

Physics (Trilogy)		
	Needs to	How
1	Define electric current as the rate of flow of electrical charge around a closed circuit : recall and use the equation $Q = Ixt$	Free Science Lessons - <a href="https://www.youtube.com/watch?v=R3hdaLpq2AA">https://www.youtube.com/watch?v=R3hdaLpq2AA</a> <a href="https://www.youtube.com/watch?v=ts7WumFAaSq">https://www.youtube.com/watch?v=ts7WumFAaSq</a> Cognito - <a href="https://www.youtube.com/watch?v=TIHW5hEoaAw">https://www.youtube.com/watch?v=TIHW5hEoaAw</a>
2	Explain the resistance of components such as lamps, diodes, thermistors and LDRs and sketch/interpret IV graphs of their characteristic electrical behaviour	fixed resistor – <a href="https://www.youtube.com/watch?v=2CA1mcYw3IQ">https://www.youtube.com/watch?v=2CA1mcYw3IQ</a> filament lamp - <a href="https://www.youtube.com/watch?v=WzSh6ykqn9I">https://www.youtube.com/watch?v=WzSh6ykqn9I</a> diodes and LEDs - <a href="https://www.youtube.com/watch?v=Tk_OltwtxZE">https://www.youtube.com/watch?v=Tk_OltwtxZE</a> Thermistors - <a href="https://www.youtube.com/watch?v=bjt4CrRL8yM">https://www.youtube.com/watch?v=bjt4CrRL8yM</a> and LDRs – <a href="https://www.youtube.com/watch?v=bb7sRiLKCvg">https://www.youtube.com/watch?v=bb7sRiLKCvg</a>
3	Explain how LDRs and thermistors are used in sensing circuits	<a href="https://www.youtube.com/watch?v=ZtJEPKuQrGc">https://www.youtube.com/watch?v=ZtJEPKuQrGc</a>
4	Apply the rules for pd, current and resistance in series and in parallel circuits to circuit problems.	<a href="https://www.youtube.com/watch?v=ZQurBlu35Fo">https://www.youtube.com/watch?v=ZQurBlu35Fo</a> <a href="https://www.youtube.com/watch?v=jNFxtjt5mul">https://www.youtube.com/watch?v=jNFxtjt5mul</a> GCSE Pod - <a href="https://members.gcsepod.com/shared/podcasts/title/10472/64251">https://members.gcsepod.com/shared/podcasts/title/10472/64251</a>

	<b>Physics (Trilogy) Continued</b>	
	<b>Needs to</b>	<b>How</b>
5	Recall how to carry out required practical to investigate factors affecting resistance	Free Science Lessons <a href="https://www.youtube.com/watch?v=YsZeZotYVag">https://www.youtube.com/watch?v=YsZeZotYVag</a>  GCSEPod - <a href="https://members.gcsepod.com/shared/podcasts/title/12488/77184">https://members.gcsepod.com/shared/podcasts/title/12488/77184</a>
6	Recall how to carry out the practical to investigate the I-V characteristics of components	Free Science Lessons <a href="https://www.youtube.com/watch?v=A1SyKvdHoqY">https://www.youtube.com/watch?v=A1SyKvdHoqY</a>  GCSEPod- <a href="https://members.gcsepod.com/shared/podcasts/title/12488/76788">https://members.gcsepod.com/shared/podcasts/title/12488/76788</a>
7	Recall the features of mains electricity – ideas of AC vs DC, the three pin plug, 230V and 50Hz	Free Science Lessons - <a href="https://www.youtube.com/watch?v=EY_EphcrpDI">https://www.youtube.com/watch?v=EY_EphcrpDI</a> <a href="https://www.youtube.com/watch?v=2g8SusMrX_o">https://www.youtube.com/watch?v=2g8SusMrX_o</a> <a href="https://www.youtube.com/watch?v=S8IB2kxT1n0">https://www.youtube.com/watch?v=S8IB2kxT1n0</a> <a href="https://www.youtube.com/watch?v=fbu3o9wavHk">https://www.youtube.com/watch?v=fbu3o9wavHk</a> <a href="https://www.youtube.com/watch?v=MEvO2rQFIWk">https://www.youtube.com/watch?v=MEvO2rQFIWk</a>  GCSEPod - <a href="https://members.gcsepod.com/shared/podcasts/title/10473/64257">https://members.gcsepod.com/shared/podcasts/title/10473/64257</a>
8	Calculate efficiency by recalling and applying the equation: <b>[ efficiency = useful power output / total power input ]</b>	Free science lessons <a href="https://www.freesciencelessons.co.uk/gcse-physics-paper-1/energy/efficiency/">https://www.freesciencelessons.co.uk/gcse-physics-paper-1/energy/efficiency/</a>  GCSEPod - <a href="https://members.gcsepod.com/shared/podcasts/title/10470/83006">https://members.gcsepod.com/shared/podcasts/title/10470/83006</a>

	Physics (Trilogy) Continued	
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9	<b>HT ONLY: Suggest and explain ways to increase the efficiency of an intended energy transfer</b>	Cognito - <a href="https://www.youtube.com/watch?v=43XCqAN53Sg">https://www.youtube.com/watch?v=43XCqAN53Sg</a> GCSEPod - <a href="https://members.gcsepod.com/shared/podcasts/title/10470/64238">https://members.gcsepod.com/shared/podcasts/title/10470/64238</a>
10	List the main renewable and non-renewable energy resources and define what a renewable energy resource is.	Free science lessons <a href="https://www.youtube.com/watch?v=pqzvUur7QRw">https://www.youtube.com/watch?v=pqzvUur7QRw</a> , <a href="https://www.youtube.com/watch?v=1dJKvxhGEqA">https://www.youtube.com/watch?v=1dJKvxhGEqA</a> , <a href="https://www.youtube.com/watch?v=ar3-Ps04AJI">https://www.youtube.com/watch?v=ar3-Ps04AJI</a> Oak National Academy - <a href="https://classroom.thenational.academy/units/energy-c750">https://classroom.thenational.academy/units/energy-c750</a>
11	Compare ways that different energy resources are used, including uses in transport, electricity generation and heating, and evaluate the use of energy resources in terms of reliability, the environment and political considerations	Free science lessons <a href="https://www.freesciencelessons.co.uk/gcse-physics-paper-1/energy/the-uk-energy-mix/">https://www.freesciencelessons.co.uk/gcse-physics-paper-1/energy/the-uk-energy-mix/</a> Oak National Academy - <a href="https://classroom.thenational.academy/lessons/energy-review-6rtkqt?activity=video&amp;step=1">https://classroom.thenational.academy/lessons/energy-review-6rtkqt?activity=video&amp;step=1</a>
12	Carry out multi step calculations	Oak National academy - <a href="https://classroom.thenational.academy/lessons/multi-step-calculations-6cwkgd">https://classroom.thenational.academy/lessons/multi-step-calculations-6cwkgd</a>