



Science Curriculum Overview

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Topics to be covered according to Science Curriculum 2014					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plants	Living Things & Their Habitats	Plants	Animals, including humans	Living Things & Their Habitats	Living things & their Habitats
Animals, Including Humans	Plants	Animals, including humans	States of Matter	Animals, including humans	Animals, including Humans
Everyday Materials	Animals - including Humans	Rocks	Sound	Properties & Change of Materials	Evolution & Inheritance
Seasonal Changes	Use of Everyday Materials	Light	Electricity	Earth & Space	Light
		Forces & Magnets		Forces	Electricity

*Topics shaded in purple have come from the Science Curriculum and need to be covered – these can be moved but have been linked with Laurance Haines Topic Investigations. Topics in white are optional and can be used to close the gap. Suggested topics are linked to Topic Investigations.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	<p>SENSES 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>MATERIALS 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 What materials were used to build castles and weapons and why?</p>	<p>ANIMALS Identify and name a variety of common 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)</p>	<p>PLANTS 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.</p>	<p>SEASONS & WEATHER Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies. What is the weather like in Watford and an African town?</p>	<p>ANIMALS Identify and name a variety of common animals including fish, amphibians, reptiles, How can we protect the oceans?</p>
Year 2	<p>HUMANS & ANIMALS Explore and compare the differences between things that are living, dead, and things that have never been alive 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. How do I keep healthy?</p>	<p>MATERIALS Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. MATERIALS Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. How can we make structures more stable?</p>	<p>EARTH & SPACE Describe the movement of the Earth, and other planets, relative to the Sun in the solar system Labelling the planets of the solar system Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) – is life sustainable on different planets of the solar system?</p>	<p>PLANTS 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. How does nature inspire art?</p>	<p>ANIMALS IN INDIA 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 What animals are suited to an alpine climate?</p>	<p>ANIMAL CONSERVATION – British Wildlife Identify that most living things live in habitats to which they are suited and describe how different habitats provide for their basic needs 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 How can we protect British wildlife?</p>
Year 3	<p>NUTRITION & BONES 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. How does my body work?</p>	<p>ROCKS 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. What can we discover about the past from fossils?</p>	<p>FORCES & MOTION 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 How do magnets attract or repel?</p>	<p>SUSTAINABILITY & CARING FOR THE ENVIRONMENT Explore what we mean by sustainability and look at how we can use this knowledge to take more responsibility and care for our environment To link with Egyptian Civilisation What helped Egypt sustain civilisation? – (River Nile – fertile lands, renewed farmlands)</p>	<p>LIGHT 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 an opaque object Find patterns in the way that the size of shadows change. How are the Northern Lights formed?</p>	<p>PLANTS Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. How important is the part bees play in pollination?</p>



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<p>Year 4</p>	<p>SOUND Identify how sounds are made, associating some of them with something vibrating Recognise that vibrations from sounds travel through a medium to the ear Find patterns between the pitch of a sound and features of the object that produced it 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. What is the science of sound?</p>	<p>HUMANS – Digestion & teeth 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 How do I look after my health and teeth?</p> <p>To link with Romans: Why did the Romans have such good teeth? – low sugar diet, rich in fruit and vegetables – along with fluorine present in local water source ensured Pompeii Romans had nearly 'perfect teeth'</p>	<p>STATES OF MATTER Compare and group materials together, according to whether they are solids, liquids or gases Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. How does water change form?</p>	<p>CLIMATE SCIENCE & SUSTAINABILITY Explore what climate change is; its impacts and how we can modify our behaviour to create a more sustainable planet. Why are glaciers and sea ice melting?</p>	<p>ELECTRICITY Identify common appliances that run on electricity Construct a simple series electrical circuit, identifying & naming its basic parts 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 Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit Recognise some common conductors and insulators, and associate metals with being good conductors. Understand and use electrical systems in their products How do megacities generate enough electricity?</p>	<p>LIVING THINGS & THEIR HABITATS Recognise that living things can be grouped in a variety of ways Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment Recognise that environments can change and that this can sometimes pose dangers to living things. FOOD CHAINS Construct and interpret a variety of food chains, identifying producers, predators and prey. Study endangered animals and investigate how habitats are being affected by human activity</p>
<p>Year 5</p>	<p>HUMAN LIFE CYCLES Describe the changes as humans develop to old age. How am I similar or different to members of my family?</p>	<p>FORCES Identify the effects of air resistance, water resistance and friction, that act between moving surfaces Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. What did the Vikings understand about forces and how good were they as engineers?</p>	<p>EARTH & SPACE Describe the movement of the Earth, and other planets, relative to the Sun in the solar system Describe the movement of the Moon relative to the Earth Describe the Sun, Earth and Moon as approximately spherical bodies Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. GRAVITY Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object What is the relationship between the earth and the moon?</p>	<p>PROPERTIES & CHANGES IN MATERIALS Compare and group together everyday materials and their response to magnets Know that some materials will dissolve in liquid to form a solution, Use knowledge of solids, liquids and gases to decide how mixtures might be separated Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, Demonstrate that dissolving, mixing and changes of state are reversible changes Explain that some changes result in the formation of new materials. How are different materials used in sculpture?</p>	<p>LIFE CYCLES – RAINFOREST ANIMALS Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird Describe the life process of reproduction in some plants and animals. How do different animals and plants survive in the rainforest?</p>	<p>N/A</p>
<p>Year 6</p>	<p>THE HUMAN BODY Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function Describe the ways in which nutrients and water are transported within animals, including humans. How much can we control our own health?</p>	<p>ELECTRICITY - INVENTION Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit 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 Use recognised symbols when representing a simple circuit in a diagram. How has the invention of electricity improved life?</p>	<p>LIGHT 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. 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 why shadows have the same shape as the objects that cast them. How does light save lives?</p>	<p>CLASSIFICATION Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals Give reasons for classifying plants and animals based on specific characteristics. How can we classify living things in our school environment?</p>	<p>EVOLUTION & INHERITANCE ADAPTATION 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. How do plants and animals adapt to live by the coast? Where do we find evidence of life from the past in the environment?</p>	<p>N/A</p>