

Radioactive decay knowledge organiser

Education in Chemistry

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α decay	β decay	γ decay
alpha decay	beta decay	gamma decay
<ul style="list-style-type: none">He nucleus (containing 2 protons and 2 neutrons) is lost.	<ul style="list-style-type: none">A neutron turns into a proton and an electron.The proton stays in the nucleus.The electron is lost as a β particle.	<ul style="list-style-type: none">Electromagnetic waves emitted from the nucleus.Often accompanies the other modes of decay.
<ul style="list-style-type: none">Atomic mass decreases by 4.Atomic number decreases by 2.A new element is formed.	<ul style="list-style-type: none">Atomic mass stays the same.Atomic number increases by 1.A new element is formed.	<ul style="list-style-type: none">No change of atomic mass or atomic number.No new element formed.
${}_{92}^{238}\text{U} \rightarrow {}_{90}^{234}\text{Th} + {}_2^4\text{He}$	${}_{6}^{14}\text{C} \rightarrow {}_{7}^{14}\text{N} + {}_{-1}^0\text{e}$	
<p>The same rules apply when writing a decay equation as for other equations. The equations must be balanced.</p> <p>The mass numbers on the left and right of the equations must be equal.</p> <p>The atomic numbers on the left and right of the equations must be equal.</p>		