

The Leptons

Symbol/Name		Mass (MeV/c ²)	Spin	Additive				Anti- particle
				<i>Q</i>	<i>L_e</i>	<i>L_μ</i>	<i>L_τ</i>	
<i>e</i> [−]	electron	0.511	1/2	−1	1	0	0	<i>e</i> ⁺
<i>ν_e</i>	electron-neutrino	~ 0	1/2	0	1	0	0	<i>ν̄_e</i>
<i>μ</i> [−]	muon	106	1/2	−1	0	1	0	<i>μ</i> ⁺
<i>ν_μ</i>	mu-neutrino	~ 0	1/2	0	0	1	0	<i>ν̄_μ</i>
<i>τ</i> [−]	tau	1777	1/2	−1	0	0	1	<i>τ</i> ⁺
<i>ν_τ</i>	tau-neutrino	~ 0	1/2	0	0	0	1	<i>ν̄_τ</i>

- Notes:
- All leptons have *B* = 0 and *S* = 0.
 - For antiparticles, the signs of the additive properties are reversed.

Selected Mesons

Symbol/Name		Mass (MeV/c ²)	Spin	Additive			Antiparticle
				<i>Q</i>	<i>B</i>	<i>S</i>	
<i>π</i> ⁰	pion	135	0	0	0	0	<i>π</i> ⁰
<i>π</i> ⁺	pion	140	0	+1	0	0	<i>π</i> [−]
<i>K</i> ⁺	kaon	494	0	+1	0	+1	<i>K</i> [−]
<i>K</i> ⁰	kaon	498	0	0	0	+1	<i>K̄</i> ⁰
<i>η</i>	eta	548	0	0	0	0	<i>η</i>
<i>η</i> [']	eta-prime	958	0	0	0	0	<i>η</i> [']
<i>ρ</i> ⁺	rho	775	1	+1	0	0	<i>ρ</i> [−]
<i>ρ</i> ⁰	rho	775	1	0	0	0	<i>ρ</i> ⁰
<i>ω</i>	omega	783	1	0	0	0	<i>ω</i>

- Notes:
- All mesons have *L_e* = *L_μ* = *L_τ* = 0.
 - For antiparticles, the signs of the additive properties are reversed.
 - Many mesons are their own antiparticles.

Quark Properties

Flavor	Name	Spin	<i>Q</i>	<i>B</i>	<i>S</i>
<i>u</i>	up	1/2	+2/3	1/3	0
<i>d</i>	down	1/2	−1/3	1/3	0
<i>s</i>	strange	1/2	−1/3	1/3	−1

Note: the antiquarks (*ū*, *d̄*, *s̄*) have the same spin but the opposite *Q*, *B*, and *S*.

Selected Baryons

Symbol/Name		Mass (MeV/c ²)	Spin	Additive		
				<i>Q</i>	<i>B</i>	<i>S</i>
<i>p</i>	proton	938.3	1/2	+1	1	0
<i>n</i>	neutron	939.6	1/2	0	1	0
<i>Λ</i>	lambda	1116	1/2	0	1	−1
<i>Σ</i> ⁺	sigma	1189	1/2	+1	1	−1
<i>Σ</i> ⁰	sigma	1192	1/2	0	1	−1
<i>Σ</i> [−]	sigma	1197	1/2	−1	1	−1
<i>Δ</i> ⁺⁺	delta	1232	3/2	+2	1	0
<i>Δ</i> ⁺	delta	1232	3/2	+1	1	0
<i>Δ</i> ⁰	delta	1232	3/2	0	1	0
<i>Δ</i> [−]	delta	1232	3/2	−1	1	0
<i>Ξ</i> ⁰	cascade	1315	1/2	0	1	−2
<i>Ξ</i> [−]	cascade	1322	1/2	−1	1	−2
<i>Σ</i> ^{*+}	sigma-star	1383	3/2	+1	1	−1
<i>Σ</i> ^{*0}	sigma-star	1384	3/2	0	1	−1
<i>Σ</i> ^{*−}	sigma-star	1387	3/2	−1	1	−1
<i>Ξ</i> ^{*0}	cascade-star	1532	3/2	0	1	−2
<i>Ξ</i> ^{*−}	cascade-star	1535	3/2	−1	1	−2
<i>Ω</i> [−]	omega-minus	1672	3/2	−1	1	−3

- Notes:
- All baryons have *L_e* = *L_μ* = *L_τ* = 0.
 - An antiparticle is indicated with a bar, e.g., *p̄* is an antiproton.
 - For antiparticles, the signs of the additive properties are reversed.

The Messenger Particles

Symbol	Name	Mass (MeV/c ²)	Spin	Charge	Interaction
<i>γ</i>	photon	0	1	0	Electromagnetic
<i>W</i> [−]	double-you	80,400	1	-1	Weak
<i>Z</i> ⁰	zee-zero	91,200	1	0	Weak
<i>g</i> _l	gluon	0	1	0	Strong
<i>g</i>	graviton?	0	2	0	Gravity

Note: the antiparticle of *W*[−] is *W*⁺, and the antiparticle of a green-antired gluon is a red-antigreen gluon, etc.