Naming Acids

Unit: Nomenclature & Formulas

MA Curriculum Frameworks (2016): HS-PS2-6

Mastery Objective(s): (Students will be able to…)

- Write names for inorganic acids.
- Write chemical formulas for inorganic acids.

Success Criteria:

- Compound names contain the name of the anion with the correct prefix and/or suffix, and the word "acid".
- Chemical formulas have correctly balanced charges.
- Chemical formulas have polyatomic ions in parentheses when necessary.

Tier 2 Vocabulary: acid, formula

Language Objectives:

- Explain what the prefix and suffix tell about the type of anion in an acid.

Notes:

acid: a chemical compound that creates hydrogen (H^+) ions in water.

Acids behave somewhat like ionic compounds in which the cation (positive ion) is H^+. (We will study acids and bases in detail later in the year.)

Because the cation is always H^+, the name of the acid is based on the name of the anion (negative ion).

Anion Ends With	Example	Acid Name	Example
_____ate	nitrate (NO_3^-)	_____ic acid	nitric acid (HNO_3)
_____ite	arsenite (AsO_3^{3-})	_____ous acid	arsenous acid (H_3AsO_3)
_____ide	chloride (Cl^-)	hydro_____ic acid	hydrochloric acid (HCl)

Any prefixes, such as "per-" and "hypo-", are kept:

- periodate is IO_4^- so the acid HIO_4 is periodic acid
- hypochlorite is ClO^- so the acid HClO is hypochlorous acid.

A stupid mnemonic that some students seem to like for remembering the pair of suffix changes is: "I ***ate*** something ***ic***ky. It m***ite*** be a hippopotam***ous***."

Use this space for summary and/or additional notes:

Homework Problems

Fill in the chart below. Use the first row as an example.

Chemical Formula	Anion	Anion Name	Acid Name
HNO_3	NO_3^-	nitrate	nitric acid
H_2CO_3			
HBr			
			acetic acid
HNO_2			
			phosphoric acid
			sulfurous acid
			hydroïodic acid
HCl			
			chloric acid
$HClO_2$			

Use this space for summary and/or additional notes: