

**Unit 1o Acid-Base Properties Worksheet**

Name: \_\_\_\_\_ Pd: \_\_\_\_\_

1. Compare the properties of acidic solutions and basic solutions.

Acids:Bases:

2. How do the concentrations of hydrogen ion and hydroxide ion determine whether a solution is acidic, basic, or neutral?
3. Write the formula and name for how a hydrogen ion is sometimes written in solution. Why do we use this instead of H<sup>+</sup>?
4. Based on their formulas, which of the following compounds *may* be Arrhenius acids: CH<sub>4</sub>, SO<sub>2</sub>, H<sub>2</sub>S, Ca<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>? Explain your reasoning.

5. Classify the following as an Arrhenius acid or an Arrhenius base:

a. H<sub>2</sub>S \_\_\_\_\_d. H<sub>3</sub>PO<sub>4</sub> \_\_\_\_\_

b. RbOH \_\_\_\_\_

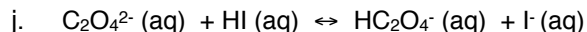
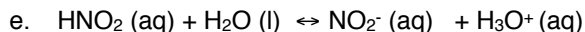
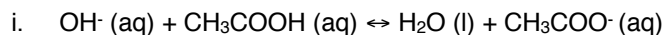
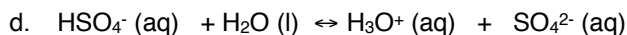
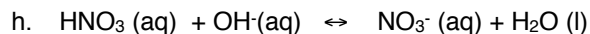
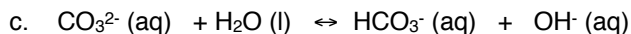
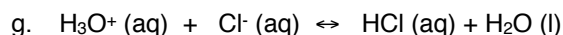
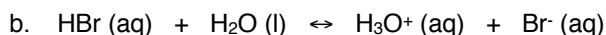
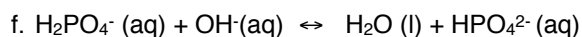
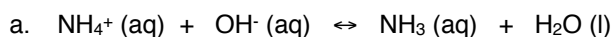
e. CH<sub>3</sub>COOH \_\_\_\_\_c. Mg(OH)<sub>2</sub> \_\_\_\_\_

6. Identify the following as monoprotic or polyprotic and binary or ternary

a. HCl \_\_\_\_\_

b. H<sub>2</sub>S \_\_\_\_\_c. H<sub>3</sub>PO<sub>4</sub> \_\_\_\_\_d. HNO<sub>3</sub> \_\_\_\_\_e. CH<sub>3</sub>CH<sub>2</sub>COOH \_\_\_\_\_

7. Identify the conjugate acid-base pairs in the following reactions. You may use BA, BB, ca and cb.



8. Define the following vocabulary words:

a. Brønsted acid:e. Conjugate acid-base pairs:b. Brønsted base:f. Hydronium ionc. Conjugate acid:d. Conjugate base: