CONCEPT: ACID-BASE INTRODUCTION

Intro to Acids

- Recall, acids are covalent compound that have a **hydrogen ion** connected to a nonmetal _____ or a polyatomic ion.
  - □ Generally, the hydrogen ion is found at the _____ of the compound except for acetic acid.

Common Acids

HCl H_2S HCN H_3PO_4 CH_3COOH

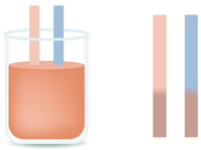
EXAMPLE: Which of the following does not represent the possible structure of an acid?

a) HBr b) HIO_3 c) CH_4 d) HOCl

Characteristics of Acids

- Acids belong to a distinct class of covalent compounds because on their characteristics in _____ solutions.

Characteristics of Acids

Dissolution	Taste	Reactivity	Lithmus Paper
Acids dissolve when placed in H_2O.	The presence of H^+ ions gives acids a _____ taste.	React with metals to form ___ (g)	A type of paper that changes colors in response to an acid or base.
$HCl\ (aq) \rightarrow$ ____ + ____		$HCl\ (aq) + Mg\ (s) \rightarrow$ ____ + ____	
$H_2SO_4\ (aq) \rightarrow$ ____ + ____			**Acid:** Blue litmus paper turns _____.

EXAMPLE: H_2SO_4 is added to large container of water. How is the solution different from the original water?

a) The solution has fewer hydrogen ions.

b) The solution turns blue litmus paper red.

c) The solution turns red litmus paper blue.

d) The solution has more water molecules.

PRACTICE: Which of the following compounds would produce the greatest concentration of hydrogen ions when dissolved?

a) HNO_2 b) HBrO c) H_3PO_4 d) H_2SO_3

CONCEPT: ACID-BASE INTRODUCTION

Intro to Bases

- Generally, bases represent ionic compounds containing a _____ cation connected to the basic anion of _____.
  - □ Bases can also be represented by nitrogen containing covalent compounds called _____.

EXAMPLE: Which of the following represents the possible structure of a base?

a) $C(OH)_4$ b) NaCl c) KOH d) $HC_2H_3O_2$

Characteristics of Bases

- Like acids, bases share in common certain characteristics when placed in aqueous solutions.

Characteristics of Bases

Dissolution

Bases ionize when placed in H_2O.

$NaH\ (aq) \longrightarrow$ ____ + ____

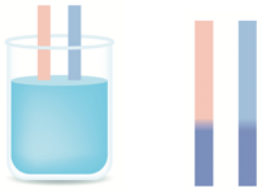
$Sr(OH)_2\ (aq) \longrightarrow$ ____ + ____

Taste and feel

Bases have a _____ taste and are _____ to the touch.

Litmus Paper

The lithmus paper reacts to the presence of the basic anion.



Base: Red litmus paper turns _____.

EXAMPLE: Which of the following is a characteristic of a strong base?

a) It turns blue litmus paper red.

b) It releases H^+ ions in a solution.

c) It removes H^+ ions in a solution.

d) It can be used in the production of cleaning supplies.

PRACTICE: Which of the following is true in regards to LiOH?

a) It has a sour taste.

b) It produces H^+ ions in water

c) It conducts an electrical current in solution.

d) It decreases the OH^- ions in water.