

**Bosons**  
- force carriers  
photons → electromagnetic force  
gluon → strong force  
W, Z → weak force

**Hadron**  
made of quarks  
experience strong force ∴ cannot exist on their own

**Lepton**  
- electron  
- electron neutrino  
- muon  
- muon neutrino  
- tau  
- tau neutrino

Fermions

**Baryon**  
- made of 3 quarks (or 3 antiquarks)

**Mesons**  
- made of an anti quark + quark

can exist by themselves (do not experience strong force)

**QUARKS**  
up, down, charm, strange, top, bottom  
heavy quarks ∴ unstable decay into up & down  
- only produced in high energy collisions

### Components of the Standard Model of Matter

