

















Fermions

Bosons

	I	II	III		
Quarks	mass ($/c^2$) charge spin 2.4 MeV 2/3 1/2  up	1.2 GeV 2/3 1/2  charm	172 GeV 2/3 1/2  top	0 0 1  gluon	Scalar
	4.8 MeV -1/3 1/2  down	95 MeV -1/3 1/2  strange	4.2 GeV -1/3 1/2  bottom	0 0 1  photon	
	511 keV -1 1/2  electron	105 MeV -1 1/2  muon	91.2 GeV -1 1/2  tau	91.2 GeV 0 1  Z boson	
	<2.2 eV 0 1/2  electron neutrino	<1.7 MeV 0 1/2  muon neutrino	<15 MeV 0 1/2  tau neutrino	80.4 GeV ±1 1  W boson	
Leptons					Gauge