Edexcel International GCSE Physics 4PH1 Learning Plan

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| **Unit: 4 Energy Resources and Energy Transfer** | **Chapter: 16. Work and Power** | **Hours: 4** |
| Content coverage | Learning outcomes | Resources | Assessment |
| Section 4: Energy resources and Energy transfersa) Unitsc) Work and Power | **4.11** know and use the relationship between work done, force and distance moved in the direction of the force: work done = force × distance moved *W*=*F*×*d* **4.12** know that work done is equal to energy transferred **4.13** know and use the relationship between gravitational potential energy, mass, gravitational field strength and height: gravitational potential energy = mass × gravitational field strength × height *GPE* = *m* × *g* × *h* **4.14** know and use the relationship: kinetic energy = 12 × mass × speed2 *KE* = 12 ×*m*×*v*2 **4.15** understand how conservation of energy produces a link between gravitational potential energy, kinetic energy and work **4.16** describe power as the rate of transfer of energy or the rate of doing work **4.17** use the relationship between power, work done (energy transferred) and time taken: power = work done / time taken *P* = *W/t*  | Video and Powerpoint:1.8 Energy1.10 Work and Power Textbook pages:Page 150 – Energy and workPage 152 – Gravitational Potential Energy (GPE)Page 153 – Kinetic Energy (KE)Page 154 – Calculations using work, GPE and KEPage 155 – PowerPage 156 – **Practical** – *Investigate your power output* | Page 157Questions (1) to (9)Chapter 16 Textbook Answers (PDF)Chapter 16 - exam question - pdfChapter 16 - exam question mark scheme – pdfChapter 16 - Talking paper video  |

Videos – [www.igcsesciencecourses.com](http://www.igcsesciencecourses.com)

Textbook Ref: Edexcel International GCSE (9-1) Physics Student Book - Pearson (Arnold, Johnson, Woolley))