

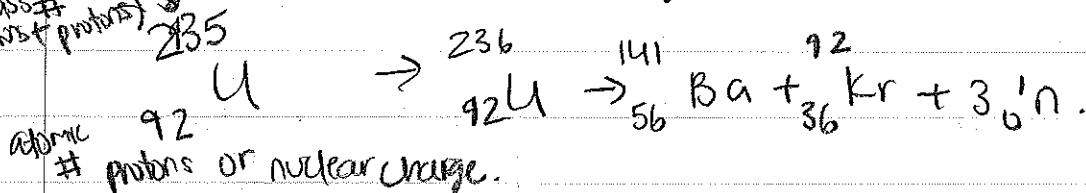
LM25 & 26 are due Th 9AM.

3/19/13

Fission

Nuclear chem \rightarrow all abt nucleus, (ignore atom cloud).

Mass #
(neutrons + protons)



Chemical change - atoms rearrange but do not change atomic identity.

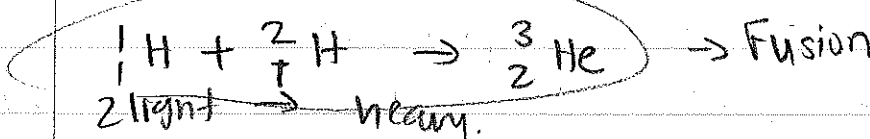
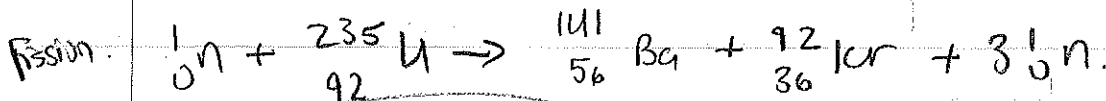
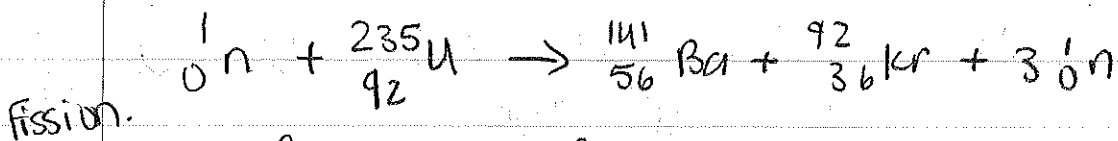
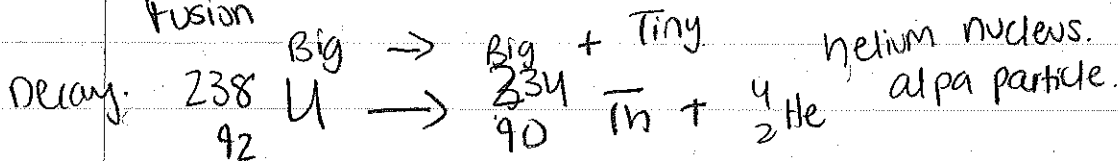
$$\Delta E \sim 100\text{'s J}$$

Nuclear change - nuclear change, change in atomic identity likely across nuclear change.

$$\Delta E \sim 10^{10} \text{ kJ}$$

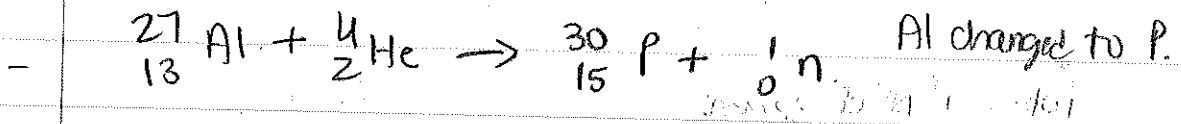
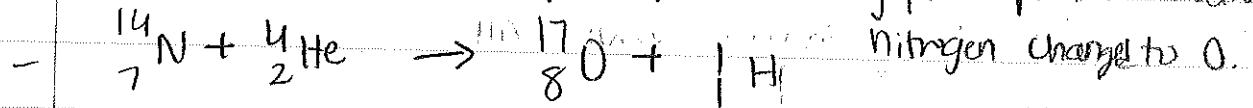
Fission

Fusion

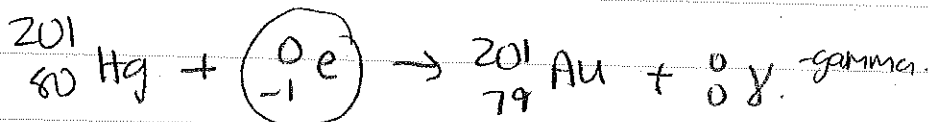
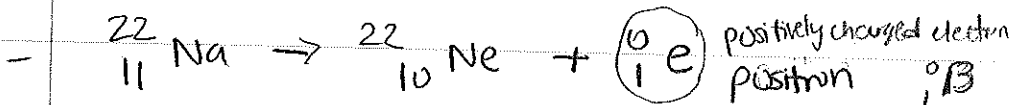
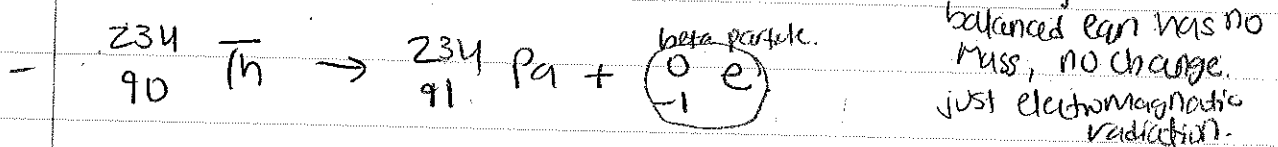
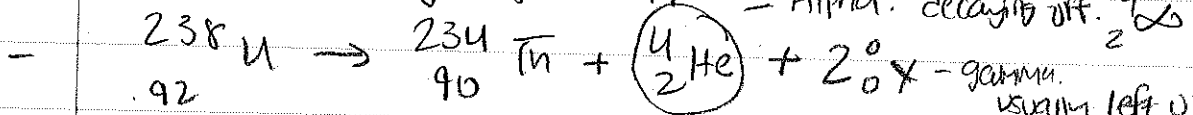


Fusion release energy.

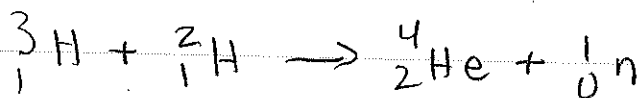
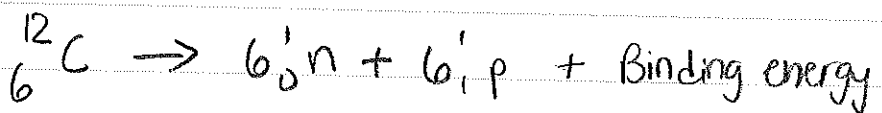
Transmutation: not happen spontaneously, need particle accelerator.



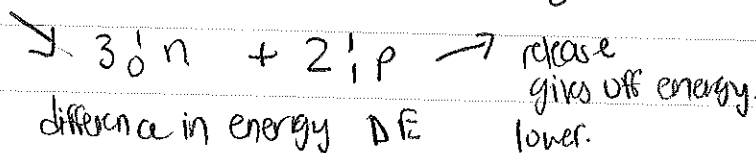
Radioactive Decay - just happens.



↓ electron capture from electron cloud, spontaneously. turns proton change into neutron.



Break
kiss
energy



lowest binding energy - most stable \rightarrow Fe.

U - highest naturally occurring element.

Fusion - bigger change in energy.

↓ Fusion down in energy exothermic.

- Unstable radioisotopes

- naturally found in environment.

or man made.

lots & lots of elements above uranium which are unstable isotopes.