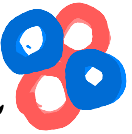
# ALPHA (α), BETA (β) & GAMMA (γ) DECAY

| | Alpha (α) | Beta (β) | Gamma (γ) |
|---|---|---|---|
| PARTICLE (OR RAY) EMITTED |  $^{4}_{2}He$ ★An Alpha particle is essentially the nucleus of a Helium atom. | $^{0}_{-1}e$ ★A Beta particle is essentially an electron. |  ★A Gamma Ray is essentially a packet of electromagnetic energy (photon) |
| RELATIVE ENERGY | Lowest Energy (lowest particle velocity) | Higher Energy (higher particle velocity) | Highest Energy (particle travels at Speed of Light) |
| RANGE | Very Short Range | Medium Range | Long Range |
| EXAMPLE (FORMULA) | $^{208}_{84}Po \rightarrow {}^{204}_{82}U + {}^{4}_{2}\alpha$ | $^{24}_{11}Na \rightarrow {}^{24}_{12}Mg + {}^{0}_{-1}\beta$ | $^{42}_{19}K^{*} \rightarrow {}^{42}_{19}K + {}^{0}_{0}\gamma$ |

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