



UPPER KS2 LONG TERM SCIENCE PLAN 2019-2020

Science provides the foundations for understanding our world. Through the specific disciplines of biology, chemistry and physics, Science has changed our lives and is vital to our world's future prosperity. All students should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of knowledge and concepts, students should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes – skills essential for life-long learning

At Westbury Park School, we use the Rising Stars Switched on Science scheme to support the teaching and learning of science. This embeds the working scientifically requirements into each topic so that in addition to the core knowledge and vocabulary, children are developing skills of observation, investigation and fair testing, classification, data handling.

Each unit is supported by a Knowledge Organiser which details the key facts, vocabulary and skills for each unit. This is sent home in advance of the unit, allowing children to make a head start on their learning.

Link to Knowledge organisers:

<http://www.charlesdickens.southwark.sch.uk/academic-excellence/science-curriculum.php>

	YEAR 5	YEAR 6
End of Year national curriculum expectations	<p>Biology Life cycles of plants & animals (inc. mammal, insect, bird, amphibian) Describe changes as humans develop & mature.</p> <p>Chemistry Classify materials according to a variety of properties Understand mixtures & solutions Know about reversible changes; identify irreversible.</p> <p>Physics Physics Understand location and interaction of Sun, Earth & Moon Introduce gravity, resistance & mechanical forces.</p>	<p>Biology Classification, including micro-organisms Health & Lifestyles, incl. circulatory system Evolution & Adaptation</p> <p>Physics Light & Shadows; the eye Forces, including gravity Electricity: investigating circuits</p>

	Term1	Term 2	Term 3	Term 4	Term 5	Term 6
YEAR 5	Out of this World	Material World	Circle of Life	Let's Get Moving	Growing Up and Getting Old	Amazing Changes
YEAR 6	Classifying Living Things	Healthy Bodies	Evolution and Inheritance	Light	Electricity	The Titanic



Lower Key Stage 2	Year 3	Year 4
<p>Biology</p>	<p>I describe processes and phenomena related to organisms, their behaviour and the environment</p> <p>[drawing on abstract ideas and using appropriate terminology, for example the main functions of plant and animal organs].</p> <p>I explain processes and phenomena, in more than one step or using a model</p> <p>[such as the life cycles of humans and flowering plants].</p>	<p>I apply and use knowledge and understanding in familiar contexts</p> <p>[such as different organisms being found in different habitats because of differences in environmental factors].</p> <p>I recognise that both evidence and creative thinking contribute to the development of scientific ideas</p> <p>[such as the classification of living things].</p> <p>I describe applications and implications of science</p> <p>[such as solving some of the health problems that arise when organ damage occurs].</p>
<p>Chemistry</p>	<p>I describe processes and phenomena related to materials, their properties and the Earth [drawing on abstract ideas and using appropriate terminology, for example the weathering of rocks].</p> <p>I explain processes and phenomena, in more than one step or using a model [such as the deposition of sediments and their formation into rocks].</p> <p>I apply and use knowledge and understanding in familiar contexts [such as identifying changes of state].</p>	<p>I recognise that both evidence and creative thinking contribute to the development of scientific ideas [such as basing separation methods for mixtures on physical and chemical properties].</p> <p>I describe applications and implications of science [such as the uses of metals based on their specific properties or the benefits and drawbacks of the use of fossil fuels].</p>
<p>Physics</p>	<p>I describe processes and phenomena related to energy, forces and space [drawing on abstract ideas and using appropriate terminology, for example 'balanced forces'].</p> <p>I explain processes and phenomena, in more than one step or using a model. [such as the length of a day or a year].</p> <p>I apply and use knowledge and understanding in familiar contexts</p>	<p>I recognise that both evidence and creative thinking contribute to the development of scientific ideas [such as objects being seen when light from them enters the eye].</p> <p>I describe applications and implications of science [such as the ways sound can be produced and controlled, for example in musical instruments].</p>
<p>How Science Works</p>	<p>I decide appropriate approaches to a range of tasks, including selecting sources of information and apparatus.</p> <p>I select and use methods to obtain data systematically.</p> <p>I recognise hazard symbols and make, and act on, simple suggestions to control obvious risks to themselves and others.</p> <p>I use line graphs to present data, interpret numerical data and draw conclusions from them.</p>	<p>I analyse findings to draw scientific conclusions that are consistent with the evidence.</p> <p>I communicate these using scientific and mathematical conventions and terminology.</p> <p>I evaluate my working methods to make practical suggestions for improvements.</p>
<p>Trips/enrichment and speakers</p>	<p>We the Curious</p>	<p>Bristol university - Encouraging women in science workshop</p>
<p>CPD</p>		