Naming Acids and Bases

Aim

- explain how acids and bases are named

Notes

Naming Acids

- ★ Binary acids - prefix HYDRO and suffix IC
  - ☆ HCl = Hydrochloric
  - ☆ HBr = Hydrobromic
- ★ Oxyacids (containing polyatomic ions with oxygen)
  - ☆ most common number of oxygens = suffix IC
    $HClO_3$ = chloric acid
  - ☆ one more than most common = prefix PER and suffix IC
    $HClO_4$ = perchloric acid
  - ☆ one less than most common = suffix OUS
    $HClO_2$ = chlorous acid
  - ☆ two less than most common = prefix HYPO and suffix OUS
    HClO = hypochlorous acid

oxidation state	polyatomic ion			acid name	
	example	prefix	suffix	prefix	suffix
two less than most common	ClO^{-1}	hypo	ite	hypo	ous
one less than most common	ClO_2^{-1}	-	ite	-	ous
most common	ClO_3^{-1}	-	ate	-	ic
one more than most common	ClO_4^{-1}	hyper	ate	per	ic

Naming Bases - metal hydroxide

- ★ Examples: NaOH - sodium hydroxide; KOH - potassium hydroxide

Answer the questions below by circling the number of the correct response

1. The proper name for the acid with the formula HBr(*aq*) is
   (1) hydrogen bromide acid (2) bromic acid (3) bromous acid
   (4) hydrobromic acid

2. What is the name of the base with the formula LiOH? (1) lithium oxygen hydride (2) lithium hydrate (3) lithium hydroxide
   (4) hydrolithic acid

3. What is the formula for perchloric acid? (1) HCl (2) $HClO_4$
   (3) $HClO_3$ (4) HClO

4. The proper name for the acid with the formula HNO_2(*aq*) is
   (1) nitrous acid (2) nitric acid (3) hyponitrous acid (4) hydronitric acid

5. Which of the following is the base calcium hydroxide?
   (1) CH_3COOH (2) $Ca(OH)_2$ (3) CH_3OH (4) $CaCl_2$