

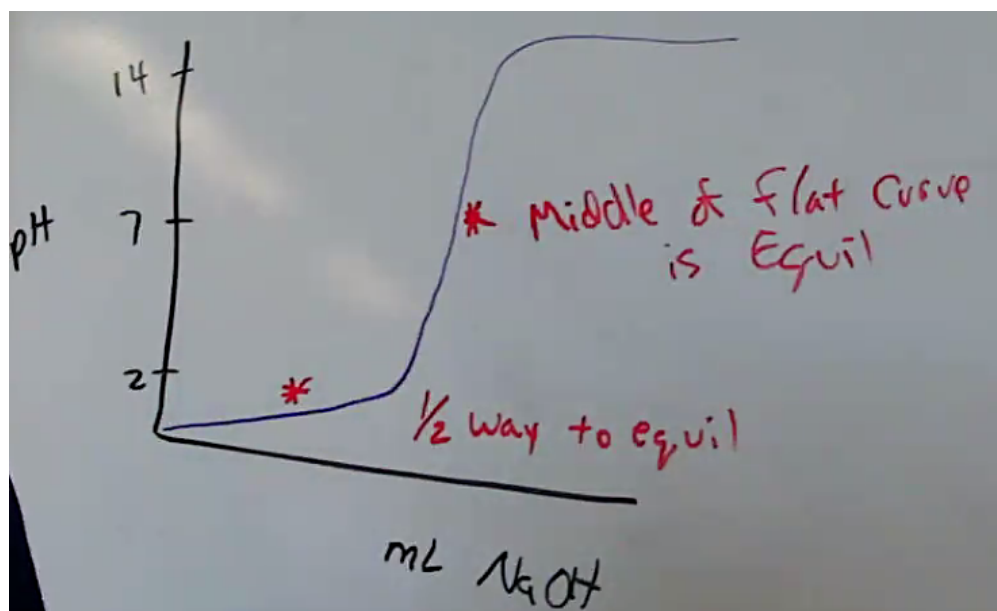
# Chapter 14 – Equilibrium with Acid/Base Reactions

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- Buffered Solutions – Resist pH change. Made of weak acid and concentrated base.
  1. Ex.  $\text{HC}_2\text{H}_3\text{O}_2$  and  $\text{NaC}_2\text{H}_3\text{O}_2$ . Add:  $\text{HCl}$  and  $\text{NaOH}$
- Buffer Capacity – How many ions can be added to destroy the buffers effectiveness
- Titration – Adding an acid to base or base to acid to determine concentration
- When the amount of acid-base is at the equivalence point,  $M_a V_a = M_b V_b$ 
  1. Indicators are used to tell if the solution is at an equivalence point
- Three main indicators:
  1. Methyl Red – End point = 5. Acid is red, base is yellow.
  2. Bromothymol Blue – End point = 7. Acid is yellow, base is blue
  3. Phenolphalein – End point = 9. Acid is colorless, base is pink
- End point needs to coincide with the equivalence point
- Titration Curve for Strong and Strong



Titration Curve Example