For reference, here are the names of the various types and groups of particles that we learned about in class.

quark hadron baryon meson lepton electron muon
tau neutrino proton neutron photon gluon fermion boson

For each of the following forces, identify the force carrier particle:

1) The electromagnetic force: _____________ 2) The strong force: _____________

3 & 4) [ 2 points ] List the six different types of quarks by name:

5 & 6) [ 2 points ] List the six different types of leptons by name:

7) What is the property that “causes” the strong interaction, in the same way that mass “causes” gravity?

8) What is the difference between a baryon and a meson?

9) Any particle that is a bundle of quarks is called a ________________.

10) Three of the different particle groups listed at the top of the page include the proton. Identify at least two of them: