# Particles 008 Conservation

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12:02

We have now got four properties that can be conserved in particle interactions. Here is a summary

# Charge

Always conserved. Easy

# **Baryon Number**

Always conserved. Easy too.

# Strangeness

Weak interactions are what cause quarks to change - nothing else, therefore in the weak interaction strangeness can be altered by -1, 0 or +1 - - - so in some cases of the weak interaction strangeness is preserved. Always Conserved in strong interactions. If you have a possible interaction, and it breaks these rules - it can't happen.

# **Lepton Number**

The different types of lepton number have to be preserved, and so we have to consider them separately.

To mit Due | So Lu conserved

n > p + e + 2e | Again

Le=0 Le=1 Le=1 | all good!

le=0 Le=1 Le=1 | no, no, no!

ne=1 Ln=1 | no, no no!

ne=1 Ln=1 | no no le=1 | no conserved

le=0 Le=1 Le=+1 | is conserved