

Review

- If the anion ends with –ide and contains a _____.
 - Hydro_____ic acid
- If the anion ends with –ate
 - _____ic acid
- If the anion ends with –ite
 - _____ous acid
- **Examples**
 - HCl
 - H₂SO₄
 - HClO₂

Properties of Acids

- pH is _____ than 7
- Turns blue litmus paper _____
- Tastes _____
- Reacts with active _____ to produce H₂
- Reacts with _____
- Neutralize _____

Properties of Bases

- pH is _____ than 7
- Turns red litmus paper _____
- Tastes _____
- Feel _____
- Neutralize _____

Acid/Base Definitions

- There are _____ definitions. We will focus on Arrhenius Acids/Bases.
 - Acids are _____ producers.
 - **Examples:** HCl, H₂SO₄, HNO₃
 - Bases are _____ producers.
 - **Examples:** NaOH, Mg(OH)₂, CaCO₃, NH₃

pH

- Measure of the _____ of an acid
- pH scale ranges from _____
- A number above 7 is considered _____
- A number below 7 is considered _____
- A number at 7 is _____

Calculating pH

- To calculate pH from the concentration of hydrogen $[H^+]$:
 - $pH = -\log[H^+]$
- To calculate the concentration of hydrogen $[H^+]$ from the pH:
 - $[H^+] = 10^{-pH}$
- The concentration is listed as _____.
- **Example 1:** What is $[H^+]$ if $pH = 9.9$?
- **Example 2:** $[H^+]$ in an acid solution is 1.5×10^{-3} M. What is the pH of the solution?
- **Example 3:** What is the pH of a solution with hydrogen ion concentration of 4.2×10^{-10} M? Is it acidic or basic?

pOH

- Less than 7 is _____
- Greater than 7 is _____
- For the same substance, _____

Calculating pOH

- To calculate pOH from the concentration of hydroxide ions $[OH^-]$:
 - $pOH = -\log[OH^-]$
- To calculate the concentration of hydroxide $[OH^-]$ from the pOH:
 - $[OH^-] = 10^{-pOH}$
- The concentration is listed as _____.
- **Example 1:** What is $[OH^-]$ if $pOH = 2.3$? Is it acidic or basic?

Summary

- Acidic solutions have higher $[H^+]$ than $[OH^-]$.
- Basic solutions have higher $[OH^-]$ than $[H^+]$.
- Neutral solutions have equal $[H^+]$ and $[OH^-]$.