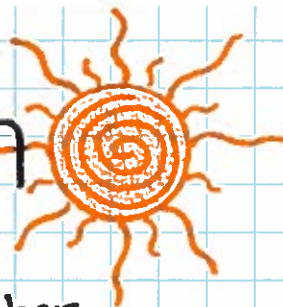


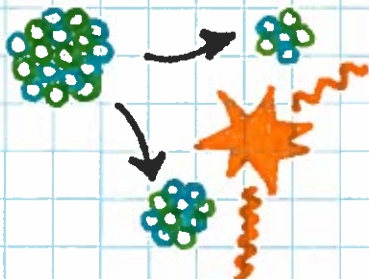


Fission vs Fusion



A heavy nucleus splits apart into smaller nuclei

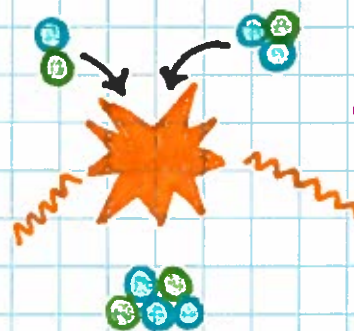
Two lighter nuclei collide and fuse together into one heavier nucleus.



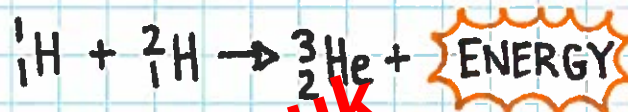
Both release a LOT of energy!

$$E=mc^2$$

Look at previous notes!



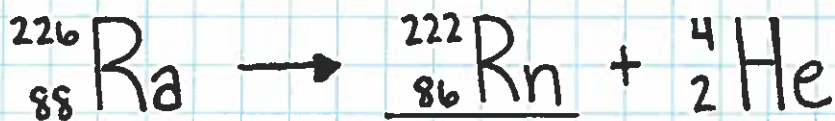
Fusion requires extremely high temperature and pressure.



Balancing Nuclear Equations

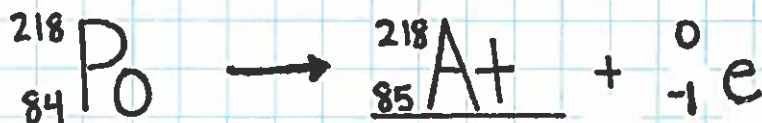
The sum of the mass numbers and the sum of the atomic numbers must be = on both sides of the $\rightarrow$

alpha decay: both the mass # and atomic # decrease by $\frac{4}{2}$



$$\begin{aligned} 222 + 4 &= 226 \\ 86 + 2 &= 88 \end{aligned}$$

beta decay: a $n^0 \rightarrow p^+ + e^-$; the atomic # increases by 1.



$$\begin{aligned} 218 + 0 &= 218 \\ 85 + (-1) &= 84 \end{aligned}$$

* Look at your Unit 2 Practice Packet, pg 8 for more examples!