64.2: Antimatter

Each quark and lepton has a corresponding mirror-image particle that has the same mass but opposite charge; such particles are called antimatter. The antimatter counterpart of the electron is called the positron (e^+); for other particles, you just add the prefix anti- (e.g. anti-proton, anti-neutron, etc.)

Whenever a particle of ordinary matter comes in contact with its antimatter counterpart, the two particles are destroyed and converted to energy in the form of gamma rays. The amount of energy created is given by Einstein's famous formula, $E_0 = mc^2$, where m is the sum of the particle masses and c is the speed of light in vacuum.