Acid, Base, pH Test

50 Multiple Choice Questions
# Acid Nomenclature

<table>
<thead>
<tr>
<th>Binary Acid</th>
<th>How to name these acids?</th>
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<td>Ternary (Oxy) Acid</td>
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Name or give the formula for the following:

- a. Hydrochloric Acid
- b. Chromic Acid
- c. Pernitric Acid
- d. Hypochlorous Acid
- e. HF
- f. $\text{H}_2\text{SO}_4$
- g. $\text{HNO}_2$
- h. $\text{H}_3\text{P}$
## Acid/Base Theorists

<table>
<thead>
<tr>
<th>Acid/Base Theorist</th>
<th>Acid</th>
<th>Base</th>
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<td>Arrhenius</td>
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<tr>
<td>Bronsted-Lowry</td>
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<tr>
<td>Lewis</td>
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Identify the following as an acid or base according to Arrhenius.

a. HNO$_3$   c. Sr(OH)$_2$

b. NaOH      d. H$_2$S

Identify the acid or base according to Lewis

a. BCl$_3$   b. H$_2$S   c. PCl$_3$
Conjugates

A strong acid will have **strong or weak** conjugate base or acid.

A weak acid will have **strong or weak** conjugate base or acid.

Identify the following acid, base, conjugate acid, and conjugate base according to Bronsted-Lowry.

a. HCl + H₂O → H₃O⁺ + Cl⁻

b. NH₃ + H₂O → NH₄⁺ + OH⁻
Neutralization

What is neutralization?

What two products form from a neutralization reaction?

Predict and balance the following reaction:

\[ \text{Sr(OH)}_2 + \text{HF} \rightarrow \]
1. If \( H^+ = OH^- \) the pH of the solution will be __.

2. Memorize and be able to use pH and pOH equations.

3. If \([H^+] = 1.45 \times 10^{-6} \text{ M}\), find the pH. Is it an acid or base?

4. If \([OH^-] = 2.79 \times 10^{-1} \text{ M}\), find the pOH. Is it an acid or base?

5. If pH is 8.95, what is the \([H^+]\)? Is it an acid or base?

6. If pH= 4.50, determine the \([OH^-]\). Is it an acid or base?

7. If \([H^+] = 1.34 \times 10^{-5} \text{ M}\), what is the \([OH^-]\)?
1. Define a Standard Solution.

2. Is the titrating agent an acid or a base?

3. Is the solution to be titrated (in the beaker) an acid or a base?

4. What is the pH at the equivalence point?

5. What pH range would the indicator for this titration have?