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 transfers  a) Units  c) 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 Energy  1.10 Work and Power  Textbook pages:  Page 150 – Energy and work  Page 152 – Gravitational Potential Energy (GPE)  Page 153 – Kinetic Energy (KE)  Page 154 – Calculations using work, GPE and KE  Page 155 – Power  Page 156 – **Practical** – *Investigate your power output* | Page 157  Questions (1) to (9)  Chapter 16 Textbook Answers (PDF)  Chapter 16 - exam question - pdf  Chapter 16 - exam question mark scheme – pdf  Chapter 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))