Quarks same mass as an electron but

Quarks only exist inside hadrons because they are confined by the strong force fields. So you can not measure their mass by isolating them. There is no real way of telling a quarks mass, but the quantity scientists call quark mass is related to the equation F= ma.

This will tell you how an object will behave when force is applied. The parameter that scientists call quark mass controls its acceleration when a force is applied. It is set to give what would be the best match between theory and experiment for the ratio of masses or various hadrons and for behavior of quarks in high energy experiments. But none of these can actually tell us the quarks mass. Leptons are electron type particles. They have a tau-minus which is like an electron with the mass of 1. 784 GeV/c2.

And its antiparticle is the tau-plus it has the same mass but a negative charge. In 1995 a Nobel Prize was given for this discovery. Every lepton and quarks carries some charge like quantum number labels, and each has a distinct antiparticle partner with opposite values for those labels. Like the antiparticle of an electron is a positron and it has exactly the same mass as an electron but a positive charge. Charged bosons always have a antiparticle partner of opposite charge and equal mass.

For zero charge mesons with different types of quark and antiquark, there is an antiparticle partner that reverses the role of quark and antiquark. Most people see particles as protons, neutrons, and electrons matter particles, and their antiparticles are then antimatter. The term matter is then extended to include all quarks, all negatively charged leptons, and left handed neutrinos. Anti-matter is any particle built from Antiquarks, positively charged leptons, and right handed neutrinos.

A particle made from quarks like baryon is called matter. Just as a particle made from antiquarks such as the antibaryon is called anti matter. For bosons there is no way to distinct matter and antimatter. When two subatomic particles approach each other, they may or may not interact with each other. It depends on the distance that the particles approach, the nature of the force between them and luck. If two particles that interact with the strong force they are very likely to interact with each other, if they approach within range. But an electron and proton, which interact electro-magnetically are much less likely to. So the strong force is a lot stronger than the electro-magnetic force.

So when scientists say that the weak force is weak, its because two particles that can only interact weakly with each other are pretty unlikely to interact at all. Bibliography: Works Citedwww. google. comwww. yahoo. comwww. slac. stanford. edu/vvc/theory/quarks. htmlwww. slac. stanford. edu/vvc/theory/antiquarks. htmlwww. svse. edu/slaven/micro/micro7. htmlChemistry Book pg 74-75