Structure of the atom

International Baccalaureate · IB Diploma · Physics · HL · Vocabulary in context

Word	Example
nucleus /'nju:klɪəs/	The **nucleus** is at the centre of an atom.
plum-pudding model	In the **plum-pudding model**, electrons sit in a ball of positive charge.
nuclear model /'nju:klɪə 'mɒdl/	In the **nuclear model**, a tiny nucleus sits at the centre of the atom.
alpha particle /'ælfə 'pɑ:tɪkl/	An **alpha particle** is a helium nucleus.
gold foil /gəʊld fɔɪl/	Rutherford fired alpha particles at thin **gold foil**.
evacuated	The tube is **evacuated**: all the air is pumped out.
nuclide /'nju:klaɪd/	Carbon-14 is a **nuclide**. Carbon-14
nucleon number /'nju:klɪən 'nʌmbə/	The **nucleon number** counts protons and neutrons.
proton number /'prəʊtɒn 'nʌmbə/	Carbon has a **proton number** of 6. 6
isotope /'aɪsətəʊp/	Carbon-14 is an **isotope** of carbon. Carbon-14
spectrum /'spektrəm/	A prism splits light into a **spectrum**.
continuous spectrum	A hot lamp gives a **continuous spectrum** of all colours.

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emission spectrum /ɪ'mɪʃn 'spektrəm/	A hot gas gives a bright-line **emission spectrum**.
absorption spectrum /əb'sɔ:pʃn 'spektrəm/	An **absorption spectrum** has dark lines.
discrete /dɪ'skri:t/	An atom has **discrete** energy levels, like the steps of a ladder.
energy level /'enədʒi 'levl/	The electron jumps to a higher **energy level**.
photon /'fəʊtɒn/	A **photon** is a small packet of light energy.
line spectrum /laɪn 'spektrəm/	Hydrogen gas gives a **line spectrum** of a few bright colours.
ground state /graʊnd steɪt/	The **ground state** is the lowest energy level.
ionisation energy /ˌaɪənaɪ'zeɪʃn 'enədʒi/	The **ionisation energy** of hydrogen is 13.6 eV. 13.6 eV
distance of closest approach	The alpha particle stops at the **distance of closest approach** and turns back.
strong nuclear force /strɒŋ 'nju:klɪə fɔ:s/	The **strong nuclear force** holds protons and neutrons together.
femtometre	A nucleus is a few **femtometre**s across.
angular momentum /'æŋgjʊlə məʊ'mentəm/	A spinning ice skater has **angular momentum**.
principal quantum number /'prɪnsɪpl 'kwɒntəm 'nʌmbə/	The **principal quantum number** n = 2 means the second shell. n = 2