Radioactivity

Nucleus = $^A_Z$Name mass
for ex. $^{14}_6$C $14.003241\text{u}$,

$^{238}_{92}$U $238.050784\text{u}$

Conservation of NUCLEON NUMBER

Conservation of CHARGE

Conservation of ENERGY (MASS)

Radioactivity is the result of an unstable nucleus.

Alpha decay ($^4_2$He )

Beta decay ($^-_1$e and $^0_0\bar{\nu}$) or ($^0_1\bar{e}$ and $^0_0\nu$)

Gamma decay ($^0_0\gamma$)