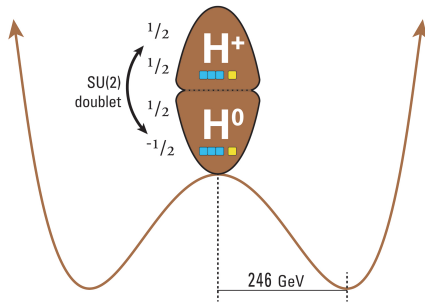
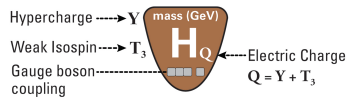
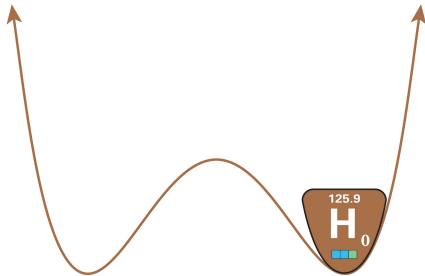


The Standard Model of Particle Physics

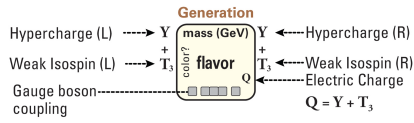
Spin 0 (Higgs Boson)



Unbroken Symmetry
Broken Symmetry



Spin 1/2 (Fermions)



	1 st	2 nd	3 rd	
Left handed SU(2) doublet	$\begin{matrix} 1/6 \\ 1/2 \\ u \\ d \end{matrix}$	$\begin{matrix} 0 \\ 0 \\ c \\ s \end{matrix}$	$\begin{matrix} 0 \\ 0 \\ t \\ b \end{matrix}$	Quarks
Left handed SU(2) doublet	$\begin{matrix} -1/2 \\ 1/2 \\ \nu_e \\ e \end{matrix}$	$\begin{matrix} 0 \\ 0 \\ \nu_\mu \\ \mu \end{matrix}$	$\begin{matrix} 0 \\ 0 \\ \nu_\tau \\ \tau \end{matrix}$	Leptons

1 st	2 nd	3 rd
$\begin{matrix} 0.0023 \\ u \\ 2/3 \end{matrix}$	$\begin{matrix} 1.275 \\ c \\ 2/3 \end{matrix}$	$\begin{matrix} 173.07 \\ t \\ 2/3 \end{matrix}$
$\begin{matrix} 0.0048 \\ d \\ -1/3 \end{matrix}$	$\begin{matrix} 0.095 \\ s \\ -1/3 \end{matrix}$	$\begin{matrix} 4.18 \\ b \\ -1/3 \end{matrix}$
$\begin{matrix} m_1 \\ \nu_e \\ 0 \end{matrix}$	$\begin{matrix} m_2 \\ \nu_\mu \\ 0 \end{matrix}$	$\begin{matrix} m_3 \\ \nu_\tau \\ 0 \end{matrix}$
$\begin{matrix} 0.000511 \\ e \\ -1 \end{matrix}$	$\begin{matrix} 0.105658 \\ \mu \\ -1 \end{matrix}$	$\begin{matrix} 1.77682 \\ \tau \\ -1 \end{matrix}$

Spin 1 (Gauge Bosons)

