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Science is our curiosity

<table>
<tr><td colspan="2">Science develops children's problem-solving and critical thinking skills, which will enable them to succeed in school and beyond. It gives children the opportunity to recognise the power of rational explanation, knowledge and most importantly a sense of excitement and curiosity about natural phenomena. By exploring scientific methods and concepts within the three main scientific disciplines of Biology, Chemistry and Physics children will learning to question and marvel at the world around them.</td></tr>
<tr><th>Year 6 Curriculum</th><th>KPI</th></tr>
<tr><td colspan="2">Working scientifically</td></tr>
<tr><td>Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</td><td rowspan="7">The pupil can,
describe and evaluate their own and others' scientific ideas related to topics in the national curriculum (including ideas that have changed over time), using evidence from a range of sources
ask their own questions about the scientific phenomena that they are studying, and select the most appropriate ways to answer these questions, recognising and controlling variables where necessary
i.e.
observing changes over different periods of time
noticing patterns
grouping and classifying things
carrying out comparative and fair tests
finding things out using a wide range of secondary sources
use a range of scientific equipment to take accurate and precise measurements or readings, with repeat readings where appropriate
record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
draw conclusions, explain and evaluate their methods and findings, communicating these in a variety of ways
raise further questions that could be investigated, based on their data and observations</td></tr>
<tr><td>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</td></tr>
<tr><td>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</td></tr>
<tr><td>Using test results to make predictions to set up further comparative and fair tests.</td></tr>
<tr><td>Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.</td></tr>
<tr><td>Identifying scientific evidence that has been used to support or refute ideas or arguments.</td></tr>
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Knowledge – Electricity	
Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.	**Construct and control simple series circuits, with a variety of components: switches, bulbs, buzzers and motors.**
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.	**describe how the circuit may be affected when changes are made to it;**
Use recognised symbols when representing a simple circuit in a diagram.	**Represent a series circuit in a diagram using recognised symbols.**
Knowledge - Evolution and Inheritance	
Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.	**Know that living things on earth have changed over time. Describe evolution in terms of inheritance, variation and adaptation. Understand about the importance of fossil evidence.**
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.	Understand how animals have adapted to live in different habitats. Name some important facts about the life of Charles Darwin.
Knowledge – Earth and Space	
Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.	Understand some key facts about the solar system. Name the eight planets. **Describe the shapes and relative movements of the Sun, Moon, Earth and other planets 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.	**Explain day and night.**
Knowledge – Light	
Recognise that light appears to travel in straight lines.	
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.	

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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.	**Models and describes the process of how objects are seen.**
Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	**Understand why shadows match the shape of the object that formed them**