



KS4 Learning overview

Combined Science

Exam board: AQA

Year 9		
Term	Topics	Extra learning opportunities
Autumn 1	Cell Biology	<ol style="list-style-type: none">1) Observe animal and plant slides using virtual microscope https://www.ncbionetwork.org/iet/microscope/2) Watch David Attenborough's new documentary 'Green Planet' (available on Netflix)3) Carry out the diffusion experiment using skittles and water https://youtu.be/IPs0LJK3gro
Autumn 2	Organisation	<ol style="list-style-type: none">1) Free Exhibition at Science Museum: 'Cancer Revolution: Science, Innovation and Hope' (25 May 2022 – January 2023)2) Permanent exhibition: Medicine: the welcome galleries (Level 1 at Science Museum)3) Watch Netflix documentary 'Human: the world within'
Spring 1	Atomic structure and periodic table	<ol style="list-style-type: none">1) Go on Periodic table scavenger hunt (Find real-life examples of elements)2) Research about the future of prosthetics https://www.science.org.au/curious/people-medicine/bionic-limbs3) Visit a salt mine (e.g. Winsford Salt Mine)
Spring 2	Structure, bonding and properties of matter	Research how diamonds can be grown in the lab: Diamond Types Lab-Grown vs Natural - YouTube Research what makes some diamonds more expensive than others: Diamond Quality Factors (gia.edu)

Summer 1	Energy	<p>Visit a wind farm</p> <p>Research how roller coasters work: How rollercoasters work Science of rollercoasters (explainthatstuff.com)</p> <p>Take a virtual tour of a power station: Take a virtual tour of Pitlochry Power Station and Dam SSE Renewables</p> <p>Virtual tours for school students [Key Stage 2] - YouTube</p>
Summer 2	Electricity (continues into Y10)	<p>Magazines and journals:</p> <p>Physics World- The Institute of Physics own magazine covering current Physics research and latest developments</p> <p>New Scientist- Reports on current developments from across the world of science</p> <p>BBC Science News- the latest news in science from around the world</p> <p>Science Daily- Website featuring the latest Science developments, with a specific area for Physics research</p> <p>Specific Topic resources:</p> <p>Common Physics Misconceptions - YouTube</p> <p>Circuit Construction Kit: DC - Series Circuit Parallel Circuit Ohm's Law - PhET Interactive Simulations (colorado.edu)</p> <p>What is electricity? - Electricity Explained - (1) - YouTube</p>