

## Science Year Planner Year 6

<b>Term</b>	<b>Autumn 2</b>	<b>Spring 1</b>	<b>Spring 2</b>	<b>Summer 2</b>
<b>Topic or Stand-Alone?</b>	Topic: Evolution and inheritance	Topic: Lighthouse	Topic : Lighthouses	Topic: Keeping Healthy
<b>Enquiry Questions:</b>	<p><i>How can we organise animals into different groups? Why would we do this?</i></p> <p><i>How do we know that living things used to inhabit the Earth? How and why have they changed over time?</i></p> <p><i>What is the importance of fossils and how are they formed?</i></p> <p><i>How do different sorting and classifying diagrams work?</i></p>	<p><i>Can the outcome of a circuit be change? How can you prove this?</i></p>	<p><i>How does light travel? ( Practical investigation with questions as prompts)</i></p>	<p><i>What is the circulatory system? How does it work? What might affect how it functions?</i></p> <p><i>What effects how our bodies function and what are the impact of these?</i></p>
<b>Science Knowledge NC Focus</b>	Classification Evolution and inheritance	Electricity Unit	Light	Animals including humans
<b>Working Scientifically NC Focus:</b>	Investigate / understand : How can we group, classify and identify the different plants and animals?	Investigate / understand: How does a functioning circuit work and how can we record this?	What can we discover about how light and how it travels? ( Exploratory activity)	Investigate / understand What is the impact of fresh fruit and vegetables on scurvy?

	<p>*record data and results using classification keys,</p> <p><b>Investigate / understand: What are fossils and how are they formed?( Create a diagram to explain)</b></p> <ul style="list-style-type: none"> <li>recording data and results of increasing complexity using scientific diagrams and labels.</li> </ul> <p><b>Investigate / understand: ( Investigation) Which food is this beak shape the best adapted to eating?</b></p> <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>recording data and results of increasing complexity using tables</li> <li>reporting and presenting findings from enquiries, including conclusions, and explanations</li> <li>using test results to make predictions to set up further comparative and fair tests (discussion to feed into next possible test eg best food for other beak shapes )</li> <li>identifying scientific evidence that has been</li> </ul>	<p><b>( Create diagram pictures / symbols)</b> recording data and results of increasing complexity using scientific diagrams and labels,</p> <p><b>How can we change the outcome of a circuit? (Supported brightness of bulb)How could we use what we found out to improve our investigation next time?</b></p> <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>recording data and results of using line graphs.</li> <li>reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral-forms such as displays and other presentations ( Discussion of accuracy just using observations, how could we have made this more scientific / reliable)</li> </ul>	<ul style="list-style-type: none"> <li>reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations in oral—forms such as presentations.( Practical demo)</li> <li>identifying scientific evidence that has been used to support or refute ideas or arguments.</li> </ul> <p><b>Investigate/understand How do we see?</b></p> <p>Practical task and diagram.</p> <ul style="list-style-type: none"> <li>recording data and results of increasing complexity using scientific diagrams and labels, ( Explain how we see)</li> </ul> <p><b>Investigate/understand How is light reflected? Practical exploratory task and follow up work</b></p> <ul style="list-style-type: none"> <li>reporting and presenting findings from enquiries, including conclusions,</li> <li>recording data and results of increasing complexity using scientific diagrams and labels, ( Explain how light is reflected)</li> </ul>	<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>identifying scientific evidence that has been used to support or refute ideas or arguments</li> </ul> <p><b>Investigate / understand How does the circulatory system work? Explain using diagram.</b></p> <ul style="list-style-type: none"> <li>Recording data and results of increasing complexity using scientific diagrams and labels,</li> </ul> <p><b>Investigate / understand What is the impact of exercise on your circulatory system? Pulse rate after certain lengths of time exercising.</b></p> <ul style="list-style-type: none"> <li>planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</li> </ul> <p>*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</p>
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	<p>used to support or refute ideas or arguments</p> <p><b>( Discuss where link investigation findings to Darwin's findings and other evolution theorists)</b></p>	<ul style="list-style-type: none"> <li>• using test results to make predictions to set up further comparative and fair tests (discussion to feed into next test)</li> </ul> <p><b>Investigate/ understand</b>  <b>How can we change the outcome of a circuit?</b>  <b>(Unsupported volume of decibels)</b></p> <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>• recording data and results of increasing complexity scatter graphs,</li> <li>• 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</li> </ul> <p>( Discussion of accuracy using 3 recordings, different recoding equipment compared to just observations)</p>	<p><b>Investigate/understand</b>  <b>How do we <u>prove</u> that the darkness of the shadows are linked to the density of the material?</b>  <b>Or</b>  <b>How can we prove that some materials reflect light better than others?</b></p> <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>• recording data and results of increasing complexity</li> <li>• taking measurements (<u>light; LUX</u>), using a range of scientific equipment ( light APPs), with increasing accuracy and precision, taking repeat readings when appropriate</li> <li>• reporting and presenting findings from enquiries, including conclusions, and explanations of and degree of trust in results, in oral-and written forms</li> </ul> <p>*identifying scientific evidence that has been used to support or refute ideas or arguments</p>	<ul style="list-style-type: none"> <li>• recording data and results of increasing complexity using tables, scatter graphs,</li> <li>• taking measurements (<u>pulse BPM, .</u>), using a range of scientific equipment (stopwatch, pulse meter), with increasing accuracy and precision, taking repeat readings when appropriate</li> <li>• using test results to make predictions to set up further comparative and fair tests</li> </ul> <p>(Types of exercise, after exercise, wearing weights?)</p>
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<b>Sequence of lessons</b>	<p><b>Lesson 1</b> EQ1: How can we organise animals into different groups? Why would we do this? 1. What is classification? 2. How do I start to classify?</p> <p><b>Lesson 2/3</b> EQ2: How do different sorting and classification diagrams work? 3. Using a given key to classify 4. Creating a key to classify</p> <p><b>Lesson 4</b> EQ3: How do we know living things used to inhabit the Earth? 5. Handling session</p> <p><b>Lesson 5</b> EQ4: What is the importance of fossils and how are they formed?</p>	<p><b>Lesson 1</b> EQ1: What apparatus is needed to construct a simple circuit and how do I record this? 1. Construct a working circuit. 2. Label the components</p> <p><b>Lesson 2</b> 3. Investigating symbols and using them to record a circuit.</p> <p><b>Lesson 3 / 4</b> EQ2: How can the outcome of a circuit be affected? LUX 4. Unsupported investigation. Discussion scientific and LUX</p> <p><b>Lesson 5/ 6</b> EQ3: How could we make our investigation more scientific</p>		
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	<p>6.What are fossils and how are they formed?  7..Create diagram  8.Discuss importance  9,What information can they provide?  EQ 5 How and why have living things changed over time?  <b>Lesson 6</b>  10.Inheritance  11.Adaptation  <b>Lesson 7</b>  12. (Investigation) Which food is the beak shape best adapted to eating?  <b>Lesson 8</b>  13. Evolution  14. Links to Darwin’s findings and other evolution theorists.  15. Evidence for evolution</p>	<p>when investigating the outcome?  5. Planning  10. Recording  11. Reporting    <b>Lesson 8</b>  EQ5 : What are the possible variations in how components function and what are the reasons for these?  12. Investigate circuits to identify changes / lack of outcome. / Assess    n</p>		
<p><b>Vocabulary:</b></p>	<p>offspring  inheritance  variations  characteristics  adaptation  habitat  environment  evolution  natural selection  fossil  adaptive traits  inherited traits</p>	<p>circuit  symbol  bulb  buzzer  volume  cell / battery  current  amps  voltage  decibel  LUX  Resistance</p>	<p>light  light source  reflection  incident ray  reflected ray  the law of reflection  shadow  transparent  translucent  opaque  straight    report</p>	<p>circulatory system  heart  blood vessels  oxygenated blood  de-oxygenated blood  pumps  oxygen  drug  alcohol  nutrients  lifestyle  diet  plasma</p>

	<p>scientific diagrams  classification keys  variables  scientific enquiry  bar graph  line graph  conclusions  predictions  fair test  comparative test  scientific evidence  support and refute  tweezers</p>	<p>Electrons</p> <p>diagrams  labels  scatter graph  scientific enquiry  variables  data  results  bar graph  line graph  reporting and presenting  findings  conclusions  causal relationships  degree of trust  accuracy  observation  comparative test  fair test  data logger  Light APP  Volume APP  Equipment  repeated</p>	<p>present  enquiry  conclusions  causal relationship  presentation  identify  scientific evidence  measure  support and refute  arguments  diagram  investigate  recording  data  results  diagrams  labels  explain  LUX  data logger  Light APP  repeat reading  precision  reporting  presenting  conclusions  explanations  degree of trust</p>	<p>platelets  pulse  pulse rate  BPM</p> <p>report  present  conclusions  causal relationship  explanations  degree of trust  results  presentation  variables  data  scientific diagrams  findings  report  explain  presentations  measurements  pulse meter  equipment  stopwatch  BPM  Accuracy  precision</p>
<b>Additional non-fiction reading</b>				

BPM