

DPS Key Stage One: Science Curriculum Overview						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	<p>LG: The Natural World Children at the expected level of development will: - Explore the natural world around them, making observations and drawing pictures of animals and plants; 15 - Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class; - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>					
Year 1	<p style="text-align: center;"><b>Chemistry Materials</b></p> <ul style="list-style-type: none"> <li>Distinguish between an object and the material from which it is made.</li> <li>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.</li> <li>Describe the simple physical properties of a variety of everyday materials.</li> </ul> <p style="text-align: center;"><b>Key scientist: /JohnMacAdam/Chester Greenwood</b></p> <p style="text-align: center;"><b>1 lesson of season at the start of each term</b></p>	<p style="text-align: center;"><b>Biology Understanding Animals</b></p> <ul style="list-style-type: none"> <li>Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates.</li> <li>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</li> <li>Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, including pets).</li> </ul> <p style="text-align: center;"><b>Science Trip: Brockets Farm</b></p> <p style="text-align: center;"><b>Key scientist: Chris Packham</b></p> <p style="text-align: center;"><b>1 lesson of season at the start of each term</b></p>	<p style="text-align: center;"><b>Biology Investigating Living Things</b></p> <ul style="list-style-type: none"> <li>Explore and compare the differences between things that are living, that are dead and that have never been alive.</li> <li>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.</li> <li>Identify and name a variety of plants and animals in their habitats, including micro-habitats.</li> <li>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.</li> </ul> <p style="text-align: center;"><b>Key scientist: Jane Goodall</b></p> <p style="text-align: center;"><b>1 lesson of season at the start of each term</b></p>	<p style="text-align: center;"><b>Biology Understanding Plants</b></p> <ul style="list-style-type: none"> <li>Identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen.</li> <li>Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.</li> </ul> <p style="text-align: center;"><b>Key scientist: Beatrix Potter</b></p> <p style="text-align: center;"><b>1 lesson of season at the start of each term</b></p>	<p style="text-align: center;"><b>Physics Seasonal changes</b></p> <ul style="list-style-type: none"> <li>Observe changes across the four seasons.</li> <li>Observe and describe weather associated with the seasons and how day length varies.</li> </ul> <p style="text-align: center;"><b>Key scientist: Dr Steve Lyons/ Holly Green</b></p> <p style="text-align: center;"><b>1 lesson of season at the start of each term</b></p>	<p style="text-align: center;"><b>Biology The Human Body</b></p> <ul style="list-style-type: none"> <li>Identify name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> <li>Observe and name a variety of sources of light, including electric lights, flames and the Sun, explaining that we see things because light travels from them to our eyes</li> <li>Observe and name a variety of sources of sound, noticing that we hear with our ears.</li> <li>Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene</li> </ul> <p style="text-align: center;"><b>Key scientist: Dian Fossey</b></p> <p style="text-align: center;"><b>1 lesson of season at the start of each term</b></p>
Year 2	<p style="text-align: center;"><b>Chemistry Materials</b></p> <ul style="list-style-type: none"> <li>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> <li>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> <li>Identify and compare the suitability of a variety of everyday materials,</li> </ul>	<p style="text-align: center;"><b>Physics The Earth and Space</b></p> <ul style="list-style-type: none"> <li>Name and order the planets</li> <li>Begin to describe the basic movements of the planets</li> <li>Identify and describe the composition, shape and position of different planets</li> <li>Describe the basic composition of the Earth, and identify different layers of this composition</li> <li>Identify the shape made by a planet's orbit</li> </ul>	<p style="text-align: center;"><b>Biology The Human Body</b></p> <ul style="list-style-type: none"> <li>Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene</li> <li>Identify name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> <li>Identify how humans resemble their parents in many features.</li> </ul>	<p style="text-align: center;"><b>Biology Understanding Animals</b></p> <ul style="list-style-type: none"> <li>Notice that animals, including humans, have offspring which grow into adults.</li> <li>Investigate and describe the basic needs of animals, including humans, for survival (water, food and air).</li> </ul>	<p style="text-align: center;"><b>Biology Understanding Plants</b></p> <ul style="list-style-type: none"> <li>Observe and describe how seeds and bulbs grow into mature plants.</li> <li>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul> <p style="text-align: center;"><b>Science Trip: Kew Gardens</b></p> <p style="text-align: center;"><b>Key scientist: Alan Titchmarsh/agnes Arber</b></p>	<p style="text-align: center;"><b>Physics Electricity and Circuits</b></p> <ul style="list-style-type: none"> <li>Identify common appliances that run on electricity.</li> <li>Construct a simple series electrical circuit.</li> </ul> <p style="text-align: center;"><b>Key scientist: Thomas Edison</b></p>

	including wood, metal, plastic, glass, brick/rock, and paper/cardboard for particular uses.  <b>Key scientist: Charles Mackintosh</b>	<ul style="list-style-type: none"> <li>Make connections between seasons and common weather conditions</li> </ul> <b>Key scientist: Neil Armstrong/ Mae Jemison</b>	<b>Key scientist: Elizabeth Garrett Anderson/ Steve Irwin</b>	<b>Key scientist: Liz Bonnin/ Rachel Carson-Marine</b>		
	<b>DPS Lower Key Stage 2: Science Curriculum Overview</b>					
	<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 1</b>	<b>Spring 2</b>	<b>Summer 1</b>	<b>Summer 2</b>
<b>Year 3</b>	<p style="text-align: center;"><b>Chemistry</b> <b>Rocks and Soils</b></p> <ul style="list-style-type: none"> <li>Compare and group together different kinds of rocks on the basis of their simple, physical properties.</li> <li>Relate the simple physical properties of some rocks to their formation (igneous or sedimentary).</li> <li>Describe in simple terms how fossils are formed when things that have lived are trapped within sedimentary rock.</li> <li>Recognise that soils are made from rocks and organic matter.</li> <li>Recognise different types of soil</li> </ul> <p style="text-align: center;"><b>Science Trip: NHM</b> <b>Key scientist: Mary Anning</b></p>	<p style="text-align: center;"><b>Physics</b> <b>Light, Shadow and Reflection</b></p> <ul style="list-style-type: none"> <li>Recognise that they need light in order to see things and that dark is the absence of light.</li> <li>Notice that light is reflected from surfaces.</li> <li>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</li> <li>Recognise that shadows are formed when the light from a light source is blocked by a solid object.</li> <li>Find patterns in the way that the size of shadows change.</li> </ul> <p style="text-align: center;"><b>Key scientist: Justus Von Liebig</b></p>	<p style="text-align: center;"><b>Biology</b> <b>Understanding Animals</b></p> <ul style="list-style-type: none"> <li>Identify that animals, including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat.</li> <li>Construct and interpret a variety of food chains, identifying producers, predators and prey.</li> <li>Identify that humans and some animals have skeletons and muscles for support, protection and movement.</li> </ul> <p style="text-align: center;"><b>Key scientist: Marie-Curie</b></p>	<p style="text-align: center;"><b>Physics</b> <b>Magnets and Forces</b></p> <ul style="list-style-type: none"> <li>Compare how things move on different surfaces.</li> <li>Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</li> <li>Observe how magnets attract or repel each other and attract some materials and not others.</li> <li>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.</li> <li>Describe magnets as having two poles.</li> </ul> <p style="text-align: center;"><b>Key scientist: The Wright Brothers (recap from Yr1) Henry Ford</b></p>	<p style="text-align: center;"><b>Biology</b> <b>Understanding Plants</b></p> <ul style="list-style-type: none"> <li>Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers.</li> <li>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>Investigate the way in which water is transported within plants.</li> <li>Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</li> </ul> <p style="text-align: center;"><b>Key scientist: Joseph Banks/ Jan Ingenhousz</b></p>	<p style="text-align: center;"><b>Physics</b> <b>Evolution and Inheritance</b></p> <ul style="list-style-type: none"> <li>Identify how plants and animals, including humans, resemble their parents in many features.</li> <li>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</li> <li>Identify how animals and plants are suited to and adapt to their environment in different ways.</li> </ul> <p style="text-align: center;"><b>Key scientist: Gregor Mendel</b></p>

<b>Year 4</b>	<p><b>Physics</b> <b>Electricity and Circuits</b></p> <ul style="list-style-type: none"> <li>Identify common appliances that run on electricity.</li> <li>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</li> <li>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>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>Recognise some common conductors and insulators, and associate metals with being good conductors.</li> </ul> <p><b>Key scientist: Joseph Swan/Edith Clarke</b></p>	<p><b>Biology</b> <b>Investigating Living Things</b></p> <ul style="list-style-type: none"> <li>Recognise that living things can be grouped in a variety of ways.</li> <li>Explore and use classification keys.</li> <li>Recognise that environments can change and that this can sometimes pose dangers to specific habitats.</li> </ul> <p><b>Key scientist: Joan Beauchamp Procter</b></p>	<p><b>Biology</b> <b>Understanding nature and the environment</b></p> <p>Recognise the balance of nature Describe ecosystems and how they are affected by changes in the environment Understand the human impact on the environment Explore and understand air/water pollution Explore methods than can be used to conserve water</p> <p><b>Key scientist: Rose Alani</b></p>	<p><b>Physics</b> <b>Sound and Hearing</b></p> <ul style="list-style-type: none"> <li>Identify how sounds are made, associating some of them with something vibrating.</li> <li>Recognise that vibrations from sounds travel through a medium to the ear.</li> </ul> <p><b>Key scientist: Alexander Graham Bell/Aristotle</b></p>	<p><b>Chemistry</b> <b>States of Matter</b></p> <ul style="list-style-type: none"> <li>Compare and group materials together, according to whether they are solids, liquids or gases.</li> <li>Observe that some materials change state when they are heated or cooled, and measure the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics.</li> <li>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</li> </ul> <p><b>Key scientist: Anders Celsius</b></p>	<p><b>Biology</b> <b>The Human Body</b></p> <ul style="list-style-type: none"> <li>Describe the simple functions of the basic parts of the digestive system in humans.</li> <li>Identify the different types of teeth in humans and their simple functions.</li> </ul> <p><b>Key scientist: Joseph Lister</b></p>
-------------------	--	---	---	---	--	---

**Upper Key Stage 2: Science Curriculum Overview**

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Year 5</b>	<p><b>Biology</b> <b>Understanding Humans as animals</b></p> <ul style="list-style-type: none"> <li>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</li> <li>Recognise the importance of diet, exercise, drugs and lifestyle on the way the human body functions.</li> <li>Describe the ways in which nutrients and</li> </ul>	<p><b>Physics</b> <b>The Earth in Space</b></p> <ul style="list-style-type: none"> <li>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</li> <li>Describe the movement of the Moon relative to the Earth.</li> <li>Describe the Sun, Earth and Moon as approximately spherical bodies.</li> <li>Use the idea of the Earth's rotation to explain day and night and the apparent</li> </ul>	<p><b>Chemistry</b> <b>Materials</b></p> <ul style="list-style-type: none"> <li>Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets.</li> <li>Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.</li> <li>Use knowledge of solids, liquids and gases to decide how mixtures</li> </ul>	<p><b>Chemistry</b> <b>Materials</b></p> <ul style="list-style-type: none"> <li>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</li> <li>Demonstrate that dissolving, mixing and changes of state are reversible changes.</li> <li>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,</li> </ul>	<p><b>Physics</b> <b>Forces</b></p> <ul style="list-style-type: none"> <li>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</li> <li>Identify the effect of drag forces, such as air resistance, water resistance and friction that act between moving surfaces.</li> <li>Describe, in terms of drag forces, why moving objects that are not driven tend to slow down.</li> </ul>	<p><b>Physics</b> <b>Forces (Mechanics, Levers &amp; Pulleys)</b></p> <ul style="list-style-type: none"> <li>Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs.</li> <li>Understand that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect.</li> </ul> <p><b>Understanding Animals (2 weeks)</b></p> <ul style="list-style-type: none"> <li>Understand and describe changes in humans as they grow and age</li> </ul>

	<p>water are transported within animals, including humans.</p> <p><b>Key scientist: Ibn al-Nafis</b></p>	<p>movement of the sun across the sky.</p> <p><b>Key scientist: Stephen Hawking/Margaret Hamilton</b></p>	<p>might be separated, including through filtering, sieving and evaporating.</p> <p><b>Key scientist: Robert Boyle</b></p>	<p>oxidisation and the action of acid on bicarbonate of soda.</p> <p><b>Key scientist: Sir Humphrey Davy</b></p>	<p><b>Key scientist: Isaac Newton</b></p>	<p><b>Key scientist: Galileo Galilei</b></p>
<p><b>Year 6</b></p>	<p><b>Biology Evolution and Inheritance</b></p> <ul style="list-style-type: none"> <li>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</li> <li>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</li> <li>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</li> </ul> <p><b>Key scientist: Charles Darwin</b></p>	<p><b>Physics Light and Shadow</b></p> <ul style="list-style-type: none"> <li>Understand that light appears to travel in straight lines.</li> <li>Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eyes.</li> <li>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes.</li> <li>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> </ul> <p><b>Key scientist: Thomas Edison/Patricia Bath</b></p>	<p><b>Biology Investigating Living Things</b></p> <ul style="list-style-type: none"> <li>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</li> <li>Describe the life process of reproduction in some plants and animals.</li> <li>Describe how living things are classified into broad groups according to common observable characteristics.</li> <li>Give reasons for classifying plants and animals based on specific characteristics.</li> </ul> <p><b>Key scientist: Carl Linnaeus/Libby Hyman</b></p>	<p><b>Physics Sound and Vibration</b></p> <ul style="list-style-type: none"> <li>Find patterns between the pitch of a sound and features of the object that produced it.</li> <li>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</li> <li>Recognise that sounds get fainter as the distance from the sound source increases.</li> </ul> <p><b>Key scientist: Christian Doppler</b></p>	<p><b>Physics Forces and Magnets</b></p> <ul style="list-style-type: none"> <li>Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</li> <li>Observe how magnets attract or repel each other and attract some materials and not others.</li> <li>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.</li> <li>Describe magnets as having two poles.</li> <li>Predict whether two magnets will attract or repel each other, depending on which poles are facing.</li> </ul> <p><b>Key scientist: Michael Faraday</b></p>	<p><b>Physics Electricity and Circuits</b></p> <ul style="list-style-type: none"> <li>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</li> <li>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.</li> <li>Use recognised symbols when representing a simple circuit in a diagram.</li> </ul> <p><b>Key scientist: Nikola Tesla</b></p>