**NAME:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Particle Interactions Worksheet**

**Physics 205**

**Prof. Singal**

Consider so-called β+ decay, which is where a proton converts to a neutron, a positron, and something else.

1. Considering that electric charge and lepton number must be conserved, what is the third particle produced?

2. Draw out the quark / lepton / gauge boson interaction diagram for this reaction.