

FERMIONS

matter constituents
spin = 1/2, 3/2, 5/2, ...

Leptons spin = 1/2

Flavor	Mass GeV/c ²	Electric charge
ν_L lightest neutrino*	$(0-2) \times 10^{-9}$	0
e electron	0.000511	-1
ν_M middle neutrino*	$(0.009-2) \times 10^{-9}$	0
μ muon	0.106	-1
ν_H heaviest neutrino*	$(0.05-2) \times 10^{-9}$	0
τ tau	1.777	-1

Quarks spin = 1/2

Flavor	Approx. Mass GeV/c ²	Electric charge
u up	0.002	2/3
d down	0.005	-1/3
c charm	1.3	2/3
s strange	0.1	-1/3
t top	173	2/3
b bottom	4.2	-1/3