

Quantum physics Definitions

Learn them word for word: the highlighted words are the ones the examiner looks for.

1 Photon	A discrete packet of electromagnetic radiation energy .
2 Electronvolt (eV)	The energy transferred when an electron moves through a potential difference of one volt . $1 \text{ eV} = 1.60 \times 10^{-19} \text{ J}$.
3 Photoelectric effect	The emission of electrons from the surface of a metal when electromagnetic radiation (photons) above the threshold frequency is incident on it.
4 Work function (ϕ)	The minimum energy needed to release an electron from the surface of a metal .
5 Threshold frequency (f_0)	The minimum frequency of electromagnetic radiation that will release electrons from the surface of a metal . $f_0 = \phi / h$.
6 de Broglie wavelength	The wavelength of a moving particle : $\lambda = h / p$, the Planck constant divided by the particle's momentum .
7 Wave-particle duality	Particles such as electrons can behave as waves , shown by electron diffraction , and electromagnetic waves can behave as particles (photons), shown by the photoelectric effect .



Stick me by your desk.

Read me every time you sit down. Cover the right-hand column and say each one out loud. Practise online:
[physicswithkate.com/ocr-a-level-waves-and-quantum-physics-definitions](https://www.physicswithkate.com/ocr-a-level-waves-and-quantum-physics-definitions)