**Fission and Fusion**

Nuclear fusion is the reaction in which two or more nuclei combine together to form a new [element](http://www.diffen.com/difference/Compound_vs_Element) with higher [atomic number](http://en.wikipedia.org/wiki/Atomic_number) (more protons in the nucleus).

 The energy released in fusion is related to E = mc 2 (Einstein’s famous energy-mass equation). On [earth](http://www.diffen.com/difference/Special%3AInformation/Earth), the most likely fusion reaction is Deuterium–Tritium reaction.

 Deuterium and Tritium are both [isotopes](http://en.wikipedia.org/wiki/Isotopes) of hydrogen.

Nuclear fission is the splitting of a massive nucleus into photons in the form of gamma rays, free neutrons, and other subatomic particles.

Fission



Both fission and fusion nuclear reactions are chain reactions.

A nuclear chain reaction occurs when one nuclear reaction causes an average of one or more nuclear reactions, which happens very rapidly giving off a huge amount of energy.