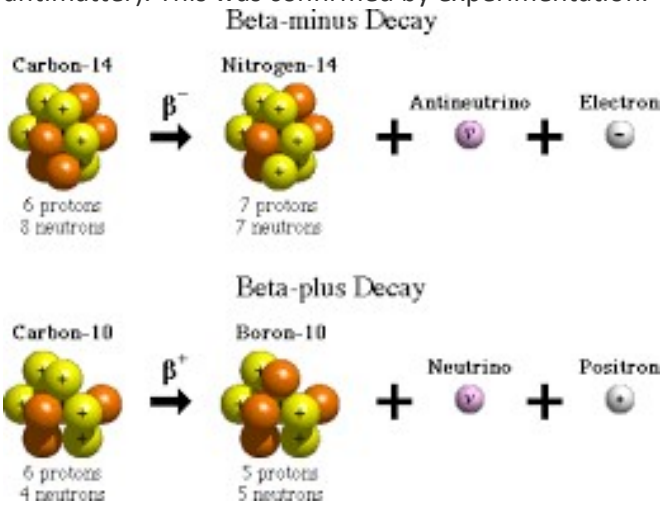
The neutrino

A neutrino is a type of lepton. Since they have no electrical charge, most neutrinos do not react with other particles and pass right through Earth with no interaction.

Neutrinos are produced in many particle decays, such as in beta decay. When a neutron at rest (zero momentum) decays by releasing a proton and an electron, because of the law of conservation of momentum, the resultant products of decay must have a total momentum of zero, which the observed proton and electron does not have. There must be another particle to balance the momentum – by the release of an antineutrino (neutrino antimatter). This was confirmed by experimentation.



Neutrinos were produced in great abundance in the early universe and rarely interact with matter. This may suggest that neutrinos contribute to the total mass of the universe and affect its expansion.