CONCEPT: ACIDS AND BASES

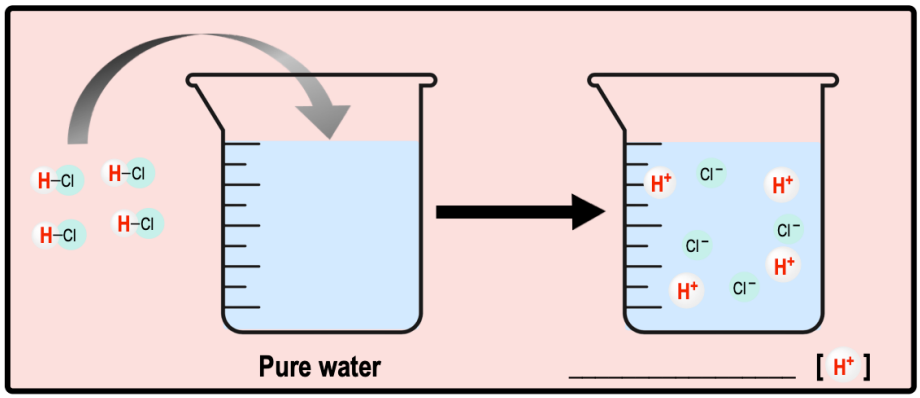
●Many biological processes are strongly affected by the _____ of dissolved H^+ in the aqueous solution.

□ *Acids* & *bases directly* affect the [H^+].

Acids

●_____: any chemical that _____ a solution's concentration of H^+ ions.

EXAMPLE: Addition of Hydrochloric Acid (HCl) to Water.

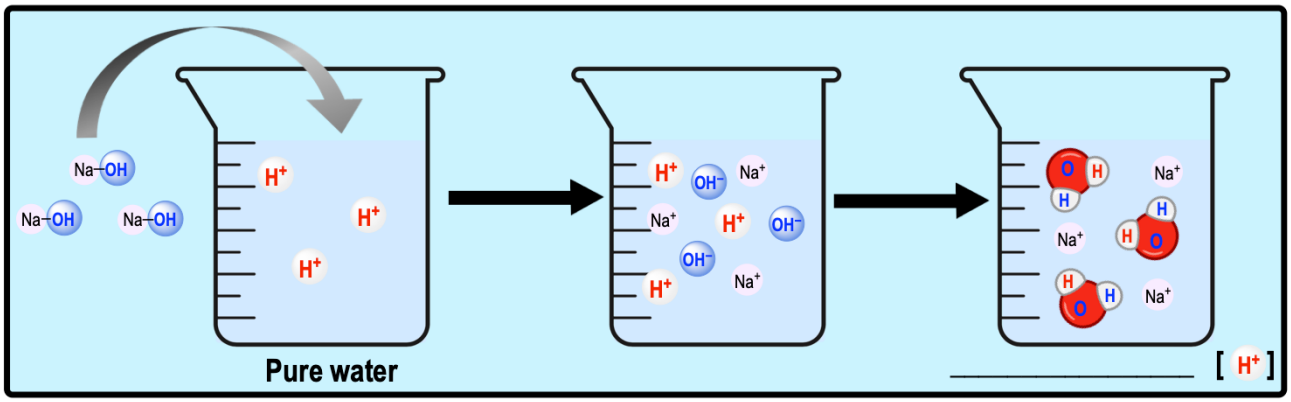


Bases

●_____: any chemical that _____ a solution's concentration of H^+ ions.

□ Example of a Base is Sodium hydroxide (_____).

EXAMPLE: Addition of Sodium Hydroxide (NaOH) to water.



PRACTICE: Which of the following reactions is most consistent with that of a base?

a) $NH_4^+ \longrightarrow NH_3 + H^+$

b) $H_2CO_3 \longrightarrow HCO_3^- + H^+$

c) $NaOH \longrightarrow Na^+ + OH^-$

d) $HCl \longrightarrow H^+ + Cl^-$

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PRACTICE: The addition of an acid like HCl to an aqueous solution (pure water) would result in:

a) An increase in pH only.
b) Both the release of H^+ and an increase in pH.
c) Both the release of H^+ and a decrease in pH.
d) The release of H^+ into the solution only.
e) A decrease in pH only.

PRACTICE: In what way(s) do bases work to increase the pH of a solution?

a) Increasing the concentration of hydroxide ions.
b) Decreasing the concentration of hydrogen ions.
c) Decreasing the concentration of hydroxide ions.
d) Increasing the concentration of hydrogen ions.
e) Both a & b.
f) Both c & d.