Pass the Proton

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Hour\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_

Strong and Weak Acids and Bases

1. A Strong electrolyte is a \_\_\_\_\_\_\_conductor of electricity.
2. A weak electrolyte is a \_\_\_\_\_\_\_\_ conductor of electricity.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Solution  Number | Name | Formula | Cation | Anions | Dissociated?  (All/some/none) |
| 1 | Hydrochloric Acid | HCl | H+ | Cl- |  |
| 2 | Formic Acid | CHOOH | H+ | CHOO- |  |
| 3 | Acetic Acid | CH3COOH | H+ | CH3COO- |  |
| 4 | Sodium Chloride | NaCl | Na+ | Cl- |  |
| 5 | Methanol | CH4O | No ions present | |  |
| 6 | Sodium Hydroxide | NaOH | Na+ | OH- |  |
| 7 | Ammonia | NH3 | NH4+ | OH- |  |
| 8 | Water | H2O | No ions present | |  |

1. Find card 1 and 2:
   1. Hydrochloric acid is a strong acid, whereas formic acid and acetic acid are weak acids.
   2. Use the acid base cards to find the important difference between how a strong acid dissociates and how a weak acid dissociates.
2. Find card 1,2,3:
   1. What ion do all the compounds that have acid in their name have in common?
3. Solutions with OH-are called basic. Which solutions are basic?
4. Solutions 4,5,8 are neutral. What do you think this means?

Word Bank (Q5-11)

Neither

Both

Hydrogen

Hydroxide

Electrolytes

Ions

Strong

Weak

1. Acids contain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ions
2. Bases Contain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ions
3. Neutral contain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hydrogen ions nor hydroxide ions.
4. Acids and Bases are both \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. \_\_\_\_\_\_\_\_\_ acids and bases dissociate completely.
6. \_\_\_\_\_\_\_\_\_ acids and bases do not completely dissociate in water.
7. Dissociate means to break apart into \_\_\_\_\_\_\_\_\_.
8. True or False? All compounds that are electrolytes are either acids or bases. \_\_\_\_\_\_\_\_\_\_\_\_
9. In the space below, write the chemical equation for nitric acid acting as a strong acid.
   1. What is the cation? \_\_\_\_\_\_\_\_\_\_\_\_What is the anion?\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Draw Nitric Acid (HNO3) acting as a strong acid.
10. In the space below, write the chemical reaction for HCN acting as a weak acid.
    1. What is the cation? \_\_\_\_\_\_\_\_\_\_\_\_What is the anion?\_\_\_\_\_\_\_\_\_\_\_\_\_
    2. Draw HCN acting as a weak acid
11. In the space below write the chemical reaction for Mg(OH)2 acting as a strong base.
    1. What is the cation? \_\_\_\_\_\_\_\_\_\_\_\_What is the anion?\_\_\_\_\_\_\_\_\_\_\_\_\_
    2. In the space below, draw Mg(OH)2 acting as a strong base.