Edexcel International GCSE Physics 4PH1 Learning Plan

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| **Unit: 7 Radioactivity and Particles** | **Chapter: 22. Atoms and radioactivity** | **Hours: 4** |
| Content coverage | Learning outcomes | Resources | Assessment |
| Section 7: Radioactivity and Particlesa) Unitsb) Radioactivity | **7.2** describe the structure of an atom in terms of protons, neutrons and electrons and use symbols such as 14 c to describe particular nuclei **7.3** know the terms atomic (proton) number, mass (nucleon) number and isotope **7.4** know that alpha (α) particles, beta (β−) particles, and gamma (γ) rays are ionising radiations emitted from unstable nuclei in a random process **7.5** describe the nature of alpha (α) particles, beta (β−) particles, and gamma (γ) rays, and recall that they may be distinguished in terms of penetrating power and ability to ionise **7.6** *practical: investigate the penetration powers of different types of radiation using either radioactive sources or simulations* **7.7** describe the effects on the atomic and mass numbers of a nucleus of the emission of each of the four main types of radiation (alpha, beta, gamma and neutron radiation) **7.8** understand how to balance nuclear equations in terms of mass and charge  | Video and Powerpoint:4.1 The nuclear atom4.2 RadioactivityTextbook pages:Page 221 – Electrons, protons and neutronsPage 222 – The atomPage 223 – IsotopesPage 224 – Ionising radiationPage 226 – **Practical** – *Investigate the penetrating powers of different kinds of radiation* | Pages231 – 232Questions (1) to (8)Chapter 21 Textbook Answers (PDF)Chapter 21 - exam question - pdfChapter 21 - exam question mark scheme – pdfChapter 21 - 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))