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| **Learning Goal** | **Learning Objective** | **Learning Activity** | **Assessment** | **Evidence of Inclusivity** |
| **What will students learn?** | **If they have learned it, that will students know and be able to do?** | **What will students do to learn it?** | **How will students demonstrate they know it or are able to do it?** |  |
| * **Understand** the effect of environmental pH on the ionization status of weak acids and weak bases * **Explain** to ‘layperson’ why this relationship matters in human health (unit goal) | Explain that pKa is a measure of how easy it is to remove a proton from a molecule  Predict ionization state and charge of a molecule @ particular pH based on its pKa (use the HH equation QUALITATIVELY)  Apply in medical context | Clicker: Place in Order Exercises to Correct pKa Value Misconception  *TPS:* Sticky Note Exercise Concerning Prediction of Ionization  *TPS: Compare ionization status of aspirin in various compartments/pH environments*  Clicker: In which compartment is aspirin better absorbed? | **Formative**  Clicker Questions regarding value of pKa  **Formative**  Sticky note Exercise  **HOMEWORK/Formative**  Transfer knowledge to predicting charge on amino acids at different pH values  **Summative**  Exam question similar to aspirin using other drugs with different chemical structure and pKa | Accommodates students who have yet to build a pH/pKa scaffold so that transfer can be accomplished  The concept of pKa is addressed from multiple angles  Aspirin should be a drug that is widely recognized. If not, we show pictures and structure  Avoids red/green color blindness problems  Uses both numbers and pictures to explain concept |