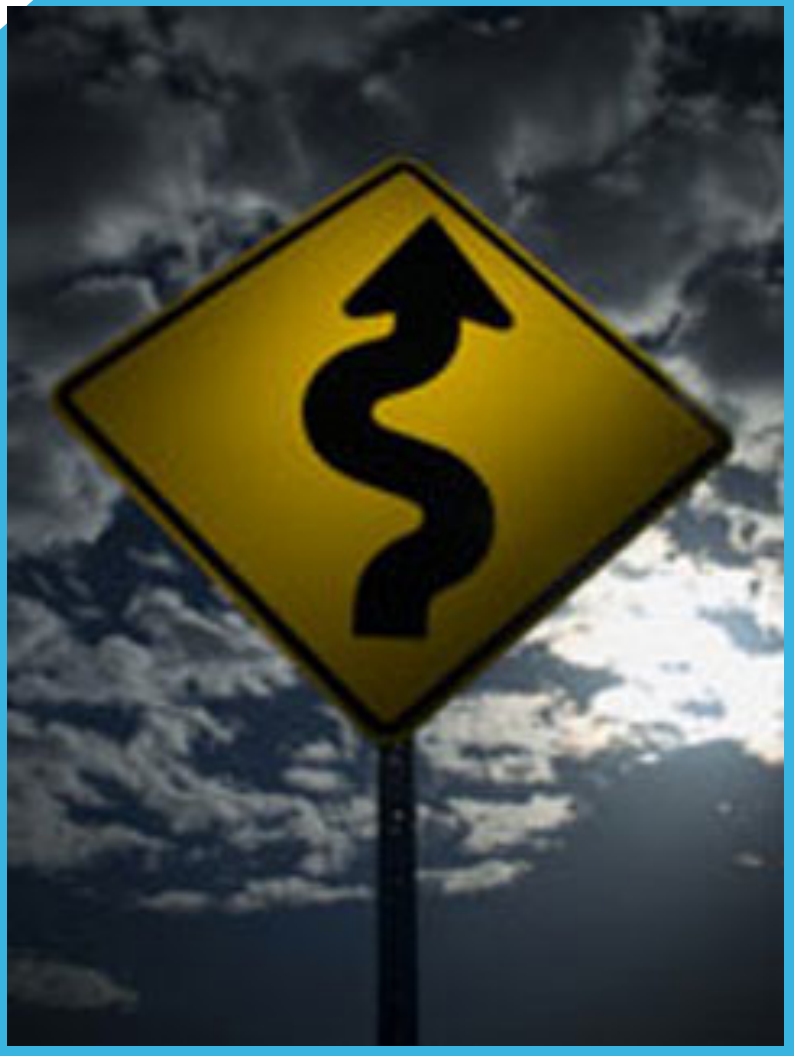
BUFFERING IN TITRATION CURVES



BUFFERS

- A buffer is a combination of an acid and its conjugate base that is able to neutralize changes in pH (to keep the pH constant)
- i.e. HNO_2 and NO_2^{1-} both present in solution with water

$$HNO_2 + H_2O \rightarrow NO_2^{1-} + H_3O^+$$

- Buffering in a titration occurs when the acid is neutralizing a base. As soon as the acid is used up, the pH shoots up
- The equivalence point is shown in the middle of the vertical line in a graph

- There is 1 equivalence point for every H+ transfer
- Buffering zones PRECEDE an equivalence point on a graph

WEAK ACIDS

- Weak acids only partially ionize in solutions (that is they only partially give up their H+)
- Because of this, weak acids have a greater buffering capacity than strong acids

INDICATORS

- Indicators for a titration are chosen so that their transition point (color change) is within the equivalence point

WORK TIME!

- Using the Venn Diagram on page 26, define the words and find 1 example for each.
- Complete Topic 4 Practice Problems