

# Examples of isotope equations involving alpha decay, beta decay, and gamma radiation

1. Alpha decay:  ${}_{93}^{237}\text{Np} \longrightarrow {}_{91}^{233}\text{Pa} + {}_2^4\text{He}$
2. Alpha decay:  ${}_{92}^{238}\text{U} \longrightarrow {}_{90}^{234}\text{Th} + {}_2^4\text{He}$
3. Alpha decay:  ${}_{92}^{235}\text{U} \longrightarrow {}_{90}^{231}\text{Th} + {}_2^4\text{He}$
4. Alpha decay:  ${}_{88}^{226}\text{Ra} \longrightarrow {}_{86}^{222}\text{Rn} + {}_2^4\text{He}$
5. Alpha decay:  ${}_{84}^{210}\text{Po} \longrightarrow {}_{82}^{206}\text{Pb} + {}_2^4\text{He}$
6. Beta decay:  ${}_{6}^{14}\text{C} \longrightarrow {}_{-1}^0\beta + {}_{7}^{14}\text{N}$
7. Beta decay:  ${}_{82}^{210}\text{Pb} \longrightarrow {}_{-1}^0\beta + {}_{83}^{210}\text{Bi}$
8. Beta decay:  ${}_{1}^3\text{H} \longrightarrow {}_{-1}^0\beta + {}_{2}^3\text{He}$
9. Beta decay:  ${}_{90}^{234}\text{Th} \longrightarrow {}_{-1}^0\beta + {}_{91}^{234}\text{Pa}$
10. Beta decay:  ${}_{53}^{131}\text{I} \longrightarrow {}_{-1}^0\beta + {}_{54}^{131}\text{Xe}$
11. Gamma decay:  ${}_{94}^{240}\text{Pu} \longrightarrow {}_{94}^{240}\text{Pu} + \gamma$
12. Gamma decay:  ${}_{77}^{192}\text{Ir} \longrightarrow {}_{77}^{192}\text{Ir} + \gamma$
13. Gamma decay:  ${}_{55}^{137m}\text{Cs} \longrightarrow {}_{55}^{137}\text{Cs} + \gamma$
14. Gamma decay:  ${}_{43}^{99m}\text{Tc} \longrightarrow {}_{43}^{99}\text{Tc} + \gamma$
15. Gamma decay:  ${}_{27}^{60}\text{Co} \longrightarrow {}_{27}^{60}\text{Co} + \gamma$