Standard Model of Elementary Particles

three generations of matter (fermions) | **interactions / force carriers (bosons)**

	I	II	III		
mass	≃2.2 MeV/c²	≃1.28 GeV/c²	≃173.1 GeV/c²	0	≃124.97 GeV/c²
charge	⅔	⅔	⅔	0	0
spin	½	½	½	1	0
	u **up**	c **charm**	t **top**	g **gluon**	H **higgs**
QUARKS	≃4.7 MeV/c²	≃96 MeV/c²	≃4.18 GeV/c²	0	
	−⅓	−⅓	−⅓	0	
	½	½	½	1	
	d **down**	s **strange**	b **bottom**	γ **photon**	
LEPTONS	≃0.511 MeV/c²	≃105.66 MeV/c²	≃1.7768 GeV/c²	≃91.19 GeV/c²	
	−1	−1	−1	0	
	½	½	½	1	
	e **electron**	μ **muon**	τ **tau**	Z **Z boson**	
	<1.0 eV/c²	<0.17 MeV/c²	<18.2 MeV/c²	≃80.39 GeV/c²	
	0	0	0	±1	
	½	½	½	1	
	ν_e **electron neutrino**	ν_μ **muon neutrino**	ν_τ **tau neutrino**	W **W boson**	

GAUGE BOSONS
VECTOR BOSONS

SCALAR BOSONS