# Standard Model Vocab Review

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| Fundamental particles | Particles which are not made of smaller particles.  There are three types: gauge bosons, leptons, and quarks. |
| Gauge bosons | Particles which mediate the four fundamental forces.  Often called “exchange particles”. |
| Leptons | Particles that are not affected by the strong nuclear force.  There are six leptons: electron, muon, tau, and the neutrino for each. |
| Quarks | Fractionally charged particles that are affected by all of the fundamental forces. They combine to form composite particles and are never found in isolation.  There are six quarks: up, charm, top, down, strange, and bottom. |
| Fundamental forces | Weak nuclear: mediated by the W and Z bosons  Strong nuclear: mediated by gluons  Electromagnetic: mediated by photons  Gravitation: mediated by gravitons\*  \*yet to be discovered |
| Composite particles | Particles which are a combination of quarks and/or leptons. |
| Baryons | Composite particles made from three quarks.  Protons and neutrons are baryons. |
| Antiparticles | Particles with the same mass and opposite charge.  When a particle and its antiparticle collide, they annihilate (turn into gamma rays). |
| Mesons | Composite particles made from a quark and an antiquark. |