

AQA Trilogy Physics Paper 1		Covered in Lesson	Diagnosis			Revised		
P4.4. Atomic structure			R	A	G	1	2	3
4.4.1 Atoms and isotopes	Describe the basic structure of an atom and how the distance of the charged particles vary with the absorption or emission of electromagnetic radiation							
	Define electrons, neutrons, protons, isotopes and ions							
	Relate differences between isotopes to differences in conventional representations of their identities, charges and masses							
	Describe how the atomic model has changed over time due to new experimental evidence, inc discovery of the atom and scattering experiments (inc the work of James Chadwick)							
4.4.2 Atoms and nuclear radiation	Describe and apply the idea that the activity of a radioactive source is the rate at which its unstable nuclei decay, measured in Becquerel (Bq) by a Geiger-Muller tube							
	Describe the penetration through materials, the range in air and the ionising power for alpha particles, beta particles and gamma rays							
	Apply knowledge of the uses of radiation to evaluate the best sources of radiation to use in a given situation							
	Use the names and symbols of common nuclei and particles to complete balanced nuclear equations, by balancing the atomic numbers and mass numbers							
	Define half-life of a radioactive isotope							
	HT ONLY: Determine the half-life of a radioactive isotope from given information and calculate the net decline, expressed as a ratio, in a radioactive emission after a given number of half-lives							
	Compare the hazards associated with contamination and irradiation and outline suitable precautions taken to protect against any hazard the radioactive sources may present							
	Discuss the importance of publishing the findings of studies into the effects of radiation on humans and sharing findings with other scientists so that they can be checked by peer review							