Year 6 Science

| Knowledge | Working scientifically |
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| Living things and their habitats:<br>K1 - I can describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals.<br>K2 - I can give reasons for classifying plants and animals based on specific characteristics. | WS1 - I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. |
| Animals including humans:<br>K3 - I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.<br>K4 - I can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.<br>K5 - I can describe the ways in which nutrients and water are transported within animals, including humans. | WS2 - I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. |
| Evolution and inheritance:<br>K6 - I can recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.<br>K7 - I can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.<br>K8 - I can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. | WS3 - I can report and present 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. |

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| Electricity:<br>K9 - I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.<br>K 10 - I can 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.<br>K11 - I can use recognised symbols when representing a simple circuit in a diagram. | | |
| Light :<br>K-12 - I can 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.<br>K-13 - I can 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.<br>K-14 - I can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. | | |
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Topic coverage

| Autumn - Disasters | Spring – Groovy Greeks | Summer – Shang dynasty |
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| K9/K10/K11/K12/K13/K14/WS1/WS2/WS2 | K3/K4/K5 | K1/K2/K3/K6/K7/K8 |

<table>
<tr><th colspan="3">Vocabulary</th></tr>
<tr>
<td><u>Electricity</u><br>Cells, batteries, wires, bulbs, switches, buzzers, circuit, series/ parallel, conductors, insulators, amps, volts<br><br><u>Light</u><br>Reflection, refraction, lens, light spectrum, colour ,prism, rainbow, straight lines, shadow</td>
<td><u>Animals including humans</u><br>Heart, Blood ,Circulatory system, blood vessels, veins, arteries, valves, oxygenated, deoxygenated, exercise, pulse, respiration, drugs</td>
<td><u>Living things and their habitats</u><br>Classification, mammals, birds, amphibians, fish, reptiles, insects vertebrates, invertebrates, micro-organisms, bacteria, fungi<br><br><u>Evolution & Inheritance</u><br>Fossils, adaptation, evolution, characteristics, reproduction, genetics</td>
</tr>
<tr><td colspan="3">Working Scientifically Vocabulary</td></tr>
<tr><td colspan="3"><u>Working scientifically</u><br><u>Question, prediction, method, variables, fair test, recording, report, conclude, evaluate (NC)</u><br><br>Investigation, investigation cycle, enquiry, prediction, variable, dependent variable, independent variable, constant, patterns, equipment, apparatus, method, results, conclusion<br>Research - relevant questions, scientific enquiry, comparative and fair test, systematic, careful observation, accurate measurements.<br>Equipment - thermometer, data logger,<br>Data - gather, record, classify, present<br>Plan - variables, measurements, accuracy, precision, repeat readings,<br>Report data - scientific diagrams, labels, classification keys, tables, scatter graphs, bar graph and line graphs, predictions, further comparative and fair test,<br>Report and present - conclusions, causal relationship, explanations, degree of trust, oral and written display and presentation.</td></tr>
<tr><td colspan="3">I will know…</td></tr>
<tr>
<td colspan="2">Living things and their habitats:<br>- how living things are classified into broad groups</td>
<td>Electricity:</td>
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| - the reasons for classifying plants and animals based on specific characteristics<br>- how to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary<br>- how to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs<br>- how to report and present 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.<br><br>Animals including humans:<br><br>- the main parts of the human circulatory system,<br>- how to describe the functions of the heart, blood vessels and blood.<br>- the impact of diet, exercise, drugs and lifestyle on the way my body functions.<br>- how nutrients and water are transported within animals, including humans.<br>- how to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary<br>- how to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs<br>- how to report and present findings from enquiries, including conclusions, causal relationships and explanations of and | - the brightness of a lamp or the volume of a buzzer is linked to the number of cells and/or voltage of cells used in the circuit<br>- how to compare and give reasons for variations in how components function,<br>- the symbols when representing a simple circuit in a diagram.<br>- how to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary<br>- how to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs<br>- how to report and present 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.<br>- how to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate<br>- how to investigate including variables, measurements, accuracy, precision and repeat readings<br>- that fair test, careful observations and accuracy are important<br>- how to record my findings in different ways and evaluate what I find out<br>- the appropriate scientific vocabulary and will be able to confidently read, write and apply this in my work<br><br>Light : |

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