing a simple circuit in a diagram</li> <li>• I can plan a scientific enquiry to answer the question "how does a burglar alarm work?" And present my findings using scientific explanations</li> </ul>