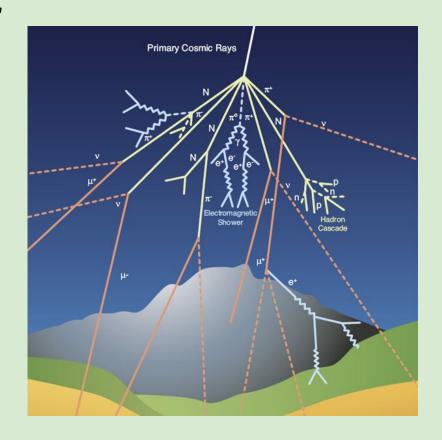
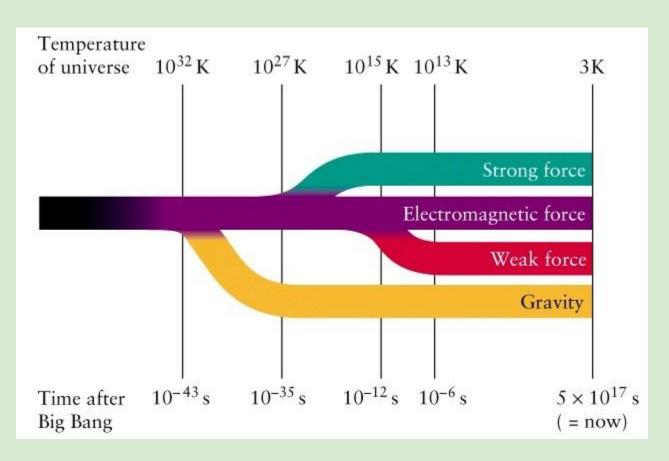
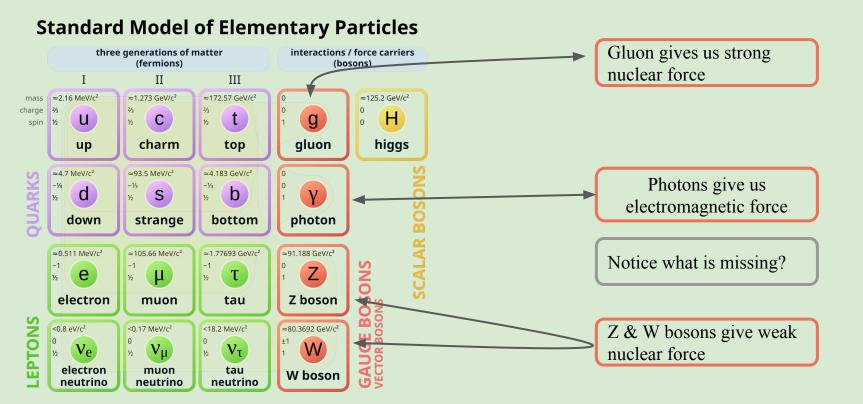
# The Physics of Comsic Rays



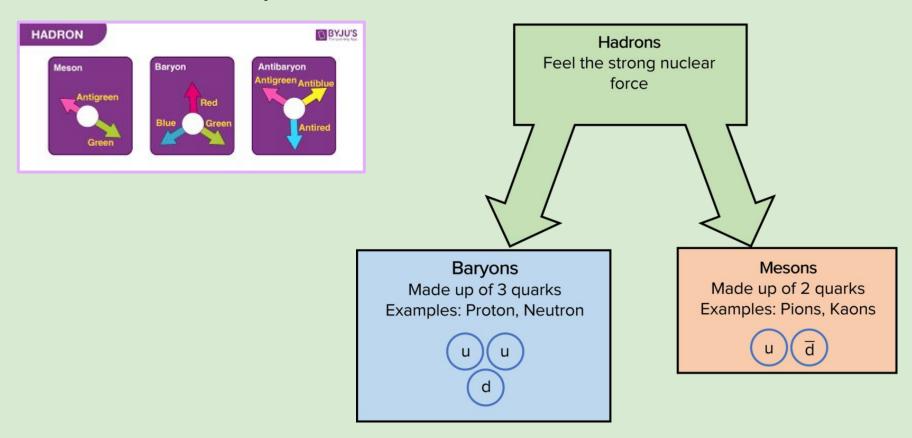
## Crash course in particles: Forces



# Crash course in particles: Particles



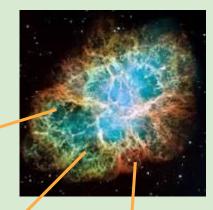
### Crash course in particles: Hadrons



# What are cosmic rays?

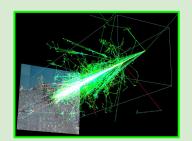
Cosmic rays (AKA cosmics) are groups of energetic particles and atomic nuclei that come from astronomical source

Primary Cosmics come straight from the source



Secondaries are produced when primaries interact with interstellar gas

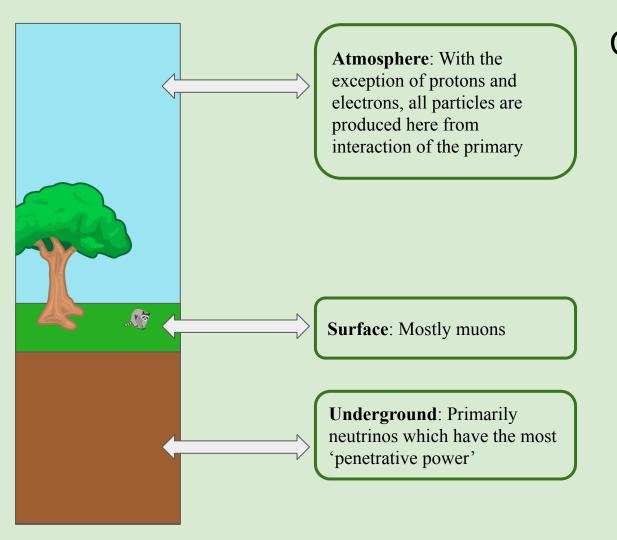
#### How Stable Cosmics Become What We See on Earth



Particles can only travel this far because of special relativity, please make sure you understand that

Stable particles come to Earth Decay into other 'stuff' when interacting with atmosphere Through 'magic' turns into other hadrons (Primarily pions) μ

Pions decay into muons and neutrinos



# Cosmics at places