



## KS4 Learning overview

### Combined Science

Exam board: AQA

Year 9		
Term	Topics	Extra learning opportunities
Autumn 1	<b>Cell Biology</b>	<ol style="list-style-type: none"> <li>1) Observe animal and plant slides using virtual microscope <a href="https://www.ncbionetwork.org/iet/microscope/">https://www.ncbionetwork.org/iet/microscope/</a></li> <li>2) Watch David Attenborough's new documentary 'Green Planet' (available on Netflix)</li> <li>3) Carry out the diffusion experiment using skittles and water <a href="https://youtu.be/IPs0LJK3gro">https://youtu.be/IPs0LJK3gro</a></li> </ol>
Autumn 2	<b>Organisation</b>	<ol style="list-style-type: none"> <li>1) Free Exhibition at Science Museum: 'Cancer Revolution: Science, Innovation and Hope' (25 May 2022 – January 2023)</li> <li>2) Permanent exhibition: Medicine: the welcome galleries (Level 1 at Science Museum)</li> <li>3) Watch Netflix documentary 'Human: the world within'</li> </ol>
Spring 1	<b>Atomic structure and periodic table</b>	<ol style="list-style-type: none"> <li>1) Go on Periodic table scavenger hunt (Find real-life examples of elements)</li> <li>2) Research about the future of prosthetics <a href="https://www.science.org.au/curious/people-medicine/bionic-limbs">https://www.science.org.au/curious/people-medicine/bionic-limbs</a></li> <li>3) Visit a salt mine (e.g. Winsford Salt Mine)</li> </ol>
Spring 2	<b>Structure, bonding and properties of matter</b>	<p>Research how diamonds can be grown in the lab: <a href="#">Diamond Types Lab-Grown vs Natural - YouTube</a></p> <p>Research what makes some diamonds more expensive than others: <a href="#">Diamond Quality Factors (gia.edu)</a></p>
Summer 1	<b>Energy</b>	<p>Visit a wind farm</p> <p>Research how roller coasters work: <a href="#">How rollercoasters work   Science of rollercoasters (explainthatstuff.com)</a></p> <p>Take a virtual tour of a power station: <a href="#">Take a virtual tour of Pitlochry Power Station and Dam   SSE Renewables</a></p> <p><a href="#">Virtual tours for school students [Key Stage 2] - YouTube</a></p>

Summer 2	<b>Quantitative Chemistry</b>	Make three models of reactants and the products using skittles: <ol style="list-style-type: none"><li data-bbox="699 98 970 129">1. Oxygen + Nitrogen</li><li data-bbox="699 136 948 168">2. Carbon + oxygen</li><li data-bbox="699 174 1023 206">3. Water+ carbon dioxide</li></ol>
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