



Year 1 Long Term Curriculum Plan for Science

<p><u>Big Question</u> Can I observe the effects of the changing seasons and weather in the world around me using my senses?</p> <p><u>Area of Learning</u> Seasonal changes</p> <p><u>Focus</u> Comparing the seasons and different weathers and how the changing seasons affect me</p> <p><u>NC Links</u> - observe changes across the four seasons - observe and describe weather associated with the seasons and how day length varies.</p>	<p><u>Big Question</u> Can I name and identify a range of basic materials and their properties and understand that these materials can be made in to different objects?</p> <p><u>Area of Learning:</u> Everyday materials</p> <p><u>Focus</u> Materials that bend, stretch and properties of ice and water</p> <p><u>NC Links</u> - 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</p>	<p><u>Big Question</u> Can I observe animal life around the school grounds and investigate how to care for animals?</p> <p><u>Area of Learning</u> Animals including humans</p> <p><u>Focus</u> Exploring animals and using our senses</p> <p><u>NC Links</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.</p>	<p><u>Big Question</u> Can I learn about a variety of familiar and less familiar animals including, fish, amphibians, reptiles, birds and mammals?</p> <p><u>Area of Learning</u> Animals including humans</p> <p><u>Focus</u> Fish, amphibians, reptiles, birds and mammals</p> <p><u>NC Links</u> - describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) -identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. -identify and name a variety of common animals that are carnivores, herbivores and omnivores - identify and name a variety of common animals including, fish, amphibians, reptiles, birds and mammals</p>	<p><u>Big Question</u> Can I understand that plants change as they grow according to seasons and weather conditions?</p> <p><u>Area of Learning</u> Plants</p> <p><u>Focus</u> Plants in different places and how they grow</p> <p><u>NC Links</u> - identify and describe the basic structure of a variety of common flowering plants, including trees - identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p>	<p><u>Big Question</u> Can I explore a wide variety of plants including trees found within my immediate environment?</p> <p><u>Area of Learning</u> Plants</p> <p><u>Focus</u> Plants and deciduous and evergreen trees</p> <p><u>NC Links</u> - identify and describe the basic structure of a variety of common flowering plants, including trees - identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p>
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Year 2 Long Term Curriculum Plan for Science

<p><u>Big Question</u> Can I understand and explain that one material can be used for multiple objects as well as one object being made from a range of materials?</p> <p><u>Area of Learning</u> Physics</p> <p><u>Focus</u> Materials</p> <p><u>NC Links</u> -identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses -find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p>	<p><u>Big Question</u> Can I recognise that a materials shape can be changed by bending, twisting, squashing and stretching?</p> <p><u>Area of Learning</u> Physics</p> <p><u>Focus</u> Materials</p> <p><u>NC Links</u> -identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses -find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p>	<p><u>Big Question</u> Can I build up a food chain by identifying different animals living in habitats?</p> <p><u>Area of Learning</u> Biology (Module 2)</p> <p><u>Focus</u> Living things and their habitats</p> <p><u>NC Links</u> -explore and compare the differences between things that are living, dead, and things that have never been alive -identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other -identify and name a variety of plants and animals in their habitats, including microhabitats -describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food</p>	<p><u>Big Question</u> Can I explain how living things are suited to the habitat they live in and the interactions between living organisms within that habitat?</p> <p><u>Area of Learning</u> Biology (Module 6)</p> <p><u>Focus</u> Living things and their habitats</p> <p><u>NC Links</u> -explore and compare the differences between things that are living, dead, and things that have never been alive -identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other -identify and name a variety of plants and animals in their habitats, including microhabitats -describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food</p>	<p><u>Big Question</u> Can I explain the sequence of germination and understand the difference between bulbs and seeds?</p> <p><u>Area of Learning</u> Biology</p> <p><u>Focus</u> Plants</p> <p><u>NC Links</u> -observe and describe how seeds and bulbs grow into mature plants find out and -describe how plants need water, light and a suitable temperature to grow and stay healthy</p>	<p><u>Big Question</u> Can I identify simple differences between living and non-living things and consider the basic needs of humans for survival?</p> <p><u>Area of learning:</u> Biology</p> <p><u>Focus:</u> Animals (including Humans)</p> <p><u>NC Links:</u> - notice that animals, including humans, have offspring which grow into adults find out about and describe the basic needs of animals, including humans, for survival (water, food and air) -describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</p>
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Year 3 Long Term Curriculum Plan for Science

<p><u>Big Question</u> Can I explore how forces make objects move, speed-up, slow down or change direction?</p> <p><u>Area of Learning</u> Forces and magnets</p> <p><u>Focus</u> The power of forces</p> <p><u>NC Links</u> - compare how things move on different surfaces -notice that some forces need contact between two objects, but magnetic forces can act at a distance - observe how magnets attract or repel each other and attract some materials and not others -compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials -describe magnets as having two poles -predict whether two magnets will attract or repel each other, depending on which poles are facing</p>	<p><u>Big Question</u> Can I explain how we see objects and the ways in which different objects reflect different amounts of light?</p> <p><u>Area of Learning</u> Light</p> <p><u>Focus</u> Can you see me?</p> <p><u>NC Links</u> - recognise that they need light in order to see things and that dark is the absence of light - notice that light is reflected from surfaces -recognise that light from the sun can be dangerous and that there are ways to protect their eyes -recognise that shadows are formed when the light from a light source is blocked by a solid object -find patterns in the way that the size of shadows change.</p>	<p><u>Big Question</u> Can I understand that the food we eat provides up with the nutrition that our bodies require to remain healthy?</p> <p><u>Area of Learning</u> Animals including humans</p> <p><u>Focus</u> Amazing bodies</p> <p><u>NC Links</u> - identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat - identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p><u>Big Question</u> Can I identify and name rocks, describing and comparing their properties and sort them using a key?</p> <p><u>Area of Learning</u> Rocks</p> <p><u>Focus</u> Rock detectives</p> <p><u>NC Links</u> - compare and group together different kinds of rocks on the basis of their appearance and simple physical properties - describe in simple terms how fossils are formed when things that have lived are trapped within rock -recognise that soils are made from rocks and organic matter</p>	<p><u>Big Question</u> Can I explain the absorption and transport of water and nutrients and the role of the leaf in making food for the plant?</p> <p><u>Area of Learning</u> Plants</p> <p><u>Focus</u> How does your garden grow?</p> <p><u>NC Links</u> - identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers - 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 -investigate the way in which water is transported within plants -explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<p><u>Big Question</u> Can I identify the parts of the flower and explain their roles in plant reproduction and the stages of the life cycle of a flowering plant?</p> <p><u>Area of Learning</u> Plants</p> <p><u>Focus</u> How does your garden grow?</p> <p><u>NC Links</u> - identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers -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 -investigate the way in which water is transported within plants -explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>
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Year 4 Long Term Curriculum Plan for Science

<p><u>Big Question</u> Can I conduct a fair test?</p> <p><u>Area of Learning</u> States of Matter</p> <p><u>Focus</u> Solids, liquids and gases, planning and conducting a fair test</p> <p><u>NC Links</u> - Compare and group materials together according to whether they are solids, liquids or gases. -Observe that some materials change state when they are heated or cooled and measure or research the temperature at which this happens. -Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p><u>Big Question</u> How is sound made?</p> <p><u>Area of Learning</u> Good vibrations</p> <p><u>Focus</u> Sound</p> <p><u>NC Links</u> -Identify how sounds are made, associating some of them with something vibrating. -Recognise vibrations from sounds travel through a medium to the ear. -Find patterns between the volume of a sound and the strength of the vibrations that produced it. -Recognise that sounds get fainter as the distance from the sound source increases. -Find patterns between a pitch of sound and features of the object that produced it.</p>	<p><u>Big Question</u> How does electricity work?</p> <p><u>Area of Learning</u> Switched on</p> <p><u>Focus</u> Circuits</p> <p><u>NC Links</u> -Identify common appliances that run on electricity. -Construct a simple series electrical circuit, identifying and naming its basic parts including cells, wire, bulbs, switches and buzzers. -Identify whether or not a lamp will light in a simple series circuit, based on whether a lamp is part of a complete loop with a battery. -Recognise some common conductors and insulators and associate metals with being good conductors.</p>	<p><u>Big Question</u> Where does all that food go?</p> <p><u>Area of Learning</u> Digestion</p> <p><u>Focus</u> Digestion, teeth, animals teeth</p> <p><u>NC Links</u> -Describe the simple functions of the basic parts of the digestive system in humans -Identify the different types of teeth in humans and their simple functions -Construct and interpret a variety of food chains, identifying producers, predators and prey.</p>	<p><u>Big Question</u> What impacts do humans have on Planet Earth?</p> <p><u>Area of Learning</u> Human impact</p> <p><u>Focus</u> The environment</p> <p><u>NC Links</u> -Recognise that environments can change and that these changes can sometimes pose dangers to living things.</p>	<p><u>Big Question</u> Who lives here?</p> <p><u>Area of Learning</u> Living things and their habitats</p> <p><u>Focus</u> Humans</p> <p><u>NC Links</u> -Recognise that living things can be grouped in a variety of ways -Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p>
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Year 5 Long Term Curriculum Plan for Science

<p><u>Big Question</u> Can I identify, compare and classify a variety of materials according to their properties and uses?</p> <p><u>Area of Learning</u> Properties and changes of materials</p> <p><u>Focus</u> Get sorted</p> <p><u>NC Links</u> -Compare and group together everyday materials based on evidence from comparative and fair tests, including hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets.</p>	<p><u>Big Question</u> Can I understand and explain how different mixtures of solids and liquids might be separated?</p> <p><u>Area of Learning</u> Properties and changes of materials</p> <p><u>Focus</u> Marvellous mixtures</p> <p><u>NC Links</u> -Use knowledge of solids, liquids and gases to decide how mixtures might be separate, including through filtering, sieving and evaporating. -Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p>	<p><u>Big Question</u> Can I identify the Earth's and other planets place in the solar system and their relationships with other bodies in space?</p> <p><u>Area of Learning</u> Earth and space</p> <p><u>Focus</u> The Earth and beyond</p> <p><u>NC Links</u> -Describe the movement of the Earth and other planets in the solar system relative to the Sun. -Use the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky. -Describe the movement of the Moon relative to the Earth.</p>	<p><u>Big Question</u> Can I explain, compare and contrast a range of life cycles?</p> <p><u>Area of Learning</u> Life cycles</p> <p><u>Focus</u> Circle of life</p> <p><u>NC Links</u> -Explain the difference in lifecycles of a mammal, an amphibian, an insect and a bird.</p>	<p><u>Big Question</u> Can I understand how gravitational attraction and drag forces affect movement?</p> <p><u>Area of Learning</u> Forces</p> <p><u>Focus</u> Feel the force</p> <p><u>NC Links</u> -Identify the effects of air resistance, water resistance and friction, which act between moving surfaces. -Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object, and identify the effects of air resistance, water resistance and friction, which act between moving surfaces. -Identify scientific evidence that has been used to support or refute ideas in arguments. -Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	<p><u>Big Question</u> Can I show an understanding of reproduction in a range of plants and animals including humans?</p> <p><u>Area of Learning</u> Changes and reproduction</p> <p><u>Focus</u> Reproduction in plants and animals</p> <p><u>NC Links</u> -Describe the life process of reproduction in some plants and animals. -Describe the changes as humans develop to old age.</p>
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Year 6 Long Term Curriculum Plan for Science

<p><u>Big Question</u> Can I explore the process of classification and how it differs from, but relates to, the identification of living things?</p> <p><u>Area of Learning</u> The Nature Library</p> <p><u>Focus</u> Living Things and their Habitats</p> <p><u>NC Links</u> -Describe 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. -Give reasons for classifying plants and animals based on specific characteristics.</p>	<p><u>Big Question</u> Can I explain how the circulatory system enables the body to function and name the main parts and explain how they work together?</p> <p><u>Area of Learning</u> Body Pump</p> <p><u>Focus</u> Animals including humans</p> <p><u>NC Links</u> -Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. -Describe the ways in which nutrients and water are transported within animals, including humans.</p>	<p><u>Big Question</u> Can I explain how to keep my body healthy and understand how bodies might be damaged, with a focus on life style choices?</p> <p><u>Area of Learning</u> Body Health</p> <p><u>Focus</u> Animals including humans</p> <p><u>NC Links</u> Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p>	<p><u>Big Question</u> Can I explain how variation in organisms can result in adaptation and understand how natural selection over a period of time leads to evolution?</p> <p><u>Area of Learning</u> Everything Changes</p> <p><u>Focus</u> Evolution and inheritance</p> <p><u>NC Links</u> -Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. -Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. -Recognise that living things have changed over time and that fossils</p>	<p><u>Big Question</u> Can I construct circuits with an increasing number of components and use recognised electrical symbols to record circuits?</p> <p><u>Area of Learning</u> Danger! Low Voltage</p> <p><u>Focus</u> Electricity</p> <p><u>NC Links</u> -Use recognised symbols when representing a simple circuit in a diagram. -Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. -Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p>	<p><u>Big Question</u> Can I show an understanding of mirrors and the reflections they form to make a periscope?</p> <p><u>Area of Learning</u> Light up your World</p> <p><u>Focus</u> Light</p> <p><u>NC Links</u> -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. -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. -Recognise that light appears to travel in straight lines. -Use the idea that light travels in straight lines to explain why shadows have</p>
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			provide information about living things that inhabited the Earth millions of years ago.		the same shape as the objects that cast them.
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