

# SUPER-CURRICULAR OPPORTUNITIES

Subject	Pre GCSE/GCSE	GCSE Book/Broadcast /Competition	Post-16	Post-16 Book/Broadcast /Competition	Websites / Virtual Tours
Physics	<ul style="list-style-type: none"> <li>• Visit a dark sky area at night and use an App like google sky to help you identify celestial objects</li> <li>• Visit the Science Museum in London and explore the space gallery.</li> <li>• Visit a local steam railway to find out how the locomotives work.</li> <li>• Write a list of all the physical quantities you have ever measured and the unit you used in a Science lesson or somewhere else, like the kitchen. There may be more than one unit for each measurement or vice versa: eg length is measured in Centimetres.</li> <li>• Research the work of Isaac Newton, which area(s) of physics did he make discoveries in? How were his discoveries received?</li> <li>• Research the conflicting ideas around electricity. Who were Ampere, Volta and Galvani? Whose ideas were proved to be correct?</li> </ul>	<p>Books:</p> <ul style="list-style-type: none"> <li>• Stephen Hawking; Richard Feynman; Jim Al-Khalili.</li> </ul> <p>Radio/Podcast:</p> <ul style="list-style-type: none"> <li>• 'Physics Made Simple' <a href="#">BBC World Service - Physics Made Simple - Episode guide</a></li> <li>• 13 Minutes to the Moon <a href="#">BBC World Service - 13 Minutes to the Moon, Apollo 13, S2 Ep.02 Death of the Odyssey</a></li> <li>• Infinite Monkey Cage Podcast <a href="#">BBC Radio 4 - The Infinite Monkey Cage, Introducing You're Dead To Me - Series 2</a></li> </ul> <p>YouTube:</p> <p>Royal Institution videos e.g. Quantum Physics, Rollercoaster Science <a href="#">The Royal Institution - YouTube</a></p> <p>Magazines:</p> <p>Cosmos Magazine</p> <p>Competitions:</p> <p>British Physics Olympiad <a href="#">Experimental Project   British Physics OlympiadAA (bpho.org.uk)</a></p> <p>Institute of Physics Olympiad <a href="#">Home   British Physics OlympiadAA (bpho.org.uk)</a></p>	<ul style="list-style-type: none"> <li>• Use the Issacs physics website to practice problem solving from A-level concepts to university level material. <i>"Ignoring air resistance, what is the minimum speed a grasshopper would need to jump over a log, with diameter <math>D=30.0\text{cm}</math>?"</i></li> <li>• Research a career that uses A-level physics.</li> </ul>	<ul style="list-style-type: none"> <li>• Subscribe to the Physics Review magazine.</li> </ul> <p>Books:</p> <ul style="list-style-type: none"> <li>• Peter Atkins - Galileo's Finger Introducing Quantum Theory: A graphic guide - J P McEvoy and Oscar Zarat</li> <li>• Brief Answers to the Big Questions: Stephen Hawking</li> <li>• Bill Bryson, A Short History of Nearly Everything</li> <li>• R.P. Feynman, The Character of Physical Law</li> <li>• The First Three Minutes - Steven Weinberg The Fifth Essence - Lawrence Krauss</li> </ul> <p>YouTube:</p> <p><a href="#">YouTube Livestream   A Level Physics (alevelphysicsonline.com)</a></p> <p>Podcasts:</p> <p>In our time <a href="#">In Our Time - Superconductivity - BBC Sounds</a></p> <p>The life scientific <a href="#">BBC Sounds - The Life Scientific - Available Episodes</a></p> <p>Frontiers <a href="#">BBC Sounds - Frontiers - Available Episodes</a></p>	<p>The Science Museum <a href="#">Exploring Space   Science Museum</a></p> <p>The Railway Museum <a href="#">National Railway Museum</a></p> <p>Owlcation <a href="#">STEM - Owlcation</a></p> <p>Physics World <a href="#">Home - Physics World</a></p> <p>Isaac Physics <a href="#">Isaac Physics</a></p>