NAME: **HONORS CHEMISTRY**

SECTION: Acids and Bases

1. Sour taste
2. Turns phenolphthalein pink
3. Conduct an electric current
4. Salty taste
5. Turns phenolphthalein colorless
6. Reacts with active metals to produce H2 gas
7. Bitter taste
8. Turns litmus paper blue
9. Turns litmus paper red
10. Slippery feel

**A. Properties of Acids and Bases**

1. List the letters of any of the letters in the box that are typical of an acid solution.

2. List the letters of any of the properties in the box that are typical of a base solution.

**B. Defining Acids and Bases**

A Bronsted-Lowry acid is defined as a substance that donates a proton (H+ ion). A Bronsted-Lowry base accepts a proton from another substance. For each of the following reactions, draw an arrow below the equation to represent proton transfer between the reactants. Then, identify the conjugate acid-base pairs.

**Acid Base**

3. HCH3COO + H2O ⇌ H3O+ + CH3COO- Conjugate pair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Conjugate pair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. HCl + SO32- ⇌ HSO3- + Cl- Conjugate pair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Conjugate pair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. NH3 + HNO2 ⇌ NO2- + NH4+ Conjugate pair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Conjugate pair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. NH4+ + CO32- ⇌ HCO3- + NH3 Conjugate pair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Conjugate pair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. HClO + SO42- ⇌ HSO4- + ClO- Conjugate pair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Conjugate pair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. HSO4- + OH- ⇌ H2O + SO42- Conjugate pair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Conjugate pair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_