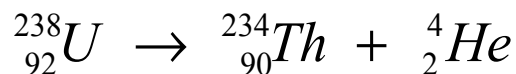


natural transmutation - Uranium spontaneously decays.



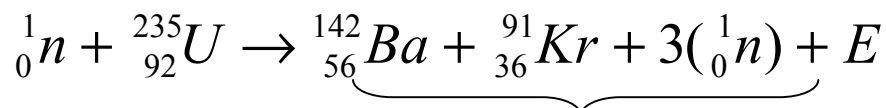
artificial transmutation - bombardment of a stable isotope to force it to decay.



↑
nuclear "bullet"

When the bullets are ____ charged, they are _____ by the nucleus they are bombarding. To overcome the repulsions, they must be _____ to very high speeds by _____ accelerators.

nuclear fission - Heavy nuclei are bombarded with neutrons and split.

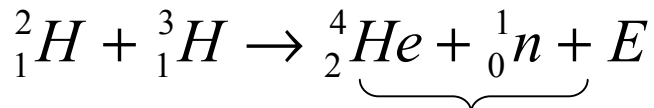


Mass of particles produced is slightly _____ than the mass of the reactants.
This mass is converted into _____. (E = _____)

critical mass: _____ mass of _____ material required
for a _____

nuclear reactors: control fission _____ reactions to produce energy
dangers:

nuclear fusion - combination of _____ nuclei into _____ with release of _____



Mass of particles produced is much _____ than the mass of the _____.
This _____ is converted into energy. (E = _____)

On back, list advantages of and problems with using fusion as an energy source.