

Name: _____

Blk: ___ Date: _____

ACID BASES UNIT
Lesson #5
CONJUGATE ACIDS AND BASES

A conjugate ACID-BASE PAIR is _____

CONJUGATE ACID- _____

CONJUGATE BASE- _____

Example 1. In the equilibrium reaction $\text{NH}_4^+ + \text{H}_2\text{O} \rightleftharpoons \text{NH}_3 + \text{H}_3\text{O}^+$ there are
TWO CONJUGATE PAIRS

CONJUGATE PAIR	CONJUGATE ACID	CONJUGATE BASE
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a.

b.

Example 2. Given the following conjugate pairs, identify the conjugate acid and the conjugate base:

$\text{H}_2\text{PO}_4^{1-}$, HPO_4^{2-}

S^{2-} , HS^-

HCO_3^- , CO_3^{2-}

Example 3.

a. What is the conjugate ACID of NH_3 ?

b. What would be the conjugate BASE of NH_3 ?

A NOTE on ORGANIC COMPOUNDS:

ORGANIC ACIDS, substances containing a COOH group:

_____.

ORGANIC BASES, substances containing either an NH_2 group or an NH group:

_____.

Using LEWIS DOT STRUCTURES we can visualize the reaction between water and NH_3 :

Example 4. Write the acid-base equilibrium which occurs when H_2S and CO_3^{2-} are mixed in solution:

1.

2.

3.

Generic Bronsted-Lowry acid base equilibrium reaction looks like:

Conjugate ACID + Conjugate Base \longleftrightarrow Conjugate BASE + Conjugate ACID
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