

# Particles - Classification - Leptons

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## Leptons

- are fundamental (remember hadrons aren't).
- can't seem to break them down into other things
- Don't feel the strong force
- React via the weak interaction
- Electrons are very stable
- Muons are unstable and decay into electrons
- Electrons and muons come with their own neutrinos

## Lepton Number

Name	Symbol	Charge	$L_e$	$L_\mu$
electron	$e^-$	-1	+1	0
electron-neutrino	$\nu_e$	0	+1	0
muon	$\mu^-$	-1	0	+1
muon-neutrino	$\nu_\mu$	0	0	+1

Electrons and muons have lepton numbers of +1.

You have to count electron and muon lepton numbers separately.

Once again each lepton and lepton neutrino has an anti-version. These will have opposite charges and lepton numbers.

EG antimuon is +1 charge and -1 lepton