

**Park Gate Primary School**  
**Year 5 Subject Overview: Science**

**Overview**

*The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings. Pupils should read, spell and pronounce scientific vocabulary correctly.*

<b>Working scientifically</b>	<b>Autumn Term Arizona</b>	<b>Summer Term Space Academy</b>	<b>Spring Term Chemical Chaos</b>	<b>Summer Term Narnia</b>	<b>Summer Term Animals including humans (discrete)</b>
<ul style="list-style-type: none"> <li>planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</li> <li>taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</li> <li>recording data and results of</li> </ul>	<ul style="list-style-type: none"> <li>compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</li> <li>describe in simple terms how fossils are formed when things that have lived are trapped within rock</li> </ul>	<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</li> </ul>	<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 or research the temperature at which this happens in degrees Celsius (°C)</li> </ul>	<ul style="list-style-type: none"> <li>identify the effects of air resistance and water resistance</li> <li>recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</li> </ul> <p><b>Discrete</b></p> <ul style="list-style-type: none"> <li>compare and group together everyday</li> </ul>	<ul style="list-style-type: none"> <li>describe the changes as humans develop to old age. (puberty)</li> </ul>

[Type here]

<p>increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p> <ul style="list-style-type: none"><li>• using test results to make predictions to set up further comparative and fair tests</li><li>• reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations</li><li>• identifying scientific evidence that has</li></ul>		<p>and night and the apparent movement of the sun across the sky</p> <p>Forces</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></ul>	<ul style="list-style-type: none"><li>• compare and group together everyday materials on the basis of their properties, including their hardness and solubility</li><li>• know that 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 might be separated, including through filtering, sieving and evaporating</li><li>• demonstrate that dissolving, mixing and changes of state are</li></ul>	<p>materials on the basis of their properties - conductivity (thermal)</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></ul>	
---	--	--	--	---	--

[Type here]

<p>been used to support or refute ideas or arguments</p>			<p>reversible changes</p> <ul style="list-style-type: none"><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 and the action of acid on bicarbonate of soda.</li></ul>		
--	--	--	--	--	--

[Type here]

**Park Gate Primary School**  
**Year 6 Subject Overview: Science**

**Overview**

*The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings. Pupils should read, spell and pronounce scientific vocabulary correctly.*

<b>Working scientifically</b>	<b>Autumn Term</b> <b>Let's get fit</b>	<b>Spring Term</b> <b>Bird boxes</b>	<b>Summer Term</b> <b>Evolution and Inheritance</b>	<b>Summer Term</b> <b>Flour babies</b>
<ul style="list-style-type: none"> <li>• planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</li> <li>• taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</li> <li>• recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</li> <li>• using test results to make predictions to set up further comparative and fair tests</li> <li>• reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations</li> </ul>	<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 impact of diet, exercise, drugs and lifestyle on the way their bodies function</li> <li>• describe the ways in which nutrients and water are transported within animals,</li> </ul>	<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 and based on similarities and differences, including micro-organisms, plants and animals</li> <li>• give reasons for classifying plants and animals based on specific characteristics.</li> </ul>	<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 to help group, identify and name a variety of living things in their local and wider environment</li> <li>• recognise that environments can change and that this can sometimes pose dangers to living things.</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>• recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</li> </ul>	<ul style="list-style-type: none"> <li>• describe the life process of reproduction in humans</li> </ul>

[Type here]

<ul style="list-style-type: none"><li>identifying scientific evidence that has been used to support or refute ideas or arguments</li></ul>	including humans.		<ul style="list-style-type: none"><li>identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</li></ul>	
--	-------------------	--	--	--