



## Year 6 Science Curriculum Overview

Based on White Rose Science Scheme (To be read alongside the National Curriculum)

	<u>Autumn 1</u>	<u>Autumn 2</u>	<u>National Curriculum</u>
<b>Year 6</b> <b>Autumn</b>	Living things and their habitats	Electricity  <b>Sustainability: Renewable Energy</b>	<b>Living things and their habitats</b>
<b>Disciplinary knowledge</b>  (How are you teaching it?) <b>(Skills)</b>	<ul style="list-style-type: none"> <li>Plan scientific enquiries to answer questions</li> <li>Make systematic and careful observations</li> <li>Gather, record, classify and present data in a variety of ways to help answer questions</li> <li>Record and present data using classification charts and tables</li> </ul>	<ul style="list-style-type: none"> <li>Plan scientific enquiries to answer questions</li> <li>Recognise and control variables when testing electricity</li> <li>Record data using scientific diagrams and labels</li> <li>Report and present findings from enquiries, including conclusion</li> </ul>	<ul style="list-style-type: none"> <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>
<b>Substantive knowledge</b>  (What are you teaching? /what are children learning?) <b>(Knowledge)</b>	<ul style="list-style-type: none"> <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> <li>Understand and explain Linnaeus and the classification system</li> </ul>	<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> <li>Understand and explain different types of renewable energy and how it can be used to generate electricity</li> </ul>	<p style="text-align: center;"><b>Electricity</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>



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	<u>Spring 1</u>	<u>Spring 2</u>	<u>National Curriculum</u>
<b>Year 6</b> <b>Spring</b>	Light  <b>Sustainability: Light pollution</b>	The Circulatory System  Diet, Drugs, and Lifestyle	<b>Light</b>
<b>Disciplinary knowledge</b>  (How are you teaching it?) <b>(Skills)</b>	<ul style="list-style-type: none"> <li>Plan scientific enquiries to answer questions</li> <li>Independently ask scientific questions</li> <li>Identify and understand scientific evidence</li> <li>Use secondary sources to make conclusions about light</li> <li>Communicate findings using scientific language in conclusions</li> </ul>	<ul style="list-style-type: none"> <li>Independently ask scientific questions about the human body</li> <li>Identify and understand scientific evidence that supports theories</li> <li>Present findings and information about diet and lifestyle</li> <li>Understand how new discoveries change scientific understanding</li> </ul>	<ul style="list-style-type: none"> <li>Recognise 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 eye</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> <li>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them</li> </ul>
<b>Substantive knowledge</b>  (What are you teaching? /what are children learning?) <b>(Knowledge)</b>	<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 eye</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> <li>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them</li> <li>Identify and understand the causes of light pollution</li> </ul>	<ul style="list-style-type: none"> <li>Describe the ways in which nutrients and water are transported within animals, including humans</li> <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 that these affect how well our heart and lungs work, how likely we are to suffer from conditions such as diabetes, how clearly we think, and generally how fit and well we feel</li> <li>Understand the impact of diet, exercise, drugs and lifestyle on the way our bodies function</li> </ul>	<p><b>Animals, including humans</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 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, including humans</li> </ul>



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<b>Year 6</b>	<b><u>Summer 1</u></b>	<b><u>Summer 2</u></b>	<b>National Curriculum</b>
<b><u>Summer</u></b>	<b>Variation</b> <b>Adaptations</b>	<b>Fossils</b> <b>Themed projects</b>	<b><u>Evolution and inheritance</u></b>
<b>Disciplinary knowledge</b> (How are you teaching it?) <b>(Skills)</b>	<ul style="list-style-type: none"> <li>Communicate findings using specific language and illustrations about variation</li> <li>Report and present findings about the human body</li> <li>Discuss about how scientific ideas change due to new evidence gathered</li> <li>Understand how new discoveries change scientific understanding</li> </ul>	<ul style="list-style-type: none"> <li>Use a wide range of resources to answer scientific questions about fossils</li> <li>Check secondary resources to gain further understanding</li> <li>Record and present evidence about fossils</li> <li>Talk about changes in scientific discovery</li> <li>Evaluate findings in projects</li> </ul>	<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>
<b>Substantive knowledge</b> (What are you teaching? /what are children learning?) <b>(Knowledge)</b>	<ul style="list-style-type: none"> <li>Understand that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</li> <li>Understand how characteristics are inherited by children from 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> <li>Learn about Charles Darwin and the process of natural selection</li> </ul>	<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>Learn about Mary Anning and her role in fossil discovery</li> <li>Project 1 - Melting points</li> <li>Project 2 – Thermal conductivity</li> </ul>	